

MMWR

665 Compendium of Animal Rabies
Vaccines, 1984

MORBIDITY AND MORTALITY WEEKLY REPORT

Compendium of Animal Rabies Vaccines, 1984 **Prepared by: The National Association** **of State Public Health Veterinarians, Inc.**

Part I: Recommendations for Immunization Procedures

The purpose of these recommendations is to provide information on rabies vaccines to practicing veterinarians, public health officials, and others concerned with rabies control. This document will serve as the basis for animal rabies vaccination programs throughout the United States. Its adoption by cooperating organizations will result in standardization of procedures among jurisdictions, which is necessary for an effective national rabies-control program. These recommendations are reviewed and revised as necessary before the beginning of each calendar year. All animal rabies vaccines licensed by the U.S. Department of Agriculture (USDA) and marketed in the United States are listed in Part II of the Compendium, and Part III describes the principles of rabies control.

A. VACCINE ADMINISTRATION

The Committee recommends that all animal rabies vaccines be restricted to use by or under the supervision of a veterinarian.

B. VACCINE SELECTION

While recognizing the efficacy of vaccines providing 1-year duration of immunity, the Committee recommends the use of vaccines providing 3-year duration of immunity, because their use constitutes the most effective method of increasing the proportion of immunized dogs and cats in comprehensive rabies-control programs.

C. ROUTE OF INOCULATION

All rabies vaccines must be administered intramuscularly at one site in the thigh.

D. HIGH-RISK RABIES AREA

An area (town, city, or county) where a high incidence of rabies exists among wildlife or domestic species, as determined by state health officials, may be declared a High-Risk Rabies Area. In such areas, the public should be alerted to the risk and urged to make sure their dogs and cats have current rabies vaccinations. State health officials may wish to consider temporarily altering revaccination schedules.

E. WILDLIFE VACCINATION

Vaccination is not recommended, since no rabies vaccine is licensed for use in wild animals and since there is no evidence that animal rabies vaccines produce acceptable levels of immunity in wild animals. The Committee recommends that neither wild nor exotic animals be kept as pets and that wild animals **not** be cross-bred with domestic dogs or cats.

F. ACCIDENTAL HUMAN EXPOSURE TO VACCINE

Accidental human inoculation may occur during administration of animal rabies vaccines. Exposures to inactivated vaccines constitute **no known** rabies hazard. No cases of rabies

have resulted from needle or other exposure to a licensed, modified live virus vaccines in the United States.

G. IDENTIFICATION OF VACCINATED DOGS

The Committee recommends that all government agencies and veterinarians adopt the standard tag system. This will aid the administration of local, state, national, and international procedures. Dog license tags should not conflict in shape and color with rabies tags. It is recommended that anodized aluminum rabies tags not be less than 0.064 inches in thickness.

1. Rabies Tags:

<u>Calendar Year</u>	<u>Color</u>	<u>Shape</u>
1984	Red	Heart
1985	Blue	Rosette
1986	Orange	Fireplug
1987	Green	Bell

2. **Rabies Certificate:** Government agencies and veterinarians should use the NASPHV form #50, Rabies Vaccination Certificate, which can be obtained from vaccine manufacturers.

Part II: Vaccines Marketed in United States and NASPHV Recommendations

<u>Vaccine: generic name</u>	<u>Produced by</u>	<u>Product name Marketed by</u>	<u>For use in*</u>	<u>Dosage†</u>	<u>Age at primary vaccination§</u>	<u>Booster recommended</u>
A. MODIFIED LIVE VIRUS						
Canine cell line origin	NORDEN License No. 189	ENDURALL-R Norden	Dogs Cats	1 ml 1 ml	3 mos. & 1 yr. later 3 months	Triennially Annually
High egg passage						
Canine tissue culture origin	PHILIPS ROXANE License No. 124	NEUROGEN-TC Bio-Ceutic	Dogs	1 ml	3 mos. & 1 yr. later	Triennially
High cell passage						
Canine tissue culture origin	PHILIPS ROXANE License No. 124	UNIRAB Bio-Ceutic	Dogs	1 ml	3 mos.	Annually
High cell passage						
B. INACTIVATED						
Murine origin	FORT DODGE License No. 112	TRIMUNE Fort Dodge	Dogs Cats	1 ml 1 ml	3 mos. & 1 yr. later 3 mos. & 1 yr. later	Triennially Triennially
Murine origin	FORT DODGE License No. 112	ANNUMUNE Fort Dodge	Dogs Cats	1 ml 1 ml	3 months 3 months	Annually Annually
Murine origin	DOUGLAS License No. 165-B	BIORAB-1 Schering Veterinary	Dogs Cats	1 ml 1 ml	3 months 3 months	Annually Annually
Murine origin	DOUGLAS License No. 165-B	BIORAB-3 Schering Veterinary	Dogs Cats	1 ml 1 ml	3 mos. & 1 yr. later 3 months	Triennially Annually

