



WORLD SURVEY OF RABIES XXII -  
 (for years 1984/85)

by

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*deposal  
 - o.c.c  
 rabies vaccine*



The WORLD SURVEY OF RABIES XXII - 1984/85 (WHO/Rabies/87.198) and THE ANIMAL IMPORT REGULATIONS WITH REGARD TO RABIES FOR 1983 and 1985 (WHO/Rabies/84.196 and WHO/Rabies/84.196, Add.1) are being distributed for the first time this year to Central Public Health Administrators in Ministries of Health and to Directors of Veterinary Services who are asked to ensure that appropriate departments under their administration are informed of the availability of these documents.

CONTENTS

	<u>Page</u>
INTRODUCTION .....	2
SUMMARY OF REPLIES RECEIVED	
List of countries where rabies is present .....	2
List of rabies-free countries .....	3
Rabies in animals: species infected and sources of exposure to man .....	4
Spread of rabies in affected countries .....	5
Rabies in man: treatment and fatal cases .....	7
Production of vaccine .....	7
Production of antirabies serum and human immunoglobulin .....	7
Inoculation schedules .....	7
Routine diagnostic methods employed .....	8
Regulations governing importation of animals .....	8
TABLE I - Numbers of rabid animals and sources of exposure: dog vaccination regulations .....	9
TABLE II - Persons receiving post-exposure treatment and number of fatal cases .....	33
TABLE III - Production of rabies vaccine serum and immunoglobulin: diagnostic methods ..	53

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## INTRODUCTION

The Twenty-second survey of the rabies situation in the world (covering the years 1984/85) is an analysis of the data returned on questionnaires from 106 countries and territories. It is hoped to computerize the next survey, and that this will facilitate both the collection and distribution of data, enabling us to evaluate the rabies situation more speedily and provide the maximum service to Member States.

As each survey is confined mainly to changes in local situations, it is advisable to keep previous numbers of the survey for reference and comparison.

The information is presented in the same form as last time: blank spaces in the tables indicate that no data were provided.

Veterinary Public Health Unit  
Division of Communicable Diseases

## SUMMARY OF REPLIES RECEIVED

### Question 1

The name and address of the laboratory, institute, medical or veterinary service are given, in an abbreviated form, in the first column of each of the tables at the end of this document.

### Question 2

The following countries or areas state that rabies was present in their territory in 1984/85:

#### AFRICA

Algeria  
Angola  
Benin  
Botswana  
Central African Republic  
Egypt  
Ethiopia  
Ghana  
Kenya  
Madagascar  
Malawi  
Melilla  
Nigeria  
Senegal  
South Africa  
Tanzania  
Tunisia  
Uganda  
Zimbabwe

#### AMERICA

Argentina  
Bolivia  
Brazil  
Canada  
Chile  
Colombia  
Costa Rica  
Cuba  
Dominican Republic  
Ecuador  
El Salvador  
French Guiana<sup>1</sup>  
Grenada  
Guatemala  
Guyana  
Haiti  
Honduras  
Nicaragua  
Panama  
Paraguay  
Peru  
Puerto Rico  
United States of America  
Venezuela

<sup>1</sup> Although no cases were reported in 1982/83/84, five cases occurred in zebu in 1985. The problem of bat transmission to cattle is a permanent one in this area.

ASIA

Bangladesh  
Hong Kong  
India  
Indonesia  
Iran  
Iraq  
Israel  
Jordan  
Korea, Republic of<sup>1</sup>  
Lao People's Democratic Republic  
Malaysia (mainland)<sup>2</sup>  
Pakistan  
Sri Lanka  
Syrian Arab Republic  
Thailand  
Yemen Arab Republic

EUROPE

Austria  
Belgium  
Czechoslovakia  
Denmark<sup>3</sup>  
France  
German Democratic Republic  
Germany, Federal Republic of  
Greece  
Hungary  
Italy  
Luxembourg  
Netherlands  
Poland  
Switzerland  
Turkey  
Yugoslavia

The following countries or areas stated that rabies was not present:

AFRICA

Mauritius

AMERICA

Bahamas  
Jamaica  
Suriname  
Virgin Islands

ASIA

Bahrain  
Brunei Darussalam  
Kuwait  
Malaysia - Sabah  
Maldives  
Oman  
Singapore

EUROPE

Bulgaria  
Cyprus  
Finland (?) - see section (b) below  
Gibraltar  
Iceland  
Ireland  
Malta  
Norway  
Portugal  
Spain  
Sweden  
United Kingdom

OCEANIA

Australia  
Fiji  
French Polynesia  
Guam  
New Caledonia  
New Zealand  
Papua New Guinea  
Solomon Islands  
Vanuatu

<sup>1</sup> Although no case was recorded in 1985 the Republic of Korea does not consider itself free of the disease.

<sup>2</sup> The last reported case in Malaysia was in 1982.

<sup>3</sup> No cases were reported in 1984.

Under section (b) of question 2, concerning the recent introduction of rabies, the following significant developments were reported:

Denmark: Rabies had occurred sporadically for a number of years, being brought in by foxes crossing the frontier from the Federal Republic of Germany and controlled by gassing of dens. One case was recorded (in a cow) in 1982 but no cases in 1983 or 1984. However in September 1985 rabies was diagnosed for the first time in a bat. Out of 34 bats subsequently examined, 10 were positive to a virus related to rabies, all of the species Eptesicus serotinus. Most were found in the southern half of the mainland, with one case in the centre-north.

Finland: The country had been rabies-free since 1959, when the last case was diagnosed in a dog, and the last human case was in 1934. However, a man died of rabies in October 1985. Rabies was suspected because he had multiple exposures to bat bites in his work and the characteristics of the isolated virus resembled viruses isolated from bats in Europe, although it was not identical: up to the end of 1985 an identical virus had not been isolated in any other country. An intensive study of rabies in bats was started, but out of the 200 bats examined no positives were found, either by the FA technique or by mouse inoculation. The species Eptesicus serotinus, which had been most frequently found to be rabies-positive in Europe, has not been identified in Finland.

### Question 3

Details of the animal species found rabid in 1984/85 and of the most important sources of bite wounds requiring prophylactic treatment are given in Table I.

(i) Dogs continued to be the animals most frequently found rabid in Africa, Central and South America and Asia and also in Turkey. Foxes were the principal vectors in Europe and also in Canada, where they had replaced skunks, which came second, and Israel (farm animals second).

Farm animals were most frequently found rabid in Botswana and Brazil (dogs second in both countries) and in French Guiana and Guyana (no other species reported), where rabies is transmitted by bats. Cases in bats were also reported in Argentina (where they were responsible for one death), Bolivia, Canada (one death), Chile, Cuba, El Salvador (one death), Peru (one death), large numbers in the United States of America, Venezuela (one death), Denmark and Poland. Although bats were not specifically mentioned as vectors in Brazil, they were responsible for eight deaths. They were also responsible for one death in Finland (see 2 (b)).

Mongoose was the animal most affected in Cuba, Grenada and South Africa and cases were also recorded in Dominican Republic (where they were responsible for two deaths), Ethiopia (four deaths), India, Kenya, Sri Lanka and Zimbabwe.

Jackals were reported rabid in Algeria, Bangladesh, Botswana, Ethiopia (where they were responsible for one death), Iran, Israel, Malawi, South Africa, Uganda and Zimbabwe.

Skunks continued to be the species most frequently affected in the United States of America (raccoons second), and were the second species in Canada. Cases were also reported in South Africa. Rat rabies was reported by Haiti, Honduras and Kenya.

(ii) In nearly all countries dogs continued to be the main source of exposure requiring prophylactic treatment in man. Cats were the principal source in the German Democratic Republic, Luxembourg and Netherlands (dogs were second in all three countries) and in Switzerland (stone martens second). Cattle were the main source in Belgium (cats second) and the only source in Costa Rica and French Guiana. Sheep were the principal source in Israel (foxes second), mongoose in Grenada (cattle second), bats were the only source in Denmark and a guinea-pig in Panama.

In countries where dogs were the principal source of exposure, cats were the second, with the following exceptions: cattle (Botswana, Ethiopia, South Africa and Zimbabwe), rodents (Colombia), bats (Nicaragua), rats (Hong Kong) and foxes (Hungary).

All available details concerning current dog vaccination campaigns and the proportion of animals covered are given in Table I.

#### Question 4

The trend in the rabies situation in 1984/85 was as follows:

Africa: Spain reported that rabies was now enzootic in Melilla. In Algeria the disease continued to occur along the northern coast. Senegal reported a sharp increase in the number of cases in dogs, particularly in 1985. The incidence in Ghana had been static over the last five years, while Benin reported isolated cases throughout the country. Angola attributed their cases of rabies to lack of sufficient vaccines. By 1985 rabies was endemic over the whole of Uganda, being reported in more areas than in 1984. In most of these the vectors were dogs: however, in some eastern districts jackals were the main species affected, and in Lira in the north foxes were suspected. Although the principal areas infected in Kenya remained in the centre-west, the disease occurred in other provinces in 1985, including Marsabit in the north. Rabies was enzootic in the United Republic of Tanzania. In Malawi the incidence in the northern region had been decreasing over the last five years, while in the central and southern regions it had been stationary, with an upward trend in 1985. Rabies was present in all regions of Zimbabwe. The incidence in jackals had decreased from the levels of previous years, and the most severe problem was now dog rabies along the eastern border with Mozambique and southern border with Botswana. A jackal/cattle cycle started in the commercial farming areas in the centre of the country and in the south-west. Rabies occurred in dogs in the capital Harare as a result of urban drift of the population and another outbreak occurred in the extreme west of the country for the first time for many years. The outbreak in the central northern regions subsided after being present for five years. The focus that appeared in the west of Botswana in 1981 continued to move south-eastwards. The position in South Africa was stationary, with outbreaks mostly confined to the proclaimed rabies areas of Natal and Transvaal, and a continued increase of canine cases in the western part of the country, mainly along the Lesotho border.

Rabies was again on the increase in Madagascar.

America: Canada, where rabies is endemic, experiences major outbreaks every three to five years. 1984/85 saw an increase over the previous biennium, particularly towards the end of the current period. The fox again replaced the skunk as the principal wildlife vector, although the latter still played an important role. Cattle were the domestic species most affected. The number of cases reported by Haiti increased considerably and they were spread over many areas of the country. After a steady increase since 1980 in the Dominican Republic, the incidence appeared to have stabilized. El Salvador reported a decrease in the number of cases, possibly due to dog vaccination programmes and the elimination of strays. Although the incidence recorded in Honduras was the same in 1985 as in 1984, the proportion of rabies in dogs increased.

In Nicaragua the disease occurred mostly in areas bordering the Pacific Ocean and in the centre of the country. Costa Rica, which had not reported rabies since 1979, stated that an outbreak occurred in cattle in the summer of 1985 in the province of Limon, bordering the Atlantic in the east and the scene of earlier foci. No other species was affected. This is the pattern in other countries in this area, where vampire bats are the vectors. The distribution pattern of rabies in Colombia and Venezuela remained stable. A major problem in Brazil was the upsurge of rabies in the north and north-east, where there was an increase in the number of human cases. The disease appeared to be more under control in the south, south-east and east-central regions. The incidence was noticeably higher in rural areas which benefit less from vaccination campaigns and this was also due to the importance of the vampire bat as a vector. Bovine rabies continued to occur in Guyana near rivers and on the border with Brazil; equine rabies was also recorded in the latter area. Ecuador reported a steady decrease in the incidence, particularly in 1985, since the peak in 1982. However, the number of cases increased in Bolivia. Paraguay recorded a higher incidence in the towns and

suburbs, following the overpopulation of these areas by dogs. The number of cases fell in Argentina in the current biennium. Although rabies was not recorded in Chile in 1984, it reappeared in 1985, principally in insectivorous bats.

Asia: The Yemen Arab Republic reported a considerable increase in rabies, the principal focus being in the centre of the country and the next most important one a little further south. Dogs were the affected species in almost all cases. They noted with interest that, while cats are very susceptible to rabies, very few cases were seen in their laboratories, possibly because rabid cats were killed by dogs or because mature cats were too fast to be bitten by slow and cumbersome rabid dogs. Foxes, when they came into towns, appeared to become territorial, often standing up to the dogs, and thus putting themselves at risk. In Israel the disease continued to be mainly sylvatic, affecting foxes in various parts of the country, excluding the southern coastal areas and the Negev. Rabies was widespread all over Iran, with a higher incidence in the northern and north-eastern provinces. Sri Lanka reported a marked decrease during the current biennium. The rabies situation in Thailand remained the same, the higher figures registered in 1985 being probably due to improved reporting. In the Lao People's Democratic Republic the focus of rabies in and around the capital, Vientiane, was expanding. In Malaysia the disease was confined to dogs along the northern border with Thailand. Indonesia reported that rabies continued to be present in the islands of Sumatra, Borneo (except in the western part), Java and Sulawesi, but that the remaining islands were rabies-free. Seven animal cases, the last in August, occurred in 1984 in Hong Kong along the northern part of the territory adjacent to mainland China. No cases were reported after that month. Only one case occurred in the Republic of Korea, again in the central region of the country.

