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MORBIDITY AND MORTALITY WEEKLY REPORT

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International Notes

Malnutrition — Somalia

Since 1977, armed conflict in the Ogaden region of Ethiopia has displaced hundreds of thousands of people, causing most of these to seek refuge in the Somali Democratic Republic. Compounding this situation, a drought has affected Somalia, as well as other countries of the Sahel region. As a result, malnutrition caused by a shortage of protein and calories (protein energy malnutrition) is the major health problem in the area. Approximately 700,000 refugees are settled in 24 camps situated in 4 regions of Somalia. Relief efforts are being coordinated by the Somali government and United Nations High Commission for Refugees. The health needs of the refugees are being administered by the Ministry of Health and voluntary organizations from abroad.

In April 1980, CDC was requested to send a team of epidemiologists to assess the health status of the refugees and to establish a surveillance system that could provide for the ongoing collection of mortality and morbidity data. On arrival, no quantitative data on the refugee camps were available. Following an initial assessment, the CDC team found several major problems: shortage of food and difficulty in distributing it, deficiencies in the quantity and quality of water supplies, lack of available firewood for cooking, and limited supply and inappropriate usage of essential medications.

The major problem affecting refugees was protein energy malnutrition. A cluster sample survey was conducted in camps in 3 of the 4 regions to determine the nutritional status of children measuring 110 cm or less (0-5 years old). Severe malnutrition was found in 3%-6% of children surveyed; moderate malnutrition was found in 19%-24%. No edema was seen in the children surveyed (Table 1). This nutritional status is worse than that observed in the general population during the Sahel drought in 1974 (Table 2). Malnutrition was more prevalent in newly arrived children than in those who had been in camp for longer periods of time.

Demographic surveys of the camps were undertaken. They revealed that 15%-18% of the camps' populations were 0-4 years, 45%-47% were 5-14 years, 29%-33% were 15-44 years, and 6%-8% were 45 years or more. The male-to-female ratio was similar even in the 15-to-44-year age group although there were relatively fewer males in the 15-to-25-year age group.

TABLE 1. Prevalence of malnutrition* in Somali refugee camps in children ≤110 cm, 1980

Region	Moderate malnutrition	Severe malnutrition	Sample size
West Galbeed	223 (22%)	63 (6%)	1,004
Hiran	132 (24%)	21 (3%)	553
Gedo	183 (19%)	24 (3%)	949

*Using a weight-for-height reference developed by CDC and the National Center for Health Statistics (1). Moderate malnutrition = 71%-80% of the reference median; severe = ≤70% of the reference median.

Malnutrition – Continued

TABLE 2. Nutritional status in the general population during the Sahel drought, 1974, by country

Country	Percent of Population	
	with moderate malnutrition	with severe malnutrition
Chad	21.5	1.0
Mali	9.6	1.1
Upper Volta	8.3	0.8
Somalia	22.0	3.2

A mortality survey revealed that childhood deaths had occurred in 41% of households in Gedo, 22% in West Galbeed, and 13% of those in Hiran since the time of their arrival in the camp (Table 3). Mortality was greatest in those camps with the highest number of newly arrived refugees (shortest mean length of stay), confirming observations of high mortality in new arrivals. A major epidemic of measles occurred in Gedo and West Galbeed during January and February 1980, and measles accounted for 42% and 50%, respectively, of the childhood deaths in those regions. Diarrhea was the other leading cause of childhood mortality, accounting for 33%-42% of deaths in all regions.

TABLE 3. Childhood mortality in Somali refugee camps, by region, 1980

Region	Number of households surveyed	Mean months in camp	Households with deaths	
			Number	Percent
West Galbeed	894	11.9	193	22
Hiran	308	14.4	39	13
Gedo	553	6.8	227	41

A monthly reporting system was developed to provide information regarding new arrivals, cause-specific mortality, disease-specific morbidity, malnutrition, and health education. Standardized procedures for managing supplementary feeding centers were established, and guidelines for treatment of highly prevalent diseases and for drug usage were implemented.

Epidemiologic studies of tuberculosis are planned, as are studies comparing the nutritional status of the refugees with that of the Somali host population.