Vaccine: generic name	Produced by	Product name Marketed by	For use in*	Dosage [†]	Age at primary vaccination [§]	Booster recommended
Murine origin	WILDLIFE VACCINES, INC. License No. 277	DURA-RAB 1 Wildlife vaccines & TechAmerica	Dogs	1 ml	3 months	Annually
			Cats	1 ml	3 months	Annually
Hamster cell line origin	BEECHAM License No. 225	RABCINE Beecham	Dogs	1 ml	3 months	Annually
			Cats	1 ml	3 months	Annually
Hamster cell line origin	BEECHAM License No. 225	RABCINE-FELINE Beecham	Cats	1 ml	3 months	Annually
Porcine cell line origin	NORDEN License No. 189	ENDURALL-K Norden	Dogs	1 ml	3 months	Annually
			Cats	1 ml	3 months	Annually
Porcine cell line origin	NORDEN License No. 189	RABGUARD-TC Norden	Dogs	1 ml	3 mos. & 1 yr. later	Triennially
			Cats	1 ml	3 mos. & 1 yr. later	Triennially
Monkey cell line origin	WELLCOME License No. 107	CYTORAB Wellcome	Dogs	1 ml	3 months	Annually
			Cats	1 ml	3 months	Annually
Monkey cell line origin	WELLCOME License No. 107	TRIRAB & DELTA-RAB Wellcome Fromm	Dogs	1 ml	3 mos. & 1 yr. later	Triennially
			Cats	1 ml	3 months	Annually
Feline cell line origin	FROMM License No. 195-A	RABVAC Fromm	Dogs	1 ml	3 months	Annually
			Cats	1 ml	3 months	Annually
Hamster cell line origin	MERIEUX License No. 298	IMRAB Pitman-Moore	Dogs	1 ml	3 mos. & 1 yr. later	Triennially
			Sheep	1 ml	3 mos. & 1 yr. later	Triennially
			Cats	1 ml	3 months	Annually
			Cattle	2 ml	3 months	Annually

C. COMBINATION

Feline cell line origin	FROMM License No. 195-A	ECLIPSE 3 KP-R Fromm	Cats	1 ml	3 months	Annually
Feline cell line origin	FROMM License No. 195-A	ECLIPSE 4 KP-R Fromm	Cats	1 ml	3 months	Annually
Monkey cell line origin	WELLCOME License No. 107	CYTORAB RCP Wellcome	Cats	1 ml	3 months	Annually
Murine origin	FORT DODGE License No. 112	FEL-O-VAX PCT-R Fort Dodge	Cats	1 ml	3 mos. & 1 yr. later	Triennially

*Refers only to domestic species of this class of animals.

[†]All vaccines must be administered intramuscularly at one site in the thigh.

[§]Three months is the earliest age recommended. Dogs and cats vaccinated between 3 and 12 months should be revaccinated 1 year later.

Part III: Principles of Rabies Control

These guidelines have been prepared by the National Association of State Public Health Veterinarians (NASPHV) for use by government officials, practicing veterinarians, and others who may become involved in certain aspects of rabies control. The NASPHV plans to annually review and revise these recommendations as necessary. Standardized control procedures are needed to deal effectively with the public health aspects of rabies.

A. PRINCIPLES OF RABIES CONTROL

- Rabies in Humans:** Rabies in humans can be prevented by eliminating exposure to rabid animals and by promptly treating local wounds and immunizing when exposed. Current recommendations of the Public Health Service Immunization Practices Advisory Committee (ACIP) for pre-exposure and post-exposure prophylaxis are suggested for attending physicians. These recommendations, along with the current status of animal rabies in the region and information concerning the availability of rabies biologics, are available from state health departments.
- Domestic Animals:** Local governments should initiate and maintain effective programs to remove strays and unwanted animals and ensure vaccination of all dogs and cats.

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TABLE I. Summary—cases specified notifiable diseases, United States

Disease	51st Week Ending			Cumulative, 51st Week Ending		
	December 24, 1983	December 25, 1982	Median 1978-1982	December 24, 1983	December 25, 1982	Median 1978-1982
Aseptic meningitis	96	184	113	11,600	9,524	8,341
Encephalitis: Primary (arthropod-borne & unsp.)	16	22	20	1,679	1,562	1,180
Post-infectious	-	-	1	69	79	210
Gonorrhea: Civilian	12,250	18,393	18,393	875,638	941,032	983,104
Military	274	165	424	23,298	25,146	26,230
Hepatitis: Type A	265	376	495	21,254	22,582	27,930
Type B	271	419	378	22,292	21,589	18,141
Non A, Non B	35	53	N	3,274	2,458	N
Unspecified	101	158	179	7,460	8,500	10,345
Legionellosis	8	11	N	696	641	N
Leprosy	-	3	3	229	230	218
Malaria	4	8	9	759	1,019	1,019
Measles: Total*	8	39	39	1,436	1,680	13,375
Indigenous	7	N	N	1,136	N	N
Imported	1	N	N	300	N	N
Meningococcal infections: Total	30	51	60	2,645	2,951	2,660
Civilian	30	51	60	2,629	2,937	2,641
Military	-	-	-	16	14	19
Mumps	46	62	151	3,227	5,208	8,365
Pertussis	28	61	34	2,207	1,764	1,636
Rubella (German measles)	7	26	38	942	2,281	3,787
Syphilis (Primary & Secondary): Civilian	474	489	464	31,419	32,287	26,960
Military	7	-	3	377	424	317
Toxic-shock syndrome	4	N	N	382	N	N
Tuberculosis	326	503	582	23,061	25,115	26,793
Tularemia	8	5	2	311	255	230
Typhoid fever	3	8	8	436	393	513
Typhus fever, tick-borne (RMSF)	4	4	4	1,132	960	1,042
Rabies, animal	57	68	68	5,693	6,058	6,058

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1983		Cum. 1983
Anthrax	-	Plague	39
Botulism: Foodborne (Pa. 1)	20	Poliomyelitis: Total	8
Infant (Pa. 1, Hawaii 1)	70	Paralytic	8
Other	3	Psittacosis	118
Brucellosis (Conn. 1, Ala. 1, Tex. 1)	182	Rabies, human	2
Cholera	1	Tetanus (Va. 1)	74
Congenital rubella syndrome	20	Trichinosis	32
Diphtheria (Upstate N.Y. 1)	5	Typhus fever, flea-borne (endemic, murine)	48
Leptospirosis	45		