Europe: Poland reported a significant decrease in 1985 over 1984, seven previously infected districts becoming rabies-free. The downward trend was also recorded in Czechoslovakia in the regular four-year cycle, which had reached its peak in 1984. The Federal Republic of Germany also reported a decrease, which they attributed to the extensive field trials on oral immunization of foxes being carried out in seven federal states. In the German Democratic Republic the peak had been reached in 1983, and the incidence decreased in both 1984 and 1985. Cases in the Netherlands were confined to an area 10-km deep, in the extreme south along the borders with Belgium and the Federal Republic of Germany. After the 1982 peak in Belgium the rabies-infected area expanded, the region Entre Sambre et Meuse, where few cases had previously been recorded, being particularly heavily affected. Contrary to experience with earlier peaks in 1968 and 1976, after which the number of cases fell rapidly, this did not happen after the third peak, probably due to the wider area affected and to the fact that gassing of fox dens had not been carried out since 1981. In Luxembourg, although there was an overall decrease in the number of cases compared with 1982/83, this occurred mostly in the period between the end of the first quarter of 1984 and September 1985, after which there was a sharp increase in numbers. In France the number of cases decreased in 1985 in comparison with 1984 and the frontline of rabies regressed in some areas, the exception being around Paris, where the area north of the city became heavily infected. Switzerland reported a steady decrease in incidence since 1981, as a result of the oral vaccination of foxes. In Italy there were fewer cases in 1985 than 1984 and these occurred in only six provinces compared with 10 provinces in 1984. Trento was the most heavily infected. The incidence in Austria continued to increase, particularly in 1985. There were some new outbreaks in the southern part of Upper Austria in 1985, leaving only the federal province of Vienna free from the disease. Although the number of cases fell considerably in Yugoslavia in 1985, epizootic sylvatic rabies with the fox as the main vector remained stationary over the northern half of the country. Sporadic cases of urban rabies, with the dog as the principal vector, occurred only in Serbia. Greece, where no cases had been recorded since the beginning of 1983, reported rabies in a stray dog on the coast of Attica province in the south-east. Seven persons were bitten before the dog was shot: all received post-exposure treatment. No further cases were reported. Rabies was endemic in dogs and cats in almost every province in Turkey and, to a much lesser extent, in wildlife in a number of provinces throughout the country.

#### Question 5

Details of prophylactic treatments and post-vaccinal reactions are given in Table II. One hundred and nineteen paralytic reactions were reported out of the 729 381 vaccine treatments recorded for 1985 in this survey, the ratio being 1:6129. The proportion was particularly high in Czechoslovakia, where there were 98 serious neuroparalytic reactions following 2769 vaccinations, a ratio of nearly 1:3. In addition to the above figures India reported approximately 500 000 vaccinations, with a ratio of paralytic reactions of between 1:5000 and 1:11 000. However, the number of such reactions reported depends largely on the quality of the surveillance system, type of vaccine used and sensitivity of the population concerned.

Table II also gives the breakdown of deaths from rabies in both treated and untreated individuals, the incubation periods and details of vaccine failures and deaths following incomplete treatments. The number of human deaths from rabies reported for 1984 was 25 677 and for 1985 was 25 625.

It should of course be realized that these figures are incomplete, since for quite a number of countries data were missing or not available for the entire territory.

#### Question 6

Animal vaccine was produced in 41 of the countries reporting for this survey and human vaccine in 34, in 1985. Details of the different types of vaccine and the potency tests employed are given in Table III.

#### Question 7

Ten countries reported that they were producing serum, the horse remaining the species most often used for this purpose. Seven additional countries were producing immune globulin of human origin.

#### Question 8

Most countries were using the vaccination schedule recommended by the WHO Expert Committee on Rabies. As in previous years, there was considerable variation from country to country concerning serum application, number of boosters and, in certain countries, also volume per dose, in relation to the severity of exposure and age of exposed person.

The number of countries using human diploid cell vaccine, with the short schedule of six doses (including boosters) for post-exposure treatment rose to 36. They were: Australia, Austria, Bahamas, Bahrain, Belgium (no booster on day 90 for contact with rabid animal without wound if serological check on day 30 showed sufficient antibody ( $>0.5$  IU/ml)), Botswana, Canada (one booster only on day 28 instead of 30; immune globulin also given on day 0: if previous vaccination or rabies antibody present, only two doses HDCV given on days 0 and 4; in this case immune globulin not given), Denmark, Federal Republic of Germany (primary chicken embryo fibroblast vaccine also used), Finland, France (fetal bovine kidney cell vaccine also used), German Democratic Republic (tissue culture vaccine also used), Greece (in cases of severe exposure serum also given on day 0 (40 IU/kg body weight)), Hong Kong (booster on day 28 instead of 30), Hungary (especially in cases when a brain vaccine increased risk of a complication (epilepsy, brain contusions, diseases of CNS) or of a delay in beginning of treatment: Hempt vaccine on days 0, 1, 2, 3, 4, 5 with a booster on day 35 also used), Indonesia, Iran, Iraq (final booster on day 60 or 90, depending on severity of exposure: under certain - unspecified - conditions, only first three doses given), Israel, Kenya (days 0, 7, 14 or 0, 3, 7, 14 and no boosters), Kuwait, Luxembourg, New Zealand, Norway, Panama (days 0, 7, 14, 30, 90), Poland, Spain, Sri Lanka, Suriname, Switzerland, Thailand (primary chicken embryo fibroblast vaccine also used), Uganda, United Kingdom (some patients also given human rabies immune globulin), United States of America (days 0, 3, 7, 14 and 28 always with immune globulin: for persons who had received pre-exposure immunization, two boosters, days 0, 3), Yugoslavia (days 0, 3, 7, 14, 30) and Zimbabwe (usually normal schedule but four intradermal inoculations on day 0 or two intradermal on day 0 and one on days 3, 7, 14, 30 sometimes used in cases of multiple exposures. Shorter schedule - unspecified - for non-bite contacts).

The Netherlands followed the same shorter schedule of six doses, including boosters, but used dog kidney cell vaccine.

In addition to human diploid cell vaccine, suckling mouse brain was used in Indonesia (days 0, 1, 2, 3, 4, 5, 6, 11, 15, 30, 90) and Sri Lanka (14 daily doses plus booster on tenth, twentieth and thirtieth day).

A short schedule of five to eight doses plus one to three boosters of suckling mouse brain vaccine was given in Argentina, Bolivia, Brazil, Chile, Colombia, Dominican Republic, Guatemala, Honduras, Nicaragua, Paraguay, Portugal, and Venezuela. Fourteen doses, but no boosters, were given in Ecuador.

Malta used duck embryo vaccine for people exposed outside the island. The Central African Republic used tissue culture and suckling mouse brain vaccines on days 0, 1, 2, 3, 4, 5, 6, 11, 15, 25.

French Guiana used a shorter schedule (no details given) when there was no bite but only contact with rabid cattle, and Guam gave serum and/or vaccine only if there was substantial evidence that the biting animal was rabid.

#### Question 9

Table III gives the details of the routine diagnostic methods employed in each country. The number of countries using the fluorescent antibody technique increased to 71, including 65 out of the 74 reporting that rabies was present. According to the seventh report of the WHO Expert Committee on Rabies, use of this technique may have a considerable bearing on the number of persons undergoing post-exposure treatment.

#### Question 10

Modifications to animal import regulations with regard to rabies are being reproduced in document WHO/RABIES/84.196, Add.1, which is being despatched at the same time as this survey.

It is also hoped to computerize the rabies regulations, which will enable us to provide more up-to-date information on request.

WORLD SURVEY OF RABIES (1984/85)  
TABLE 1. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985						1985 sources of exposure requiring treatment	1985 Dog vaccination		Remarks		
	1984	1985	1984	1985	Dogs	Cats	Foxes/Wolves/Jacksals	Bats	Non-goose Animals	Farm Animals		Others	Dougal-sory		Optional	
	<u>ALGERIA</u>	yes	yes	298	335	208	32	8			87					
Inst. Nat. Santé publ. El-Biar Alaiets																
<u>ANGOLA</u>	yes	yes	4	2	1	1										
Inst. Investigaçao Vet. Kumbao																
<u>BENIN</u>	yes	yes	164 <sup>1</sup>	162 <sup>1</sup>	160 <sup>1</sup>					2 <sup>1</sup>				✓		
Dir. Elevage & Industries Animales Cotonou																
<u>BOTSWANA</u>	yes	yes	90	71	23	6				39				✓		
Nat. Vet. Lab. Min. Agric. Gaborone																
<u>CENTRAL AFRICAN REPUBLIC</u>	yes	yes	95	84	82									✓		
Inst. Pasteur Bangui																

<sup>1</sup> Figure in brackets represents number of people exposed.

<sup>1</sup>Data for Institute only.

<sup>1</sup> Suspected cases.

<sup>2</sup> Very small proportion of dogs vaccinated in infected areas.

<sup>1</sup> 10% of dogs vaccinated in infected areas.



WORLD SURVEY OF ZOOLOGICAL (1984/85)  
TABLE 1. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985							1985 Animal sources of exposure requiring treatment	1985 Dog vaccination		Remarks			
	1984	1985	1984	1985	Dogs	Cats	Foxes Wolves Jackals	Bats	Non- goose Animals	Farm Animals	Others		Compul- sory	Optional				
		yes	yes	32	31	30					1					✓		
<u>GHANA</u> Vet. Serv. Dept. Min. Agric. Accra	yes	yes	32	31	30					1			✓					
<u>KENYA</u> Vet. Res. Lab. Min. Agric. & Livestock Development Kisumu	yes	yes	225	195	113	10			✓	68	hyena honey badger	Domestic dogs (1317) Wild dogs (360) Domestic cats (86) Wild cats (20)	✓				1% of dogs vaccinated in infected areas.	
<u>MADAGASCAR</u> Inst. Pasteur Tananarive	yes	yes	44	60	57	3				1	1 (honey badger) 1 (hyena) 1 (rat)	Domestic dogs (1317) Wild dogs (360) Domestic cats (86) Wild cats (20) Unspecified animals (22)	✓					
<u>MALAWI</u> Dept. Vet. Services Min. Agric. Lilongwe	yes	yes	166	230	188	8				20	2 (hyenas) 1 (rabbit) 1 (monkey) 1 (leopard) 1 (hedgehog)	Dogs (1289) Cats (76) Rats (25) Lemurs (4)						
<u>MAURITIUS</u> Div. Vet. Services Min. Agric., Fisheries & Nat. Resources Reduit	No	No	0	0														1 Dog vaccination forbidden.

\* Figure in brackets represents number of people exposed.

TABLE I. MEMBERS OF RABID ANIMALS AND SCIENCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985						1985 Animal sources of exposure requiring treatment	1985 Dog vaccination		Remarks
	1982	1985	1982	1985	Dogs	Cats	Foxes Wolves Jackals	Bad- goose Animals	Farm Animals	Others		Compulsory	Optional	
	<b>AFRICA</b>													
<b>MELILLA</b>														
Subdirección Gen. Vet. Salud Publ. Min. Sanidad y Consumo Madrid	yes	yes	1	17	16	1							✓ <sup>1</sup>	198% of dogs vaccinated in infected area. 297% of dogs vaccinated in infected areas.
Subdirección Gen. Sanidad Animal Min. Agric., Pesca y Alimentación Madrid	yes	yes	2	17	16	1							✓ <sup>2</sup>	
<b>NIGERIA</b>														
Nat. Vet. Res. Inst. Yom	yes	yes	51	34	33				1				✓ <sup>1</sup>	10% of dogs vaccinated in infected areas.
<b>SENEGAL</b>														
Dir. Elevage Min. Développement Rural Dakar	yes	yes	15	38	38								✓ <sup>1</sup>	
Inst. Pasteur Dakar	yes	yes												
<b>SOUTH AFRICA</b> (including Sophuthatwana, Transkei and Venda)														
Dir. Vet. Services Pretoria	yes	yes	426	412	125	12	4	155	70	21 (otocyon spp.) 11 (Genetta) 8 (skunks) 6 (other animals)			✓ <sup>1</sup>	100% of dogs vaccinated in infected areas.
<b>TANZANIA</b>														
Min. Agric. & Livestock Development Dar-es-Salaam	yes	yes	222	367	367								✓ <sup>1</sup>	Approx. 1.7% of dogs vaccinated in infected areas.

<sup>1</sup> Figure in brackets represents number of people exposed.

