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Epidemiologic Notes and Reports

Snow-Blower Injuries — Colorado, New York

Following recent heavy snowfalls in Colorado and New York, CDC received reports of hand injuries caused by snow-blowers.

Colorado: On December 24, 1982, a record 24-36 inches of heavy, wet snow blanketed the Denver metropolitan area. As a follow-up to previous investigations of the public health impact of snow disasters (*1-3*), an investigation was begun. Emergency-room (ER) logs of 14 hospitals (representing approximately 80% of metropolitan Denver ER visits) were reviewed before and after the blizzard. Fourteen snow-blower-related amputations, occurring the week after the storm, were identified. Additional surveys of ER logs found 12 more persons who sustained lacerations while using snow-blowers. Twenty-five of the total 26 persons with snow-blower-related injuries were interviewed. All were male; their average age was 44 years. All injuries occurred to the hand; 13 (52%) were finger amputations, and 12 (48%) were lacerations without amputation. Twelve (48%) persons had injury to a single finger; eight (32%), to two fingers; four (16%), to three fingers; and one (4%), to the palm only. The middle finger was most commonly affected (45%), followed by the index (30%) and ring (20%) fingers. Snow-blowers used by these persons were of various brands and models (nine manufacturers and at least 15 models).

Comparison of these cases with controls (consisting of the patients' friends and neighbors who had used snow-blowers during the week after the snowfall) revealed that snow-blowers with clogged exit chutes were operated by significantly more injured persons (88%) than by controls (64%) ($p=0.04$). Of the injured persons and controls whose snow-blowers had clogged with snow, 95% (21/22) of the injured persons had used their hands to dislodge the snow, compared with 14% (2/14) of controls ($p < 0.001$). For all cases and controls, there were no significant differences in age, sex, type of snow-blower used, (including manufacturer, model, and age of snow-blower), previous experience in using snow-blowers, or previous experience with the same model snow-blower.

Of the 21 persons whose injuries were caused by placing hands into snow-clogged chutes, 10 (48%) knew that the blades were still engaged and spinning; six (29%) had disengaged the blade, without realizing the blades continued to spin after disengagement; three (14%) said the blades started again while the snow was being cleared, and two (9%) assumed the blades were disengaged. Of those persons who knew the blades were engaged and spinning, most thought the blades were farther away from the chute opening than they actually were. In addition, virtually all injured persons stated that they could not see the blades when the chutes were clogged with snow.

New York: On January 15, 1983, the first major snowstorm of the 1982-1983 winter season struck Albany, and 24 inches of light, granular snow accumulated within 36 hours. To assess snowblower-related injuries caused by this storm, ER records of 11 area hospitals

Snow-Blower Injuries — Continued

were reviewed from January 15 to 18. These hospitals serve an area encompassing six counties and approximately 850,000 people.

Twenty snow-blower-related injuries were identified, 19 (95%) of which occurred January 16, 1983, the day the storm ended, and represented 3.1% of that day's 610 ER visits. Thirteen (65%) injuries were finger lacerations, and four were complete or partial finger amputations. Seven injuries also resulted in fractures of the distal or middle phalanx of the injured finger(s). Of those persons with finger injuries, 16 were males, and one was a 73-year-old female. Injured males ranged in age from 14 to 70 years, with a mean of 44 years. The estimated rate for snow-blower-related finger injuries from this storm was 1.92 cases per 100,000 population.

Three non-finger, snow-blower-related injuries were reported—one ankle contusion not resulting in a laceration or fracture and two sprained backs. A 70-year old man collapsed and died while operating a snow-blower, presumably from cardiac arrest.

Reported by Denver Area Emergency Room Directors and Administrators, D Ouimette, S Tinnell, P Shillam, R Hopkins, MD, State Epidemiologist, Colorado Dept of Health; Albany Capital District Emergency Room Directors and Administrators, C Lundy, L Fisher, D Morse, MD, R Rothenberg, MD, State Epidemiologist, New York State Dept of Health; Div of Field Svcs, Epidemiology Program Office, CDC.

Editorial Note: Further studies of snow-blower injury rates and characteristics of snow storms are currently underway. In Colorado, the present study showed that using hands to clean the snow-blowers' clogged exit chutes caused the injuries. Not knowing that in some machines the blades continued to spin after disengagement, that the stopped blades might still be under some torque and could resume spinning as soon as the snow was removed, or that the blades were near the opening of the chute may have given some persons a feeling of false security as they put their hands into the chutes to clear them of snow (*4*). A previous review of snow-blower injuries reported that some persons could not explain the apparently irrational act of trying to clean a clogged snow-blower with their hands; exhaust fumes may have led to mild carbon monoxide intoxication (*4*). This seems more probable if the snow blowers were operated in a relatively confined air space, such as a deep snow drift.

The Consumer Products Safety Commission estimates that 3,000 persons are treated in emergency rooms in the United States for snow-blower injuries each year. Another study estimated at least 5.3 injuries per 1,000 machines occur annually (*5*). Further study of snow-blower injuries is needed to ascertain the possible benefits from increased consumer education; however, it appears from these data that designing machines less likely to clog with snow or designing them with mechanisms to stop blades when clogging occurs could significantly reduce the risk of injury.

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Imported Human Rabies

The first case of human rabies in the United States since August 1981 has been reported to CDC. The patient, a 30-year-old American architect from Waltham, Massachusetts, was exposed to rabies from a dog bite in Ososo, Nigeria, West Africa. He died on January 28,

Human Rabies – Continued

1983, 28 days after onset of symptoms.