*One of the 8 reported cases for this week was imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
December 24, 1983 and December 25, 1982 (51st week)

Reporting Area	Aseptic Meningi- tis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy	Malaria
		Primary	Post-in- fectious			A	B	NA,NB	Unspeci- fied			
		1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1982	1983	1983	1983	1983	1983	Cum. 1983
UNITED STATES	96	1,679	69	875,638	941,032	265	271	35	101	8	229	759
NEW ENGLAND	4	61	-	23,842	22,681	9	25	2	11	2	3	38
Maine	-	-	-	1,102	1,193	-	1	-	-	-	-	1
N.H.	-	5	-	709	742	-	-	-	-	-	1	2
Vt.	-	1	-	434	416	1	1	-	-	-	-	1
Mass.	2	28	-	10,136	10,143	6	12	2	10	-	-	18
R.I.	-	1	-	1,256	1,542	-	-	-	-	-	1	4
Conn.	2	26	-	10,205	8,645	2	11	-	1	2	1	12
MID ATLANTIC	31	134	7	114,527	119,499	34	75	6	11	-	27	110
Upstate N.Y.	5	33	-	18,364	19,696	6	19	1	2	-	-	32
N.Y. City	6	13	-	46,132	48,939	10	13	-	-	-	26	28
N.J.	12	19	1	21,360	21,815	4	19	3	9	-	-	28
Pa.	8	69	6	28,671	29,049	14	24	2	-	-	1	22
E.N. CENTRAL	13	587	20	121,886	135,958	105	37	9	11	5	6	54
Ohio	6	196	9	32,262	35,376	91	20	4	2	5	1	9
Ind.	1	185	1	12,694	16,514	4	8	5	4	-	-	7
Ill.	-	17	7	32,117	39,584	2	5	-	1	-	2	18
Mich.	6	125	-	33,380	32,597	8	4	-	4	-	3	15
Wis.	-	64	3	11,433	11,887	-	-	-	-	-	-	5
W.N. CENTRAL	2	169	10	40,582	43,994	4	18	1	1	-	6	32
Minn.	1	70	1	5,781	6,367	1	5	-	-	-	4	11
Iowa	-	58	-	4,498	4,780	1	3	-	1	-	-	4
Mo.	-	30	-	19,499	20,838	1	8	1	-	-	1	5
N. Dak.	-	4	-	435	562	-	-	-	-	-	-	2
S. Dak.	-	1	2	1,036	1,102	-	-	-	-	-	-	1
Nebr.	-	4	-	2,695	2,605	-	-	-	-	-	-	3
Kans.	1	2	7	6,638	7,740	1	2	-	-	-	1	6
S. ATLANTIC	24	235	16	228,831	243,726	15	47	10	17	1	13	120
Del.	-	1	-	4,130	4,077	1	-	-	-	-	-	1
Md.	1	23	-	29,466	30,829	1	11	1	3	1	1	21
D.C.	U	-	-	15,344	14,987	U	U	U	U	U	-	16
Va.	5	60	2	20,853	19,674	2	8	3	4	-	1	30
W. Va.	-	47	-	2,571	2,739	1	1	-	1	-	-	3
N.C.	3	47	-	35,403	38,767	2	3	-	1	-	2	4
S.C.	U	5	-	20,619	23,820	U	U	U	U	U	-	5
Ga.	3	9	2	48,615	47,624	2	3	1	1	-	1	10
Fla.	12	43	12	51,830	61,209	6	21	5	7	-	8	30
E.S. CENTRAL	3	67	2	73,329	81,646	13	21	1	-	-	-	14
Ky.	3	16	-	8,744	10,803	5	4	-	-	-	-	2
Tenn.	-	19	-	29,948	32,100	3	12	1	-	-	-	-
Ala.	-	24	-	22,528	24,401	4	4	-	-	-	-	7
Miss.	-	8	2	12,109	14,342	1	1	-	-	-	-	5
W.S. CENTRAL	13	168	2	123,270	129,570	49	32	1	47	-	35	67
Ark.	-	13	-	9,752	10,323	1	2	-	2	-	-	1
La.	-	20	-	23,664	23,326	-	-	-	-	-	1	8
Okla.	2	30	1	14,146	14,353	5	5	1	5	-	-	10
Tex.	11	105	1	75,708	81,568	43	25	-	40	-	34	48
MOUNTAIN	1	79	4	27,892	31,456	15	13	3	1	-	14	29
Mont.	-	2	-	1,204	1,307	1	1	-	-	-	-	-
Idaho	-	1	-	1,255	1,493	2	-	1	1	-	-	2
Wyo.	U	2	-	725	942	U	U	U	U	U	-	1
Colo.	1	48	-	7,789	8,445	8	5	1	-	-	2	10
N. Mex.	-	2	-	3,447	4,328	-	2	-	-	-	-	5
Ariz.	U	11	4	7,857	8,168	U	U	U	U	U	10	8
Utah	-	12	-	1,348	1,560	1	-	1	-	-	2	3
Nev.	-	1	-	4,267	5,213	3	5	-	-	-	-	-
PACIFIC	5	179	8	121,479	132,502	21	3	2	2	-	125	295
Wash.	-	13	1	9,495	11,164	4	-	-	1	-	16	16
Oreg.	-	-	4	6,546	7,702	16	1	1	1	-	1	12
Calif.	U	157	3	99,994	107,683	U	U	U	U	U	73	265
Alaska	-	-	-	3,158	3,397	1	1	-	-	-	-	-
Hawaii	5	9	-	2,266	2,556	-	1	1	-	-	35	2
Guam	U	-	-	114	136	U	U	U	U	U	2	2
P.R.	-	1	1	2,615	2,548	-	1	-	3	-	-	3
V.I.	-	-	-	297	279	-	2	-	-	-	-	-
Pac. Trust Terr.	U	-	-	-	388	U	U	U	U	U	-	-

