CENTERS FOR DISEASE CONTROL

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MORBIDITY AND MORTALITY WEEKLY REPORT

Compendium of Animal Rabies Vaccines, 1983
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 United States 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 one-year duration of immunity, the Committee recommends the use of vaccines providing three-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 that their dogs and cats have current rabies vaccinations. State health officials may wish to consider temporarily altering revaccination schedules.

E. WILDLIFE VACCINATION: The Committee recommends that neither wild nor exotic animals be kept as pets. 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, vaccination is not recommended.

F. ACCIDENTAL HUMAN EXPOSURE TO VACCINE: Accidental human inoculation may occur during administration of animal rabies vaccine. Such exposures to inactivated vaccines constitute **no known** rabies hazard. No cases of human rabies have resulted from needle or other exposure to a licensed modified live virus vaccine 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.

Animal Rabies – Continued

1. **Rabies Tags:**

Calendar Year	Color	Shape
1983	Green	Bell
1984	Red	Heart
1985	Blue	Rosette
1986	Orange	Fireplug

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

Vaccine: generic name	Produced by	Product name Marketed by	For use in*	Dosage†	Age at primary vaccination§	Booster recommended
A) MODIFIED LIVE VIRUS						
Canine cell line origin	NORDEN	ENDURALL-R			3 mos &	
	License No. 189	Norden	Dogs	1 ml	1 yr later	Triennially
High egg passage			Cats	1 ml	3 months	Annually
			Dogs	1 ml	3 mos & 1 yr later	Triennially
	WELLCOME	ERA STRAIN	Cattle	1 ml	4 months	Annually
Porcine cell line origin	(Jensen-Salsbery)	RABIES VACCINE	Horses	1 ml	4 months	Annually
	License No. 107	Wellcome				
High cell passage		(Jensen-Salsbery)	Sheep	1 ml	4 months	Annually
			Goats	1 ml	4 months	Annually
Canine tissue culture origin	PHILIPS ROXANE	NEUROGEN-TC Bio-Ceutic	Dogs	1 ml	3 mos & 1 yr later	Triennially
High cell passage	License No. 124					
Canine tissue culture origin	PHILIPS ROXANE	UNIRAB Bio-Ceutic	Dogs	1 ml	3 months	Annually
High cell passage	License No. 124					
B) INACTIVATED						
Murine origin	ROLYNN	TRIMUNE			3 mos &	
	License No. 165-B	Ft. Dodge	Dogs	1 ml	1 yr later	Triennially
	(Prev. No. 266)		Cats	1 ml	3 months	Annually
Murine origin	ROLYNN	ANNUMUNE	Dogs	1 ml	3 months	Annually
	License No. 165-B	Ft. Dodge	Cats	1 ml	3 months	Annually
	(Prev. No. 266)					
Murine origin	DOUGLAS	BIORAB-1	Dogs	1 ml	3 months	Annually
	License No. 165-B		Cats	1 ml	3 months	Annually
	(Prev. No. 266)					
Murine origin	DOUGLAS	BIORAB-3	Dogs	1 ml	3 mos & 1 yr later	Triennially
	License No. 165-B		Cats	1 ml	3 months	Annually
	(Prev. No. 266)					
Murine origin	WILDLIFE VACCINES, INC.	DURA-RAB 1	Dogs	1 ml	3 months	Annually
	License No. 277	Wildlife vaccines	Cats	1 ml	3 months	Annually
Hamster cell line origin	BEECHAM	RABCINE	Dogs	1 ml	3 months	Annually
	License No. 225	Beecham	Cats	1 ml	3 months	Annually

Animal Rabies – Continued

Part II: Vaccines Marketed in United States and NASPHV Recommendations

Vaccine: generic name	Produced by	Product name Marketed by	For use in*	Dosage†	Age at primary vaccination§	Booster recommended
B) INACTIVATED						
Hamster cell line origin	BEECHAM License No. 225	RABCINE-FELINE Beecham	Cats	1 ml	3 months	Annually
Hamster cell line origin	VACCINES, INC. License No. 227	RABIES VACC. Guardian	Dogs	1 ml	3 months	Annually
Hamster cell line origin	JACKSON License No. 288	RABMUNE Schering	Dogs Cats	1 ml 1 ml	3 months 3 months	Annually Annually
Porcine cell line origin	NORDEN License No. 189	ENDURALL-K Norden	Dogs Cats	1 ml 1 ml	3 months 3 months	Annually Annually
Porcine cell line origin	NORDEN License No. 189	RABGUARD-TC Norden	Dogs Cats	1 ml 1 ml	3 mos & 1 yr later 3 mos & 1 yr later	Triennially Triennially
Monkey cell line origin	WELLCOME License No. 107	CYTORAB Wellcome	Dogs Cats	1 ml 1 ml	3 months 3 months	Annually Annually
Monkey cell line origin	WELLCOME License No. 107	TRIRAB Wellcome	Dogs Cats	1 ml 1 ml	3 mos & 1 yr later 3 months	Triennially Annually
Feline cell line origin	FROMM License No. 195-A	RABVAC Fromm	Dogs Cats	1 ml 1 ml	3 months 3 months	Annually Annually
C) COMBINATION						
Murine origin	DOUGLAS License No. 165-B (266)	PAN-RAB Douglas	Cats	1 ml	3 months	Annually
Feline cell line origin	FROMM License No. 195-A	ECLIPSE III KP-R Fromm	Cats	1 ml	3 months	Annually
Feline cell line origin	FROMM License No. 195-A	ECLIPSE IVKP-R Fromm	Cats	1 ml	3 months	Annually