TABLE 1. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985						1985 Animal sources of exposure requiring treatment <sup>1</sup>	1985 Dog vaccination		Remarks	
	1984	1985	1984	1985	Dogs	Cats	Foxes Wolves Jackals	Bats	Man- goose	Fern Animals		Others	Compul- sory		Optional
	<b>TUNISIA</b>														
Dir. Prod. Animale Inst. Recherche Vet. Tunis	yes	yes	59	60	39	6				34	1 (boar)		✓ <sup>1</sup>		1. 75% of dogs vaccinated in infected areas
Min. Santé publ. Tunis	yes	yes	59	60	39	6				14	1 (wild animal)				
<b>UGANDA</b>															
Dept. Vet. Serv. & Animal Industry Kampala	yes	yes	8	9	6	1	✓			1	1 (civet-cat)		✓		
<b>ZIMBABWE</b>															
Vet. Res. Lab. Causeway	yes	yes	223	245	186	7	10		1	37	2 (civets) 1 (hyena) 1 (bat-eared fox)		✓ <sup>2</sup>		1. Sometimes more than 1 human exposure/rabid animal 2. Approximately 30% of dogs vaccinated in infected areas.

<sup>2</sup> Figure in brackets represents number of people exposed.

TABLE 1. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE. DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animals cases		Animal species found rabid in 1985						'85 Animal sources of exposure requiring treatment	1985 Dog vaccination		Remarks				
	1985	1986	1986	1985	Dogs	Cats	Foxes	Jackals	Bats	Non-rodent animals		Pigs	Others		Compulsory	Optional		
<u>ARGENTINA</u>	yes	yes	85	63	56					2		3	2 (coati)		1	Misc. sp. (27 672)	1 50% of dogs vaccinated in infected areas.	
Dept. Zool., Reservorios y Vectores Min. Salud y Accion Social Buenos Aires																		
<u>BAHAMAS</u>	No	No	1	0						4		151	8 (monkeys)		2	-	1 Exposure occurred outside Bahamas. Dog died in veterinary custody.	
Dept. Agric. Nassau																		
<u>BOLIVIA</u>	yes	yes	1 710	1 894	1 704	27											2 Animals imported from countries where rabies present.	
Dir. Nec. Epid. Min. Salud La Paz																		
<u>BRAZIL</u>	yes	yes	2 453	1 741	496	64											3 Animals being exported to countries where rabies present.	
Fundação Serv. Saúde públ. Min. Saúde Rio de Janeiro																		
<u>CANADA</u>	yes	yes	1 782	2 506	67	91	1 022	58									1 5% of dogs vaccinated in infected areas.	
Hlth. of Animals Agriculture Canada Ottawa																		
																		1 Including 166 cases laboratory confirmed.

\* Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1984-785)  
TABLE I. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985						1985 Animal sources of exposure requiring treatment	1985 Dog vaccination		Remarks
	1984	1985	1984	1985	Dogs	Cats	Foxes Weasels Jackals	Bats	Non- goose Animals	Others		Compul- sory	Optional	
	yes	yes	0	22	2	20	8	189	16	15		✓ <sup>1</sup>	✓ <sup>1</sup>	
<u>CHILE</u> Min. Salud Santiago	yes	yes	0	22	2	20	8	189	16	15	✓ <sup>1</sup>	✓ <sup>1</sup>	1. Approx. 100% of dogs vaccinated in region where vaccination programme carried out.	
<u>COLOMBIA</u> Secc. Control Zoon. Min. Salud Bogotá	yes	yes	1 178	1 118	40	886	8	189	16	15	✓ <sup>1</sup>	✓ <sup>1</sup>	1. 34% of dogs vaccinated in infected areas.	
<u>COSTA RICA</u> Dept. Vigilancia Epid. Min. Salud San José	yes	yes	0	16				16			✓ <sup>1</sup>	✓ <sup>1</sup>	1. Approx. 95% of dogs vaccinated in infected areas.	
<u>CUBA</u> Dir. Mac. Epid. Min. Salud publ. La Habana	yes	yes	143	100	16	19	1	49	15	15	✓ <sup>2</sup>	✓ <sup>2</sup>	1. Plus 6970 treatments not completed 2. " 653 " " " 3. " 13 " " " 4. " 306 " " " 5. 100% of dogs vaccinated in infected areas. Approx. 65% of total dog population.	
<u>DOMINICAN REPUBLIC</u> Centro Antirrabico Mac. Santo Domingo	yes	yes	202	153 <sup>1</sup>	15	121	6	11	11	11	✓ <sup>2</sup>	✓ <sup>2</sup>	1. Laboratory confirmed. 2. 11% of dogs vaccinated in infected areas.	

<sup>1</sup> Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1964-65)  
TABLE 1. MEMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1963							1963 Animal sources of exposure requiring treatment	1965 Dog vaccination		Remarks
	1964	1965	1964	1965	Dogs	Cats	Foxes, wolves, jackals	Bats	Mac. geese	Farm animals	Others		Compulsory	Optional	
<u>ECUADOR</u> Dir. Nac. Zoon. Min. Salud Publ. Quito	yes	yes	146	611	552	40				19			✓ <sup>1</sup>		1 50% of dogs vaccinated in infected areas.
<u>EL SALVADOR</u> Unidad Epid. Min. Salud Publ. San Salvador	yes	yes	51	86	51	1				34			✓ <sup>1</sup>		1 10% of dogs vaccinated in infected areas.
<u>FRENCH GUIANA</u> Services vét. Min. Agric. Cayenne	No	yes	0	5						5			✓		
<u>GRENADA</u> Min. Hlth. St. Georges	yes	yes	64	53	5	1			30	17			✓ <sup>1</sup>		1 25% of dogs vaccinated in infected areas.
<u>GUATEMALA</u> Secc. Zoon. Min. Salud Publ. y Asistencia Social Guatemala	yes	yes	220	438	372	13				40	13 (unspecified spp.)		✓ <sup>1</sup>		1 Approx. 14% of dogs vaccinated in infected areas.
<u>GUYANA</u> Vet. Diagnostic Lab. Min. Agric. Georgetown	yes	yes		12						12			✓ <sup>1</sup>		1 Vaccination done only when dogs exported.
<u>HAITI</u> Serv. Epid. Dir. Hyg. Publ. Min. Salud Publ. & Poblacion Port-au-Prince	yes	yes	50	47	44	1					1 (rat) 1 (rabbit)		✓ <sup>2</sup>		1 95% of dogs vaccinated in metropolitan zone. 90% of dogs vaccinated in urban areas. 1 Lower percentage in country areas.

<sup>1</sup> Figure in brackets represents number of people exposed.

TABLE C. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985						1985 sources of exposure requiring treatment <sup>a</sup>	1985 Dog vaccination		Remarks	
	1982	1985	1984	1985	Dogs	Cats	Foxes, Noivae, Jackals	Rats	Non-goose Animals	Fern Animals		Others	Compulsory		Optional
	<b>AMERICA</b>														
<b>HONDURAS</b>															
Secretaria Recursos Naturales Inst. Hondureno Investigaciones Med. Vet. Comayagua	yes	yes	68	68	54	2			10		2 (rats)		✓ <sup>1</sup>		1. Approx. 51% of dogs vaccinated in entire country.
<b>JAMAICA</b>															
Vet. Publ. Hlth. Div. Min. Hlth. Kingston	No	No	0	0										✓ <sup>1</sup>	1. Dog vaccination forbidden.
<b>NICARAGUA</b>															
Centro Rac. Hygiene y Epid. Managua	yes	yes	45	68	59	6			2		1 (coyote)		✓ <sup>1</sup>		1. 13% of dogs vaccinated in infected areas.
<b>PANAMA</b>															
Control Alimentos y Vigilancia Vet. Min. Salud Panama	yes	yes	0	0							Guinea pig (1)		✓		
<b>PARAGUAY</b>															
Div. Zoon Min. Salud Publ. y Bienestar Social Asuncion	yes	yes	226	238	208	7			20		3 (primates)		✓ <sup>1</sup>		1. 25% of dogs vaccinated in Asuncion.
<b>PERU</b>															
Dir. Zoon Min. Salud Lima	yes	yes	996	599	505	25		5	50		2 (monkeys) 2 (camelidae)		✓ <sup>1</sup>		1. Approx. 60% of dogs vaccinated in infected areas.
<b>PURTO RICO</b>															
Centers for Dis. Con. Lawrenceville USA	yes	yes	60	41											
<b>SURINAME</b>															
Vet. Services Min. Agric. Paramaribo	No	No	0	0										✓	

<sup>a</sup> Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1984-85)

TABLE 1. NUMBER OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985						1985 Animal sources of exposure requiring treatment	1985 Dog vaccination		Remarks	
	1984	1985	1984	1985	Dogs	Cats	Goats, Weasels, Jackals	Swine	Non-goose	Fern		Others	Compulsory		Optional
	<u>AMERICA</u>														
<u>UNITED STATES OF AMERICA</u>															
Virai & Rickettsial Zoon. Branch Centre for Infectious Dis. Centers for Disease Control; Lawrenceville	yes	yes	5 627	5 598	113	127	181	829	260	2 307 (skunks) 1 533 (raccoons) 7 (bobcats) 2 (coyotes)		1	1	1	Depending on the individual State.
<u>VENEZUELA</u>															
Dept. Zoon. Centro Simon Bolivar Min. Salud Caracas	yes	yes	464	443	328	12	1	102				1	1	100% of dogs vaccinated in infected areas.	
<u>VIRGIN ISLANDS</u>															
Centers Dis. Con. Lawrenceville USA	No	No	0	0											

\* Figure in brackets represents number of people exposed.

TABLE I. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985						1985 Animal sources of exposure requiring treatment*	1985 Dog vaccination		Remarks
	1984	1985	1984	1985	Dogs	Cats	Foxes Mules Jackals	Bats	Non- goose Animals	Others		Compul- sory	Optional	
<u>BAHRAIN</u>	No	No	0	0								✓		
Publ. Hlth. Directorate Min. Hlth. Manama														
<u>BANGLADESH</u>	yes	yes	12 <sup>1</sup>	19 <sup>1</sup>	9 <sup>1</sup>	2 <sup>1</sup>	2 <sup>1</sup>		6 <sup>1</sup>			✓		<sup>1</sup> Diagnosis confirmed. Data for this Laboratory only.
Rab. Vaccine Lab. Livestock Res. Inst. Mohakhali														
<u>BRUNEI DARUSSALAM</u>	No	No	0	0										
Vet. Sec. Dept. Agric. Bandar Seri Begawan														
<u>HONG KONG</u>	yes	yes	7	0	1161				64 <sup>1</sup>	46 (unspecified spp.)		✓ <sup>2</sup>		<sup>1</sup> Over 90% of dogs vaccinated in infected areas.
Med. & Hlth. Dept. Agric. & Fisheries Dept.														
<u>INDIA</u>	yes	yes	236 <sup>3</sup>	145 <sup>3</sup>	125 <sup>3</sup>	4 <sup>3</sup>		12 <sup>3</sup>						<sup>1</sup> Data from Kerala State. <sup>2</sup> Approx. 10% of dogs vaccinated in infected areas. <sup>3</sup> Data for Central Research Institute only.
Zoon. Div. Nat. Inst. Communicable Dis. Delhi														
Central Res. Inst. Kasauli	yes	yes	1 792 <sup>5</sup>	2 275 <sup>5</sup>	2 190 <sup>5</sup>	59 <sup>5</sup>		18 <sup>5</sup>		8 (monkeys) <sup>5</sup>		✓		<sup>4</sup> Data from history cards of post-exposure treatment received from approved centres. Return of history cards estimated to be 15% of actual cases treated. <sup>5</sup> Data for Public Health Laboratory only.
Publ. Hlth. Lab. Tiruvandrum Kerala State														

\* Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1962-65)  
TABLE 1. DISEASES OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Actual species found rabid in '985							1985 Antis. sources of exposure requiring treatment*	1985 Dog vaccination		Remarks
	1962	1985	1982	1985	Dogs	Cats	Foxes Wolves Jackals	Bats	Non- game Animals	Farm Animals	Others		Compul- sary	Optional	
<u>INDONESIA</u> Pasteur Inst. Bandung <sup>1</sup>	yes	yes	834	726	62	3							✓		<sup>1</sup> Data for Institute only.
<u>IRAN</u> Inst. Pasteur Tehran	yes	yes	762	740	398	18	55		236	23 (unspecified spp.)			✓		
<u>IRAQ</u> Inst. Pasteur Baghdad	yes	yes	8	22 <sup>1</sup> (3)	2 <sup>1</sup> (1)	2	10 <sup>1</sup> (2)		8				✓ <sup>2</sup>		<sup>1</sup> Figures in brackets represent data from controlled territories. <sup>2</sup> Approximately 80% of dogs vaccinated in infected areas. <sup>3</sup> Confirmed rabid. <sup>4</sup> Escaped or not confirmed.
<u>ISRAEL</u> Vet. Serv. & Animal Hlth. Min. Agric. Seit-Dagan	yes	yes													
<u>JORDAN</u> Dept. Epid. Min. Hlth. Jerusalem	yes	yes													
<u>JORDAN</u> Dir. Primary Hlth. Care Min. Hlth. Amman	yes	yes	4	14	9	2		2	2	1 (badger)			✓		

\* Figure in brackets represents number of people exposed.

