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Progress in Chronic Disease Prevention

Arthritis Program — Missouri

Over the past 11 years, efforts to meet arthritis-related needs in Missouri have evolved through several stages: 1) development of an informal group of concerned citizens, 2) appointment of the Missouri Task Force on Arthritis, 3) passage of legislation regarding arthritis and funding of a State Arthritis Program, 4) creation of regional arthritis centers, and 5) collection of state data to target arthritis-related efforts in Missouri.

Missouri began working toward a state arthritis plan in 1976, when concerned citizens formed a coalition to address the state's needs regarding arthritis. The Missouri Task Force on Arthritis, officially appointed by the Missouri Board of Health in 1977, was asked to assess arthritis-related needs and formulate recommendations. Members were organized into several working groups focusing on health-care facilities, manpower needs, professional education, public education, research, and public affairs.

Public hearings were held in all regions of the state in 1979. Task force members, assisted by the Eastern and Western Missouri Arthritis Foundation chapters, mobilized local community leaders, regional news media, and concerned individuals to promote the hearings. From the public hearings and the findings of the working groups, the task force wrote a three-volume report that reflected a consensus of recommendations (*1*). These recommendations included establishing a statewide network of regional arthritis centers for diagnostic, treatment, and educational services; providing educational programs for physicians and allied health professionals; training and recruiting more rheumatologists for underserved areas; improving public education; and increasing research efforts.

A bill encompassing the recommendations of the State Arthritis Plan and modeled on congressional legislation that led to the enactment of the National Arthritis Act in 1976 was first submitted to the Missouri legislature in 1980. The bill, which was

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signed into law in 1984, gave the Department of Health the authority to establish a network of regional arthritis centers and to appoint two advisory bodies. The 25-member Missouri Arthritis Advisory Board was formed and charged with making recommendations to the Department of Health on the statewide arthritis plan and with assisting in issuing guidelines for the services provided by the regional arthritis centers. A separate Program Review Committee was created to select regional centers. Eight regional arthritis centers were selected from applications from health-care institutions, and funds were awarded to seven by contract in the fall of 1985 (*2*).

During their first 2 years, the regional arthritis centers educated 2,600 health professionals and reached 4,600 persons through public education sessions. Also, over 1,000 persons with arthritis attended specially tailored programs, such as an aquatic exercise program and a self-help course taught in Spanish for the Kansas City Hispanic population. Two centers established newsletters and a WATS line. Television presentations have also been developed. Activities within each region have involved the collaboration of private physicians, the Arthritis Foundation, local hospitals, and other resources to maximize the impact of the programs in the community (*3*).

Because the regional and national data available on attitudes and knowledge concerning arthritis and care-seeking behaviors are limited, a statewide telephone survey was conducted in early 1987. The goals were to determine specific beliefs and levels of awareness about arthritis among the general public to better focus program efforts (*4*). The Media Research Bureau of the University of Missouri School of Journalism administered a survey of 2,533 households. The major findings from the survey were 1) arthritis symptoms are severe before persons seek care; 2) the causes of arthritis are misunderstood; 3) the public has limited knowledge of specific arthritis diagnoses, types of effective treatments, and available sources for optimal care; 4) programs and advertisements on television and articles in newspapers and magazines are the most likely and effective mechanisms for changing knowledge and attitudes about arthritis (*4*).

Funding for the Missouri Arthritis Program began in October 1985. State funding has been augmented with Federal Preventive Health and Health Services Block Grant monies. Further information may be obtained by contacting Marsha Dubbert, R.N., Bureau of Chronic Diseases, Missouri Department of Health, Box 570, Jefferson City, Missouri 65102; telephone, (314) 751-6252.

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Editorial Note: Arthritis, one of the most common and disabling disorders, is not a single disease but a manifestation of more than a hundred diseases. According to the 1980 National Health Interview Survey, approximately 37 million people in the United States consider that they have arthritis (*5*). Extrapolation from the U.S. Health and Nutrition Examination Survey I indicates that 33% of the adult population has clinical evidence of joint swelling, tenderness, limitation of movement, or pain during movement (*6*).

The disabling effects of arthritis can be forestalled either by preventing musculoskeletal impairment or by preventing impairment from becoming a disability. The goal of state arthritis programs is to make optimal diagnostic, treatment, educational

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and rehabilitation services accessible to all individuals with arthritis and musculoskeletal diseases.

In a survey conducted by the Association of State and Territorial Health Officials in February 1987, 10 of the 49 state and territorial health agencies with formal written health plans cited arthritis as part of this plan. According to the survey, seven state chronic disease units included arthritis in their activities (*7*).

References

1. Missouri Task Force on Arthritis. Report of the Missouri Task Force on Arthritis. Vol 1-3. Columbia, Missouri: University of Missouri Multipurpose Arthritis Center, 1980.
2. Hazelwood SE, Singsen BH, Sharp GC, Oliver CL, Hall PJ. Methods to implement a state-wide arthritis program [Abstract]. Arthritis Rheum 1986;29:S159.
3. Hazelwood S, Singsen B, Sharp G, Markenson D, Oliver C, Hall P. A state-wide Regional Arthritis Center (RAC) Program [Abstract]. Arthritis Rheum 1987;30:S194.
4. Singsen B, Sylvester J, Markenson D, et al. Arthritis knowledge and attitudes in the Missouri statewide survey. Arthritis Rheum (in press).
5. McDuffie FC, Felts WR Jr, Hochberg MC, et al. In: Amler RW, Dull HB, eds. Closing the gap: the burden of unnecessary illness. New York: Oxford University Press, 1987:19-28.
6. Cunningham LS, Kelsey JL. Epidemiology of musculoskeletal impairments and associated disability. Am J Public Health 1984;74:574-9.
7. Centers for Disease Control. Survey of chronic disease activities in state and territorial health agencies. MMWR 1987;36:565-8.

International Notes

Korean Hemorrhagic Fever

Fourteen cases of Korean hemorrhagic fever (KHF) were identified among 3,754 U.S. Marines who participated in a joint U.S.-Korean military training exercise in the Republic of Korea (ROK) from late September to mid-November 1986. Ten individuals were hospitalized; two of these died. Cases were confirmed by serologic testing and by postdeployment screening of serum from 2,053 of the participants.

Korean hemorrhagic fever occurs frequently among rural civilians and Korean military personnel. However, in recent years, fewer than 10 cases have been recognized annually among U.S. troops. The Marine units participating in the military exercise were from camps in Okinawa, Japan, where KHF has not been reported. In addition, KHF had not been previously reported in association with this exercise, which is held annually, even though most of the training takes place northeast of Seoul in an area where the disease is endemic. There was nothing unusual about the exercise, except that it occurred approximately 1 month earlier than those held in previous years. The weather was milder; conditions were warm, dry, and dusty until early November.