*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 effectively deal with the public health aspects of rabies.

A. PRINCIPLES OF RABIES CONTROL

1. **The Disease in Humans:** Rabies in humans can be prevented by eliminating exposure to rabid animals and by prompt local wound treatment and immunization when

Animal Rabies — Continued

exposed. Current recommendations of the Public Health Service Immunization Practices Advisory Committee (ACIP) are suggested for consideration by attending physicians. The 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.

2. **Domestic Animals:** Local governments should initiate and maintain effective programs to remove strays and unwanted animals and ensure vaccination of all dogs and cats. Since cat rabies cases now equal the annual incidence in dogs, immunization of cats should be emphasized. Such procedures in the United States have reduced laboratory-confirmed rabies cases in dogs from 8,000 in 1947 to 216 in 1981. 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 one month after vaccination, a peak rabies antibody titer is reached, and the animal can be considered to be immunized (see Parts I and II of the Compendium for recommended vaccines and procedures). *(Continued on page 693)*

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

Disease	51st Week Ending			Cumulative, First 51 Weeks		
	December 25, 1982	December 26, 1981	Median 1977-1981	December 25, 1982	December 26, 1981	Median 1977-1981
Aseptic meningitis	169	93	93	9,040	9,358	7,682
Brucellosis	3	6	6	154	179	179
Encephalitis: Primary (arthropod-borne & unspec.)	22	22	20	1,427	1,500	1,163
Post-infectious	-	1	1	62	79	210
Gonorrhea: Civilian	16,827	14,432	16,880	936,927	978,492	983,104
Military	139	462	424	25,057	27,711	26,230
Hepatitis: Type A	348	453	542	22,300	25,034	28,670
Type B	364	378	366	21,155	20,466	16,131
Non A, Non B	43	N	N	2,335	N	N
Unspecified	162	179	179	8,638	10,691	10,345
Legionellosis	11	N	N	550	N	N
Leprosy	3	2	2	224	238	173
Malaria	6	9	12	1,001	1,324	807
Measles (rubeola)	39	11	134	1,687	2,957	13,449
Meningococcal infections: Total	46	64	60	2,856	3,436	2,542
Civilian	46	64	60	2,843	3,423	2,522
Military	-	-	-	13	13	19
Mumps	57	151	292	5,117	4,721	13,681
Pertussis	58	17	34	1,739	1,225	1,636
Rubella (German measles)	22	37	104	2,263	2,058	11,633
Syphilis (Primary & Secondary): Civilian	470	412	455	32,107	30,435	24,590
Military	-	3	7	427	360	313
Tuberculosis	481	422	582	25,261	26,660	27,210
Tularemia	3	2	2	247	278	190
Typhoid fever	7	14	7	398	573	513
Typhus fever, tick-borne (RMSF)	4	2	5	981	1,181	1,118
Rabies, animal	48	60	60	5,946	6,992	4,875

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1982		Cum. 1982
Anthrax	-	Poliomyelitis: Total	7
Botulism (Mass. 1, Wash. 1)	78	Paralytic	7
Cholera	-	Psittacosis	116
Congenital rubella syndrome (Ariz. 1)	7	Rabies, human	-
Diphtheria	3	Tetanus	79
Leptospirosis (Oreg. 1)	73	Trichinosis (Mass. 1)	84
Plague	18	Typhus fever, flea-borne (endemic, murine) (Tex. 2)	45

TABLE III. Cases of specified notifiable diseases, United States, weeks ending December 25, 1982 and December 26, 1981 (51st week)