On October 8, the patient, who worked in Nigeria, was bitten on the right wrist by his pet Doberman pinscher while attempting to free it from a trap. The dog died later that day and was buried without laboratory examination for rabies. The patient sought medical attention at a nearby clinic and received tetanus immunization, but because the dog had recently been immunized against rabies, it was decided that postexposure prophylaxis was unnecessary.

Eleven weeks later, the patient returned to the United States and remained well until January 1, 1983, 85 days after the bite, when he developed numbness and tingling at the healed bite-site. During the next several days, the patient developed low back pain, a temperature of 38.9 C (102 F), sore throat, anorexia, and malaise. On January 5, he complained of difficulty breathing, mild chest discomfort, excessive salivation, and occasional gagging when attempting to drink. He was examined by a physician, who noted that he had non-specific ST-T changes on an electrocardiogram. He was admitted to the Waltham Hospital, Waltham, Massachusetts, for further evaluation.

On admission, the patient was anxious and was producing a large volume of saliva, which he refused to swallow. He suggested that a milk deficiency caused his illness, and exhibited unusual fear of some medical procedures. His pharynx was slightly erythematous, and his neck or throat structures contracted when touched with the hands or examining instruments. The remainder of the physical examination was unremarkable. Laboratory tests revealed a white blood count of 9,900, with a normal differential, normal serum electrolytes and calcium, and normal chest x-ray. On January 6, the patient exhibited marked hyperactivity and refused to swallow barium for a radiologic examination. On the evening of January 6, he had respiratory arrest and a generalized seizure, and an endotracheal tube was inserted. Following the respiratory arrest, his temperature rose to 41.1 C (106 F), and on 40% inspired O_2, arterial blood gases were a pO_2 of 60.7 mm Hg, a pCO_2 of 36 mm Hg, and a pH of 7.26. A lumbar puncture revealed an opening pressure of 200 mm H_2O, protein of 20 mg/dL, glucose of 113 mg/dL, four leukocytes (one polymorphonucleocyte, three lymphocytes), and no bacteria. A chest x-ray showed diffuse pulmonary infiltrates. A diagnosis of rabies was considered, and the patient was placed in strict isolation. A skin biopsy, taken from the back of his neck above the hairline, was sent to CDC for direct immunofluorescent antibody (FA) testing for rabies.

On January 7, the biopsy was reported positive. The patient was able to communicate rationally with hospital staff by writing notes. He demonstrated marked pharyngeal and laryngeal spasms when his face or neck was stimulated by either a wet sponge or a draught of cool air. Bacterial cultures of cerebrospinal fluid (CSF), blood, urine, and sputum were negative. Computerized tomography and electroencephalogram were normal. The patient continued to require ventilatory support and a dopamine infusion to maintain adequate blood pressure. On January 8, he was started on systemic interferon treatment. He was given human leukocyte interferon, 10 million units twice daily intramuscularly, and 5 million units once daily intraventricularly into a Rickham reservoir connected by a cannula to a lateral ventricle of his brain.

During the next 10 days, the patient became progressively less responsive and was in deep coma by January 18. He had numerous medical complications during the course of illness, including *Pseudomonas* sepsis and keratoconjunctivitis, recurrent seizures, hypo- and hyperthermia, anemia, hypotension, abnormal blood clotting, and acute renal failure. Marked elevation of lactic dehydrogenase (LDH) and serum transaminases (SGOT and SGPT) were noted, and serum creatine phosphokinase (CPK) peaked at 86,000 units/ml. Urine myoglobin remained negative. The interferon therapy was discontinued on January 25, 17 days after the

Human Rabies — Continued

first dose was administered. The patient developed adult respiratory distress syndrome refractory to ventilation and died of cardiovascular collapse on January 28.

Serum collected daily from the patient and tested at CDC for rabies antibody by the rapid fluorescent focus inhibition test turned positive at 1:12 on the 16th day of illness and remained minimally positive at 1:25 or less until his death. CSF samples tested for rabies antibody were negative through the 19th day of illness and were unavailable for testing after that time. Rabies virus was isolated by mouse inoculation from CSF, sputum, nasal secretions, and saliva, both before and after the start of interferon therapy (Table 1). Rabies monoclonal antibodies obtained from the Wistar Institute, Philadelphia, Pennsylvania, demonstrated that the isolates were in the rabies group and not a rabies-related virus, such as Mokola or Lagos bat virus (*1*). Further testing with monoclonal antibodies produced at CDC suggested that the isolates were typical street rabies virus. Direct FA testing of skin biospies and a brain biopsy taken early in the illness from the frontal lobe cortex were positive; corneal impressions were negative. At postmortem, many tissues were positive for rabies virus, including specimens from brain and spinal cord, skin and nerve from the bite site, pancreas, liver, bladder, periaortic lymph node, pericardium, adrenal gland, and salivary gland.