Reported by A Deria, MD, Director, Public Health, SH Musa, MD, Director, Refugee Health Unit, Mogadishu, Somalia; Research and Development Div, Bur of Smallpox Eradication, Field Services Div, Viral Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Protein energy malnutrition in a population can be documented by observing its effect on the growth of the most vulnerable age group—those 6 months to 6 years old. Weight and height are the 2 most direct and reliable parameters used to monitor a child's growth. Under conditions of acute food shortage, a child will lose weight in disproportion to his or her height and become wasted. Comparison of a child's weight with the expected weight of a reference child of the same height gives an index of acute malnutrition and wasting. In children under 6 years old, this index is independent of age, sex, or race. A child whose weight has fallen below 80% of the reference median weight for height is considered to be moderately malnourished. A child below 70% of the reference median weight for height is severely malnourished (*1,2*).

References

1. National Center for Health Statistics. NCHS gross curves for children: birth to eighteen years. Hyattsville, MD.:NCHS, 1977. (Vital and health statistics. Series 11: no. 165) (DHEW publication no. (PHS) 78-1650).
2. DeVille de Goyet C. Management of nutritional emergencies in large populations. Geneva: World Health Organization, 1978.

Epidemiologic Notes and Reports

Pentachlorophenol in Log Homes — Kentucky

Elevated levels of pentachlorophenol (PCP), a widely used wood preservative and pesticide, were found recently in residents of several log homes in Kentucky. In each instance, the logs had been dipped in PCP, prior to construction, to control fungal discoloration (sap stains) of the wood.

The elevated levels of PCP were discovered in the course of another investigation in Kentucky in January 1980. Five members of a family living in a log home in Louisville were found to have serum PCP in the range of 580-1,750 parts per billion (ppb), and urinary PCP levels of 47-216 ppb (Table 4). The highest levels were in the youngest children, ages 2 and 4. (Forty-two controls, ages 9-65, had serum PCP levels of 4.3-67.9 ppb, and urinary PCP levels of 0.7-11.0 ppb.)

TABLE 4. Serum and urinary pentachlorophenol (PCP) levels for 5 members of a family living in a PCP-treated log home, January 1980

Age	Sex	Serum PCP (in ppb)	Urinary PCP (in ppb)
34	M	710 (863*)	46.8 (23*)
29	F	580	50.8 (83*)
9	M	910	54.7
4	F	1,680	51.2 (57*)
2	F	1,750	216.0

*PCP concentrations on retesting.

Air samples taken on the first and second floors of this 2-story log house showed PCP concentrations of 0.20 $\mu g/m^3$ and 0.38 $\mu g/m^3$, respectively. A sample of the interior surface wood, which had been dipped in a 5% solution of PCP in 1975, was found to contain 1,132 parts per million (ppm), or 0.11% PCP.

In March 1980, retesting of 3 members of this family and testing of an additional 29 log home residents confirmed the elevated PCP levels. These log home residents had geometric mean serum PCP concentrations 7 times that of control individuals living in conventional homes (Table 5). None of the residents tested reported symptoms or

TABLE 5. Serum and urinary pentachlorophenol (PCP) levels for log home residents and controls, March 1980

	Residents		Controls
	Of log home treated with PCP	Of untreated log home	
Number of persons tested	32	2	11
Age range	2-57	28-29	25-58
Serum PCP (in ppb)			
range†	116-1,084	34-75	15-55
geometric mean	330	51	48
Urinary PCP (in ppb)			
range†	2-87	1-2	1-7
geometric mean	12.7	1.4	2.5

†Includes retest values.

Pentachlorophenol — Continued

health problems as a result of living in log homes. The log homes were built between 1975 and 1978, and the logs were dipped or sprayed with 5% PCP (in mineral spirits). Two adults living in a log home that had not been treated with PCP had serum and urinary PCP concentrations comparable to controls (Table 5).

Reported by C Hernandez, MD, State Epidemiologist, Kentucky State Dept for Human Resources; S Strassman-Sundy, Survey and Analysis Div, Environmental Protection Agency; Toxicology Br, Clinical Chemistry Div, Bur of Laboratories, Chronic Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: The registered uses of PCP are currently being reviewed by the U.S. Environmental Protection Agency under the Rebuttable Presumption Against Registration (RPAR) process (*1*). Issuance of an RPAR means that potential adverse effects associated with the use of a product have been identified and will be examined further to determine if they do exist and, if so, whether they are unreasonable. This process involves a public review of both the risks and the benefits associated with the uses of the pesticide.