Most (1,969) of the U.S. force was quartered in tents at Uncheon Base Camp, within the perimeter of a permanent ROK Army garrison camp southwest of Uncheon. Another 1,105 Marines were at Watkins Range, about 2 km northwest of Uncheon Base Camp. The remaining 680 troops were engaged in aviation activities at various locations distant from the base camp.

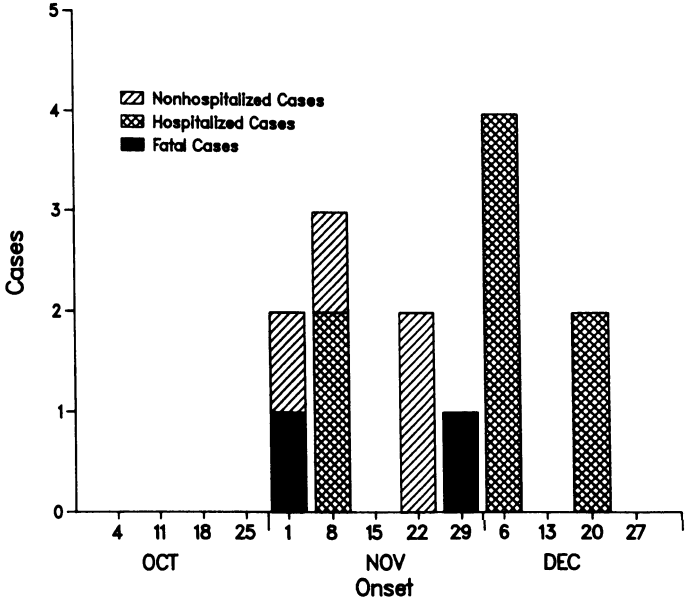
Hemorrhagic Fever — Continued

The patient with the index case became ill on October 26. The other patients had onsets of illness throughout the ensuing 51 days (Figure 1). The last patient identified became ill on December 17, 38 days following his departure from Korea. The 10 hospitalized patients initially had nonspecific flu-like illnesses. The four nonhospitalized patients had a variety of symptoms. Prominent findings on admission included fever (100%), fatigue (100%), headache (90%), conjunctival injection (90%), thrombocytopenia (100%), and proteinuria (100%).

The overall attack rate was 4.6/1,000 among the total group of soldiers deployed in the Uncheon area (14/3,074) and 7.0/1,000 among the group that was screened (14/1,985). Cases occurred in several different units, but 13 of the 14 were among the 1,969 persons housed at Uncheon Base Camp. One was among the 1,105 persons housed at Watkins Range (rate ratio = 7.3; 95% confidence interval, 0.96 to 55.7). At least 10 of the patients lived in tents pitched along the periphery of the camp in an area near high grass and scrub brush. Six of the 14 patients (43%), including the two who died, were from a single engineer company of 118 men and women. All of the affected persons in this company were assigned to two of the three company platoons (attack rates, 54/1,000 and 94/1,000).

All of the soldiers who had been tested for antibody completed a questionnaire within 2 months of their return from Korea. In addition, 11 of the 12 surviving patients were interviewed. No temporal clustering by unit, field exercise area, environment, or work-related factors could be identified as risk factors for infection.

FIGURE 1. Cases of Korean hemorrhagic fever among U.S. Marines participating in a military exercise,* by date of onset of symptoms — Republic of Korea, October-December 1986



*Personnel were billeted at Uncheon Base Camp from October 6-November 12; field training took place October 7-27; the field exercise took place November 1- 8; and redeployment was from November 12-December 1.

Hemorrhagic Fever — Continued

Fifteen persons with IgM antibody titers >1:3,000 were identified by an enzyme-linked immunosorbent assay (ELISA) specific for hantaviruses. Thirteen were confirmed by indirect immunofluorescence assay (IFA) (>1:128) and plaque-reduction neutralization (PRN) (>1:20). The fourteenth case was diagnosed by IFA and PRN alone. Neutralization tests distinguished *Apodemus*-associated (Hantaan) virus from urban rat-associated (Seoul) virus. All sera that had been confirmed as positive yielded titers at least fourfold higher against prototype Hantaan virus than against Seoul virus.

Approximately 150 cases of KHF were reported among ROK military forces between September and December 1986. Nine cases of KHF were identified among ROK troops stationed in the Uncheon area during the time of the exercise. Two of these occurred among the approximately 1,500 ROK Marines participating with the U.S. forces. Differential neutralization revealed *Apodemus*-associated infection in these patients as well.

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Editorial Note: Hemorrhagic fever with renal syndrome (HFRS), sometimes known as Korean hemorrhagic fever, is a viral infection acquired from rodents, principally the species *Apodemus agrarius, Rattus rattus,* and *Clethrionomys glariolus.* Human infections are widespread, particularly in Asia north of the Himalayas. For example, in the People's Republic of China, HFRS is responsible for over 100,000 reported cases annually, with the reported incidence increasing rapidly in the last few years (*1*). This increase may be the result of recent changes in agricultural practices, which may have altered rodent populations. The disease is undoubtedly ancient, but was first recognized independently and reported in the 1930s in Scandinavia and in Manchuria during the Japanese campaign (*2*). Most of the early recognized outbreaks were associated with military maneuvers, especially where troops had bivouacked in the open or had been involved in trench warfare. During the Korean conflict, at least 3,000 United Nations troops were affected (*3,4*). The prototype virus was isolated in 1978 and named after the Hantaan river in Korea (*5*).

The group of closely related viruses causing HFRS have recently been classified as the genus *Hantavirus,* forming a subgroup of the family *Bunyaviridae* (*6*). The virus is usually acquired directly from rodents, in which it establishes a silent but persistent infection. In these rodents, the virus is detected primarily in the lung and kidney, where it is able to persist in the presence of serum antibodies. Large quantities of virus are excreted throughout life. Humans may become infected through minor cuts and abrasions contaminated with rodent urine or feces, but evidence also suggests that aerosol infection may occur where virus contamination is heavy. Infections have also been reported among laboratory personnel in the Soviet Union, Japan, Scandinavia, and Belgium. Most of these have been associated with handling of infected wild or laboratory rodents (*2,7*).

Both the epidemiologic characteristics of outbreaks of human disease and the severity of the infection may be determined by the rodent host. *A. agrarius,* the major

*The views of the authors do not purport to reflect the position of the U.S. Department of the Army or the U.S. Department of Defense.