U: Unavailable

TABLE III. (Cont'd). Cases of specified notifiable diseases, United States, weeks ending
December 24, 1983 and December 25, 1982 (51st week)

Reporting Area	Measles (Rubeola)					Menin- gococcal infections	Mumps			Pertussis			Rubella		
	Indigenous		Imported*		Total		1983	Cum. 1983	Cum. 1982	1983	Cum. 1983	Cum. 1982	1983	Cum. 1983	Cum. 1982
	1983	Cum. 1983	1983	Cum. 1983	Cum. 1982										
UNITED STATES	7	1,136	1	300	1,680	2,645	46	3,227	5,208	28	2,207	1,764	7	942	2,281
NEW ENGLAND	-	5	-	16	14	148	1	130	188	-	73	64	-	20	20
Maine	-	-	-	-	-	10	-	22	43	-	5	4	-	-	-
N.H.	-	-	-	3	3	11	-	27	18	-	10	12	-	5	11
Vt.	-	-	-	-	2	6	-	15	7	-	8	2	-	5	-
Mass.	-	4	-	5	3	47	1	29	75	-	38	30	-	8	2
R.I.	-	-	-	-	-	11	-	16	18	-	5	11	-	1	1
Conn.	-	1	-	8	6	63	-	21	27	-	7	5	-	2	6
MID ATLANTIC	-	75	-	44	169	444	5	372	339	8	392	534	2	148	109
Upstate N.Y.	-	5	-	13	112	143	4	109	96	-	121	315	2	33	53
N.Y. City	-	44	-	27	44	75	-	41	47	-	53	47	-	86	36
N.J.	-	26	-	1	6	79	-	139	55	-	20	24	-	3	18
Pa.	-	-	-	3	7	147	1	83	141	8	198	148	-	26	2
E.N. CENTRAL	-	649	1	59	84	493	28	1,424	2,644	4	482	354	1	135	219
Ohio	-	72	1†	16	1	148	5	591	1,756	4	155	95	-	2	4
Ind.	-	402	-	4	2	54	-	56	49	-	60	25	-	27	30
Ill.	-	173	-	33	24	141	11	167	307	-	156	164	-	56	87
Mich.	-	2	-	5	57	88	12	519	401	-	42	30	1	20	53
Wis.	-	-	-	1	-	62	-	91	131	-	69	40	-	30	45
W.N. CENTRAL	-	1	-	7	49	140	3	172	639	1	143	82	1	44	62
Minn.	-	1	-	-	-	28	-	30	455	1	49	34	-	9	7
Iowa	-	-	-	-	-	20	-	44	83	-	9	9	-	-	-
Mo.	-	-	-	1	2	55	-	19	13	-	18	17	-	-	38
N. Dak.	-	-	-	-	-	4	-	1	-	-	3	-	-	-	-
S. Dak.	-	-	-	-	-	4	-	-	1	-	8	6	-	-	1
Nebr.	-	-	-	-	3	5	-	4	1	-	2	1	-	-	-
Kans.	-	-	-	6	44	24	3	74	106	-	54	15	1	35	16
S. ATLANTIC	-	173	-	31	243	539	4	231	327	1	246	283	-	99	99
Del.	-	-	-	-	-	11	1	9	13	-	5	8	-	-	1
Md.	-	6	-	4	5	54	1	44	34	-	20	73	-	2	34
D.C.	U	-	U	-	1	8	U	-	-	U	-	-	U	-	-
Va.	-	10	-	13	14	79	1	37	44	-	50	29	-	2	12
W. Va.	-	-	-	-	3	3	1	62	120	-	9	14	-	-	3
N.C.	-	-	-	1	2	105	-	14	23	-	31	45	-	10	2
S.C.	U	-	U	4	-	51	U	14	18	U	14	16	U	1	-
Ga.	-	8	-	-	-	90	-	51	29	-	65	42	-	13	18
Fla.	-	149	-	9	218	138	N	-	46	1	52	56	-	71	29
E.S. CENTRAL	-	3	-	24	12	153	-	59	67	-	34	52	-	19	49
Ky.	-	-	-	1	1	30	-	21	22	-	14	6	-	18	31
Tenn.	-	-	-	-	6	52	-	32	25	-	9	26	-	-	2
Ala.	-	1	-	4	2	49	-	2	10	-	5	5	-	1	-
Miss.	-	2	-	19	3	22	-	4	10	-	6	15	-	-	16
W.S. CENTRAL	-	44	-	35	170	271	4	223	262	11	461	107	3	123	130
Ark.	-	5	-	8	-	22	-	3	8	1	26	6	-	-	2
La.	-	4	-	25	14	47	-	1	6	-	12	22	-	10	1
Okla.	-	1	-	-	30	36	N	-	-	5	335	8	-	-	3
Tex.	-	34	-	2	126	166	4	219	248	5	88	71	3	113	124
MOUNTAIN	7	22	-	18	29	122	-	182	123	3	226	82	-	39	97
Mont.	-	-	-	4	-	30	-	7	8	-	2	1	-	6	7
Idaho	-	-	-	10	-	9	-	8	5	-	15	12	-	8	7
Wyo.	U	-	U	-	1	2	U	4	2	U	6	4	U	8	8
Colo.	-	-	-	3	8	38	-	53	22	3	137	32	-	1	6
N. Mex.	-	-	-	-	-	7	N	-	-	-	14	8	-	-	6
Ariz.	U	-	U	1	17	23	U	93	56	U	29	21	U	8	22
Utah	7	22	-	-	3	12	-	12	22	-	22	4	-	7	29
Nev.	-	-	-	-	-	1	-	5	8	-	1	-	-	1	12
PACIFIC	-	164	-	66	910	335	1	434	619	-	150	206	-	315	1,496
Wash.	-	2	-	33	42	49	1	54	102	-	20	36	-	9	58
Oreg.	-	8	-	2	17	60	N	-	-	-	9	27	-	14	10
Calif.	U	153	U	29	845	215	U	344	481	U	114	115	U	290	1,414
Alaska	-	-	-	2	1	4	-	18	15	-	4	-	-	1	5
Hawaii	-	1	-	-	5	7	-	20	21	-	3	28	-	1	9
Guam	U	1	U	1	9	1	U	1	5	U	-	-	U	-	2
P.R.	-	94	-	-	221	11	-	145	104	-	14	22	-	8	15
V.I.	-	-	-	5	-	-	-	-	4	-	-	-	-	2	2
Pac. Trust Terr.	U	-	U	-	1	-	U	-	6	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N-Not notifiable U-Unavailable †International §Out-of-state