PCP uncouples oxidative phosphorylation (*2*) and with heavy exposure increases an individual's sensitivity to heat. Persons chronically exposed to PCP, such as wood treatment workers, typically have serum concentrations of up to several parts per million without acute symptoms (*3*). However, neither the long-term effects of PCP on these workers nor its potential effect on pregnant women and children have been adequately studied.

(Continued on page 437)

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

[Cumulative totals include revised and delayed reports through previous weeks.]

DISEASE	36th WEEK ENDING		MEDIAN 1975-1979	CUMULATIVE, FIRST 36 WEEKS		
	September 6, 1980	September 8, 1979		September 6, 1980	September 8, 1979	MEDIAN 1975-1979
Aseptic meningitis	271	326	167	3,792	4,419	2,840
Brucellosis	–	6	5	130	110	156
Chickenpox	387	226	210	156,071	171,391	150,172
Diphtheria	–	–	–	3	7	66
Encephalitis: Primary (arthropod-borne & unspec.)	34	44	44	534	640	735
Post-infectious	3	–	4	150	174	174
Hepatitis, Viral: Type B	234	252	245	11,707	9,943	10,264
Type A	357	535	516	18,610	20,359	21,252
Type unspecified	161	186	151	8,120	6,917	5,766
Malaria	22	23	12	1,314	484	378
Measles (rubeola)	29	42	53	12,807	12,010	23,744
Meningococcal infections: Total	24	20	15	1,895	1,952	1,262
Civilian	24	20	15	1,888	1,934	1,253
Military	–	–	–	7	18	18
Mumps	48	47	92	7,053	11,096	15,948
Pertussis	41	25	33	1,028	953	1,040
Rubella (German measles)	40	44	45	3,256	10,650	14,748
Tetanus	4	3	2	46	47	50
Tuberculosis	397	470	470	18,830	19,152	20,846
Tularemia	8	1	2	133	144	97
Typhoid fever	8	14	10	297	334	282
Typhus fever, tick-borne (Rky. Mt. spotted)	35	25	27	891	858	851
Venereal diseases:						
Gonorrhea: Civilian	16,154	18,384	18,769	672,374	677,783	677,783
Military	684	655	562	18,700	19,194	19,194
Syphilis, primary & secondary: Civilian	431	495	364	17,999	16,706	16,686
Military	–	10	6	223	216	216
Rabies in animals	96	101	51	4,511	3,508	2,125

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1980		CUM. 1980
Anthrax	–	Poliomyelitis: Total	6
Botulism	45	Paralytic	4
Cholera	8	Psittacosis (Va. 1, Tex. 1)	66
Congenital rubella syndrome	44	Rabies in man	–
Leprosy (Tex. 1)	129	Trichinosis	84
Leptospirosis (Va. 1, Idaho 2)	48	Typhus fever, flea-borne (endemic, murine)	48
Plague (N. Mex. 1)	12		