Hemorrhagic Fever — Continued

host in Asia, is found mainly in rural areas, particularly in the eastern Soviet Union, mainland China, and Korea, where its habits are increasingly peridomestic. The *Apodemus*-associated hantaviruses probably cause the most severe human disease, with mortality rates currently reported between 3% and 7% (*1*). *Rattus*-associated disease is apparently less severe, and asymptomatic infections may be more common than with *Apodemus*-associated disease (*8*). Human infections from *R. rattus* are reported from some inner cities in Asia and probably occur also in rural areas where infestation with both *R. rattus* and *A. agrarius* is common. Although infected rats have been detected in Western cities, associated human disease has yet to be described (*9*). *Nephropathia epidemica*, which was first described in Scandinavia, is now known to be due to infection with a strain of *Hantavirus* that infects voles (*Clethrionomys* species) (*10*). It has become apparent recently that infected voles and human disease occur throughout Western Europe (*11*). *Nephropathia*

(Continued on page 95)

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

Disease	6th Week Ending			Cumulative, 6th Week Ending		
	Feb. 13, 1988	Feb. 14, 1987	Median 1983-1987	Feb. 13, 1988	Feb. 14, 1987	Median 1983-1987
Acquired Immunodeficiency Syndrome (AIDS)	651	212	95	3,333	1,818	603
Aseptic meningitis	51	70	91	408	524	524
Encephalitis: Primary (arthropod-borne & unspec)	6	13	16	61	87	91
Post-infectious	1	1	1	6	6	7
Gonorrhea: Civilian	11,324	14,927	15,425	78,937	100,520	97,127
Military	294	231	254	1,357	1,910	2,072
Hepatitis: Type A	326	499	445	2,363	2,575	2,575
Type B	239	457	457	1,645	2,463	2,498
Non A, Non B	22	44	62	179	327	331
Unspecified	39	89	95	220	385	460
Legionellosis	14	6	11	54	75	66
Leprosy	-	2	4	8	25	26
Malaria	6	14	14	45	73	72
Measles: Total*	46	25	25	149	137	137
Indigenous	45	22	22	144	113	113
Imported	1	3	3	5	24	24
Meningococcal infections	48	73	71	330	425	337
Mumps	59	361	69	386	1,635	370
Pertussis	27	48	48	122	222	173
Rubella (German measles)	-	4	10	10	25	35
Syphilis (Primary & Secondary): Civilian	461	625	614	3,718	3,810	3,263
Military	1	34	7	15	40	40
Toxic Shock syndrome	3	7	8	24	34	43
Tuberculosis	281	331	373	1,525	1,883	1,883
Tularemia	-	1	1	12	10	10
Typhoid Fever	8	7	6	34	26	27
Typhus fever, tick-borne (RMSF)	1	-	1	7	5	7
Rabies, animal	50	71	84	282	372	428

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1988		Cum. 1988
Anthrax	-	Leptospirosis (Hawaii 1)	3
Botulism: Foodborne (N.C. 1)	4	Plague	-
Infant	3	Poliomyelitis, Paralytic	-
Other	2	Psittacosis (Mass. 1)	5
Brucellosis	3	Rabies, human	-
Cholera	-	Tetanus	3
Congenital rubella syndrome	-	Trichinosis	2
Congenital syphilis, ages < 1 year	-		
Diphtheria	-		

*One of the 46 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 February 13, 1988 and February 14, 1987 (6th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	3,333	408	61	6	78,937	100,520	2,363	1,645	179	220	54	8
NEW ENGLAND	191	21	4	-	2,351	3,506	82	115	8	21	1	3
Maine	7	2	1	-	46	110	5	4	-	-	-	-
N.H.	4	4	-	-	44	59	4	2	2	-	-	-
Vt.	-	1	2	-	20	21	-	4	-	-	-	-
Mass.	106	9	1	-	771	1,328	53	93	4	21	1	3
R.I.	7	4	-	-	182	276	15	10	2	-	-	-
Conn.	67	1	-	-	1,288	1,712	5	2	-	-	-	-
MID. ATLANTIC	919	49	7	-	11,120	16,264	113	143	11	13	10	1
Upstate N.Y.	155	28	6	-	1,507	1,781	72	47	5	-	10	-
N.Y. City	438	3	1	-	4,250	9,843	18	52	-	9	-	1
N.J.	217	18	-	-	1,648	1,192	23	44	6	4	-	-
Pa.	109	-	-	-	3,715	3,448	-	-	-	-	-	-
E.N. CENTRAL	304	56	7	-	12,731	13,358	344	192	9	12	12	-
Ohio	66	25	4	-	3,036	2,744	264	65	2	1	2	-
Ind.	16	5	2	-	1,230	996	5	3	-	3	-	-
Ill.	117	-	-	-	3,546	3,957	10	8	-	1	-	-
Mich.	89	25	1	-	4,347	4,491	60	109	7	7	9	-
Wis.	16	1	-	-	572	1,170	5	7	-	-	1	-
W.N. CENTRAL	87	18	4	1	3,087	4,133	188	70	10	1	5	-
Minn.	28	6	1	-	429	704	5	10	1	1	-	-
Iowa	4	3	3	-	273	392	5	10	2	-	2	-
Mo.	27	2	-	-	1,713	2,051	85	37	4	-	-	-
N. Dak.	-	-	-	-	19	33	1	-	-	-	-	-
S. Dak.	3	4	-	1	63	96	-	1	-	-	1	-
Nebr.	9	-	-	-	173	274	16	7	1	-	2	-
Kans.	16	3	-	-	417	583	76	5	2	-	-	-
S. ATLANTIC	494	94	5	2	21,943	26,330	104	327	17	39	12	-
Del.	3	3	-	-	326	366	1	9	1	1	1	-
Md.	58	8	-	-	1,928	2,316	11	44	1	-	1	-
D.C.	36	3	-	-	1,325	1,665	2	1	2	-	-	-
Va.	58	10	4	1	1,822	2,203	10	20	2	26	-	-
W. Va.	3	3	-	-	212	149	-	6	-	2	-	-
N.C.	50	21	1	-	3,433	3,894	20	73	5	4	6	-
S.C.	20	1	-	-	1,687	2,681	3	80	2	1	2	-
Ga.	76	5	-	-	3,882	4,364	9	25	1	-	-	-
Fla.	190	40	-	1	7,328	8,692	48	69	3	5	2	-
E.S. CENTRAL	115	28	6	1	6,235	7,123	58	114	16	3	4	-
Ky.	4	12	2	-	577	767	50	19	5	1	1	-
Tenn.	72	3	3	-	1,853	2,432	6	48	8	-	1	-
Ala.	26	11	1	1	2,364	2,384	-	45	3	2	2	-
Miss.	13	2	-	-	1,441	1,540	2	2	-	-	-	-
W.S. CENTRAL	276	18	-	-	10,330	11,403	135	83	7	33	1	-
Ark.	7	1	-	-	768	1,160	13	6	-	1	-	-
La.	44	2	-	-	2,955	1,946	2	23	1	2	-	-
Okla.	12	3	-	-	783	1,192	27	20	2	3	1	-
Tex.	213	12	-	-	5,824	7,105	93	34	4	27	-	-
MOUNTAIN	128	19	8	1	1,618	2,566	402	177	23	31	7	-
Mont.	3	-	-	-	43	57	12	7	1	2	-	-
Idaho	-	-	-	-	40	82	17	12	1	-	-	-
Wyo.	-	-	-	-	22	20	-	-	-	-	-	-
Colo.	53	7	2	-	371	544	22	28	3	12	4	-
N. Mex.	7	-	-	-	177	281	79	17	1	-	-	-
Ariz.	45	4	2	-	542	907	206	79	10	10	1	-
Utah	13	6	3	1	84	110	49	11	5	6	2	-
Nev.	7	2	1	-	339	565	17	23	2	1	-	-
PACIFIC	819	105	20	1	9,522	15,837	937	424	78	67	2	4
Wash.	56	-	-	-	757	1,084	131	34	7	3	-	-
Oreg.	36	-	-	-	382	570	243	85	13	4	-	-
Calif.	714	86	19	1	8,097	13,717	515	293	56	59	1	4
Alaska	6	4	-	-	147	318	48	9	2	1	-	-
Hawaii	7	15	1	-	139	148	-	3	-	-	1	-
Guam	-	-	-	-	13	30	1	1	-	1	-	-
P.R.	12	2	1	-	191	268	1	34	3	6	-	-
V.I.	1	-	-	-	42	27	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	45	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	6	14	-	1	-	-	-	-