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending
December 24, 1983 and December 25, 1982 (51st week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- ræmia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1983	Cum. 1982	1983	1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1983
UNITED STATES	31,419	32,287	4	326	23,061	311	436	1,132	5,693
NEW ENGLAND	681	605	-	12	705	4	19	6	37
Maine	19	8	-	1	37	-	-	-	9
N.H.	27	5	-	-	34	-	-	1	5
Vt.	3	7	-	-	12	-	-	-	2
Mass.	435	407	-	11	386	3	14	2	14
R.I.	22	27	-	-	62	1	1	-	1
Conn.	175	151	-	-	174	-	4	3	6
MID ATLANTIC	4,132	4,367	-	80	4,181	1	75	28	266
Upstate N.Y.	316	461	-	8	698	1	11	7	75
N.Y. City	2,434	2,558	-	27	1,667	-	27	2	-
N.J.	811	640	-	11	842	-	31	8	24
Pa.	571	708	-	34	974	-	6	11	167
E.N. CENTRAL	1,622	1,914	2	84	3,142	4	63	69	471
Ohio	446	333	2	24	512	-	18	27	60
Ind.	151	199	-	16	375	-	4	16	30
Ill.	695	1,002	-	19	1,321	1	29	17	240
Mich.	236	279	-	18	776	1	10	7	20
Wis.	94	101	-	7	158	2	2	2	121
W.N. CENTRAL	384	550	2	10	715	96	13	56	817
Minn.	147	143	1	-	153	-	2	-	143
Iowa	22	34	1	-	65	-	-	-	200
Mo.	147	295	-	6	350	67	9	27	96
N. Dak.	2	7	-	-	8	1	-	1	87
S. Dak.	11	2	-	1	37	10	-	5	144
Nebr.	15	15	-	-	25	8	-	3	65
Kans.	40	54	-	3	77	10	2	20	82
S. ATLANTIC	8,632	8,721	-	82	4,662	12	54	473	2,077
Del.	43	25	-	-	63	-	-	4	5
Md.	570	490	-	8	374	3	5	38	797
D.C.	374	472	U	U	189	-	3	-	141
Va.	550	599	-	11	499	1	17	59	624
W. Va.	26	30	-	-	132	-	2	12	114
N.C.	870	712	-	21	738	7	4	206	26
S.C.	558	560	U	U	440	-	2	80	36
Ga.	1,523	1,804	-	11	815	1	2	68	209
Fla.	4,118	4,029	-	31	1,412	-	19	6	125
E.S. CENTRAL	2,088	2,242	-	27	2,043	23	10	108	356
Ky.	172	133	-	-	507	1	3	24	83
Tenn.	574	644	-	13	628	17	2	49	188
Ala.	801	835	-	7	517	-	2	24	85
Miss.	541	630	-	7	391	5	3	11	-
W.S. CENTRAL	8,076	8,564	-	15	2,828	120	64	376	989
Ark.	187	217	-	2	348	70	4	42	158
La.	1,655	1,825	-	3	436	7	4	1	34
Okla.	194	185	-	10	276	32	2	233	104
Tex.	6,040	6,337	-	-	1,768	11	54	100	693
MOUNTAIN	645	813	-	11	614	42	23	14	233
Mont.	7	5	-	-	42	6	1	6	68
Idaho	8	25	-	-	29	2	1	3	16
Wyo.	12	16	U	U	11	8	-	2	12
Colo.	155	230	-	5	89	14	1	-	32
N. Mex.	174	186	-	6	114	3	2	-	15
Ariz.	162	215	U	U	253	1	16	1	36
Utah	23	24	-	-	37	7	1	1	11
Nev.	104	112	-	-	39	1	1	1	43
PACIFIC	5,159	4,511	-	5	4,171	9	115	2	447
Wash.	186	169	-	-	230	2	5	-	2
Oreg.	146	113	-	2	179	3	4	-	1
Calif.	4,735	4,106	U	U	3,455	3	103	2	426
Alaska	14	15	-	-	73	1	-	-	18
Hawaii	78	108	-	3	234	-	3	-	-
Guam	-	1	U	U	5	-	-	-	-
P.R.	879	784	-	-	455	-	1	-	49
V.I.	19	31	-	-	2	-	1	-	-
Pac. Trust Terr.	-	-	U	U	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
December 24, 1983 (51st week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	703	476	158	30	11	28	61	S. ATLANTIC	1,201	739	284	100	38	40	60
Boston, Mass.	189	127	45	8	1	8	24	Atlanta, Ga.	146	98	25	10	3	10	6
Bridgeport, Conn.	60	38	16	3	1	2	5	Baltimore, Md.	270	152	70	32	12	4	5
Cambridge, Mass.	21	16	5	-	-	-	-	Charlotte, N.C.	77	50	18	4	3	2	7
Fall River, Mass.	24	18	6	-	-	-	-	Jacksonville, Fla.	116	83	20	8	3	2	13
Hartford, Conn.	68	44	17	2	1	4	5	Miami, Fla.	86	49	26	7	2	2	2
Lowell, Mass.	27	22	5	-	-	-	-	Norfolk, Va.	42	23	9	4	-	6	3
Lynn, Mass.	15	11	4	-	-	-	-	Richmond, Va.	77	38	27	6	3	3	8
New Bedford, Mass.	25	18	5	1	1	-	1	Savannah, Ga.	48	34	9	3	2	-	3
New Haven, Conn.	67	41	10	5	2	9	5	St. Petersburg, Fla.	87	69	13	4	-	1	5
Providence, R.I.	65	42	14	4	2	3	6	Tampa, Fla.	53	35	13	3	-	2	4
Somerville, Mass.	15	12	3	-	-	-	-	Washington, D.C.	160	87	43	14	8	8	3
Springfield, Mass.	46	26	15	3	1	1	4	Washington, Del.	39	21	11	5	2	-	1
Waterbury, Conn.	34	29	4	1	-	-	5	E.S. CENTRAL	668	501	102	29	15	18	36