Reporting Area	Aseptic Meningitis	Brucellosis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	1982	Cum. 1982	Cum. 1982	Cum. 1982	Cum. 1982	Cum. 1981	1982	1982	1982	1982	1982	Cum. 1982
UNITED STATES	169	154	1,427	62	936,927	978,492	348	364	43	162	11	224
NEW ENGLAND	4	3	56	6	22,660	23,710	7	24	-	14	1	2
Maine	-	-	-	-	1,193	1,286	-	-	-	-	-	-
N.H.	-	-	8	-	721	874	-	1	-	1	-	-
Vt.	-	-	-	-	416	422	2	-	-	-	-	-
Mass.	2	-	26	-	10,143	10,087	2	8	-	13	-	-
R.I.	2	-	-	1	1,542	1,469	1	2	-	-	-	-
Conn.	-	3	22	5	8,645	9,572	2	13	-	-	1	2
MID. ATLANTIC	13	3	151	14	119,676	117,308	40	67	2	20	-	31
Upstate N.Y.	7	3	62	3	19,873	20,879	7	17	1	3	-	3
N.Y. City	2	-	21	-	48,939	47,437	17	33	-	7	-	26
N.J.	3	-	24	-	21,815	22,207	4	5	1	5	-	1
Pa.	1	-	44	11	29,049	26,785	12	12	-	5	-	1
E.N. CENTRAL	21	7	355	12	130,427	146,592	34	32	5	13	4	10
Ohio	9	1	140	5	35,376	45,494	11	9	1	5	1	-
Ind.	U	-	95	3	15,738	12,489	U	U	U	U	U	-
Ill.	-	5	18	2	34,829	43,289	16	12	4	3	-	8
Mich.	12	1	73	-	32,597	32,179	7	11	-	5	3	-
Wis.	-	-	29	2	11,887	13,141	-	-	-	-	-	2
W.N. CENTRAL	7	17	101	4	43,829	46,685	6	6	1	2	-	8
Minn.	U	1	27	1	6,305	7,406	U	U	U	U	U	4
Iowa	-	5	54	1	4,780	5,095	-	1	-	1	-	-
Mo.	2	4	9	-	20,737	21,692	1	1	1	-	-	2
N. Dak.	-	1	-	-	562	594	-	-	-	-	-	-
S. Dak.	-	1	-	1	1,103	1,249	-	-	-	-	-	1
Nebr.	-	2	6	-	2,602	3,459	-	1	-	-	-	1
Kans.	5	3	5	1	7,740	7,190	5	3	-	1	-	-
S. ATLANTIC	31	30	202	9	244,138	241,330	27	90	12	17	4	11
Del.	-	-	-	-	4,089	3,872	-	-	-	1	-	-
Md.	1	-	25	-	30,829	28,797	1	22	1	1	1	4
D.C.	-	-	-	-	14,987	13,596	-	-	-	-	-	-
Va.	2	10	44	1	19,674	21,970	4	10	2	1	2	1
W. Va.	1	-	16	-	2,739	3,505	-	2	-	-	-	-
N.C.	6	-	31	1	38,767	37,015	1	6	-	1	-	-
S.C.	1	2	2	-	23,820	23,378	10	11	3	-	-	-
Ga.	1	4	14	-	48,024	49,812	2	10	1	1	-	1
Fla.	19	14	70	7	61,209	59,385	9	29	5	12	1	5
E.S. CENTRAL	7	14	68	6	81,707	81,730	38	23	1	4	-	-
Ky.	-	-	1	-	10,802	10,228	1	-	-	2	-	-
Tenn.	5	9	31	1	32,100	31,194	13	17	1	1	-	-
Ala.	-	4	18	5	24,401	24,478	21	4	-	1	-	-
Miss.	2	1	18	-	14,404	15,830	3	2	-	-	-	-
W.S. CENTRAL	34	45	226	1	130,523	128,582	69	36	-	52	-	29
Ark.	-	7	21	-	10,323	9,822	2	1	-	7	-	-
La.	2	8	29	-	24,279	22,892	8	13	-	-	-	-
Okla.	5	8	40	-	14,353	14,046	6	2	-	1	-	-
Tex.	27	22	136	1	81,568	81,822	53	20	-	44	-	29
MOUNTAIN	11	3	57	2	31,465	38,693	33	22	5	13	2	2
Mont.	-	2	-	-	1,307	1,409	-	-	-	-	-	-
Idaho	3	1	-	-	1,493	1,704	-	1	-	-	-	1
Wyo.	-	-	1	-	952	1,017	-	-	-	-	-	-
Colo.	6	-	20	1	8,445	10,309	6	5	2	2	1	-
N. Mex.	-	-	1	-	4,328	4,385	7	-	-	-	-	-
Ariz.	2	-	11	-	8,168	11,563	19	15	2	10	1	-
Utah	-	-	19	1	1,559	1,890	1	1	1	1	-	1
Nev.	-	-	5	-	5,213	6,416	-	-	-	-	-	-
PACIFIC	41	32	211	8	132,502	153,862	94	64	17	27	-	131
Wash.	3	1	13	1	11,164	13,015	2	3	2	-	-	15
Oreg.	-	-	4	-	7,702	9,096	4	4	3	-	-	2
Calif.	28	30	176	7	107,683	124,783	87	56	11	26	-	76
Alaska	1	1	12	-	3,397	4,005	-	-	-	1	-	1
Hawaii	9	-	6	-	2,556	2,963	1	1	1	-	-	37
Guam	U	-	-	1	118	117	U	U	U	U	U	1
P.R.	U	-	1	3	2,548	3,202	U	U	U	U	U	3
V.I.	U	-	-	-	247	251	U	U	U	U	U	-
Pac. Trust Terr.	U	-	-	-	388	445	U	U	U	U	U	44