TABLE I. NUMBERS OF SALID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985							1985 Animal sources of exposure requiring treatment	1985 Dog vaccination		Remarks			
	1984	1985	1984	1985	Dogs	Cats	Foxes Wolves Jackals	Bats	Mc- goose Antbirds	Euro Antbirds	Others		Compul- sory	Optional				
	yes	no	yes	no														
<u>KOREA, REPUBLIC OF</u>																		
Animal Hlth. Div.	yes	yes	1	0										✓				1 100% of dogs vaccinated.
Min. Agric. & Fisheries																		
<u>KYUNGGI-DO</u>																		
Inst. Vet. Res.																		
<u>KYUNGGI-DO</u>																		
<u>KUWAIT</u>																		
Vet. Dept.																		
Agric. Affairs & Fish Resources Authority	no	no	0	0														
<u>KUWAIT</u>																		
Preventive Med. Div.																		
Min. Publ. Hlth.																		
<u>KUWAIT</u>																		
<u>LAO PEOPLE'S DEMOCRATIC REPUBLIC</u>																		
Dept. Serv. Vet.	yes	yes	84	86	86									✓ <sup>1</sup>				1 Dogs are not vaccinated.
Min. Agric.																		
Forêts, Irrigation & Coop. Agric.																		
<u>VIENTIANE</u>																		
<u>MALAYSIA (Mainland)</u>																		
Vet. Services	yes	yes	0	2	2									✓ <sup>1</sup>				1 In 4 northern states only. Estimated 50% of dogs vaccinated in infected areas.
Min. Agric.																		2 Elsewhere.
<u>KUALA LUMPUR</u>																		3 In north Malaysia only.
Div. Virus Res.	yes	yes	0	2	2									✓ <sup>2</sup>				4 Dog vaccination forbidden.
Inst. Med. Res.																		
<u>KUALA LUMPUR</u>																		
<u>Sabah</u>																		
Dept. Vet. Services & Animal Industry	no	no	0	0	0													
<u>Kota Kinabalu</u>																		
<u>MALDIVES</u>																		
Dept. Publ. Hlth.	no	no	0	0	0													
<u>Malé</u>																		

\* Figure in brackets represents number of people exposed.

TABLE 1. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985							1985 Dog vaccination Compulsory	Optional	Remarks	
	1984	1985	1984	1985	Dogs	Cats	Foxes Rolves Jackals	Bats	Non- goose Antisals	Others	Animal sources of exposure requiring treatment <sup>a</sup>				
	yes	no	yes	no	yes	no	yes	no	yes	no	yes				no
<u>OMAN</u>															
Dept. Animal Health Min. Agric. & Fisheries Muscat	No	No	0	0									✓		
<u>PAKISTAN</u>															
Vet. Res. Inst. Lahore Cantt.	yes	yes	12	0	6				6		Dog		✓		
<u>SINGAPORE</u>															
Vet. Division Primary Production Dept.	No	No	0	0											
<u>SRI LANKA</u>															
Vet. Publ. Hlth. Unit Min. Hlth. Colombo	yes	yes	410	5 <sup>1</sup>	✓	✓			✓	1	Dogs Cats		✓ <sup>1</sup>		<sup>1</sup> 60-70% of dogs vaccinated in infected areas.
<u>SYRIAN ARAB REPUBLIC</u>															
Rab. Con. Center Min. Hlth. Damascus	yes	yes		4 <sup>1</sup>							Dogs (mostly)		✓		<sup>1</sup> Plus 2 suspected cases.
<u>THAILAND</u>															
Div. Epid. Min. Publ. Hlth. Bangkok	yes	yes	6 503	7 885	7 491	338			41		Dogs (96%) <sup>1</sup> Cats (3.5%) <sup>1</sup> Non human primates (0.5%) <sup>1</sup>		✓		<sup>1</sup> Approximate figures. <sup>2</sup> Confirmed cases. <sup>3</sup> Data for Institute only.
<u>Queen Saovabha Memorial Inst. Bangkok</u>	yes	yes	6 516 <sup>2</sup>	7 873 <sup>2</sup>	7 481	338			39		Dogs (9 294) <sup>3</sup> Cats (492) <sup>3</sup> Rodents (78) <sup>3</sup> Monkey/gibbons (15) <sup>3</sup> Cows (6) <sup>3</sup> Bats (2) <sup>3</sup> Buffalo (1) <sup>3</sup> Unspecified spp.(3) <sup>3</sup>		✓		

<sup>2</sup> Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1984/85)  
TABLE 1. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985							1985 sources of exposure requiring treatment	1985 Dog vaccination		Remarks
	1984	1985	1984	1985	Dogs	Cats	Foxes Mongoose Jackals	Bats	Non- primate Animals	Farm Animals	Others		Compulsory	Optional	
YEMEN Vet. Serv. Project Min. Agric. & Fisheries Sana'a	yes	yes	146 <sup>1</sup>	169 <sup>1</sup>	166 <sup>1</sup>	1 <sup>1</sup>				2 <sup>1</sup>		Dogs (>200)		√ <sup>2</sup>	<sup>1</sup> Figures apply to focus in centre of country. <sup>2</sup> Mostly Europeans have their dogs vaccinated.

\* Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1956-85)  
TABLE I. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases	Animal species found rabid in 1985							1985 sources of exposure requiring treatment	1985 Dog vaccination		Remarks	
	1985	1986		Dogs	Cats	Foxes, No. v. Foxes, Jackals	Non-Boose	Farm Animals	Others	Compulsory		Optional			
<u>AUSTRIA</u>	yes	yes	1 422	1 731	1	41	1 424		64	103 (badgers) 52 (roe deer) 46 (martens)	Dogs (373) Cats (346) Cattle (124) Foxes (92) Deer (31) Badgers (23) Martens (23) Horses (12) Sheep (10) Other spp. (80)	✓			
Bundesanstalt f. Tierseuchenbekämpfung Wölling	yes	yes	1 422	1 764	6	41	1 424		64	103 (badgers) 54 (deer) 46 (martens) 4 (other mustelids) 2 (chamois)		✓			
<u>BELGIUM</u>	yes	yes	505	448	7	19	212		199	3 (badgers) 2 (martens) 2 (weasels) 1 (stone-marten) 1 (ferret) 1 (deer) 1 (mink)	Cattle (439) Cats (135) Dogs (127) Foxes (76) Sheep (72) Horses (14) Ferrets (8) Weasels (8)	✓		1 South of Sillon, Sambre & Meuse rivers and on camp and caravan sites.	
Serv. Inspection Vet. Min. Agric. Brussels Inst. Pasteur du Brabant Min. Hith. Strussels	No	No	0	0						Dogs (2 665) Cats (381) Farm animals (299) Foxes (158) Rodents (123) Horses/donkeys (31) Monkeys (29) Swine (16) Hamsters (13) Wildcats (12)	✓				
<u>BULGARIA</u>															
Scientific Inst. Communicable & Parasitic Dis. Lab. Specific Prevention Rabies Sofia															

\* Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1954/75)  
 TABLE 1. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

EUROPE	Country	Rabies present in country		Number of actual cases		Animal species found rabid in 1985							1985 Animal sources of exposure requiring treatment	1985 Dog vaccination		Remarks			
		1984	1985	Dogs	Cats	Foxes, Wolves, Jackals	Bats	Non-geese Aninals	Fero Aninals	Others	Compulsory	Optional							
														1984	1985				
	<u>CYPRUS</u>																		
	Dept. Vet. Services Min. Agric. & Natural Resources <u>Nicosia</u>	No	0	0															<sup>1</sup> Dog vaccination forbidden.
	<u>CZECHOSLOVAKIA</u>																		
	State Vet. Service Fed. Min. Agric. & Food <u>Prague</u>	yes	yes	1 650	61	1 492		6	20 (roe-deer) 16 (martens) 8 (badgers) 2 (wild cats) 1 (polecat) 1 (Polat fox-farm)										Dogs (2 184) Cats (345) Foxes (104) Other spp. (156)
	<u>DENMARK</u>																		
	Danish Vet. Service <u>Copenhagen</u>	yes	yes	0	10		10												Bats (7) Dogs (mostly) (25) <sup>1</sup>
	<u>FINLAND</u>																		
	Nat. Vet. Inst. <u>Helsinki</u>	?	?	0															
	Nat. Publ. Hlth. Inst. <u>Helsinki</u>																		
	<u>FRANCE</u>																		
	Centre Nat. Etudes sur Rage <u>Malzeville</u>	yes	yes	2 872	2 013	37	87	213	15 (badgers) 47 (other mustelids) 13 (deer)										Dogs (4 426) <sup>1</sup> Cats (2 069) <sup>1</sup> Foxes (333) <sup>1</sup> Cattle (250) <sup>1</sup> Sheep (216) <sup>1</sup> Horses (195) <sup>1</sup> Rats (158) <sup>1</sup> Squirrels (70) <sup>1</sup> Stone-martens (44) <sup>1</sup> Other spp. (318) <sup>1</sup>
	Nat. Ref. Centre Rabies Inst. Pasteur <u>Paris</u>	yes	yes	2 872	2 013														Dogs (4 426) Cats (2 069) Foxes (333) Cattle (250) Sheep (216) Horses (195)

\* Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1954-55)  
TABLE I. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1955							1955 Dog vaccination Compulsory Optional	Remarks
	1954	1955	1954	1955	Dogs	Cats	Foxes Wolves Jackals	Bats	Non-ferrous goats Animals	Others	1955 Animal sources of exposure requiring treatment		
	yes	yes	2 015	1 402	50	77	1 018		145	58 (deer) 41 (mustelids) 7 (badgers) 2 (rabbits) 1 (squirrel) 1 (cat) 1 (bear)	Cats (1 558) Dogs (1 468) Cattle (302) Sheep (144) Mice (138) Rats (92) Foxes (83) Martens (74) Deer (53) Squirrels (52)		
<u>GERMAN DEMOCRATIC REPUBLIC</u> Min. Hlth. Berlin	yes	yes	2 015	1 402	50	77	1 018		145	58 (deer) 41 (mustelids) 7 (badgers) 2 (rabbits) 1 (squirrel) 1 (cat) 1 (bear)	Cats (1 558) Dogs (1 468) Cattle (302) Sheep (144) Mice (138) Rats (92) Foxes (83) Martens (74) Deer (53) Squirrels (52)	V <sup>1</sup>	1952 of dogs vaccinated in infected areas.
<u>GERMANY, FEDERAL REPUBLIC OF</u> Fed. Res. Inst. Animal Virus Dis.) TUBINGEN ) ) Paul Ehrlich Inst. ) ) Fed. Office Sera & Vaccines ) ) FRANKFURT	yes	yes	7 055	4 862	73	230	5 053		752	358 (deer) 134 (badgers) 243 (other mustelids) 15 (unspecified wild spp.) 4 (unspecified domestic spp.)		V	
<u>GIBRALTAR</u> Environ. Hlth. Dept. Med. & Hlth. Services	No	No	0	0								V	
<u>GREECE</u> Zoon. Directorate Min. Agric. Athens	yes	yes	0	1	1						Dogs (2 567)	V <sup>1</sup>	1952 of dogs vaccinated in infected areas.
<u>HUNGARY</u> Min. Agric. & Food Budapest ) ) Nat. Inst. Hyg. ) ) Min. Hlth. Budapest	yes	yes	1 175	1 031	35	41	902		32	17 (deer) 5 (other spp.)	Dogs (561) Foxes (217) Cats (254) Deer (126) Cattle (80) Other spp. (14) Spp. not known (999)	V <sup>1</sup>	1952 of dogs vaccinated in infected areas.

<sup>1</sup> Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1984/85)  
TABLE I. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985							1985 sources of exposure requiring treatment <sup>a</sup>	1985 Dog vaccination		Remarks	
	1984	1985	1984	1985	Dogs	Cats	Foxes Moles Jackals	Bats	Non- goose Animals	Farm Animals	Others		Compul- sory	Optional		
<u>ICELAND</u>	No	No	0	0										X <sup>1</sup>		<sup>1</sup> Dog vaccination forbidden.
Inst. Exp. Pathology Reykjavik																
<u>IRELAND</u>	No	No	0	0										X <sup>1</sup>		<sup>1</sup> Dog vaccination forbidden.
Vet. Res. Lab. Dept. Agric. Abbotsdown																
<u>ITALY</u>	yes	yes	316	126	1	2	106		1	10 (badgers) 3 (deer) 2 (polecats) 1 (marten)				√ <sup>1</sup>	√ <sup>2</sup>	<sup>1</sup> In infected areas - 70% of dogs vaccinated. <sup>2</sup> In rabies-free areas.
Dir. Gen. Servizi Vet. Min. Sanità Rome																
<u>ITALY</u>	yes	yes	354	122	1	2	101		1	11 (badgers) 3 (deer) 3 (other mustelids)				√ <sup>1</sup>	√ <sup>2</sup>	<sup>1</sup> In infected areas - 100% of dogs vaccinated. Grazing herbivores also vaccinated. <sup>2</sup> In rabies-free areas.
Inst. Malattie Infettive Profilassi e Polizia Vet. Bologna																
<u>LUXEMBOURG</u>	yes	yes	64	67	1		34		29	2 (stone- martens) 1 badger				√ <sup>1</sup>		<sup>1</sup> For dogs over 3 months old. 100% of dogs vaccinated in infected areas.
Admin. Services Vet. Min. Agric. & Viticulture Luxembourg																
<u>MALTA</u>	No	No	0	0												
Dept. Hlth. Valletta Dept. Agric. Valletta																

<sup>a</sup> Figure in brackets represents number of people exposed.