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending February 13, 1988 and February 14, 1987 (6th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	1988	Cum. 1988	Cum. 1987
UNITED STATES	45	45	144	1	5	137	330	59	386	27	122	222	-	10	25
NEW ENGLAND	5	-	1	-	-	6	36	-	3	1	14	5	-	-	-
Maine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N.H.	-	-	-	-	-	-	5	-	2	-	11	1	-	-	-
Vt.	-	-	-	-	-	6	1	-	-	-	-	1	-	-	-
Mass.	4	-	1	-	-	-	18	-	1	1	1	2	-	-	-
R.I.	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-
Conn.	1	-	-	-	-	-	4	-	-	-	2	1	-	-	-
MID. ATLANTIC	5	7	30	-	-	34	30	6	21	3	7	29	-	-	-
Upstate N.Y.	3	-	-	-	-	2	17	3	5	1	3	20	-	-	-
N.Y. City	2	-	4	-	-	18	3	-	-	-	-	-	-	-	-
N.J.	-	-	-	-	-	1	10	-	6	-	-	1	-	-	-
Pa.	-	7	26	-	-	13	-	3	10	2	4	8	-	-	-
E.N. CENTRAL	2	-	-	-	-	26	35	16	95	1	7	36	-	-	3
Ohio	-	-	-	-	-	1	17	4	19	-	2	15	-	-	-
Ind.	-	-	-	-	-	-	1	-	6	-	-	-	-	-	-
Ill.	-	-	-	-	-	3	1	1	6	-	-	-	-	-	2
Mich.	2	-	-	-	-	22	12	11	55	1	5	6	-	-	1
Wis.	-	-	-	-	-	-	4	-	9	-	-	15	-	-	-
W.N. CENTRAL	1	-	-	-	-	-	14	3	40	2	12	18	-	-	-
Minn.	1	-	-	-	-	-	3	-	-	-	-	2	-	-	-
Iowa	-	-	-	-	-	-	-	2	15	-	3	2	-	-	-
Mo.	-	-	-	-	-	-	6	-	10	2	2	7	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	4	1	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-
Nebr.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Kans.	-	-	-	-	-	-	5	1	14	-	1	5	-	-	1
S. ATLANTIC	9	1	1	1	3	-	51	14	28	5	18	47	-	-	-
Del.	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Md.	1	-	-	1†	2	-	4	1	1	-	-	-	-	-	-
D.C.	3	-	-	-	-	-	-	10	11	-	-	-	-	-	-
Va.	1	-	-	-	-	-	5	1	4	1	2	17	-	-	-
W. Va.	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-
N.C.	-	-	-	-	1	-	9	-	3	4	12	18	-	-	-
S.C.	3	-	-	-	-	-	7	2	3	-	-	-	-	-	-
Ga.	-	-	-	-	-	-	6	-	2	-	3	4	-	-	-
Fla.	1	1	1	-	-	-	20	-	4	-	-	1	-	-	1
E.S. CENTRAL	2	-	-	-	-	-	35	3	70	-	3	3	-	-	2
Ky.	-	-	-	-	-	-	6	3	10	-	-	1	-	-	2
Tenn.	-	-	-	-	-	-	20	-	58	-	3	-	-	-	-
Ala.	2	-	-	-	-	-	9	-	1	-	-	-	-	-	-
Miss.	-	-	-	-	-	-	-	N	N	-	-	2	-	-	-
W.S. CENTRAL	3	-	-	-	-	1	14	11	35	-	-	6	-	-	-
Ark.	-	-	-	-	-	-	3	-	1	-	-	-	-	-	-
La.	-	-	-	-	-	-	1	2	9	-	-	-	-	-	-
Okla.	3	-	-	-	-	-	-	2	9	-	-	6	-	-	-
Tex.	-	-	-	-	-	1	10	7	16	-	-	-	-	-	-
MOUNTAIN	2	37	72	-	-	15	17	6	25	14	25	23	-	-	1
Mont.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	1	-	-	14	21	14	-	-	-
Wyo.	-	-	-	-	-	-	-	-	1	-	1	2	-	-	-
Colo.	1	37	72	-	-	-	6	-	2	-	-	6	-	-	-
N. Mex.	-	-	-	-	-	14	6	N	N	-	-	1	-	-	-
Ariz.	-	-	-	-	-	1	3	6	19	-	1	-	-	-	1
Utah	-	-	-	-	-	-	1	-	1	-	2	-	-	-	-
Nev.	1	-	-	-	-	-	-	-	2	-	-	-	-	-	-
PACIFIC	16	-	40	-	2	55	98	-	69	1	36	55	-	10	18
Wash.	1	-	-	-	-	-	6	-	1	-	3	5	-	-	-
Oreg.	2	-	-	-	-	1	9	N	N	-	2	8	-	-	1
Calif.	12	-	40	-	1	54	77	-	65	-	21	34	-	9	16
Alaska	1	-	-	-	-	-	1	-	3	1	1	2	-	-	-
Hawaii	-	-	-	-	1	-	5	-	-	-	9	6	-	1	1
Guam	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
P.R.	1	-	-	-	-	-	3	-	2	-	-	4	-	-	-
V.I.	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*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 February 13, 1988 and February 14, 1987 (6th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	3,718	3,810	24	1,525	1,883	12	34	7	282
NEW ENGLAND	115	54	4	23	32	-	5	-	2
Maine	2	-	1	2	1	-	-	-	-
N.H.	1	1	2	-	1	-	-	-	2
Vt.	-	-	-	-	1	-	-	-	-
Mass.	44	36	1	12	6	-	4	-	-
R.I.	3	-	-	1	3	-	-	-	-
Conn.	65	17	-	8	20	-	1	-	-
MID. ATLANTIC	719	485	3	283	368	-	2	-	29
Upstate N.Y.	49	10	2	59	85	-	1	-	-
N.Y. City	469	310	-	76	165	-	1	-	-
N.J.	84	63	-	78	64	-	-	-	-
Pa.	117	102	1	70	54	-	-	-	29
E.N. CENTRAL	94	118	1	255	244	1	-	-	7
Ohio	5	9	-	51	44	-	-	-	-
Ind.	14	6	-	17	12	-	-	-	-
Ill.	46	81	-	96	108	-	-	-	2
Mich.	27	12	1	82	74	1	-	-	1
Wis.	2	10	-	9	6	-	-	-	4
W.N. CENTRAL	17	16	5	44	53	5	-	-	48
Minn.	2	4	-	12	9	-	-	-	21
Iowa	2	3	1	4	5	-	-	-	11
Mo.	7	9	2	20	30	4	-	-	1
N. Dak.	-	-	-	-	1	-	-	-	4
S. Dak.	1	-	-	8	2	-	-	-	6
Nebr.	2	-	1	-	3	1	-	-	1
Kans.	3	-	1	-	3	-	-	-	4
S. ATLANTIC	1,380	1,328	3	378	377	1	6	6	83
Del.	19	11	-	3	2	1	-	-	-
Md.	56	54	-	32	33	-	-	-	35
D.C.	65	34	-	12	14	-	-	-	-
Va.	46	36	-	47	41	-	3	-	20
W. Va.	1	-	-	9	13	-	-	-	5
N.C.	86	80	2	25	44	-	1	6	-
S.C.	50	88	-	44	48	-	-	-	3
Ga.	225	205	-	38	34	-	2	-	20
Fla.	832	820	1	168	148	-	-	-	-
E.S. CENTRAL	205	214	4	124	219	3	-	-	13
Ky.	3	1	2	40	44	3	-	-	8
Tenn.	51	75	1	18	59	-	-	-	-
Ala.	83	59	1	52	63	-	-	-	5
Miss.	68	79	-	14	53	-	-	-	-
W.S. CENTRAL	456	524	-	118	144	-	-	-	41
Ark.	7	24	-	7	10	-	-	-	9
La.	74	70	-	19	25	-	-	-	-
Okla.	20	19	-	22	17	-	-	-	4
Tex.	355	411	-	70	92	-	-	-	28
MOUNTAIN	70	82	1	24	43	2	2	1	29
Mont.	2	3	-	-	2	-	1	-	25
Idaho	-	1	1	-	6	-	-	1	-
Wyo.	-	-	-	-	-	-	-	-	2
Colo.	13	12	-	4	4	2	1	-	-
N. Mex.	7	7	-	10	8	-	-	-	1
Ariz.	12	39	-	8	20	-	-	-	1
Utah	4	-	-	-	-	-	-	-	-
Nev.	32	20	-	2	3	-	-	-	-
PACIFIC	662	989	3	276	403	-	19	-	30
Wash.	-	17	-	17	10	-	2	-	-
Oreg.	31	19	-	14	13	-	3	-	-
Calif.	627	952	3	224	343	-	12	-	28
Alaska	-	-	-	3	9	-	-	-	2
Hawaii	4	1	-	18	28	-	2	-	-
Guam	-	-	-	-	2	-	-	-	-
P.R.	85	109	-	21	15	-	-	-	6
V.I.	1	2	-	-	1	-	-	-	-
Amer. Samoa	-	3	-	-	13	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending February 13, 1988 (6th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	604	443	97	36	10	17	60
Boston, Mass.	189	131	29	19	4	5	24
Bridgeport, Conn.	35	27	4	2	1	1	4
Cambridge, Mass.	32	24	6	-	1	1	3
Fall River, Mass.	39	30	7	1	-	1	3
Hartford, Conn.	32	23	6	2	-	1	1
Lowell, Mass.	31	26	4	-	-	1	2
Lynn, Mass.	20	16	3	-	1	-	-
New Bedford, Mass.	21	18	3	-	-	-	4
New Haven, Conn.	37	27	6	1	-	3	4
Providence, R.I.	49	38	7	3	1	-	2
Somerville, Mass.	9	9	-	-	-	-	1
Springfield, Mass.	39	25	9	4	-	1	2
Waterbury, Conn.	28	22	3	1	2	-	5
Worcester, Mass.	43	27	10	3	-	3	5
MID. ATLANTIC	3,140	2,091	636	274	70	69	159
Albany, N.Y.	76	48	17	7	2	2	3
Allentown, Pa.	20	16	4	-	-	-	-
Buffalo, N.Y.	150	111	28	4	-	7	5
Camden, N.J.	32	18	11	2	-	1	1
Elizabeth, N.J.§	26	21	5	-	-	-	1
Erie, Pa.§	45	36	8	1	-	-	4
Jersey City, N.J.§	56	39	11	5	-	1	1
N.Y. City, N.Y.§	1,649	1,059	327	187	44	32	73
Newark, N.J.	83	41	23	14	1	4	1
Paterson, N.J.	34	20	7	4	1	2	5
Philadelphia, Pa.	487	329	105	31	12	10	28
Pittsburgh, Pa.†	64	39	18	1	4	2	1
Reading, Pa.	32	25	6	1	-	-	4
Rochester, N.Y.	120	92	14	7	2	5	12
Schenectady, N.Y.	29	24	3	1	1	-	-
Scranton, Pa.†	34	23	8	1	1	1	1
Syracuse, N.Y.	110	74	30	2	2	2	5
Trenton, N.J.	38	27	6	5	-	-	5
Utica, N.Y.	17	14	2	1	-	-	1
Yonkers, N.Y.	38	35	3	-	-	-	8
E.N. CENTRAL	2,476	1,675	499	166	61	74	105
Akron, Ohio	44	34	6	2	1	1	-
Canton, Ohio	42	33	8	-	-	1	3
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	155	111	34	6	4	-	16
Cleveland, Ohio	170	104	39	16	4	7	1
Columbus, Ohio	161	101	41	11	2	5	-
Dayton, Ohio	127	91	22	7	5	2	8
Detroit, Mich.	277	171	58	31	7	10	7
Evansville, Ind.	56	43	10	2	1	-	1
Fort Wayne, Ind.	69	55	11	1	1	1	6
Gary, Ind.	18	12	2	4	-	-	-
Grand Rapids, Mich.	73	47	13	5	3	5	8
Indianapolis, Ind.	184	114	37	18	8	7	2
Madison, Wis.§	46	34	8	3	1	-	4
Milwaukee, Wis.	173	132	28	7	1	5	8
Peoria, Ill.	39	26	7	2	1	3	4
Rockford, Ill.	51	34	12	1	4	-	8
South Bend, Ind.	58	39	13	1	5	-	2
Toledo, Ohio§	116	89	19	4	1	3	11
Youngstown, Ohio	53	43	6	-	2	2	-
W.N. CENTRAL	1,071	752	210	54	13	42	60
Des Moines, Iowa	78	61	11	3	1	2	7
Duluth, Minn.	26	14	10	2	-	-	1
Kansas City, Kans.	36	27	6	1	-	2	1
Kansas City, Mo.	130	93	26	6	-	5	8
Lincoln, Nebr.	31	26	5	-	-	-	2
Minneapolis, Minn.	351	251	64	17	6	13	25
Omaha, Nebr.	110	67	28	5	3	7	5
St. Louis, Mo.	164	111	25	14	3	11	2
St. Paul, Minn.	66	51	12	2	-	1	4
Wichita, Kans.	79	51	23	4	-	1	5