N: Not notifiable U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending December 25, 1982 and December 26, 1981 (51st week)

Reporting Area	Malaria		Measles (Rubeola)			Meningococcal Infections (Total)		Mumps		Pertussis	Rubella		
	1982	Cum. 1982	1982	Cum. 1982	Cum. 1981	1982	Cum. 1982	1982	Cum. 1982	1982	1982	Cum. 1982	Cum. 1981
UNITED STATES	6	1,001	39	1,687	2,957	46	2,856	57	5,117	58	22	2,263	2,058
NEW ENGLAND	-	51	-	16	86	2	158	2	195	2	-	19	123
Maine	-	-	-	-	5	-	12	-	43	-	-	-	33
N.H.	-	2	-	3	9	-	20	-	18	-	-	11	54
Vt.	-	-	-	2	3	-	11	-	7	-	-	-	-
Mass.	-	28	-	5	59	1	45	1	84	2	-	2	23
R.I.	-	3	-	-	-	-	16	-	18	-	-	1	-
Conn.	-	18	-	6	10	1	54	1	25	-	-	5	13
MID. ATLANTIC	1	174	-	170	999	11	514	4	343	35	-	109	231
Upstate N.Y.	-	33	-	113	226	4	176	2	99	32	-	53	116
N.Y. City	1	69	-	44	107	3	101	-	47	-	-	36	55
N.J.	-	35	-	6	59	-	104	1	55	1	-	18	47
Pa.	-	37	-	7	607	4	133	1	142	2	-	2	13
E.N. CENTRAL	-	85	5	84	92	4	382	27	2,544	2	11	210	435
Ohio	-	13	-	1	20	3	132	14	1,756	-	-	4	3
Ind.	U	4	U	2	9	U	41	U	46	U	U	29	137
Ill.	-	36	-	24	26	1	98	3	214	2	8	81	123
Mich.	-	26	5	57	34	-	80	10	401	-	3	53	44
Wis.	-	6	-	-	3	-	31	-	127	-	-	43	128
W.N. CENTRAL	-	32	-	49	10	2	144	3	642	-	-	62	83
Minn.	U	5	U	-	3	U	32	U	456	U	U	7	8
Iowa	-	8	-	-	1	-	12	2	63	-	-	-	5
Mo.	-	10	-	2	1	1	43	-	21	-	-	38	2
N. Dak.	-	2	-	-	-	-	6	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	11	-	1	-	-	1	-
Nebr.	-	4	-	3	4	-	14	-	1	-	-	-	1
Kans.	-	3	-	44	1	1	26	1	100	-	-	16	67
S. ATLANTIC	2	134	14	240	494	8	590	6	323	1	1	97	152
Del.	-	4	-	-	-	-	1	-	12	-	-	1	2
Md.	-	20	-	4	5	1	44	-	34	-	-	34	1
D.C.	-	4	-	1	1	-	5	-	-	-	-	-	-
Va.	1	41	-	14	18	2	72	2	44	-	-	12	9
W. Va.	-	7	-	3	9	-	10	1	119	-	-	3	23
N.C.	-	8	-	2	3	2	113	1	23	-	-	2	5
S.C.	-	4	-	-	2	-	70	1	18	-	-	1	8
Ga.	1	18	-	-	111	3	115	1	27	1	-	18	39
Fla.	-	28	14	216	345	-	160	-	46	-	1	26	65
E.S. CENTRAL	1	11	3	12	6	3	171	-	67	-	-	49	41
Ky.	-	5	-	1	2	-	25	-	22	-	-	31	27
Tenn.	-	-	-	6	2	2	78	-	25	-	-	2	13
Ala.	-	2	-	2	2	1	55	-	10	-	-	-	1
Miss.	1	4	3	3	-	-	13	-	10	-	-	16	-
W.S. CENTRAL	-	67	1	171	878	7	331	-	262	3	2	129	194
Ark.	-	5	-	-	23	-	16	-	8	-	-	1	7
La.	-	5	1	15	4	-	67	-	6	-	-	1	9
Okla.	-	8	-	30	6	1	33	-	-	1	-	3	3
Tex.	-	49	-	126	845	6	215	-	248	2	2	124	175
MOUNTAIN	2	38	-	28	39	3	121	6	122	12	2	94	97
Mont.	-	1	-	-	-	-	7	1	8	-	1	7	3
Idaho	-	2	-	-	1	-	7	1	5	-	-	7	4
Wyo.	-	-	-	1	1	-	5	-	2	-	-	8	12
Colo.	2	19	-	7	11	2	51	2	21	12	-	6	30
N. Mex.	-	3	-	-	9	-	15	-	-	-	-	6	5
Ariz.	-	9	-	17	7	-	21	2	56	-	1	22	22
Utah	-	4	-	3	-	1	13	-	22	-	-	26	10
Nev.	-	-	-	-	10	-	2	-	8	-	-	12	11
PACIFIC	-	409	16	917	353	6	445	9	619	3	6	1,494	702
Wash.	-	24	-	42	3	1	53	-	102	3	-	58	106
Oreg.	-	15	-	24	5	2	84	-	-	-	-	7	53
Calif.	-	362	16	845	338	3	292	9	481	-	6	1,414	527
Alaska	-	1	-	1	-	-	12	-	15	-	-	5	1
Hawaii	-	7	-	5	7	-	4	-	21	-	-	10	15
Guam	U	1	U	6	6	U	2	U	5	U	U	2	3
P.R.	U	4	U	137	306	U	9	U	100	U	U	13	6
V.I.	U	-	U	-	24	U	2	U	3	U	U	2	1
Pac. Trust Terr.	U	-	U	1	1	U	5	U	6	U	U	-	2