(Continued on page 85)

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

Disease	6 th Week Ending			Cumulative, 6 th Week Ending		
	February 12, 1983	February 13, 1982	Median 1978-1982	February 12, 1983	February 13, 1982	Median 1978-1982
Aseptic meningitis	95	73	44	543	480	387
Encephalitis: Primary (arthropod-borne & unspec.)	15	16	14	94	85	67
Post-infectious	-	2	2	5	5	14
Gonorrhea: Civilian	17,225	17,715	18,419	106,939	112,262	112,262
Military	612	552	552	3,003	3,389	3,205
Hepatitis: Type A	389	444	544	2,697	2,310	2,906
Type B	427	364	290	2,345	2,016	1,677
Non A, Non B	54	33	N	320	162	N
Unspecified	104	164	168	816	909	1,050
Legionellosis	7	2	N	53	25	N
Leprosy	2	3	5	23	10	19
Malaria	21	16	16	67	72	72
Measles: Total	11	6	162	35	52	709
Indigenous	5	N	N	21	N	N
Imported*	6	N	N	14	N	N
Meningococcal infections: Total	75	57	71	348	331	336
Civilian	74	57	71	339	330	332
Military	1	-	-	9	1	1
Mumps	81	132	259	451	502	1,365
Pertussis	23	19	19	111	86	116
Rubella (German measles)	11	32	71	84	170	331
Syphilis (Primary & Secondary): Civilian	655	568	479	3,951	3,887	3,088
Military	13	4	4	63	56	45
Toxic-shock syndrome	8	N	N	44	N	N
Tuberculosis	468	455	522	2,258	2,410	2,474
Tularemia	1	1	2	15	7	11
Typhoid fever	4	10	6	26	52	35
Typhus fever, tick-borne (RMSF)	1	-	1	7	13	7
Rabies, animal	89	86	86	513	469	469

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1983		Cum. 1983
Anthrax	-	Plague	-
Botulism: Foodborne (Calif. 2)	3	Poliomyelitis: Total	-
Infant	6	Paralytic	-
Other	-	Psittacosis	4
Brucellosis (Va. 2)	11	Rabies, human	-
Cholera	-	Tetanus (N.J. 1)	6
Congenital rubella syndrome (Calif. 1)	4	Trichinosis	3
Diphtheria	-	Typhus fever, flea-borne (endemic, murine)	2
Leptospirosis (Ohio 1)	1		

*Six of the eleven reported cases for this week were 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 February 12, 1983 and February 13, 1982 (6th week)

Reporting Area	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy	Malaria
		Primary	Post-infectious			A	B	NA,NB	Unspecified			
	1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1982	1983	1983	1983	1983	1983	Cum. 1983	Cum. 1983
UNITED STATES	95	94	5	106,939	112,262	389	427	54	104	7	23	67
NEW ENGLAND	1	4	-	2,743	2,338	7	26	2	6	-	-	-
Maine	-	-	-	165	130	-	4	-	-	-	-	-
N.H.	-	-	-	81	97	-	1	-	-	-	-	-
Vt.	-	-	-	50	60	1	-	-	-	-	-	-
Mass.	1	3	-	1,188	915	4	13	1	6	-	-	-
R.I.	-	-	-	161	152	1	2	-	-	-	-	-
Conn.	-	1	-	1,098	984	1	6	1	-	-	-	-
MID ATLANTIC	13	17	-	13,726	12,646	26	78	9	10	-	3	8
Upstate N.Y.	5	7	-	1,859	2,024	4	19	4	1	-	-	2
N.Y. City	-	6	-	5,704	5,628	9	11	-	1	-	3	6
N.J.	7	1	-	2,713	1,983	13	48	5	8	-	-	-
Pa.	1	3	-	3,450	3,011	-	-	-	-	-	-	-
E.N. CENTRAL	7	20	1	13,516	15,949	52	41	1	7	5	1	3
Ohio	5	11	1	4,041	4,731	29	19	1	4	5	1	-
Ind.	2	-	-	2,031	1,938	13	8	-	2	-	-	-
Ill.	-	-	-	1,819	4,062	4	3	-	-	-	-	-
Mich.	-	9	-	4,336	3,871	6	11	-	1	-	-	3
Wis.	-	-	-	1,289	1,347	-	-	-	-	-	-	-
W.N. CENTRAL	3	3	-	5,026	5,103	15	17	3	2	-	-	2
Minn.	-	-	-	797	812	-	3	1	-	-	-	-
Iowa	-	3	-	538	514	-	1	1	-	-	-	1
Mo.	-	-	-	2,322	2,250	3	9	1	2	-	-	-
N. Dak.	-	-	-	51	60	-	-	-	-	-	-	-
S. Dak.	-	-	-	145	165	1	-	-	-	-	-	-
Nebr.	1	-	-	288	286	4	3	-	-	-	-	-
Kans.	2	-	-	885	1,016	7	1	-	-	-	-	1
S. ATLANTIC	20	19	1	26,527	29,489	42	96	6	6	1	-	8
Del.	-	-	-	574	425	1	1	-	-	-	-	-
Md.	1	1	-	3,493	4,025	2	16	1	-	1	-	3
D.C.	-	-	-	1,780	1,289	-	2	-	-	-	-	-
Va.	-	10	1	2,423	2,325	2	5	-	-	-	-	2
W. Va.	1	-	-	291	291	1	1	1	-	-	-	1
N.C.	7	4	-	3,508	4,822	6	13	-	4	-	-	-
S.C.	1	1	-	2,815	2,546	10	21	-	-	-	-	-
Ga.	-	-	-	4,962	5,189	4	15	-	-	-	-	-
Fla.	10	3	-	6,681	8,577	16	22	4	2	-	-	2
E.S. CENTRAL	12	6	2	9,731	9,121	34	42	4	3	1	-	1
Ky.	-	-	-	1,308	1,158	13	4	1	-	-	-	-
Tenn.	5	1	-	3,618	3,488	6	22	1	2	-	-	-
Ala.	7	5	2	3,248	2,747	10	15	2	1	1	-	1
Miss.	-	-	-	1,557	1,728	5	1	-	-	-	-	-
W.S. CENTRAL	15	5	-	15,488	16,291	108	32	4	39	-	2	2
Ark.	-	-	-	1,178	1,397	1	-	-	4	-	-	-
La.	2	-	-	2,447	2,637	21	6	4	1	-	-	-
Okla.	-	1	-	1,832	1,689	7	2	-	4	-	-	2
Tex.	13	4	-	10,031	10,568	79	24	-	30	-	2	-
MOUNTAIN	4	5	-	3,108	3,996	27	13	3	8	-	2	4
Mont.	-	-	-	161	188	-	-	-	-	-	-	-
Idaho	1	-	-	165	177	3	1	2	-	-	-	-
Wyo.	1	1	-	99	121	-	-	-	-	-	-	-
Colo.	1	1	-	862	1,140	6	4	1	3	-	-	2
N. Mex.	-	-	-	421	497	10	2	-	-	-	-	-
Ariz.	1	-	-	709	1,028	6	4	-	4	-	2	2
Utah	-	3	-	149	159	2	2	-	1	-	-	-
Nev.	-	-	-	542	686	-	-	-	-	-	-	-
PACIFIC	20	15	1	17,074	17,329	78	82	22	23	-	15	39
Wash.	3	1	-	894	1,499	3	2	2	-	-	1	2
Oreg.	-	-	-	774	1,045	14	6	2	1	-	1	2
Calif.	13	13	1	14,725	14,082	56	57	17	22	-	13	35
Alaska	-	-	-	347	422	2	12	-	-	-	-	-
Hawaii	4	1	-	334	281	3	5	1	-	-	-	-
Guam	U	-	-	-	13	U	U	U	U	U	-	-
P.R.	1	-	-	390	343	-	-	-	-	-	-	-
V.I.	-	-	-	30	30	-	-	-	-	-	-	-
Pac. Trust Terr.	U	-	-	-	58	U	U	U	U	U	-	-