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-84	25-44	1-24	<1	Total
S. ATLANTIC	1,437	873	323	138	34	67	72
Atlanta, Ga.	185	103	42	13	3	24	6
Baltimore, Md.	248	158	47	24	9	10	9
Charlotte, N.C.	88	52	21	8	1	6	4
Jacksonville, Fla.	141	97	27	9	4	4	7
Miami, Fla.	131	66	32	19	7	6	1
Norfolk, Va.	69	40	15	8	3	3	7
Richmond, Va.	82	44	27	7	2	2	9
Savannah, Ga.	73	49	20	2	-	2	7
St. Petersburg, Fla.	103	78	17	4	1	3	6
Tampa, Fla.	85	54	18	7	-	5	5
Washington, D.C.	204	112	54	32	4	2	11
Wilmington, Del.	28	20	3	5	-	-	-
E.S. CENTRAL	926	618	204	52	26	26	63
Birmingham, Ala.	154	103	35	4	4	8	8
Chattanooga, Tenn.	63	33	21	5	2	2	9
Knoxville, Tenn.	97	57	24	6	8	2	6
Louisville, Ky.	137	83	43	5	4	2	9
Memphis, Tenn.	223	165	37	8	5	8	15
Mobile, Ala.§	72	53	13	4	-	2	4
Montgomery, Ala.§	40	30	8	1	1	-	2
Nashville, Tenn.	140	94	23	19	2	2	10
W.S. CENTRAL	1,362	893	282	93	51	43	95
Austin, Tex.	74	54	8	7	2	3	10
Baton Rouge, La.	27	16	9	1	-	1	2
Corpus Christi, Tex.	44	29	12	2	1	-	3
Dallas, Tex.	209	134	47	13	7	8	8
El Paso, Tex.	65	40	12	7	4	2	7
Fort Worth, Tex	103	62	25	7	7	2	3
Houston, Tex.§	308	176	74	34	13	11	7
Little Rock, Ark.	7	6	1	-	-	-	7
New Orleans, La.	139	95	25	10	7	2	-
San Antonio, Tex.	214	146	46	5	9	8	29
Shreveport, La.	62	47	9	1	1	4	6
Tulsa, Okla.	110	88	14	6	-	2	13
MOUNTAIN	804	529	169	57	20	29	60
Albuquerque, N. Mex.	104	69	17	9	7	2	1
Colo. Springs, Colo.	44	36	6	-	1	1	9
Denver, Colo.	175	115	33	14	4	9	16
Las Vegas, Nev.	93	53	31	7	1	1	7
Ogden, Utah	26	16	6	2	1	1	3
Phoenix, Ariz.	135	84	34	10	2	5	6
Pueblo, Colo.	39	29	7	2	-	1	2
Salt Lake City, Utah	43	28	6	2	2	5	4
Tucson, Ariz.	145	99	29	11	2	4	12
PACIFIC	1,995	1,383	339	162	52	46	143
Berkeley, Calif.	22	18	2	2	-	-	-
Fresno, Calif.	85	59	14	6	3	3	6
Glendale, Calif.§	34	27	5	2	-	-	1
Honolulu, Hawaii	74	51	12	5	1	5	7
Long Beach, Calif.	41	32	7	2	-	-	5
Los Angeles Calif.§	589	387	110	54	20	7	27
Oakland, Calif.§	76	52	16	7	1	-	4
Pasadena, Calif.	31	23	4	2	1	1	1
Portland, Oreg.	155	109	25	10	3	8	5
Sacramento, Calif.	138	98	27	5	5	3	14
San Diego, Calif.	133	88	23	12	5	3	16
San Francisco, Calif.	168	110	34	17	2	5	8
San Jose, Calif.	177	130	27	12	3	5	22
Seattle, Wash.	154	115	17	15	4	3	7
Spokane, Wash.	57	42	7	5	2	1	11
Tacoma, Wash.	61	42	9	6	2	2	9
TOTAL	13,815††	9,257	2,759	1,032	337	413	817