U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending December 25, 1982 and December 26, 1981 (51st week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Tuberculosis		Tula-remia	Typhoid Fever		Typhus Fever (Tick-borne) (RMSF)		Rabies, Animal
	Cum. 1982	Cum. 1981	1982	Cum. 1982	Cum. 1982	1982	Cum. 1982	1982	Cum. 1982	Cum. 1982
UNITED STATES	32,107	30,435	481	25,261	247	7	398	4	981	5,946
NEW ENGLAND	603	586	19	736	7	-	18	-	12	42
Maine	8	5	1	55	-	-	-	-	-	26
N.H.	5	16	-	30	-	-	-	-	1	1
Vt.	7	17	1	12	-	-	2	-	-	2
Mass.	405	373	12	465	7	-	14	-	6	7
R.I.	27	35	-	36	-	-	-	-	2	-
Conn.	151	140	5	138	-	-	2	-	3	6
MID. ATLANTIC	4,339	4,351	79	4,229	7	-	69	-	45	202
Upstate N.Y.	433	439	4	726	7	-	12	-	16	112
N.Y. City	2,558	2,585	24	1,592	-	-	36	-	3	-
N.J.	640	608	24	834	-	-	13	-	14	17
Pa.	708	719	27	1,077	-	-	8	-	12	73
E.N. CENTRAL	1,810	2,333	42	3,742	1	1	38	-	88	590
Ohio	333	319	4	597	-	-	13	-	77	80
Ind.	195	313	U	451	-	U	2	U	2	73
Ill.	902	1,250	31	1,628	-	-	8	-	8	299
Mich.	279	360	7	855	-	1	12	-	-	7
Wis.	101	91	-	211	1	-	3	-	1	131
W.N. CENTRAL	535	664	7	756	40	-	17	-	34	1,180
Minn.	142	186	U	141	-	U	8	U	-	209
Iowa	34	29	-	73	3	-	1	-	4	384
Mo.	281	390	5	369	27	-	5	-	13	122
N. Dak.	7	12	-	15	-	-	-	-	-	97
S. Dak.	2	2	-	33	1	-	-	-	4	101
Nebr.	15	11	2	32	4	-	2	-	2	123
Kans.	54	34	-	93	5	-	1	-	11	144
S. ATLANTIC	8,692	8,031	71	5,256	13	-	48	1	522	1,264
Del.	25	16	2	49	-	-	-	-	-	2
Md.	490	563	15	619	1	-	10	-	50	92
D.C.	472	645	2	248	-	-	-	-	-	-
Va.	599	685	11	595	5	-	4	-	74	707
W. Va.	30	32	2	154	-	-	4	-	8	54
N.C.	712	630	12	787	-	-	3	1	225	65
S.C.	560	557	-	514	6	-	3	-	106	66
Ga.	1,775	1,936	8	856	-	-	3	-	52	210
Fla.	4,029	2,967	19	1,434	1	-	21	-	7	68
E.S. CENTRAL	2,243	1,992	35	2,305	8	2	22	1	98	638
Ky.	133	107	9	604	-	-	4	-	1	132
Tenn.	645	672	7	757	6	1	5	-	59	354
Ala.	835	615	10	618	-	1	10	1	18	145
Miss.	630	598	9	326	2	-	3	-	20	7
W.S. CENTRAL	8,573	7,310	59	3,037	127	3	49	2	162	1,157
Ark.	217	159	5	350	76	1	9	-	22	155
La.	1,834	1,648	26	473	4	-	3	-	2	33
Okla.	185	175	6	338	35	-	3	-	76	189
Tex.	6,337	5,328	22	1,876	12	2	34	2	62	780
MOUNTAIN	810	759	27	714	34	-	14	-	14	280
Mont.	5	11	-	42	4	-	-	-	5	96
Idaho	25	19	-	29	1	-	-	-	4	11
Wyo.	16	18	4	10	5	-	-	-	1	21
Colo.	230	242	11	108	7	-	3	-	1	48
N. Mex.	187	125	4	119	5	-	-	-	1	23
Ariz.	215	182	8	298	-	-	8	-	-	59
Utah	24	30	-	43	12	-	2	-	-	18
Nev.	108	132	-	65	-	-	1	-	2	4
PACIFIC	4,502	4,409	142	4,486	10	1	123	-	6	593
Wash.	160	192	10	286	1	1	10	-	-	8
Oreg.	113	117	-	191	2	-	4	-	1	5
Calif.	4,106	4,013	131	3,667	6	-	105	-	5	493
Alaska	15	14	-	89	1	-	1	-	-	87