N: Not notifiable U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending February 12, 1983 and February 13, 1982 (6th week)

Reporting Area	Measles (Rubeola)					Menin-gococcal Infections	Mumps			Pertussis			Rubella		
	Indigenous		Imported *		Total										
	1983	Cum. 1983	1983	Cum. 1983	Cum. 1982	Cum. 1983	1983	Cum. 1983	Cum. 1982	1983	Cum. 1983	Cum. 1982	1983	Cum. 1983	Cum. 1982
UNITED STATES	5	21	6	14	52	348	81	451	502	23	111	86	11	84	170
NEW ENGLAND	-	-	-	-	2	14	3	24	57	2	8	7	-	1	7
Maine	-	-	-	-	-	-	1	4	13	-	-	-	-	-	-
N.H.	-	-	-	-	-	1	-	7	4	-	3	-	-	-	7
Vt.	-	-	-	-	2	-	-	2	3	-	1	-	-	-	-
Mass.	-	-	-	-	-	6	-	4	31	2	3	3	-	1	-
R.I.	-	-	-	-	-	-	2	2	3	-	1	2	-	-	-
Conn.	-	-	-	-	-	7	-	5	3	-	-	2	-	-	-
MID ATLANTIC	-	-	-	1	15	41	7	24	31	4	21	8	-	2	8
Upstate N.Y.	-	-	-	1	10	16	3	8	15	3	11	4	-	1	6
N.Y. City	-	-	-	-	4	7	-	3	6	-	1	3	-	1	2
N.J.	-	-	-	-	-	5	1	6	3	-	3	-	-	-	-
Pa.	-	-	-	-	1	13	3	7	7	1	6	1	-	-	-
E.N. CENTRAL	-	-	5	5	4	58	48	235	216	3	30	27	1	11	20
Ohio	-	-	-	-	-	27	36	146	123	-	16	2	-	1	-
Ind.	-	-	-	-	1	10	4	8	9	1	3	4	-	-	1
Ill.	-	-	-	-	1	3	1	8	17	2	8	7	1	2	8
Mich.	-	-	5†	5	2	17	7	64	48	-	1	6	-	2	2
Wis.	-	-	-	-	-	1	-	9	19	-	2	8	-	6	9
W.N. CENTRAL	-	-	-	-	-	20	7	42	25	3	6	4	2	8	9
Minn.	-	-	-	-	-	2	1	2	3	-	-	2	-	2	1
Iowa	-	-	-	-	-	4	2	23	7	1	2	-	-	-	-
Mo.	-	-	-	-	-	10	2	2	3	-	1	2	-	-	6
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kans.	-	-	-	-	-	4	2	15	12	2	3	-	2	6	2
S. ATLANTIC	-	-	-	2	9	69	-	16	61	7	15	10	1	7	6
Del.	-	-	-	-	-	-	-	-	1	-	-	4	-	-	-
Md.	-	-	-	-	-	9	-	2	5	-	-	-	-	1	-
D.C.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Va.	-	-	-	1	9	10	-	6	7	4	6	-	-	-	5
W. Va.	-	-	-	-	-	-	-	6	29	-	-	2	-	1	-
N.C.	-	-	-	-	-	16	-	1	3	-	-	1	-	-	-
S.C.	-	-	-	1	-	11	-	-	2	-	-	1	-	-	-
Ga.	-	-	-	-	-	10	-	1	2	2	8	-	1	2	1
Fla.	-	-	-	-	-	13	-	-	12	1	1	2	-	3	-
E.S. CENTRAL	-	-	-	-	3	25	-	5	6	-	-	2	-	1	5
Ky.	-	-	-	-	1	6	-	2	1	-	-	-	-	1	5
Tenn.	-	-	-	-	2	8	-	3	2	-	-	1	-	-	-
Ala.	-	-	-	-	-	11	-	-	1	-	-	-	-	-	-
Miss.	-	-	-	-	-	-	-	-	2	-	-	1	-	-	-
W.S. CENTRAL	-	1	-	-	2	49	12	43	21	2	18	4	2	11	13
Ark.	-	-	-	-	-	2	-	1	2	-	1	-	-	-	-
La.	-	-	-	-	-	7	-	-	-	-	1	-	-	-	-
Okla.	-	-	-	-	-	7	-	-	-	-	2	-	-	-	-
Tex.	-	1	-	-	2	33	12	42	19	2	14	4	2	11	13
MOUNTAIN	-	-	1	1	-	10	1	16	13	2	9	5	-	3	5
Mont.	-	-	-	-	-	-	-	-	1	-	1	-	-	-	1
Idaho	-	-	-	-	-	2	-	1	2	-	-	-	-	-	-
Wyo.	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1
Colo.	-	-	1†	1	-	4	-	1	2	1	4	1	-	-	-
N. Mex.	-	-	-	-	-	1	-	-	-	1	4	2	-	-	-
Ariz.	-	-	-	-	-	1	1	11	3	-	-	2	-	1	-
Utah	-	-	-	-	-	2	-	3	3	-	-	-	-	1	2
Nev.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
PACIFIC	5	20	-	5	17	62	3	46	72	-	4	19	5	40	97
Wash.	-	-	-	-	5	13	1	6	15	-	-	4	-	-	4
Oreg.	1	1	-	-	-	4	-	-	-	-	-	2	2	2	-
Calif.	4	18	-	5	11	43	2	34	56	-	4	13	2	37	92
Alaska	-	-	-	-	-	-	-	4	1	-	-	-	-	-	-
Hawaii	-	1	-	-	1	2	-	2	-	-	-	-	1	1	1
Guam	U	-	U	-	-	-	U	-	1	U	-	-	U	-	1
P.R.	5	9	-	-	11	3	8	19	3	-	-	-	-	-	2
V.I.	-	2	-	1	-	-	-	-	-	-	-	-	-	1	-
Pac. Trust Terr.	U	-	U	-	-	-	U	-	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations. U: Unavailable †International §Out-of-state