TABLE I. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animals: cases		Animals: species found rabid in 1983						1983 Dog vaccination Compulsory - Optional	Remarks		
	1984	1985	1984	1985	Dogs	Cats	Cows, Mo. ves Jackals	Bats	Non- sp. animals	Feral Animals			Others	1983 Animal sources of exposure requiring treatment
	yes	no	yes	no	yes	no	yes	no	yes	no			yes	
<u>NETHERLANDS</u>														
Zoon. Sect. Cent. Vet. Publ. Elch. Leidschendam	yes	yes	66	16		12				3	1 (badger)	Cats (2) Dogs (2) Fox (1)	✓	
<u>NORWAY</u>														
Div. Vet. Services Min. Agric. Oslo	no	no	0	0									X <sup>1</sup>	1 Dog vaccination forbidden. 2 Children exposed in Poland.
<u>POLAND</u>														
Dept. Infect. Dis. Control Nat. Inst. Publ. Hlth. Oslo	yes	yes	1 515	1 033	34	746	1			46	71 (deer) 38 (raccoons) 24 (other mustelids) 9 (badgers) 17 (other spp.)		✓	
Nat. Vet. Inst. Oslo	no	no	0	0									X <sup>1</sup>	
<u>PORTUGAL</u>														
Service Raga Inst. Bact. Câmara Pestana Lisbon	yes	no	1 <sup>1</sup>	0									✓	1 Dog imported from Mozambique. Died 20 days after entering Portugal. No spread of rabies.

<sup>1</sup> Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1984/85)  
TABLE I. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985							1985 Animal sources of exposure requiring treatment	1985 Dog vaccination		Remarks
	1984	1985	1984	1985	Dogs	Cats	Wolves	Jackals	Mon-gooses	Farm Animals	Others		Compulsory	Optional	
	<b>EUROPE</b>														
<b>SPAIN</b>															
Subdir. Gen. Sanidad Animal Min. Agric., Pesca y Alimentación Madrid	No	No	0	0								✓ <sup>1</sup>		1. 90% of dogs vaccinated. 2. Vaccination annually.	
Subdir. Gen. Vet. Salud Publ. y Sanidad Ambiental Min. Sanidad y Consumo Madrid	No	No	0	0								✓ <sup>2</sup>			
<b>SWEDEN</b>															
Div. Contagious Dis. Nat. Board Agric. Jönköping	No	No	0	0									X <sup>1</sup>	1. Dog vaccination forbidden. 2. Exposure occurred outside Sweden.	
Nat. Vet. Inst. Eppsala															
Dept. Virol Nat. Pacht. Lab. Stockholm	No	No													
<b>SWITZERLAND</b>															
Centre Raga Vet. Bakt. Inst. Berne University	yes	yes	737	301	2	21	208			36	18 (stone-martens) 10 (badgers) 6 (deer)	✓ <sup>2</sup>		1. Animal rabies confirmed by laboratory. 2. 88% of dogs vaccinated in infected areas. Result of investigation in Canton of Berne.	
<b>TURKEY</b>															
Vet. Con. & Res. Inst. Ankara	yes	yes	1 482	1 336	97	2				319	45 (wild animals)	✓ <sup>1</sup>	✓ <sup>1</sup>	1. Approx. 3.5% of dogs vaccinated in infected areas.	

<sup>1</sup> Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1982-85)  
TABLE 1. NUMBERS OF SALIED ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animals cases		Animal species found rabid in 1985						1985 Dog vaccination		Remarks	
	1982	1985	1982	1985	Dogs	Cats	Foxes Mongoose Jackalls	Bats	Non- goose Mammals	Others	Actual sources of exposure requiring treatment <sup>1</sup>	Compulsory		Optional
<b>EUROPE</b>														
<b>UNITED KINGDOM</b>														
Central Publ. Hlth. Lab. London	No	No	0	0							Dogs (301) <sup>2</sup> Cats (78) <sup>2</sup> Monkeys (29) <sup>2</sup> Horses (14) <sup>2</sup> Squirrels (5) <sup>2</sup> Sats (3) <sup>2</sup> Raccoon (2) <sup>2</sup> Hyrax (2) <sup>2</sup> Mongoose (2) <sup>2</sup> Meles (2) <sup>2</sup> Chimpanzees (2) <sup>2</sup> Pika (1) <sup>2</sup> Leopard (1) <sup>2</sup> Lion (1) <sup>2</sup> Rodent (1) <sup>2</sup> Sheep (1) <sup>2</sup>		X <sup>3</sup>	1 Data for England & Wales only. 2 Exposures occurred outside UK. 3 Dog vaccination forbidden, (compulsory for imported dogs & cats in quarantine. Optional for dogs & cats being exported. 4 Data for Northern Ireland only.
Vet. Div. Dept. Agric. Belfast	No	No	0	0										
<b>YUGOSLAVIA</b>														
Nat. Ref. Lab. Rabies Pasteur Inst. Kovi Sad	yes	yes	1 603	833	10	18	762		32	5 (badgers) 4 (martens) 1 (deer) 1 (polecat)	Dogs (2 292) Cats (424) Foxes (303) Rats (57) Cattle (53) Pigs (23) Deer (23)	✓ <sup>1</sup>		1 80-90% of dogs vaccinated in infected areas.

<sup>1</sup> Figure in brackets represents number of people exposed.

TABLE 1. PREGRESS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1985							1983 Animal sources of exposure requiring treatment	1985 Dog vaccination		Remarks		
	1984	1985	1984	1985	Dogs	Cats	Foxes Wolves Jackals	Bats	Non- goose Animals	Fern Animals	Others		Cooper- sury	Optimal			
	<b>OCEANIA</b>																
<u>AUSTRALIA</u>	No	No	0	0									✓				
Australian Agric. Hlth. & Quarantine Serv. Dept. Primary Industry Canberra																	
<u>FIJI</u>	No	No	0	0										X <sup>1</sup>			Dog vaccination forbidden.
Div. Anim. Hlth. & Prod. Min. Primary Industries Suva																	
<u>HIN. HLTH.</u>	No	No	0	0													
Suva																	
<u>FRENCH POLYNESIA</u>	No	No	0	0													
Serv. Economie Rurale Sec. Elevage. Papeete Tahiti																	
<u>GUAM</u>	No	No	0	0													
Bureau Environ. Hlth. & Consumer Protection Agaña															✓		1/ 10% of dogs vaccinated on island.
<u>NEW CALEDONIA</u>	No	No	0	0													
Serv. Vét. Noumea																	
<u>NEW ZEALAND</u>	No	No	0	0													
Anim. Hlth. Div. Min. Agric. & Fisheries Wellington																	
<u>PAPUA NEW GUINEA</u>	No	No	0	0													
Dept. Hlth. Boroko																	

<sup>1</sup> Figure in brackets represents number of people exposed.

WORLD SURVEY OF RABIES (1954-55)  
TABLE 1. NUMBERS OF RABID ANIMALS AND SOURCES OF EXPOSURE: DOG VACCINATION REGULATIONS

Country	Rabies present in country		Number of animal cases		Animal species found rabid in 1955							1955 Animals sources of exposure requiring treatment	1955 Dog vaccination		Remarks			
	1954	1955	1954	1955	Dogs	Cats	Foxes	Mules	Horses	Swine	Other animals		Others	Compulsory		Optional		
<u>SOLOMON ISLANDS</u>																		
Min. Agric. & Lands <u>Honiara</u>	No	No	0	0														
<u>VANUATU</u>																		
Vet. Serv. Dept. Agric. <u>Port Vila</u>	No	No	0	0														1 Dog vaccination forbidden.
Nat. Hlth. Office <u>Port Vila</u>	No	No	0	0														

\* Figure in brackets represents number of people exposed.

## AFRICA

TABLE II. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment					Babies deaths in humans				Remarks	
	1984		1985			1984		1985			Incubation period (days) 0/30 31/90 > 91
	Total	Para-lytic reac-tions	Vaccine alone & serum	Vaccine Serum alone	Total	Para-lytic reac-tions	Total	Deaths in on-treated	Deaths in treated		
<u>ALGERIA</u>											
Inst. Nat. Santé publ. El-Biar <u>Algeria</u>	225	0	94	0	185	0	1 <sup>1</sup>	2 <sup>1</sup>	1		1 <sup>1</sup> Animals responsible - dogs.
<u>SEYIN</u>											
Dir. Elevage & Industries Animales <u>Cotonou</u>	443	0	409	0	409	0	2 <sup>1,2</sup>	1	1 <sup>3</sup>		1 <sup>1</sup> Animals responsible - dogs. 2 <sup>2</sup> No treatment given. 3 <sup>3</sup> Vaccine given 1 month after bite.
<u>CENTRAL AFRICAN REPUBLIC</u>											
Inst. Pasteur <u>Bangui</u>							30 000	43 <sup>1</sup>	42 <sup>1</sup>		1 <sup>1</sup> Animals responsible - mainly dogs.
<u>EGYPT</u>											
Dept. Vet. Publ. Hlth. Min. Agric. <u>Cairo</u>											
Vet. Res. Inst. Vaccines & Sera <u>Cairo</u>											
<u>MAMRO 3 unit</u> <u>Cairo</u>											
Virus Res. Centre Min. Publ. Hlth. <u>Cairo</u>											
Dept. Infect. Dis. Min. Publ. Hlth. <u>Cairo</u>											



## AFRICA

TABLE 11. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment						Fatal deaths in humans				Remarks		
	1984		1985		1986		1987		Total	Deaths in un-treated		Deaths in treated	Incubation period (days) 0/30 31/90 > 91
	Total	Para-lytic reac-tions	Vaccine alone & serum	Serum alone	Total	Para-lytic reac-tions	Total	Total					
<u>MALAWI</u>								2	0				
Dept. Vet. Services Min. Agric. <u>Lilongwe</u>													
<u>MAURITIUS</u>	0				0			0	0				
Dir. Vet. Services Min. Agric. Fisheries & Nat. Resources <u>Reduit</u>													
<u>MELILLA</u>	2 610		1 709		1 709			1 709					
Subdirección Gen. Vet. Salud Publ. Min. Sanidad y Consumo <u>Madrid</u>													
Subdirección Gen. Sanidad Animal Min. Agric., Pesca y Alimentación <u>Madrid</u>	2 610		1 709		1 709			1 709					
<u>SENEGAL</u>	1 080	0			1 122	0		0	0				
Inst. Pasteur <u>Dakar</u>													
<u>TANZANIA</u>	594		216	0	216			2 <sup>1</sup>	5 <sup>1</sup>	5 <sup>2</sup>			1 Animals responsible - dogs 2 Incubation periods not known.
Min. Agric. & Livestock Development <u>Dar-es-Salaam</u>													
<u>TUNISIA</u>	17 574				17 728			5	0				1 Animals responsible - dogs (2 cases) not known (3 cases)
Dir. Prod. Animale Inst. Recherche Vet. <u>Tunis</u>													
Min. Santé publ. <u>Tunis</u>	18 704	0	15 012	1 534	17 728			5 <sup>1</sup>	0				

TABLE III. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment					Rabies deaths in humans				Remarks		
	1984		1985		1984	1985						
	Total	Para-lytic reactions	Vaccine alone	Vaccine + serum	Serum alone	Total	Deaths in untreated	Deaths in treated	Incubation period (days) 0/30 31/90 > 91			
UGANDA Dept. Vet. Serv. & Animal Industry Kampala ZIMBABWE Vet. Res. Lab. Causeway						0	15 <sup>1,2</sup>	6 <sup>3</sup>	2	3	1	<ol style="list-style-type: none"> <li>1 Animals responsible - dogs.</li> <li>1 Animals responsible - dogs (5 cases) cat (1 case) unknown (2 cases)</li> <li>2 cases unconfirmed.</li> <li>3 Incubation period unknown in 2 cases.</li> </ol>

AMERICA

TABLE 11. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment						Rabies deaths in humans				Remarks			
	1984		1985		1984		1985		Total	Deaths in untreated		Deaths in treated	Incubation period (days) 0/30 31/90 >91	
	Total	Para-lytic reactions	Vaccine alone & serum	Vaccine & serum alone	Total	Para-lytic reactions	Total	Deaths in untreated						
<u>ARGENTINA</u> Dept. Zoom. Reservorios y Vectores Min. Salud y Accion Social Buenos Aires	29 251	0	99%	1%	27 672	0	2 <sup>1</sup>	0	0	0	0	0	1 Animals responsible - dog (1 case) bat (1 case)	
<u>BAHAMAS</u> Dept. Agric. Nassau	5 <sup>1</sup>	0					0						1 Persons exposed to imported dog.	
<u>BOLIVIA</u> Dir. Mac. Epid. Min. Salud La Paz	1 947	0	2 274	1	2 275	0	6 <sup>1</sup>	7 <sup>1</sup>	7 <sup>1</sup>	0	2	3	1 Animals responsible - dogs.	
<u>BRAZIL</u> Fundação Serv. Saúde públ. Min. Saúde públ. Rio de Janeiro	376 611	8	172 266	10 116	388 976	6	87	52 <sup>1</sup>	41 <sup>2</sup>	11 <sup>3</sup>	12	15	6	1 Animals responsible - dogs (37 cases) bats (8 cases) fox (1 case) donkey (1 case) unknown spp. (5 cases).
<u>CANADA</u> Hlth. of Animals Agriculture Canada Ottawa	2 268	0	2 495	2 495	2 495	0	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	0	0	0	2 Incubation period not known in 8 cases. 3 Incubation period not known in 1 case. 4 Treatment - vaccine only (2 cases) serum + vaccine (2 cases) serum only (1 case) 5 Treatment - vaccine only (2 cases) serum only (1 case) 6 Treatment - vaccine only (1 case) serum only (1 case). 1 Animal responsible - dog (man bitten in Dominican Republic). 2 Animal responsible - bat.	