*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 3 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.

Hemorrhagic Fever – Continued

epidemica is typically the least severe disease and causes very few deaths, although some patients may require dialysis. Some severe cases with hemorrhagic tendency have occurred in some European countries, particularly France (*12*). A severe disease caused by the local *Apodemus* species has been recently reported from Greece (*13*).

Hemorrhagic fever with renal syndrome has classically been divided into five stages: febrile, shock, oliguric, polyuric, and convalescent (*2*). In practice these stages frequently overlap, particularly the shock and oliguric phases. The initial symptoms are usually fever, flushed face, periorbital edema, and palatal and axillary petechiae. Conjunctivitis, headache, eye pain, lumbar pain, and tenderness are also common. Principal laboratory findings are proteinuria, hemoconcentration, and thrombocytopenia. Most patients recover spontaneously from this stage. A few progress to a phase of oliguria or anuria that is short and usually self-limiting. Shock can be managed by careful fluid replacement; the greatest danger to the patient is inadvertent fluid overload. Although petechiae, thrombocytopenia, and platelet functional abnormalities are very common, overt bleeding is not. In hospitals in some endemic areas of the People's Republic of China, the infection is most often self-limiting and without a severe phase, and the few deaths are usually due to intracranial hemorrhage or generalized uncontrollable bleeding.