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending February 12, 1983 and February 13, 1982 (6th week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	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	3,951	3,887	8	468	2,258	15	26	7	513
NEW ENGLAND	101	73	-	9	40	-	2	1	-
Maine	2	-	-	1	4	-	-	-	-
N.H.	-	-	-	3	3	-	-	-	-
Vt.	-	-	-	-	-	-	-	-	-
Mass.	70	50	-	4	14	-	2	1	-
R.I.	2	5	-	-	5	-	-	-	-
Conn.	27	18	-	1	14	-	-	-	-
MID ATLANTIC	423	522	-	86	435	-	7	-	14
Upstate N.Y.	14	42	-	21	87	-	2	-	11
N.Y. City	263	346	-	30	159	-	3	-	-
N.J.	84	50	-	17	100	-	2	-	-
Pa.	62	84	-	18	89	-	-	-	3
E.N. CENTRAL	153	204	4	58	364	-	2	-	34
Ohio	54	23	2	14	48	-	1	-	6
Ind.	30	23	-	5	44	-	-	-	-
Ill.	25	113	-	25	188	-	-	-	13
Mich.	30	33	2	13	69	-	1	-	-
Wis.	14	12	-	1	15	-	-	-	15
W.N. CENTRAL	44	71	1	12	69	4	1	2	77
Minn.	24	13	-	1	5	-	-	-	22
Iowa	2	1	1	4	14	-	-	-	25
Mo.	14	44	-	4	41	4	1	2	10
N. Dak.	-	2	-	-	-	-	-	-	5
S. Dak.	-	-	-	-	2	-	-	-	6
Nebr.	1	-	-	1	2	-	-	-	2
Kans.	3	11	-	2	5	-	-	-	7
S. ATLANTIC	1,036	1,057	1	95	490	6	3	-	204
Del.	9	2	-	-	1	-	-	-	-
Md.	61	67	1	9	93	1	-	-	96
D.C.	47	72	-	3	15	-	-	-	-
Va.	74	83	-	4	25	1	2	-	82
W. Va.	2	4	-	4	20	-	1	-	7
N.C.	103	89	-	15	31	4	-	-	1
S.C.	83	65	-	11	50	-	-	-	2
Ga.	177	221	-	23	87	-	-	-	13
Fla.	480	454	-	26	168	-	-	-	3
E.S. CENTRAL	274	297	-	66	237	1	1	3	36
Ky.	17	16	-	26	72	-	-	-	10
Tenn.	70	75	-	17	70	1	1	1	21
Ala.	124	98	-	9	63	-	-	2	5
Miss.	63	108	-	14	32	-	-	-	-
W.S. CENTRAL	1,031	1,048	1	53	158	3	-	-	80
Ark.	13	29	-	3	7	3	-	-	17
La.	210	172	-	10	31	-	-	-	1
Okla.	31	19	1	7	32	-	-	-	9
Tex.	777	828	-	33	88	-	-	-	53
MOUNTAIN	82	107	-	14	71	1	-	-	26
Mont.	2	-	-	-	6	-	-	-	24
Idaho	1	9	-	-	5	-	-	-	-
Wyo.	2	7	-	-	2	-	-	-	-
Colo.	22	31	-	5	5	-	-	-	-
N. Mex.	27	21	-	4	14	1	-	-	-
Ariz.	18	17	-	5	37	-	-	-	2
Utah	5	2	-	-	-	-	-	-	-
Nev.	5	20	-	-	2	-	-	-	-
PACIFIC	807	508	1	75	394	-	10	1	42
Wash.	25	16	-	7	22	-	1	-	-
Oreg.	9	21	-	5	19	-	-	-	-
Calif.	761	457	1	55	325	-	9	1	42
Alaska	4	2	-	-	-	-	-	-	-
Hawaii	8	12	-	8	28	-	-	-	-
Guam	-	-	U	U	-	-	-	-	-
P.R.	84	51	-	6	65	-	-	-	7
V.I.	1	-	-	-	-	-	-	-	-
Pac. Trust Terr.	-	-	U	U	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending February 12, 1983 (6th week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	678	469	155	33	11	10	50
Boston, Mass.	181	121	44	10	4	2	18
Bridgeport, Conn.	49	39	8	2	-	-	4
Cambridge, Mass.	35	27	7	1	-	-	6
Fall River, Mass.	48	37	10	-	1	-	2
Hartford, Conn.	40	23	10	5	2	-	3
Lowell, Mass.	26	19	6	1	-	-	1
Lynn, Mass.	23	17	5	-	1	-	-
New Bedford, Mass.	34	23	10	-	-	1	1
New Haven, Conn.	36	26	5	4	1	-	2
Providence, R.I.	70	44	18	3	1	4	3
Somerville, Mass.	6	2	4	-	-	-	1
Springfield, Mass.	50	33	14	2	-	1	4
Waterbury, Conn.	28	19	7	1	1	-	1
Worcester, Mass.	52	39	7	4	-	2	4
MID. ATLANTIC	2,800	1,925	574	172	65	64	122
Albany, N.Y.	51	31	12	1	3	4	-
Allentown, Pa.	18	14	4	-	-	-	-
Buffalo, N.Y.	106	82	14	6	3	1	9
Camden, N.J.	35	20	10	4	-	1	3
Elizabeth, N.J.	24	19	2	2	1	-	1
Erie, Pa.†	47	33	11	2	1	-	2
Jersey City, N.J.	41	28	11	1	1	-	1
N.Y. City, N.Y.	1,499	1,024	312	97	32	34	65
Newark, N.J.	47	30	14	2	1	-	4
Paterson, N.J.	29	25	2	1	1	-	3
Philadelphia, Pa.†	419	264	91	31	15	18	16
Pittsburgh, Pa.†	50	32	11	5	1	1	-
Reading, Pa.	27	21	5	-	1	-	-
Rochester, N.Y.	125	95	21	4	3	2	7
Schenectady, N.Y.	36	28	7	1	-	-	1
Scranton, Pa.†	33	28	3	2	-	-	2
Syracuse, N.Y.	105	69	25	7	1	3	2
Trenton, N.J.	47	32	11	3	1	-	2
Utica, N.Y.	25	20	5	-	-	-	1
Yonkers, N.Y.	36	30	3	3	-	-	3
E.N. CENTRAL	2,313	1,474	551	158	65	65	90
Akron, Ohio	54	40	11	-	2	1	3
Canton, Ohio	49	36	10	1	1	1	1
Chicago, Ill	454	260	126	37	17	14	10
Cincinnati, Ohio	189	125	45	9	3	7	10
Cleveland, Ohio	178	103	50	13	5	7	2
Columbus, Ohio	177	112	34	17	8	6	5
Dayton, Ohio	113	71	26	9	4	3	6
Detroit, Mich.	293	169	70	33	12	9	5
Evansville, Ind.	43	34	6	2	-	1	1
Fort Wayne, Ind.	64	39	16	4	1	4	4
Gary, Ind.	14	10	3	1	-	-	1
Grand Rapids, Mich.	60	40	16	3	1	-	9
Indianapolis, Ind.	166	105	39	11	5	6	6
Madison, Wis.	24	15	5	2	1	1	2
Milwaukee, Wis.	146	106	30	7	1	2	3
Peoria, Ill.	46	33	9	3	1	-	5
Rockford, Ill.	42	29	9	2	1	1	-
South Bend, Ind.	37	29	7	-	1	-	5
Toledo, Ohio	95	72	18	3	-	2	11
Youngstown, Ohio	69	46	21	1	1	-	1
W.N. CENTRAL	822	568	165	39	23	26	49
Des Moines, Iowa	63	46	13	2	-	1	10
Duluth, Minn.	30	20	5	1	1	3	1
Kansas City, Kans.	44	28	12	3	-	1	5
Kansas City, Mo.	115	74	25	6	4	6	3
Lincoln, Nebr.	45	35	8	-	2	-	-
Minneapolis, Minn.	110	76	23	5	3	3	2
Omaha, Nebr.	70	50	14	3	2	1	2
St. Louis, Mo.	176	127	29	7	7	6	12
St. Paul, Minn.	81	56	16	6	2	1	7
Wichita, Kans.	88	56	20	6	2	4	7