Hawaii	108	73	1	253	-	-	3	-	-	-
Guam	1	-	U	39	-	U	-	U	-	-
P.R.	784	636	U	454	-	U	3	U	-	50
V.I.	27	16	U	1	-	U	-	U	-	-
Pac. Trust Terr.	-	-	U	114	-	U	1	U	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending December 25, 1982 (51st week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	567	363	147	33	11	13	34
Boston, Mass.	166	100	40	14	3	9	19
Bridgeport, Conn.	48	32	13	3	-	-	4
Cambridge, Mass.	25	22	2	1	-	-	-
Fall River, Mass.	25	16	9	-	-	-	-
Hartford, Conn.	39	27	9	1	1	1	1
Lowell, Mass.	26	19	7	-	-	-	1
Lynn, Mass.	16	10	4	-	2	-	-
New Bedford, Mass.	25	17	6	1	1	-	-
New Haven, Conn.	32	16	10	5	1	-	-
Providence, R.I.	46	25	15	4	1	1	2
Somerville, Mass.	14	13	1	-	-	-	-
Springfield, Mass.	40	26	9	3	1	1	2
Waterbury, Conn.	19	15	4	-	-	-	1
Worcester, Mass.	46	25	18	1	1	1	4
MID. ATLANTIC	2,694	1,810	601	154	75	54	115
Albany, N.Y.	63	42	13	3	3	2	-
Allentown, Pa. §	19	19	-	-	-	-	-
Buffalo, N.Y.	119	75	35	5	2	2	9
Camden, N.J.	35	27	5	2	-	1	-
Elizabeth, N.J.	35	26	7	2	-	-	-
Erie, Pa.†	49	39	9	1	-	-	1
Jersey City, N.J.	34	24	6	-	2	2	1
N.Y. City, N.Y.	1,527	1,018	334	96	43	36	53
Newark, N.J.	66	41	15	8	1	1	4
Paterson, N.J.	28	17	7	-	3	1	3
Philadelphia, Pa.†	325	208	89	22	2	4	26
Pittsburgh, Pa.†	69	44	18	2	4	1	5
Reading, Pa.	22	17	4	-	1	-	2
Rochester, N.Y.	118	80	21	5	9	3	7
Schenectady, N.Y.	19	16	1	-	2	-	1
Scranton, Pa.†	25	20	3	2	-	-	1
Syracuse, N.Y.	54	33	17	2	2	-	-
Trenton, N.J.	40	27	10	1	1	1	-
Utica, N.Y.	21	16	4	1	-	-	2
Yonkers, N.Y.	26	21	3	2	-	-	-
E.N. CENTRAL	2,048	1,390	413	106	55	80	58
Akron, Ohio	70	49	16	3	1	1	1
Canton, Ohio	25	19	6	-	-	-	1
Chicago, Ill	483	279	125	35	19	25	8
Cincinnati, Ohio	137	95	30	6	6	-	9
Cleveland, Ohio	134	79	40	7	3	5	2
Columbus, Ohio	136	85	32	10	2	7	8
Dayton, Ohio	86	54	19	6	2	5	2
Detroit, Mich. §	258	234	1	6	6	7	5
Evansville, Ind.	32	24	6	1	1	-	1
Fort Wayne, Ind.	46	31	9	2	3	1	3
Gary, Ind.	25	12	9	2	1	1	1
Grand Rapids, Mich.	69	50	12	5	-	2	3
Indianapolis, Ind.	161	92	48	5	5	11	3
Madison, Wis.	33	21	7	2	1	2	-
Milwaukee, Wis.	124	95	17	3	3	6	2
Peoria, Ill.	34	28	3	1	-	2	5
Rockford, Ill.	29	22	6	1	-	-	2
South Bend, Ind.	37	22	10	4	1	-	-
Toledo, Ohio	88	69	10	3	1	5	2
Youngstown, Ohio	41	30	7	4	-	-	-
W.N. CENTRAL	672	451	157	29	19	16	29
Des Moines, Iowa	54	33	16	4	1	-	10
Duluth, Minn.	6	4	2	-	-	-	1
Kansas City, Kans.	35	23	9	2	-	1	-
Kansas City, Mo.	119	79	32	4	3	1	4
Lincoln, Nebr.	29	21	4	2	-	2	-
Minneapolis, Minn.	86	59	15	4	3	5	2
Omaha, Nebr.	72	35	28	2	3	4	6
St. Louis, Mo.	161	120	24	8	7	2	4
St. Paul, Minn.	53	39	12	2	-	-	-
Wichita, Kans.	57	38	15	1	2	1	2