The outbreak being reported is typical of endemic *Apodemus*-associated HFRS in Asia. There were no asymptomatic seropositives among those at risk for the disease. There was no evidence for a point source. The cases occurred sporadically during the fall season and were localized in an area presumably infested with infected *A. agrarius*. The experience mirrors those of the Japanese during their occupation of China and of the United Nations forces during the Korean conflict. The attack rate of the outbreak in this report is higher than that usually reported in civilian populations and probably reflects the relatively intense exposure to the virus encountered during the military operation.

References

1. Chen H-X, Qiu F-X, Dong B-J, et al. Epidemiological studies on hemorrhagic fever with renal syndrome in China. J Infect Dis 1986;154:394-8.
2. Fisher-Hoch SP, McCormick JB. Haemorrhagic fever with renal syndrome: a review. Abstracts on Hygiene and Communicable Diseases 1985;60:R1-20.
3. Earle DP. Analysis of sequential physiologic derangements in epidemic hemorrhagic fever. Am J Med 1954;16:690-709.
4. Sheedy JA, Froeb HF, Batson HA, et al. The clinical course of epidemic hemorrhagic fever. Am J Med 1954;16:619-28.
5. Lee HW, Lee PW, Johnson KM. Isolation of the etiologic agent of Korean hemorrhagic fever. J Infect Dis 1978;137:298-308.
6. Schmaljohn CS, Hasty SE, Dalrymple JM, et al. Antigenic and genetic properties of viruses linked to hemorrhagic fever with renal syndrome. Science 1985;227:1041-4.
7. Desmyter J, LeDuc JW, Johnson KM, Brasseur F, Deckers C, van Ypersele de Strihou C. Laboratory rat associated outbreak of haemorrhagic fever with renal syndrome due to Hantaan-like virus in Belgium. Lancet 1983;2:1445-8.
8. Tsai TF, Bauer SP, Sasso DR, et al. Serological and virological evidence of a Hantaan virus-related enzootic in the United States. J Infect Dis 1985;152:126-36.
9. Lee HW, Baek LJ, Johnson KM. Isolation of Hantaan virus, the etiologic agent of Korean hemorrhagic fever, from wild urban rats. J Infect Dis 1982;146:638-44.
10. Lähdevirta J. *Nephropathia epidemica* in Finland: a clinical histological and epidemiological study. Ann Clin Res 1971;3:1-54.
11. Centers for Disease Control. Hemorrhagic fever with renal syndrome—France. MMWR 1984;33:228,233-4.

Hemorrhagic Fever — Continued

12. Dournon E, Girard P, Moriniere B, Brion N. [Hemorrhagic fever with renal syndrome. Epidemiologic data (Letter).] Presse Med 1985;14:1101.
13. Antoniadis A, Pyrpasopoulos M, Sion M, Daniel S, Peters CJ. Two cases of hemorrhagic fever with renal syndrome in Northern Greece. J Infect Dis 1984;149:1011-3.

Perspectives in Disease Prevention and Health Promotion

Injuries and Amputations Resulting From Work With Mechanical Power Presses

On May 22, 1987, the National Institute for Occupational Safety and Health, CDC, released *Current Intelligence Bulletin #49: Injuries and Amputations Resulting from Work with Mechanical Power Presses.* This publication is one of a series of bulletins providing new information or updating existing data on chemical substances, physical agents, or safety hazards found in the workplace. A summary of the document, which is now available to the public,* follows.

In 1980, there were an estimated 151,000 operators of mechanical power presses in the United States. The existing standard promulgated by the Occupational Safety and Health Administration (OSHA) for mechanical power presses provides requirements for press construction and operation (*1*). However, power press operators continue to be at risk of injury. Data from the U.S. Bureau of Labor Statistics indicate that about 20,000 amputations occur each year. Approximately 10% (1,600-2,000) of these amputations occur among power press operators (*2*). In addition, recent statistics compiled by OSHA indicate that approximately 49% of the injuries caused by mechanical power presses result in amputations (U.S. Department of Labor, Occupational Safety and Health Administration, unpublished data). Furthermore, an analysis of data on injury frequency and severity, operator hand speeds, payment of compensation, and the extent of worker exposure indicates that young male operators are at greater risk than other operators and that mechanical power presses are the metalworking machines most in need of research to improve safety. Current Intelligence Bulletin #49 provides recommendations for the safe use of mechanical power presses, specifically those operated by foot or dual palm-button controls. Adherence to these recommendations should reduce the risk of injury among mechanical power press operators.

Reported by: Div of Standards Development and Technology Transfer, National Institute for Occupational Safety and Health, CDC.

References

1. Office of the Federal Register. Code of federal regulations: labor. Washington, DC: Office of the Federal Register, National Archives and Records Administration, 1986. (29 CFR 1910. 217).
2. Bureau of Labor Statistics. Work-related hand injuries and upper extremity amputations. Washington, DC: US Department of Labor, Bureau of Labor Statistics, 1983. (Bulletin no. 2160).

*Copies of Current Intelligence Bulletin #49 can be obtained without charge from the Publications Dissemination Section, Division of Standards Development and Technology Transfer, National Institute for Occupational Safety and Health, 4676 Columbia Parkway, Cincinnati, Ohio 45226; telephone, (513) 841-4287.