Worcester, Mass.	47	32	9	3	2	1	5	Birmingham, Ala.	98	70	15	10	1	2	1
MID. ATLANTIC	2,679	1,772	602	182	64	59	106	Chattanooga, Tenn.	54	42	6	1	-	5	5
Albany, N.Y.	41	33	6	1	-	1	-	Knoxville, Tenn.	51	35	12	2	1	1	3
Allentown, Pa.	18	14	4	-	-	-	-	Louisville, Ky.	92	65	19	3	4	1	8
Buffalo, N.Y.	142	99	30	4	6	3	9	Memphis, Tenn. †	162	148	-	3	5	3	12
Camden, N.J.	56	30	15	3	4	4	1	Mobile, Ala.	86	59	19	3	-	5	4
Elizabeth, N.J.	20	12	6	1	1	-	-	Montgomery, Ala.	29	23	5	1	-	-	-
Erie, Pa. †	39	28	7	2	-	2	3	Nashville, Tenn.	96	59	26	6	4	-	3
Jersey City, N.J.	43	30	12	-	-	1	1	W.S. CENTRAL	1,219	801	241	82	42	47	47
N.Y. City, N.Y.	1,467	957	316	130	38	26	52	Austin, Tex. †	61	55	-	1	2	1	1
Newark, N.J.	67	31	17	12	2	5	4	Baton Rouge, La.	74	41	21	6	1	5	8
Paterson, N.J.	28	20	7	-	-	1	-	Corpus Christi, Tex.	43	26	12	2	-	3	-
Philadelphia, Pa. †	293	186	84	10	4	9	15	Dallas, Tex.	149	87	32	18	8	4	4
Pittsburgh, Pa. †	70	43	22	3	2	-	5	El Paso, Tex.	61	38	16	3	2	2	6
Reading, Pa.	28	20	6	-	2	-	3	Fort Worth, Tex.	76	54	16	1	3	2	3
Rochester, N.Y.	131	90	30	4	3	4	9	Houston, Tex.	263	125	76	35	12	15	2
Schenectady, N.Y.	29	19	6	4	-	-	-	Little Rock, Ark. †	74	69	-	2	1	2	6
Scranton, Pa. †	34	24	10	-	-	1	-	New Orleans, La. †	23	107	1	3	4	4	-
Syracuse, N.Y.	80	60	14	2	2	2	-	San Antonio, Tex.	170	97	54	6	7	6	8
Trenton, N.J.	34	25	4	5	-	-	-	Shreveport, La. †	54	52	-	1	-	1	1
Utica, N.Y.	31	26	2	-	-	-	2	Tulsa, Okla.	71	50	13	4	2	2	8
Yonkers, N.Y.	28	25	4	1	-	1	1	MOUNTAIN	609	394	137	39	13	26	35
E.N. CENTRAL	2,238	1,655	381	82	52	55	88	Albuquerque, N.Mex.	66	44	14	4	2	2	7
Akron, Ohio	86	58	17	7	3	1	-	Colorado Springs, Colo.	46	33	7	2	2	2	6
Canton, Ohio	43	29	11	2	-	1	3	Denver, Colo.	110	71	32	3	1	3	5
Chicago, Ill. †	526	478	5	6	15	11	11	Las Vegas, Nev.	72	39	26	4	1	2	3
Cincinnati, Ohio	157	109	33	7	4	4	18	Ogden, Utah	26	17	5	1	1	2	1
Cleveland, Ohio	121	85	25	8	2	1	2	Phoenix, Ariz.	102	69	17	10	2	4	2
Columbus, Ohio	133	83	35	6	4	5	5	Pueblo, Colo.	21	15	5	-	-	1	1
Dayton, Ohio	129	85	37	3	1	3	3	Salt Lake City, Utah	59	33	13	6	2	5	2
Detroit, Mich.	211	128	61	13	5	4	3	Tucson, Ariz.	107	73	18	9	2	5	8
Evanville, Ind.	38	24	11	2	1	-	3	PACIFIC	1,749	1,144	353	108	55	84	105
Fort Wayne, Ind.	45	32	9	2	1	1	2	Berkeley, Calif.	11	7	4	-	-	-	-
Gary, Ind.	11	6	4	1	-	-	1	Fresno, Calif.	79	60	11	1	2	5	11
Grand Rapids, Mich.	63	47	11	-	1	4	4	Glendale, Calif.	17	13	4	-	-	-	1
Indianapolis, Ind.	154	101	33	10	3	7	4	Honolulu, Hawaii	59	36	13	3	1	6	5
Madison, Wis.	46	33	6	2	3	2	4	Long Beach, Calif.	112	78	23	7	2	2	3
Milwaukee, Wis.	120	86	29	1	2	2	2	Los Angeles, Calif.	371	253	62	30	8	17	15
Peoria, Ill.	79	54	14	6	1	4	10	Oakland, Calif.	112	78	16	7	2	6	5
Rockford, Ill.	36	24	10	-	2	-	3	Pasadena, Calif.	38	30	5	2	1	-	5
South Bend, Ind.	55	41	11	1	1	1	4	Portland, Ore.	112	69	31	4	7	1	4
Toledo, Ohio †	119	112	-	1	3	1	6	Sacramento, Calif.	69	45	15	3	3	3	4
Youngstown, Ohio	66	40	19	4	-	3	-	San Diego, Calif.	164	98	33	12	13	7	19
W.N. CENTRAL	740	465	165	45	28	31	52	San Francisco, Calif.	163	102	40	9	5	7	13
Des Moines, Iowa	63	47	8	3	4	1	5	San Jose, Calif.	179	115	40	15	4	5	6
Duluth, Minn.	23	18	3	1	-	1	2	Seattle, Wash.	146	82	32	11	4	17	2
Kansas City, Mo.	38	25	8	2	2	1	2	Spokane, Wash.	48	30	11	2	-	5	5
Kansas City, Kans.	143	73	32	18	3	11	10	Tacoma, Wash.	69	48	13	2	3	3	7
Lincoln, Nebr.	36	25	8	1	1	1	3	TOTAL	11,806	7,947	2,423	697	318	388	590
Minneapolis, Minn.	66	32	17	4	11	2	1								
Omaha, Nebr.	81	54	20	3	2	2	9								
St. Louis, Mo.	148	97	34	10	2	5	5								
St. Paul, Minn.	58	44	10	2	2	-	-								
Wichita, Kans.	84	50	25	1	1	7	15								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza

† Because of changes in reporting methods in these 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

‡ Data not available. Figures are estimates based on average of past 4 weeks.

Since cat rabies cases now exceed those annually reported in dogs, immunization of cats must be emphasized. Such procedures in the United States have reduced laboratory-confirmed rabies cases in dogs from 8,000 in 1947 to 153 in 1982. The recommended vaccination procedures and the licensed animal vaccines are specified in Parts I and II of the NASPHV's annually released Compendium.

3. **Rabies in Wildlife:** The control of rabies in foxes, skunks, raccoons, and other terrestrial animals is very difficult. Selective reduction of these populations, when indicated, may be useful, but the utility of this procedure depends heavily on the circumstances surrounding each rabies outbreak.

B. CONTROL METHODS IN DOMESTIC AND CONFINED ANIMALS

1. **Pre-exposure Vaccination and Management:** Animal rabies vaccines, because of species limitations, techniques, and tolerances, should be administered only by or under the direct supervision of a veterinarian. Within 1 month after vaccination, a peak rabies antibody titer is reached, and the animal can be considered immunized. (See Parts I and II of the Compendium for recommended vaccines and procedures.)
 - a. **Dogs and Cats:** All dogs and cats should be vaccinated against rabies commencing at 3 months of age and revaccinated in accordance with Part II of this Compendium.
 - b. **Livestock:** It is not economically feasible, nor is it justifiable from a public health standpoint, to vaccinate all livestock against rabies. Veterinary clinicians and owners of valuable animals may consider immunizing certain breeding stock located in areas where wildlife rabies is epizootic.
 - c. **Other Animals:**
 - (1) **Animals Maintained in Exhibits and in Zoologic Parks:** Captive animals not completely excluded from all contact with local vectors of rabies can become infected with rabies. Moreover, such animals may be incubating rabies when captured. Exhibit animals, especially those carnivores and omnivores having contact with the viewing public, should be quarantined for a minimum of 180 days. Since no rabies vaccine is licensed for use in wild animals, vaccination, even with inactivated vaccine, is not recommended. Pre-exposure rabies immunization of animal workers at such facilities is recommended to protect the workers and to reduce the need for euthanasia of valuable animals for rabies testing after they have bitten a handler.
 - (2) **Wild Animals:** Because of the existing risk of rabies among wild animals, such as raccoons, skunks, and foxes, the American Veterinary Medical Association (AVMA), the NASPHV, and the Conference of State and Territorial Epidemiologists strongly recommend the enactment of state laws prohibiting the interstate and intrastate importation, distribution, and relocation of wild animals and wild animals cross-bred to domestic dogs and cats. Further, these same organizations continue to recommend the enactment of laws prohibiting the distribution and/or ownership of wild animals as pets.
2. **Stray-Animal Control:** Stray animals should be removed from the community, especially in rabies-epizootic areas. Local health department and animal-control officials can enforce the pick-up of strays more efficiently if owned animals are confined or leashed when not confined. Strays should be impounded for at least 3 days to give owners sufficient time to reclaim animals apprehended as strays.
3. **Quarantine:**
 - a. **International:** Present USDA regulations (CFR No. 71154) governing the importa-

tion of wild and domesticated felines, canines, and other potential rabies vectors are minimal for preventing the introduction of rabid animals into the United States. All dogs and cats imported from countries with endemic rabies should be vaccinated against rabies at least 30 days before entry into the United States.* The Centers for Disease Control (CDC) is responsible for these animals imported into the United States. CDC's requirements should be coordinated with interstate shipment requirements. The health authority of the state of destination should be notified within 72 hours of any animal conditionally admitted into its jurisdiction.