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,235	744	319	98	44	30	48
Atlanta, Ga.	149	88	36	18	5	2	6
Baltimore, Md.	337	204	96	23	8	6	11
Charlotte, N.C.	57	29	15	6	4	3	2
Jacksonville, Fla.	64	44	13	4	2	1	2
Miami, Fla.	100	59	30	7	4	-	-
Norfolk, Va.	42	24	9	2	4	3	4
Richmond, Va.	82	52	22	4	2	2	10
Savannah, Ga.	34	22	8	2	1	1	3
St. Petersburg, Fla.	71	59	8	1	2	1	2
Tampa, Fla.	62	36	10	5	4	7	4
Washington, D.C.	169	92	51	19	4	3	2
Wilmington, Del.	68	35	21	7	4	1	2
E.S. CENTRAL	543	354	127	24	15	23	28
Birmingham, Ala.	106	72	20	5	3	6	4
Chattanooga, Tenn.	48	33	11	1	2	1	3
Knoxville, Tenn.	18	14	2	1	1	-	2
Louisville, Ky.	100	70	22	4	2	2	9
Memphis, Tenn.	106	61	28	3	-	14	5
Mobile, Ala.	33	24	7	2	-	-	1
Montgomery, Ala.	21	16	3	2	-	-	1
Nashville, Tenn.	111	64	34	6	7	-	3
W.S. CENTRAL	1,097	633	296	91	42	35	35
Austin, Tex.	46	32	10	-	2	2	3
Baton Rouge, La.	41	23	11	6	-	1	1
Corpus Christi, Tex.	51	33	13	4	-	1	-
Dallas, Tex.	208	117	52	18	10	11	3
El Paso, Tex.	39	28	8	2	-	1	2
Fort Worth, Tex.	79	47	15	7	5	5	3
Houston, Tex.	200	86	72	24	13	5	6
Little Rock, Ark.	39	24	10	2	-	3	3
New Orleans, La.	145	82	40	13	7	3	-
San Antonio, Tex.	151	96	38	12	3	2	10
Shreveport, La.	28	20	5	2	1	-	-
Tulsa, Okla.	70	45	22	1	1	1	4
MOUNTAIN	512	314	115	29	19	35	25
Albuquerque, N.Mex.	37	28	7	-	1	1	3
Colo. Springs, Colo.	32	19	8	4	1	-	4
Denver, Colo.	103	48	26	9	1	19	5
Las Vegas, Nev.	71	44	14	3	5	5	4
Ogden, Utah	15	12	3	-	-	-	2
Phoenix, Ariz.	116	73	27	6	6	4	2
Pueblo, Colo.	24	16	3	3	1	1	1
Salt Lake City, Utah	47	25	13	2	3	4	-
Tucson, Ariz.	67	49	14	2	1	1	4
PACIFIC	1,831	1,245	389	100	40	55	82
Berkeley, Calif.	21	15	6	-	-	-	-
Fresno, Calif.	98	76	14	5	-	3	4
Glendale, Calif.	22	14	6	-	-	2	1
Honolulu, Hawaii	65	41	19	4	1	-	4
Long Beach, Calif.	104	74	25	2	-	3	6
Los Angeles, Calif.	567	370	124	41	20	11	18
Oakland, Calif. §	62	58	1	-	1	1	2
Pasadena, Calif.	29	22	4	-	-	3	-
Portland, Oreg.	106	72	23	5	-	6	7
Sacramento, Calif. §	70	64	1	2	-	3	3
San Diego, Calif.	92	59	24	5	1	3	8
San Francisco, Calif.	185	109	45	15	5	11	2
San Jose, Calif.	164	105	46	6	5	2	14
Seattle, Wash.	149	101	33	6	5	4	4
Spokane, Wash.	62	39	14	4	2	3	4
Tacoma, Wash.	35	26	4	5	-	-	5
TOTAL	11,199††	7,304	2,564	664	320	341	454