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,262	783	303	92	40	44	45
Atlanta, Ga.	192	105	54	14	8	11	6
Baltimore, Md.	149	95	33	11	9	1	3
Charlotte, N.C.	70	41	15	10	-	4	2
Jacksonville, Fla.	117	76	29	6	2	4	5
Miami, Fla.	113	64	25	16	4	4	1
Norfolk, Va.	73	46	18	3	2	4	4
Richmond, Va.	97	58	30	7	-	2	9
Savannah, Ga.	56	34	17	3	1	1	4
St. Petersburg, Fla.	77	65	9	1	1	1	3
Tampa, Fla.	61	34	14	2	2	9	2
Washington, D.C.	194	125	42	16	9	2	4
Wilmington, Del.	63	40	17	3	2	1	2
E.S. CENTRAL	790	503	193	45	25	24	36
Birmingham, Ala.	125	79	31	6	3	6	-
Chattanooga, Tenn.	72	49	14	5	3	1	2
Knoxville, Tenn.	47	33	11	1	-	2	1
Louisville, Ky.	155	96	41	10	4	4	14
Memphis, Tenn.	142	88	39	7	8	-	6
Mobile, Ala.	69	42	19	3	3	2	5
Montgomery, Ala.	48	38	5	2	-	3	2
Nashville, Tenn.	132	78	33	11	4	6	6
W.S. CENTRAL	1,965	1,129	512	169	71	82	80
Austin, Tex.	43	26	8	6	2	1	-
Baton Rouge, La.	48	33	10	3	1	1	3
Corpus Christi, Tex.	46	29	8	4	1	4	-
Dallas, Tex.	207	115	58	17	9	8	4
El Paso, Tex.	86	53	24	6	-	3	4
Fort Worth, Tex.	115	78	27	4	4	2	11
Houston, Tex.	860	453	235	92	42	38	25
Little Rock, Ark.	74	45	23	2	1	3	4
New Orleans, La.	142	81	35	16	4	4	-
San Antonio, Tex.	188	111	49	9	4	15	17
Shreveport, La.	42	30	12	-	-	-	-
Tulsa, Okla.	114	75	23	10	3	3	12
MOUNTAIN	696	430	175	44	22	25	40
Albuquerque, N.Mex.	84	57	19	4	2	2	11
Colo. Springs, Colo.	42	23	8	5	2	4	3
Denver, Colo.	129	77	32	9	6	5	8
Las Vegas, Nev.	88	45	31	7	2	3	5
Ogden, Utah	17	9	6	1	-	1	2
Phoenix, Ariz.	161	100	37	13	4	7	5
Pueblo, Colo.	26	19	7	-	-	-	2
Salt Lake City, Utah	37	20	11	1	3	2	-
Tucson, Ariz.	112	80	24	4	3	1	4
PACIFIC	1,927	1,285	398	127	55	60	121
Berkeley, Calif.	15	13	1	1	-	-	-
Fresno, Calif.	86	70	11	3	2	-	8
Glendale, Calif.	49	40	6	1	2	-	3
Honolulu, Hawaii	85	48	24	6	4	3	5
Long Beach, Calif.	115	86	20	4	1	4	2
Los Angeles, Calif.	586	359	141	51	23	11	24
Oakland, Calif.	71	43	12	9	3	4	6
Pasadena, Calif.	35	26	5	1	-	3	3
Portland, Oreg.	116	79	31	1	1	4	7
Sacramento, Calif.	94	68	16	3	5	2	11
San Diego, Calif.	127	80	32	6	3	5	11
San Francisco, Calif.	157	103	32	13	2	7	9
San Jose, Calif.	135	91	22	10	5	7	12
Seattle, Wash.	153	110	21	11	4	7	9
Spokane, Wash.	60	38	17	4	-	1	10
Tacoma, Wash.	43	31	7	3	-	2	1
TOTAL	13,253††	8,566	3,026	879	377	400	633