Epidemiologic Notes and Reports

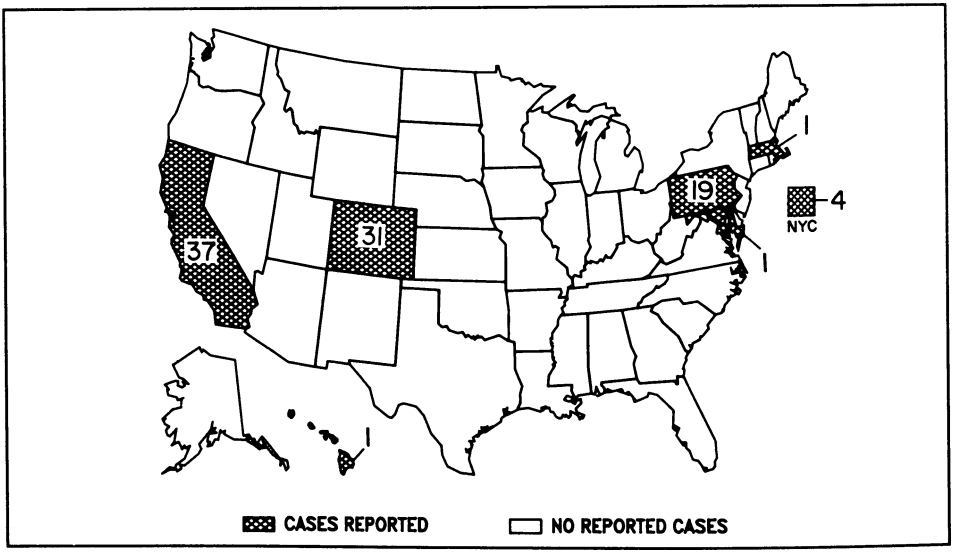
Influenza Update – United States

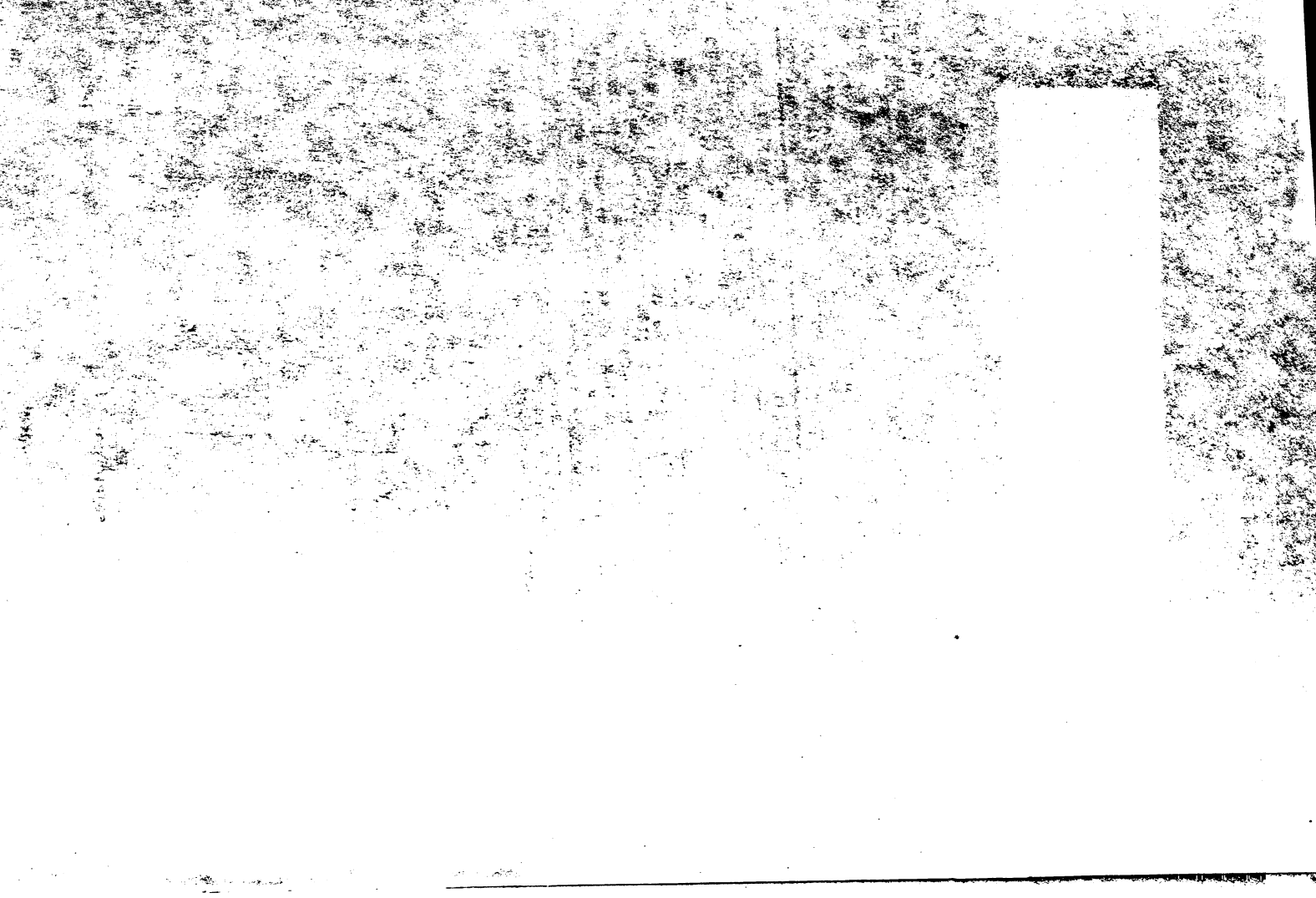
The following are indicators of influenza activity in the United States for the weeks ending January 23 and 30 and February 6 and 13. Figures are provisional and may change as additional reports are received for the given weeks.

	Report Week Ending			
	Jan 23 1988	Jan 30 1988	Feb 6 1988	Feb 13 1988
Influenza-associated morbidity levels reported by state and territorial epidemiologists				
Number of states reporting sporadic activity*	29	31	24	21
Number of states reporting regional activity†	10	11	17	21
Number of states reporting widespread activity§	2	4	6	5
Reports from sentinel physicians¶				
Patients seen with influenza-like illness, expressed as percentage of total patient visits	4.3	6.1	6.0	5.2
Sentinel physicians reporting outbreaks, expressed as percentage of total number of reports received for week	18	19	39	39
Pneumonia and influenza (P&I) mortality from 121 U.S. cities**				
Percentage P&I deaths, upper limit of epidemic threshold	6.1	6.1	6.1	6.1
Percentage P&I deaths, observed value	5.8	5.8	6.0	5.9
Isolates reported by WHO Collaborating Laboratories and other laboratories				
Cumulative number of states reporting isolates of influenza A(H3N2)††	23	26	31	38
Cumulative number of states reporting isolates of influenza A(H1N1)§§	0	0	0	3
Cumulative number of states reporting isolates of influenza B ¶¶	6	6	9	12

*Sporadically occurring cases, no known outbreaks.
†Outbreaks in counties in which total population comprises less than 50% of total state population.
§Outbreaks in counties in which total population comprises 50% or more of total state population.
¶Members of the American Academy of Family Physicians who submit weekly influenza surveillance reports based on their patient population.
**All deaths for which pneumonia or influenza is listed as a primary or underlying cause on death certificates. The epidemic threshold was calculated as 1.645 standard deviations above projected values using a periodic regression model applied to observed P&I deaths for the preceding 5-year period, excluding observations during influenza outbreaks.
††Additional states reporting isolates of influenza A(H3N2) to date: Alaska, Illinois, Indiana, Maryland, Nebraska, and Pennsylvania.
§§States reporting isolates of influenza A(H1N1) to date: Arkansas, New York, Texas.
¶¶States reporting isolates of influenza B to date: Arizona, California, Hawaii, Michigan, Montana, Nevada, New York, Ohio, Tennessee, Virginia, Washington, and Wisconsin.

FIGURE I. Reported measles cases — United States, Weeks 2-5, 1988





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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: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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