TABLE II. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment						Rabies deaths in humans				Remarks
	1984		1985		1986		1984		1985		
	Total	Para-lytic reac-tions	Vaccine alone & serum	Serum alone	Total	Para-lytic reac-tions	Total	Deaths in un-treated	Deaths in treated	Incubation period (days) 0/30 31/90 >91	
<u>HAITI</u> Serv. Epid. Dir. Hyg. Publ. Min. Salud Publ. y Poblacion Port-au-Prince			54		(?)54		3 <sup>1</sup>	3 <sup>1</sup>		1 2	Animals responsible - dogs.
<u>HONDURAS</u> Secretaria Recursos Naturales Inst. Hondureno Investigaciones Med. Vet. Comayaguella	1 382		1 496	0	1 496		5	5	2 <sup>1</sup>	5	1 <sup>1</sup> Treatment - vaccine only.
<u>JAMAICA</u> Vet. Publ. Hlth. Div. Min. Hlth. Kingston	0				0		0	0			
<u>NICARAGUA</u> Centro Nac. Hygiene y Epid. Managua	981	0	398	3	1 463	0	1 <sup>1</sup>	1 <sup>1</sup>		1	1 <sup>1</sup> Animals responsible - dogs.
<u>PANAMA</u> Control Alimentos y Vigilancia Vet. Min. Salud Panama	6	0	8	0	8		0	0			
<u>PARAGUAY</u> Div. Zoon. Min. Salud Publ. y Bienestar Social Asuncion	2 413	0	2 805	0	2 805	0	11	7			
<u>PERU</u> Div. Zoon. Min. Salud Lima	28 045	1			10 993	0	33 <sup>1</sup>	22 <sup>2</sup>			1 <sup>1</sup> Animals responsible - dogs. 2 <sup>2</sup> Animals responsible - dogs - bats.

TABLE II. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment					Rabies deaths in humans					Remarks
	1984		1985			1984		1985			
	Total	Paralytic reactions	Vaccine alone & serum	Serum alone	Total	Paralytic reactions	Total	Deaths in un-treated	Deaths in treated	Incubation period (days) 0/30 31/90 > 91	
<u>SURINAME</u> Vet. Services Min. Agric. Paramaribo	0				0		0	0	0		
<u>UNITED STATES OF AMERICA</u> Vital & Rickettsial Zoon. Branch Centers for Infectious Dis. Centers for Disease Control Lawrenceville	25 000 <sup>1</sup>	0	4 000 <sup>1</sup>	21 000 <sup>1</sup>	0	25 000 <sup>1</sup>	3	1	1		<sup>1</sup> Approximate figure.
<u>VENEZUELA</u> Dept. Zoon. Centro Simon Bolivar Min. Salud Caracas	11 685	0	7 380	2 673	666	10 729	7 <sup>1</sup>	2 <sup>2</sup>	2	2	<sup>1</sup> Animals responsible - dogs (5 cases) bat (1 case) unknown (1 case) <sup>2</sup> Animals responsible - dogs.

AMERICA

TABLE III. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment						Rabies deaths in humans				Remarks
	1954			1955			1955				
	Total	Para-lytic reactions	Vaccine alone & serum	Total	Para-lytic reactions	Total	Total	Deaths in untreated	Deaths in treated	Incubation period (days)	
<u>BHARAIN</u>	1	0	3	3	0	0	0			0-30   31-50   > 51	
Publ. Hlth. Directorate Rit. Hlth. Nanama											
<u>BRUNEI DARUSSALAM</u>	0			0		0	0				
Vet. Sec. Dept. Agric. Bandar Seri Begawan											
<u>HONG KONG</u>	2 1:1	0	1 571	3	0	1 574	2 <sup>1</sup>	0			
Med. & Hlth. Dept. Agric. & Fisheries Dept.) Kong Kong											
<u>INDIA</u>	Approx. 500 000	Approx. 1:5 000 to 1:11 000	Approx. 450 000	Approx. 500 000	0	Approx. 1:5 000 to 1:11 000	Approx. 25 000 <sup>1</sup>	Most	2 <sup>2</sup>		
Zoon. Div. Nat. Inst. Communicable Dis. Delhi											
<u>Central Res. Inst. Kasauli</u>	13 010 <sup>3,4</sup>	0 <sup>3,4</sup>	2 216 <sup>5</sup>	997	0 <sup>5</sup>	2 275 <sup>5</sup>	2 <sup>2</sup>	19			
Publ. Hlth. Lab. Trivandrum Kerala State											
<u>INDONESIA</u>	785	0	812	118	67	997	2 <sup>2</sup>	2			
Pasteur Inst. Bandung <sup>1</sup>											
<u>IRAN</u>	20 813 <sup>1</sup>	0	12 682	9 964	0	22 646 <sup>1</sup>	17	19	10	9	
Inst. Pasteur Teheran											

<sup>1</sup> Exposure occurred in China.

<sup>2</sup> Animals responsible - dogs.

<sup>3</sup> Including 1 case receiving 3 doses human diploid cell vaccine - incubation period - 14 days.

<sup>4</sup> Data for Central Research Institute only.

<sup>5</sup> Data from history cards of post-exposure treatment received from approved centres. Return of history cards estimated to be 35% of actual cases treated.

<sup>6</sup> Data for Public Health Laboratory only.

<sup>1</sup> Data for Institute only.

<sup>2</sup> Animals responsible - dogs.

<sup>1</sup> Includes persons whose treatment was stopped when suspected animals proved to be healthy.



TABLE II. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment					Rabies deaths in humans			Remarks	
	1984		1985			1985				
	Total	Para-lytic reac-tions	Vaccine alone & serum	Total	Para-lytic reac-tions	Total	Deaths in un-treated	Deaths in treated		Incubation period (days) 0/30 31/90 >90
<u>MALAYSIA (mainland)</u>	0			2	0	0				
Dir. Virus Res. Inst. Med. Res. <u>Kuala Lumpur</u>										
Dir. Hlth. Services Min. Hlth. <u>Kuala Lumpur</u>	0			2						
<u>Sabah</u>										
Dep. Vet. Services & Animal Industry <u>Kota Kinabalu</u>	0			0		0				
<u>SINGAPORE</u>										
Vet. Division Primary Production Dept.	0			0		0				
<u>SRI LANKA</u>	(?) 92		95%	(?) 69	0	(?) 92		(?) 69		Animals responsible - dogs cats
Vet. Publ. Hlth. Unit Min. Hlth. <u>Colombo</u>			5%							
<u>SYRIAN ARAB REPUBLIC</u>	2 264	0	(?) 2 662	2 976	0	1	12	15	11 31	Treatment not completed.
Rabies Con. Center Min. Hlth. <u>Damascus</u>			314	0	0	31				

TABLE 11. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment						Rabies deaths in humans				Remarks		
	1984		1985		1984		1985		Incubation period (days)				
	Total	Paralytic reactions	Vaccine alone & serum	Serum alone	Total	Paralytic reactions	Deaths in untreated	Deaths in treated	0/30	31/90 > 91			
<u>THAILAND</u> Div. Epid. Min. Publ. Hlth. Bangkok	71 603	5			73 977	4		186	16 <sup>1</sup>	12	1	3	<sup>1</sup> Treatment - vaccine only. <sup>2</sup> Data for Institute only. <sup>3</sup> Animals responsible - dogs. <sup>4</sup> 60 year old man. Treatment (serum + suckling mouse brain vaccine) started 1 day after bites. After 5 days SMBY vaccine, treatment changed to human diploid cell vaccine. On 4th injection of HDCV (day 14) he developed symptoms of rabies. Death occurred 33 days after exposure.
Queen Saovabha Memorial Inst. Bangkok	8 948 <sup>2</sup>	15 <sup>2</sup>	10 015	996	0	11 011 <sup>2</sup>	8 <sup>2</sup>	32,3	2	2	1 <sup>4</sup>	1 <sup>4</sup>	

TABLE II. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment						Rabies deaths in humans			Remarks	
	1984		1985		1986		1984	1985			
	Total	Para-lytic reactions	Vaccine alone & serum	Vaccine & serum alone	Serum alone	Total	Para-lytic reactions	Deaths in un-treated	Deaths in treated		Incubation period (days)
<u>AUSTRIA</u> Fed. Min. Hlth. & Environmental Protection Vienna	1 215	0	1 259	56 <sup>1</sup>	0	1 315	0	0	0		Vaccine + gammaglobulin
<u>BELGIUM</u> Serv. Inspection Vet. ) Min. Agric. ) Brussels ) Inst. Pasteur du Brabant ) Min. Hlth. ) Brussels )			725	125 <sup>1</sup>	0	853		0	0		Vaccine + human gammaglobulin
<u>BULGARIA</u> Scientific Inst. Communicable & Parasitic Dis. Lab. Specific Prevention Rabies Sofia	4 780	0	3 626	99	0	3 727	0	0	0		
<u>CYPRUS</u> Dept. Vet. Services Min. Agric. & Natural Resources Nicosia	0					0	0	0	0		
<u>CZECHOSLOVAKIA</u> State Vet. Service Fed. Min. Agric. & Food Prague	3 734	71	2 367	383	19	2 769	98	0	0		
<u>DENMARK</u> Danish Vet. Service Copenhagen	42	0	32	0	0	32 <sup>1</sup>	0	0	0		Exposures occurred outside Denmark in 25 cases.

TABLE 11. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBERS OF FATAL CASES

Country	Persons receiving post-exposure treatment						Rabies deaths in humans			Remarks	
	1984			1985			1986				
	Total	Para-lytic reac-tions	Vaccine alone & serum	Total	Serum alone	Para-lytic reac-tions	Total	Deaths in un-treated	Deaths in treated		Incubation period (days) 0/20 31/90 >91
<u>FINLAND</u>											
Nat. Vet. Inst. Helsinki	25	0	50	3	1 <sup>1</sup>	54	0	1 <sup>1</sup>	1 <sup>1</sup>	1	1 Patient given immunoglobulin after symptoms had appeared. Animal responsible - bat strongly suspected as patient had multiple exposures to bat bites at work and the characteristics of the virus isolated resembled viruses isolated from bats in Europe. Death 51 days after last bat bite.  1 Data from document by Institut Pasteur, Paris.  2 Data from all anti-rabies treatment centres in France.
Nat. Publ. Hlth. Inst. Helsinki											
<u>FRANCE</u>											
Centre Nat. Etudes sur Rage Marseville	7 881 <sup>1</sup>	0 <sup>1</sup>	7 477	404 <sup>1</sup>	252 <sup>1</sup>	8 139 <sup>1</sup> (f)	0 <sup>1</sup>	0 <sup>1</sup>	0 <sup>1</sup>		
Nat. Ref. Centre Rabies Inst. Pasteur Paris	7 881 <sup>2</sup>	0 <sup>2</sup>	7 477 <sup>2</sup>	404 <sup>2</sup>	262 <sup>2</sup>	8 139 <sup>2</sup> (f)	0 <sup>2</sup>	0	0		
<u>GERMAN DEMOCRATIC REPUBLIC</u>											
Min. Hlth. Berlin	4 430	0	2 995	1 144	0	4 139	0	0	0		
<u>GERMANY, FEDERAL REPUBLIC OF</u>											
Fed. Res. Inst. Animal Virus Dis. Tübingen							0	0	0		
<u>GIBRALTAR</u>											
Environ. Hlth. Dept. Med. & Hlth. Services	0										
<u>GREECE</u>											
Zoon. Directorate Min. Agric. Athens											
Publ Hlth. Div. Min. Hlth. Welfare & Social Security Athens		0	2 452	119	0	2 571	0				