* 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.

Human Rabies – Continued

A total of 132 persons were evaluated for potential contact with infectious secretions from the patient. Twenty-eight persons received rabies postexposure prophylaxis, including seven physicians, 14 nurses, three respiratory therapists, one microbiologist, two friends or relatives of the patient, and one other hospital contact. In addition, three pathologists received pre-exposure prophylaxis before the patient's death.

Reported by D Duhme, MD, D Butman, MD, S Aoki, MD, D Thompson, MD, AM Testamarta, MD, N Rodberg, MD, P Sullivan, MD, MA McMahon, RN, L Hamilton, Waltham Hospital, Waltham, NJ Fiumara, MD, State Epidemiologist, Massachusetts State Dept of Public Health; TC Merigan, MD, Stanford University Medical Center, Stanford, California; Div of Viral Diseases, Center for Infectious Diseases, Div of Field Svcs, Epidemiology Program Office, CDC.

Editorial Note: Of the 18 cases of human rabies treated in the United States since 1975, seven resulted from a bite acquired in another country from a rabid dog. In addition, another American died in 1981 in Belgium from rabies acquired from a dog bite received in Africa (*2*). It should be emphasized that any dog or cat bite acquired outside the United States in a country known to have endemic rabies should be suspect; the exposed individual should receive rabies postexposure prophylaxis unless the animal is available either for quarantine or for laboratory examination using only the most sensitive rabies diagnostic procedures. Persons living in or planning an extended stay in countries where rabies is a constant threat should also consider receiving pre-exposure prophylaxis. All of Latin America and Africa, and most of Asia (except Japan and Taiwan) should be considered risk areas for rabies exposure. Australia, New Zealand, and most of Pacific Oceania are rabies-free. The vaccination status of the biting animal should *not* be used to determine whether human postexposure prophylaxis should be administered; the last two rabies patients seen in the United States were bitten outside the United States by dogs reported to have been adequately immunized against rabies.