The conditional admission of such animals into the United States is subject to state and local laws governing rabies. Failures to comply with these requirements should be promptly reported to the director of CDC.

- b. **Interstate:** Before interstate shipment, dogs and cats should be vaccinated against rabies according to the Compendium's recommendations and preferably shall be vaccinated at least 30 days before shipment. While in shipment, they should be accompanied by a currently valid NASPHV form #50, Rabies Vaccination Certificate. One copy of the certificate should be mailed to the appropriate Public Health Veterinarian or State Veterinarian of the state of destination.
 - c. **Health Certificates:** If a certificate is required for dogs and cats in transit, it must not replace the NASPHV rabies vaccination certificate.
4. **Adjunct Procedures:** Methods or procedures that enhance rabies control include:
- a. **Licensure:** Registration or licensure of all dogs and cats may be used as a means of rabies control by controlling the stray-animal population. Frequently, a fee is charged for such licensure, and revenues collected are used to maintain a rabies- or animal-control program. Vaccination is usually recommended as a prerequisite to licensure.
 - b. **Canvassing of Area:** This includes house-to-house calls by members of the animal-control program to enforce vaccination and licensure requirements.
 - c. **Citations:** These are legal summonses issued to owners for violations, including failure to vaccinate or license their animals.
 - d. **Leash Laws:** All communities should adopt leash laws that can be incorporated in their animal-control ordinances.

5. **Post-exposure Management:**

ANY DOMESTIC ANIMAL THAT IS BITTEN OR SCRATCHED BY A BAT OR BY A WILD, CARNIVOROUS MAMMAL THAT IS NOT AVAILABLE FOR TESTING SHOULD BE REGARDED AS HAVING BEEN EXPOSED TO A RABID ANIMAL.

- a. When bitten by a rabid animal, unvaccinated dogs and cats should be destroyed immediately. If the owner is unwilling to have this done, the unvaccinated animal should be placed in strict isolation for 6 months and vaccinated 1 month before being released. Dogs and cats that are currently vaccinated should be revaccinated immediately, leashed, and confined for 90 days.
- b. All species of livestock are susceptible to rabies infection; cattle appear to be among the most susceptible of all domestic animal species. Livestock known to

*In regard to cats, these recommendations do not conform to the official recommendations of CDC and the Public Health Service. Although domestic feline rabies has increased, there has been no evidence of increased risk of imported rabies in cats. U.S. Foreign Quarantine Regulations do not require rabies vaccinations for imported cats.

have been bitten by rabid animals should be destroyed (slaughtered) immediately. If the owner is unwilling to have this done, the animal should be kept under very close observation for 6 months.

The following are recommendations to owners of livestock exposed to rabid animals:

- (1) If slaughtered within 7 days of being bitten, tissues may be eaten without risk of infection, providing liberal portions of the exposed area are discarded. Federal meat inspectors will reject for slaughter any animal that has been exposed to rabies within 8 months.
- (2) No tissues or secretions from a clinically rabid animal should be used for human or animal consumption. However, because pasteurization temperatures will inactivate rabies virus, the drinking of pasteurized milk or eating of completely cooked meat does not constitute a rabies exposure.

C. CONTROL METHODS IN WILD ANIMALS

1. **Terrestrial Mammals:** Since there is no evidence that these costly programs reduce either wildlife reservoirs or rabies incidence on a statewide basis, persistent, continuous, and routine trapping or poisoning campaigns as a means of wildlife rabies control should be abolished. However, limited control in high contact areas (picnic grounds, camps, suburban areas) may be indicated for the removal of selected, high-risk species of wild animals. The public should be warned not to handle wild animals. The state game department should be consulted early to manage any elimination programs when requested to do so by the state health department.
2. **Bats:**
 - a. Rabid bats have been reported from every state except Hawaii and have caused human rabies infections in the United States. It is neither feasible nor practical, however, to control rabies in bats by areawide bat-population reduction programs.
 - b. Bats should be eliminated from houses and surrounding structures to prevent direct association with people. Such structures should then be made bat-proof by sealing routes of entrance with screens or other means.
 - c. A person bitten by a bat or any wild animal should immediately report the incident to a physician who can evaluate the need for antirabies treatment (See current ACIP Rabies Prophylaxis Recommendation [*MMWR* 1982;31:279-80, 285]). Bats and wild carnivorous mammals, as well as wild animals cross-bred with domestic dogs and cats, that bite people should be killed, and appropriate tissues should be sent to the laboratory for examination for rabies.

THE NASPHV COMPENDIUM COMMITTEE FOR 1984: Kenneth L. Crawford, DVM, MPH, Chairman, Melvin K. Abelseh, DVM, DVPH, PhD, John I. Freeman, DVM, MPH, Robert F. Goldsboro, DVM, MPH, Grayson B. Miller, Jr., MD, James M. Shuler, DVM, MPH, R. Keith Sikes, DVM, MPH.

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Errata: Vol. 32, No. 41

- p. 536. In the article, "Enterovirus Surveillance — United States, 1983," the first full sentence on p. 536 should read: "In 1982, it (Coxsackie B5) was the fifth most common isolate."

Vol. 32, No. 49

- p. 637. In the article, "Diabetes and Pregnancy — Michigan, Missouri, South Carolina, Washington," the phrase, "odds ratio," should be "rate ratio" wherever it appears in the text and in Table 1.

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The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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