* 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.

Animal Rabies – Continued

(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 justified 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 Zoological 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 and reduces 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. 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 dog 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 importation of wild and domesticated felines, canines, and other potential vectors of rabies 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 must be 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.

Animal Rabies — Continued

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 the 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 one month before being released. Dogs and cats that are currently vaccinated should be revaccinated immediately, leashed, and confined for 90 days.

(b) **Livestock**: 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 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.

Regarding the management of livestock exposed to rabid animals, the following recommendations and considerations are suggested:

(1) If slaughtered within 7 days of being bitten, tissues may be eaten without risk of infection, provided 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.

Animal Rabies – Continued

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 screen or other means.
   (c) A person bitten by a bat or any wild animal should immediately report the incident to a physician or hospital emergency room, which will evaluate the need for antirabies treatment (see current Rabies Prophylaxis Recommendation of the Public Health Service Immunization Practices Advisory Committee, *MMWR* 1982;31:279-80, 285). Bats and wild carnivorous mammals that bite people should be killed and sent to a laboratory for examination for rabies.

THE NASPHV COMPENDIUM COMMITTEE FOR 1983: Kenneth L. Crawford, DVM, MPH, Chairman, Melvin K. Abelseth, 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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ENDORSED BY: Conference of State and Territorial Epidemiologists, AVMA, Council on Public Health and Regulatory Veterinary Medicine

Public Health Impact of a Snow Disaster

The severe blizzard that struck Colorado on December 24 and 25, 1982, has raised questions about the public health impact of a snow disaster. Epidemiologic studies of a similar storm in New England in February 1978 may help officials facing similar conditions (*1-4*).

Major findings of the 1978 studies follow: 1) Although total mortality did not increase significantly during the blizzard in eastern Massachusetts, a third (27) of all deaths were classed as storm related. Eight persons stranded in cars died, five from carbon monoxide intoxication. 2) Total mortality and mortality from ischemic heart disease increased significantly in Rhode Island. 3) The number of emergency room visits declined 64% in Rhode Island and 56% in eastern Massachusetts during the blizzard but returned to normal in a few days. 4) Hospitals in Massachusetts had supply problems because delays in discharging patients raised occupancy rates to capacity. 5) No disease outbreaks and no water or sanitation hazards could be verified in eastern Massachusetts although seven were reported.

Based on this and other information, officials should consider the following recommendations during blizzards: 1) Early in the storm, warn against non-essential driving. 2) Announce publicly that persons who must drive should have extra clothes and food with them and remain in their vehicle if stranded. Advise extreme caution if the heating system is used, even for short periods, while the vehicle is stopped. Exhaust systems may become blocked with snow, and ventilation adequacy is hard to determine. 3) Establish a rumor clearinghouse to investigate reported disease outbreaks and environmental health hazards. 4) Rapidly investigate storm-related deaths to dispel rumors and gain data. 5) Advise hospitals that anticipate overcrowding and supply shortages to discharge and transport patients home early, using emergency vehicles if necessary.

Reported by Field Svcs Div, Epidemiology Program Office, Special Studies Br, Chronic Diseases Div, Center for Environmental Health, CDC.

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Snow Disaster — Continued

3. Faich G, Rose R. Blizzard morbidity and mortality: Rhode Island, 1978. Am J Public Health 1979;69:1050-2.
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Influenza Update — United States

Since November 30, 1982, increasing influenza activity has been reported, including two nursing home outbreaks in upstate New York—one November 30-December 16 and one beginning December 18. In a Monroe County nursing home, about 63 (26%) of 240 residents experienced influenza-like illness, and six of 12 respiratory specimens collected grew influenza A(H3N2) virus. Preliminary laboratory results from the second outbreak also suggest an association with influenza virus; morbidity data are pending. Overall influenza-like illness in the region is not unusually elevated. In Idaho and Montana, however, several reports indicate increased influenza activity since December 20. In one small community, for example, school absenteeism (about 20%) caused premature closing before the winter vacation, and in several areas of the state physicians reported increased office visits, emergency room visits, or hospital admissions from influenza-like illness. An outbreak of influenza-like illness in an Idaho nursing home has also been reported. Although laboratory diagnosis is pending in Idaho, eight influenza A(H3N2) viruses have been isolated in Montana, including several from children with acute respiratory illness. In Arizona, Georgia, Hawaii, and Utah, sporadic cases of influenza have been confirmed by isolation of type A(H3N2) strains.

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