This is the second case of human rabies treated with human leukocyte interferon in the United States (*3*). Both cases had remarkably similar presentations, clinical courses, and durations of illness before death. It is interesting to note that serum antibody titers for rabies remained either absent (previous patient), or minimal (this patient), for the duration of illness. In other human rabies patients treated in recent years without interferon, rabies antibody titers

TABLE 1. Rabies virus isolation from a human case – Waltham, Massachusetts, 1983

Date	Tissue, body fluid, or secretion	
	Positive*	Negative
January 1 (clinical onset)		
8†	CSF§, brain	
9	sputum, saliva¶, nasal secretions	urine, blood
11	CSF, saliva	blood, sputum, urine, nasal secretions
13	sputum, saliva	blood, urine, CSF, nasal secretions

*Mouse inoculation test

†Interferon started

§Cerebrospinal fluid

¶Isolation by cell culture in mouse neuroblastoma cells as well as by mouse inoculation

Human Rabies — Continued

typically rose to levels of 1:10,000-1:60,000, suggesting that interferon may have depressed the development of neutralizing antibody. Whether this is beneficial or harmful is unclear. While high levels of neutralizing antibody present before the onset of clinical disease are associated with protection, there are experimental data to suggest that antibody-mediated immune cytolysis may be associated with rabies pathology and death (*4,5*). Conversely, a depressed immune response can lead to increased virus replication and resultant nerve destruction (*4*).

It is probable that human leukocyte interferon given in the dose schedule used in these two patients did not affect the outcome of the disease—the duration of illness in both patients approximated the 26 day average observed in human rabies patients receiving intensive supportive care. Other therapeutic interventions after the onset of clinical illness, such as the administration of passive rabies antibody or immunization with rabies vaccine, have also been ineffective in increasing survival. Only three known survivors of human rabies have been reported despite the best efforts of treatment and support. Rabies remains a disease best controlled through prevention rather than treatment.

References

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2. CDC. Human rabies—Rwanda. MMWR 1982;31:135.
3. CDC. Human rabies acquired outside the United States from a dog bite. MMWR 1981;30:537-40.
4. Murphy FA. Rabies pathogenesis. Arch Virol 1977;54:279-97.
5. Smith JS, McClelland CL, Reid FL, Baer GM. Dual role of the immune response in street rabiesvirus infection of mice. Infect Immun 1982;35:213-21.

Current Trends

Update: Influenza Activity — United States

Influenza virus activity continues in all regions of the United States. An excess in the ratio of deaths from pneumonia and influenza (P&I) to total deaths was recorded from 121 cities for the fifth consecutive week. The ratio of P&I deaths for the week ending February 12, 1983, was 4.8, and the expected ratio was 4.1. Four states (Nebraska, New Hampshire, Oklahoma, and Texas) reported widespread influenza activity for that same week.

Delaware has now reported its first influenza isolation of the season, making a total of 37 states with reported influenza isolates (*1,2*). Most of the virus isolates have been identified as type A(H3N2) related to the Bangkok/79 component of the current vaccine. However, influenza type A(H1N1) virus has been isolated from sporadic cases in Arizona, California, Illinois, Minnesota, Texas, and Wisconsin. Influenza type B virus has been isolated from sporadic cases in California, Nebraska, Ohio, and Texas.

Reported by Respective state epidemiologists and laboratory directors; Consolidated Surveillance Activity, Epidemiology Program Office, Influenza Br, WHO Collaborating Center for Influenza, Div of Viral Diseases, Center for Infectious Diseases, CDC.

References

1. CDC. Update: influenza virus activity—United States, Canada. MMWR 1983;32:59-60.
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Measles — United States, Weeks 1-4, 1983

From January 2 to January 29, 1983, (reporting weeks 1-4), 21 measles cases were reported to CDC--an average of 5.3 cases per week. This total is 38% below the 34 cases reported during the same period of 1982. Only 16 (0.5%) of the nation's 3,139* counties reported measles to CDC during this period.

Of the 21 cases, five were importations, which were confirmed serologically and/or linked epidemiologically. Two cases were attributed to spread from these importations.

During week 2, ending January 15, 1983, no measles morbidity was reported. This is the first time ever that zero measles morbidity has been reported in any given week.

Reported by Div of Immunization, Center for Prevention Svcs, CDC.

*For reporting purposes, Puerto Rico and the Virgin Islands are considered to have only one county each.

Tuberculosis — United States, 1982

In 1982, 25,728 tuberculosis cases were reported to CDC. This figure, considered provisional until corrected data for 1982 are received by the Division of Tuberculosis Control, represents a decrease of 6.1% (1,684) below the 1981 provisional total. The 1982 provisional case rate is 11.1/100,000 population, 7.5% less than in 1981.

The decrease for 1982 is appreciably greater than that for 1979-1981 and is comparable to the average annual rate of decline from 1968 to 1978. The tuberculosis morbidity trend will be more thoroughly analyzed when final data are received.

Reported by Div of Tuberculosis Control, Center for Prevention Svcs, CDC.

Errata: Vol. 31, No. 49

p. 665. In the article, "Unexplained Immunodeficiency and Opportunistic Infections in Infants--New York, New Jersey, California," M Hammerschlag, MD, should have been included in the credits on pp. 666-7.

Vol 32, No. 1

p. 1. In the "General Recommendations on Immunization," the "Red Book Update" was listed on p. 16 as available from the American Academy of Pediatrics for a yearly subscription fee of $30.00. This is incorrect. The Academy publishes quarterly statements from the Committee on Infectious Diseases in its monthly journal, *Pediatrics*, to which a subscription costs $37.50.

Vol 32, No. 5

p. 61. In the article, "Alcohol as a Risk Factor for Injuries—United States," the following sentence should have appeared before the last sentence of the third paragraph: "Positive readings were associated with 56% of 188 persons reporting because of injuries from fights and assaults."

p. 62. In the article, "Abortion Surveillance: Preliminary Analysis, 1979-1980—United States," the second sentence of the third paragraph should read, "Slightly more than 3% were performed by intrauterine instillation, and hysterotomy and hysterectomy accounted for 0.1% of all procedures in 1979 or 1980."

The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and distributed by the National Technical Information Service, Springfield, Virginia. The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

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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