TABLE II. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment						Babies deaths in humans			Remarks	
	1984			1985			1985				
	Total	Para-lytic reac-tions	Vaccine alone & serum	Vaccine alone & serum	Serum alone	Total	Para-lytic reac-tions	Deaths in un-treated	Deaths in treated		Incubation period (days) 0/30 31/90 > 91
<u>MALTA</u>											
Dept. Hlth. ) Valletta ) Dept. Agric. ) Valletta )	0	0	5	0	0	0	0	0	0		
<u>NETHERLANDS</u>											
Zoon Sect. Cent. Vet. Publ. Hlth. Leidschendam	129 <sup>1</sup>	0	5	67 <sup>1</sup>	0	0	0	0	0		<sup>1</sup> Including exposures occurring outside Netherlands.
<u>NORWAY</u>											
Dept. Infect. Dis. Control Nat. Inst. Publ. Hlth. Oslo	0	0	1	2 <sup>2</sup>	0	0	0	0	0		<sup>1</sup> Vaccine and human immune globulin. <sup>2</sup> Children exposed in Poland.
<u>POLAND</u>											
Nat. Inst. Hyg. Warsaw	3 675 <sup>1</sup>	32 <sup>2</sup>	2 779	2 803 <sup>1</sup>	0	0	3	1 <sup>4</sup>	1		<sup>1</sup> Data not complete. <sup>2</sup> Including 10 cases meningitis probably unrecognized enterovirus etiology. <sup>3</sup> Animal responsible - probably dog. <sup>4</sup> Animal responsible - wild animal, sp. not established.
<u>PORTUGAL</u>											
Service Raga Inst. Bact. Câmara Pestina Lisbon	53	0	33	33	0	0	0	0	0		
<u>SWEDEN</u>											
Dept. Virol Nat. Bact. Lab. Stockholm	30-50 <sup>1,2</sup>	0	30-40 <sup>2</sup>	30-50 <sup>1,2</sup>	10 <sup>2</sup>	0	0	0	0		<sup>1</sup> Exposure occurred outside Sweden. <sup>2</sup> Approximate figure.



TABLE II. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment						Rabies deaths in humans				Remarks				
	1984		1985		Total	Para-lytic reac-tions	1984		1985						
	Total	Para-lytic reac-tions	Vaccine alone & serum	Serum alone			Total	Deaths in un-treated	Deaths in treated	Incubation period (days)					
								0/30	31/30	> 91					
<u>AUSTRALIA</u> Australian Agric. Hlth. & Quarantine Serv. Dept. Primary Industry <u>Canberra</u>	27 <sup>1</sup>	0	9	13	0	27 <sup>1</sup>	0	0	0	0	0	0	0	0	
<u>FIJI</u> Di v. Anim. Hlth. & Prod. Min. Primary Industries <u>Suva</u>	0					0		0	0	0	0	0	0	0	
<u>FRENCH POLYNESIA</u> Serv. Economie Rurale Sec. Elevage, Papeete Tahiti	0					0		0	0	0	0	0	0	0	
<u>GUAM</u> Bureau Environ. Hlth. & Consumer Protection <u>Agaña</u>	0					0		0	0	0	0	0	0	0	
<u>NEW CALEDONIA</u> Serv. Vet. <u>Noumea</u>	0					0		0	0	0	0	0	0	0	
<u>NEW ZEALAND</u> Anim. Hlth. Div. Min. Agric. & Fisheries <u>Wellington</u>	0					0		0	0	0	0	0	0	0	
															1 Exposures occurred outside Australia.

TABLE 11. PERSONS RECEIVING POST-EXPOSURE TREATMENT AND NUMBER OF FATAL CASES

Country	Persons receiving post-exposure treatment:						Babies deaths in humans				Remarks	
	1983		1985		1984		1983					
	Total	Para-lytic reactions	Vaccine alone & serum	Serum alone	Total	Para-lytic reactions	Total	Deaths in un-treated	Deaths in treated	Incubation period (days)		
										0-30		31-90; > 91
<u>SOLOMON ISLANDS</u>												
Min. Agric. & Lands Honiara	0				0	0	0	0				
<u>VANDUATU</u>												
Vet. Serv. Dept. Agric. Port Vila	0				0	0	0	0				
Nat. Hlth. Office Port Vila	0				0	0	0	0				

TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1985)

Country	Type of vaccine produced		Quantity produced	Potency test	Animal species	Serum production		Diagnostic methods		Remarks
	Antiserum vaccine	Shuman vaccine				Amount	Number of international units per ml	FAU	Mouse inoc.	
<u>ANGOLA</u>	0	0	0					✓	✓	<sup>1</sup> Data for Institute only.
Inst. Investigação Vet. Luanda <sup>1</sup>										
<u>BERIN</u>	0	0	0					✓ <sup>1</sup>	✓ <sup>1</sup>	<sup>1</sup> No diagnostic laboratory.
Dir. Elevage & Industries Animales Cotonou										
<u>BOTSWANA</u>	0	0	0			0		✓	✓ <sup>1</sup>	<sup>1</sup> When FAT negative. <sup>2</sup> Used rarely (when samples sent in formalin saline only).
Nat. Vet. Lab. Min. Agric. Gaborone										
<u>CENTRAL AFRICAN REPUBLIC</u>	0	0	0			0		✓ <sup>1</sup>	✓	<sup>1</sup> Plus Mb cell cultures and identification with fluorescent antibodies.
Inst. Pasteur Bangui										
<u>EGYPT</u>								✓	✓	
Dept. Vet. Publ. Hlth. Min. Agric Cairo	Flury IEP		20 000 doses	Guinea pig						
Vet. Res. Inst. Vaccines & Sera Cairo			30 000 doses	NIH						
<u>NAMIBIA</u>										
Unit Cairo										
<u>NETHERLANDS</u>										
Virus Res. Centre Min. Publ. Hlth. Cairo										
<u>NETHERLANDS</u>										
Dept. Infect. Dis. Min. Publ. Hlth. Cairo										
<u>ETHIOPIA</u>								✓	✓	
Vet. Publ. Hlth. Div. Nat. Res. Inst. Hlth. Addis Ababa	Ferri Sheep brain		10 440 doses	Hebe 1	Horse	2 210 ml	approx. 200			
			92 220 doses	Habel						
	Ferri Sheep brain									

TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1965)

Country	Type of vaccine produced		Quantity produced	Potency test	Serum production			Diagnostic methods			Remarks
	Animal vaccine	Human vaccine			Animal species	Amount	Number of international units per ml.	FAT	Mouse inoc.	Hisc.	
<u>GHANA</u> Vet. Serv. Dept. Min. Agric. Accra	Tissue culture inactivated <sup>1</sup>		39 900 doses				✓		✓		<sup>1</sup> Imported.
<u>KENYA</u> Vet. Res. Lab. Min. Agric. & Livestock Development Kabete	Flury LEP		500 000 doses	Mouse			✓		✓		<sup>1</sup> Imported.
Div. Comm. Dis. Res. Min. Hith. Nairobi	Flury LEP	Human diploid cell culture <sup>1</sup>	500 000 doses				✓		✓		
<u>MADAGASCAR</u> Inst. Pasteur Tananarive		Ferni	30 800 doses	Habel			✓		✓		
<u>MAURITIUS</u> Div. Vet. Services Min. Agric., Fisheries & Nat. Resources Reduit			0				-		-		
<u>NIGERIA</u> Nat. Vet. Res. Inst. Zoo	Flury LEP (for dogs)		80 490 doses	Guinea pig			✓		✓		
	Flury HEP (for cats)		16 015 doses	Guinea pig							
<u>SENEGAL</u> Dir. Elevage Min. Developpement Rural Dakar	Flury HEP		64 000 doses	NIH			✓		✓		
Inst. Pasteur Dakar		Suckling mouse brain					✓		✓		

TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1985)

Country	Type of vaccine produced		Quantity produced	Potency test	Serum production			Diagnostic methods			Remarks
	Animal vaccine	Human vaccine			Animal species	Amount	Number of International units per ml	EAT	Mouse inoc.	Rst.	
SOUTH AFRICA (including Bophuthatswana, Transkei & Venda) Dir. Vet. Services Pretoria	Flury NEP		920 300 doses	Guinea pig			✓	✓	✓	Produced at Veterinary Research Institute, Onderstepoort	
	0	0	0				✓	✓	✓		
TAMZANIA Min. Agric. & Livestock Development Dar-es-Salaam							✓	✓	✓		
TUNESIA Dir. Prod. Animale Inst. Recherche Vet. Tunis	Suckling sheep brain, $\beta$ -propiolactone, inactivated, aluminium hydroxide adjuvant		50 000 doses	NIH			✓	✓	✓		
Mfn. Santé publ. Tunis	Suckling sheep brain, $\beta$ -propiolactone, inactivated, lyophilised			NIH							
UGANDA Dept. Vet. Serv. & Animal Industry Kampala	Suckling sheep brain inoculated with Pasteur virus, $\beta$ -propiolactone, inactivated, lyophilised		75 000 doses	NIH	Mule	40 400 ml	✓	✓	✓		
ZIMBABWE Vet. Res. Lab. Causeway	0	0	0				✓	✓	✓	Comparative FAT using rabies & Mokola virus conjugates. Both conjugates produced in this laboratory.	









TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1953)

Country	Type of vaccine produced		Quantity produced	Potency test	Animal species	Serum production		Diagnostic methods			Remarks
	Animal vaccine	Human vaccine				Amount	Number of international units per ml	FAT	Mouse inoc.	Hist.	
UNITED STATES OF AMERICA Viral & Rickettsial Zoon. Branch Centers for Infectious Dis. Centers for Disease Control Lawrenceville	Various (all commercial sources) (for dogs & cats)		28 068 654 doses	NIH (inactiva- ted)	Human Lemure- globulin			√ <sup>2</sup>	√ <sup>2</sup>		1 Imported. 2 Plus isolation in neuroblastoma cells.
			1 0 <sup>1</sup>		Virus titration (attenua- ted)						
VENEZUELA Dept. Zoon. Centro Simen Bolivar Min. Hlth. Caracas	Suckling mouse brain (for dogs)		183 200 doses	NIH				√	√	√	
		Suckling mouse brain	113 300 doses	NIH							

TABLE III. PRODUCTION OF BABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1965)

Country	Type of vaccine produced		Quantity produced	Potency test	Animal species	Serum production		Diagnostic methods			Remarks	
	Animal vaccine	Human vaccine				Amount	Number of international units per ml	FAT	House loacc.	Hist.		
<u>BAHRAIN</u> Publ. Hlth. Directorate Min. Hlth. Manama	0	0	0			0					✓	
<u>BANGLADESH</u> Lab. Vaccine Lab. Livestock Res. Inst. Mohakhali	Flury LEP		10 557 doses	Guinea pig				✓			✓	
	Flury HEP	Sheep brain, inactivated	1 630 doses	Habel Modified								
<u>HONG KONG</u> Med. & Hlth. Dept. Agric. & Fisheries Dept.	-	-	-			-		✓	✓		✓	
<u>INDIA</u> Zoon. Div. Nat. Inst. Communicable Dis. Delhi	Sample, 5%		9 000 000 ml	NIH	Horse		200-300	✓	✓		✓	
	Sheep brain, 20%		15 000 doses	NIH								
	Flury LEP & HEP		>26 000 doses									
	Sample, 5%		40 000 000 ml	NIH								
<u>Kassali</u> Central Res. Inst.	Sample sheep brain, 20%, $\beta$ -propiolactone inactivated		6 285 ml	NIH	Horse	61 365 ml	>300	✓	✓			<sup>1</sup> Data for Central Research Institute only. <sup>2</sup> Data for Public Health Laboratory only.
	Sample sheep brain, 5% $\beta$ -propiolactone inactivated		5 515 855 ml	NIH								
<u>Trivandrum</u> Publ. Hlth. Lab. Kerala State	Sample sheep brain		2 450 560 ml			0			✓		✓	

TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1985)

Country	Types of vaccine produced		Quantity produced	Potency test	Serum production		Diagnostic methods		Remarks
	Animal vaccine	Human vaccine			Animal species	Amount	FA <sup>2</sup>	Mouse inoc.	
<u>INDONESIA</u> Pasteur Inst. Bandung	Suckling mouse brain, $\beta$ -propiolactone inactivated		50 000 doses	NIH	Horse	40 000 ml	✓	✓	<sup>1</sup> Data for Institute only.
<u>IRAN</u> Inst. Pasteur Teheran	Sheep brain, $\beta$ -propiolactone inactivated	Suckling mouse brain, $\beta$ -propiolactone inactivated	125 000 doses	RIF	Human gamma-2 globulin		✓	✓	<sup>1</sup> Imported from Institut Mérieux, France. <sup>2</sup> Produced in collaboration with Iranian Blood Transfusion Service.
<u>IRAQ</u> Inst. Pasteur Baghdad		Human diploid cell culture <sup>1</sup>	29 800 doses	Rabel	Serum <sup>2</sup> Human immune globulin <sup>3</sup>		✓	✓	<sup>1</sup> Imported from Institut Mérieux, France. <sup>2</sup> Imported from Switzerland. <sup>3</sup> Imported from France.
<u>ISRAEL</u> Vet. Serv. & Animal Hlth. Min. Agric. Beit-Dagan		Human diploid cell culture <sup>1</sup>					✓	✓	<sup>1</sup> Imported from Institut Mérieux, France.
<u>JORDAN</u> Div. Primary Hlth. Care Min. Hlth. Amman		Human diploid cell culture <sup>1</sup>					✓	✓	<sup>1</sup> Imported from Institut Mérieux, France.

TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1985)

ASIA	Country	Type of vaccine produced		Quantity produced	Potency test	Serum production		Diagnostic methods			Remarks	
		Antiserum vaccine	Rxam vaccine			Antiserum species	Amount	Number of international units per ml	PHI	Mouse inoc.		Hist.
	<u>KOREA, REPUBLIC OF</u>											
	Animal Hlth. Div. ) Min. Agric. & Fisheries ) Kyunggi-Do ) Inst. Vet. Res. ) Kyunggi-Do )	Tissue culture		660 120 doses	Guinea pig				✓	✓	✓	
	<u>KUWAIT</u>											
	Vet. Dept. ) Agric. Affairs & Fish Resources ) Authority ) Kuwait ) Preventive Med. Div. ) Min. Publ. Hlth. ) Kuwait )		Human diploid cell culture	0 <sup>1</sup> 0 <sup>1</sup> 0 <sup>1</sup>		0 <sup>1</sup>	0 <sup>1</sup>					Imported.
	<u>LAO PEOPLE'S DEMOCRATIC REPUBLIC</u>											
	Dept. Serv. Vet. ) Min. Agric. ) Forêts, Irrigation & Coop. Agric. ) VIENTIANE )			0		0 <sup>1</sup>			✓	✓	✓	Imported from USSR.
	<u>MALAYSIA (mainland)</u>											
	Vet. Services ) Min. Agric. ) Kuala Lumpur ) Div. Virus Res. ) Inst. Med. Res. ) Kuala Lumpur )	Flury LEP <sup>1</sup>		5 000 <sup>1</sup> doses		0	0		✓	✓	✓	Imported annually.
	<u>Sabah</u>											
	Dept. Vet. Services & Animal Industry ) Kota Kinabalu ) <u>OMAN</u> ) Dept. Animal Health ) Min. Agric. & Fisheries ) Muscat )			0		0	0		✓	✓	✓	



TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1985)

Country	Type of vaccine produced		Quantity produced	Potency test	Serum production			Diagnostic methods			Remarks	
	Animal vaccine	Human vaccine			Animal species	Amount	Number of international units per dl	PAT	Mouse inoc.	Hist.		
YEMEN Vet. Serv. Project Min. Agric. & Fisheries Sana'a									✓			

ASIA

TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1983)

Country	Type of vaccine produced		Quantity produced	Potency test	Serum production		Diagnostic methods		Remarks
	Antiserum vaccine	Human vaccine			Amount	Number of international units per ml	FAT	Mouse inoc.	
<u>AUSTRIA</u> Fed. Min. Hlth. & Environmental Protection Vienna	0		0		0		✓	✓	1) Plus single radial diffusion technique.
<u>Bundesanstalt f. Tierseuchenbekämpfung Wiedling</u>	0	0	0		0		✓	✓	1) With monoclonal antibodies.
<u>BELGIUM</u> Serv. Inspection Vet. Min. Agric. Brussels	0	0	0		649 ml	300	✓	✓	1) Cell culture inoculation.
<u>Inst. Pasteur du Brabant Min. Hlth. Brussels</u>									
<u>BULGARIA</u> Scientific Inst. Communicable & Parasitic Dis. Lab. Specific Prevention Rabies Sofia	Brain vaccine	Tissue culture <sup>2</sup>	102 000 doses 0 <sup>2</sup>		0 <sup>3</sup>		✓	✓	1) Produced at Veterinary Institute of Immunology, Sofia. 2) Imported from USSR. 3) Imported. 4) Carried out at Central Scientific & Research Veterinary Medical Institute, Sofia.
<u>CYPRUS</u> Dept. Vet. Services Min. Agric. & Natural Resources Nicosia	0	0	0		0		✓	✓	
<u>CZECHOSLOVAKIA</u> State Vet. Service Fed. Min. Agric. & Food Prague	Tissue culture (VNUKVO)	Tissue culture (VNUKVO)					✓	✓	

TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1985)

Country	Type of vaccine produced		Quantity produced	Purity test	Serum production		Diagnostic methods			Remarks
	Animal vaccine	Human vaccine			Animal species	Amount	Number of international units per ml	FAT	Mouse inoc.	
<u>DENMARK</u> Danish Vet. Service Copenhagen	0 <sup>1</sup>	Human diploid cell culture <sup>1</sup>	0 <sup>1</sup> 0 <sup>1</sup>			0		✓	✓	1 Imported from Rhone Mérieux, France.
<u>FINLAND</u> Nat. Vet. Inst. Helsinki ) ) ) ) ) Nat. Publ. Hlth. Inst. Helsinki )	0	Human diploid cell culture <sup>1</sup>	0		Human immune globulin <sup>2,3</sup>	150 <sup>2</sup>	✓	✓	✓	1 Imported from Institut Mérieux, France 2 Imported from Berne, Switzerland. 3 Plasma was collected from good responders of vaccinated humans by plasmapheresis and will be used in future for preparation of human RIG.
<u>FRANCE</u> Centre Nat. Etudes sur Rage Malzeville Nat. Ref. Centre Rabies Inst. Pasteur Paris Pasteur Vaccins Marnes-la-Coquette	0 <sup>1</sup>	0 <sup>1</sup>	0 <sup>1</sup>			0 <sup>1</sup>		✓	✓	1 Data for Centre only. 2 Cell culture inoculation. 3 Plus cell culture inoculation.
Centre régional Transfusion sanguine & Hématologie de Nancy Vandœuvre-les-Nancy	Suckling mouse brain	Suckling mouse brain Bovine foetal kidney cell	326 000 doses 840 000 ampoules 50 000 doses	NIH NIH NIH	Human immune globulin	≥ 120				



EUROPE

TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1985)

Country	Type of vaccine produced		Quantity produced	Potency test	Serum production			Diagnostic methods			Remarks
	Animal vaccine	Human vaccine			Animal species	Amount	Number of international units per ml	FAI	Zone inoc.	Hist.	
<u>HUNGARY</u> Min. Agric. & Food Budapest	Tissue culture WUKOVO (for dogs)		1 500 000 doses				✓	✓	✓	1 Approximate figure. 2 Imported from Institut Mérieux, France and Behringwerke, Federal Republic of Germany.	
Mat. Inst. Hyg. Min. Hlth. Budapest		Hempt sheep brain Human diploid cell culture <sup>2</sup>	15 840 doses 0	MIB/ Rabel			✓	✓			
<u>ICELAND</u> Inst. Exp. Pathology Reykjavik	0	0	0			0			✓		
<u>IRELAND</u> Vet. Res. Lab. Dept. Agric. Abbotstown	0	0	0					✓	✓		
<u>ITALY</u> Dir. Gen. Servizi Vet. Min. Sanità Rome	ERA		1 000 000 doses				✓	✓		1 Produced by Istituto Zooprofilattico Speri., Perugia. 2 Produced by Istituto SCLAVO, Siena. 3 Approximate figure.	
Inst. Malattie Infettive Profilaesi Polizia Vet. Bologna	ERA <sup>1</sup>	Human diploid cell culture	1 100 000 doses 70 000 doses	Guinea pig			✓	✓	✓		
<u>LUXEMBOURG</u> Admin. Serv. Vet. Min. Agric. & Viticulture Luxembourg	Tissue <sup>1</sup> culture	Human diploid cell culture <sup>1</sup>	0			0	✓	✓	✓	1 Imported from Institut Mérieux, France.	

TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1965)

Country	Type of vaccine produced		Quantity produced	Potency test	Serum production			Diagnostic methods		Remarks	
	Animal vaccine	Human vaccine			Animal species	Amount	Number of international units per ml	FAI	Mouse inoc.		Expt.
<u>MALTA</u>	0		0			0		X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	1 Imported for exposures outside Malta. 2 Specimens sent for diagnosis to Min. Agric., Fisheries & Food, UK.
Dept. Hlth. Valetta Dept. Agric. Valetta		Duck embryo <sup>1</sup>									
<u>NETHERLANDS</u>			4 000 doses	NIH				✓		✓	
Zoon. Sect. Gen. Vet. Publ. Hlth. Leidschendam		Dog kidney tissue culture									
<u>NORWAY</u>			0			0					
Nat. Vet. Inst. Oslo	0										
<u>POLAND</u>			3 000 000 doses								1 Approximate figure. 2 Imported from Institut Merieux, France. 3 Imported from Institut Pasteur, Paris
Dept. Vet. Med. Min. Agric. Forestry & Food Economy Warsaw	Sample sheep brain	Human diploid cell culture <sup>2</sup>	0 <sup>2</sup>			0 <sup>3</sup>		✓	✓	✓	4 In addition: Indirect FA technique ELISA Serum neutralization <u>in vivo</u> & <u>in vitro</u> .
Nat. Inst. Hyg. Warsaw											
<u>PORTUGAL</u>			24 000 ml	Rabel							1 Imported from Institut Pasteur.
Service Rage Inst. Bact. Camera Pestina Lisbon		Sample rabbit brain Fuenzalida <sup>1</sup>									
<u>SPAIN</u>			1 200 000 doses	mouse				✓	✓	✓	
Subdir. Gen. Sanidad Animal Min. Agric., Pesca y Alimentacion Madrid	Flury		800 000 doses	mouse							
Subdir. Gen. Vet. Salud Publ. y Sanidad Ambiental Min. Salud y Consumo Madrid	Inactivated		0			0		✓	✓	✓	



TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1985)

Country	Type of vaccine produced		Quantity produced	Percency test	Serum production			Diagnostic methods			Remarks
	Animal vaccine	Human vaccine			Animal species	Amount	Number of international units per ml	FA7	Mouse inoc.	Hist.	
YUGOSLAVIA Nat. Ref. Lab. Rabies Pasteur Inst, Novi Sad	Flury HEP (on chicken fibroblasts) <sup>1</sup>  Flury LEP (on chicken embryos) <sup>2</sup>  Human diploid cell culture <sup>3</sup> Hempt <sup>4</sup>	Human vaccine		Virus titration  Virus titration	Horse <sup>5</sup>  Horse	12 500 ml <sup>5</sup>	200 <sup>5</sup>	✓  ✓	✓  ✓		1 Produced at Veterinary Institute, Zemun. 2 Produced by "Piiva", Zagreb. 3 Imported. 4 Vaccine produced is stored. 5 Produced by Institute of Immunology & Virology, Belgrade.

TABLE III. PRODUCTION OF RABIES VACCINE AND SERUM: DIAGNOSTIC METHODS (1985)

Country	Type of vaccine produced		Quantity produced	Potency test	Serum production		Diagnostic methods		Remarks	
	Animal vaccine	Human vaccine			Animal species	Amount	Number of international units per dl	PAT		Mouse inoc.
<u>AUSTRALIA</u> Australian Agric. Hlth. & Quarantine Serv. Dept. Primary Industry Canberra	0 <sup>1</sup>	0 <sup>1</sup>	0 <sup>1</sup>			0		✓		1 Imported Mérioux vaccine used.
<u>FIJI</u> Div. Anim. Hlth. & Prod. Min. Primary Industries Suva	0	0	0			0		-		
<u>MIN. HLTH. SUVA</u>	0	0	0			0		-		
<u>GUAM</u> Bureau Environ. Hlth. & Consumer Protection Agaña	0	0	0			0		X <sup>1</sup>		1 All suspect specimens sent for diagnosis to Centers for Disease Control, Atlanta, USA.
<u>NEW CALEDONIA</u> Serv. Vét. Nouméa	0	0	0			0				
<u>NEW ZEALAND</u> Anim. Hlth. Div. Min. Agric. & Fisheries Wellington	0	0	0			0		X <sup>1</sup>	✓	1 Specimens sent to Min. Agric., Fisheries & Food, Weybridge, UK for confirmation by FAT.
<u>SOLOMON ISLANDS</u> Min. Agric. & Lands Honiara	0	0	0			0		X <sup>1</sup>	X <sup>1</sup>	1 Not available.
<u>VANUATU</u> Vet. Serv. Dept. Agric. Port Vila	0	0	0			0		-	-	
<u>Nat. Hlth. Office Port Vila</u>	0	0	0			0		-	-	

OCEANIA