All delayed reports will be included in the following week's cumulative totals.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending September 6, 1980, and September 8, 1979 (36th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	CHICKENPOX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS (VIRAL), BY TYPE			MALARIA	
						Primary		Post-infectious	B	A	Unspecified		
	1980	1980	1980	1980	CUM. 1980	1980	1979	1980	1980	1980	1980	1980	CUM. 1980
UNITED STATES	271	–	387	–	3	34	44	3	234	357	161	22	1,314
NEW ENGLAND	17	–	22	–	–	1	3	–	7	11	6	2	82
Maine	2	–	3	–	–	–	–	–	–	1	1	2	14
N.H.	3	–	1	–	–	–	–	–	1	2	–	–	7
Vt.	–	–	3	–	–	–	–	–	1	1	–	–	1
Mass.	7	–	8	–	–	1	–	–	2	3	5	–	41
R.I.	5	–	4	–	–	–	–	–	–	2	–	–	8
Conn.	–	–	3	–	–	–	3	–	3	2	–	–	11
MID. ATLANTIC	88	–	110	–	1	15	2	–	44	27	18	5	172
Upstate N.Y.	21	–	49	–	–	4	–	–	7	9	2	1	29
N.Y. City	4	–	60	–	1	–	–	–	10	2	7	–	43
N.J.	35	–	NN	–	–	1	1	–	17	10	8	4	49
Pa.	28	–	1	–	–	10	1	–	10	6	1	–	51
E.N. CENTRAL	24	–	140	–	1	5	16	–	33	55	31	1	66
Ohio	–	–	36	–	–	–	3	–	15	14	7	–	8
Ind.	–	–	16	–	–	–	7	–	3	8	8	–	4
Ill.	1	–	6	–	–	–	–	–	5	21	4	1	27
Mich.	14	–	18	–	1	–	–	–	6	7	12	–	19
Wis.	9	–	64	–	–	5	6	–	4	5	–	–	8
W.N. CENTRAL	7	–	22	–	1	1	4	–	12	28	7	2	56
Minn.	–	–	–	–	–	–	–	–	1	5	–	–	19
Iowa	2	–	14	–	–	1	4	–	4	11	3	–	7
Mo.	–	–	–	–	1	–	–	–	3	5	2	1	12
N. Dak.	–	–	–	–	–	–	–	–	–	–	–	–	–
S. Dak.	–	–	3	–	–	–	–	–	–	1	–	–	3
Nebr.	4	–	4	–	–	–	–	–	1	2	2	–	7
Kans.	1	–	1	–	–	–	–	–	3	4	–	1	8
S. ATLANTIC	45	–	33	–	–	9	9	2	74	71	19	7	140
Del.	–	–	–	–	–	–	–	–	–	–	2	–	–
Md.	7	–	–	–	–	–	–	–	3	4	3	–	23
D.C.	–	–	1	–	–	–	–	–	1	–	–	1	2
Va.	6	–	–	–	–	3	3	2	12	7	6	5	53
W. Va.	2	–	18	–	–	2	4	–	2	4	–	–	4
N.C.	18	–	NN	–	–	4	2	–	7	5	–	–	10
S.C.	–	–	–	–	–	–	–	–	12	3	–	–	5
Ga.	–	–	–	–	–	–	–	–	19	11	–	–	14
Fla.	12	–	14	–	–	–	–	–	18	37	8	1	29
E.S. CENTRAL	75	–	14	–	–	1	3	–	20	34	7	–	10
Ky.	–	–	9	–	–	–	–	–	1	5	2	–	2
Tenn.	7	–	NN	–	–	–	2	–	9	8	2	–	–
Ala.	67	–	5	–	–	–	–	–	6	4	3	–	6
Miss.	1	–	–	–	–	1	1	–	4	17	–	–	2
W.S. CENTRAL	6	–	17	–	–	1	2	–	20	63	38	2	122
Ark.	2	–	–	–	–	–	–	–	1	9	4	–	6
La.	1	–	NN	–	–	–	–	–	5	11	1	–	42
Okla.	1	–	–	–	–	–	–	–	2	10	8	–	12
Tex.	2	–	17	–	–	1	2	–	12	33	25	2	62
MOUNTAIN	4	–	15	–	–	–	1	–	13	36	26	2	68
Mont.	–	–	–	–	–	–	–	–	1	5	–	1	1
Idaho	–	–	–	–	–	–	–	–	2	3	–	–	1
Wyo.	–	–	–	–	–	–	–	–	–	–	1	–	2
Colo.	2	–	15	–	–	–	–	–	7	12	5	–	25
N. Mex.	–	–	–	–	–	–	–	–	–	–	–	–	3
Ariz.	–	–	NN	–	–	–	–	–	1	12	16	1	15
Utah	–	–	–	–	–	–	1	–	–	2	1	–	15
Nev.	2	–	–	–	–	–	–	–	2	2	3	–	6
PACIFIC	5	–	14	–	–	1	4	1	11	32	9	1	598
Wash.	1	–	9	–	–	1	–	1	4	17	7	1	45
Oreg.	–	–	1	–	–	–	–	–	5	13	1	–	32
Calif.	NA	NA	NA	NA	–	NA	4	–	NA	NA	NA	NA	500
Alaska	–	–	–	–	–	–	–	–	–	–	1	–	6
Hawaii	4	–	4	–	–	–	–	–	2	2	–	–	15
Guam	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	3
P.R.	–	–	14	–	–	–	–	–	–	7	9	–	3
V.I.	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–
Pac. Trust Terr.	NA	NA	NA	NA	–	NA	–	–	NA	NA	NA	NA	–

NN: Not notifiable. NA: Not available.
All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending September 6, 1980, and September 8, 1979 (36th week)

REPORTING AREA	MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1980	CUM. 1980	CUM. 1979	1980	CUM. 1980	CUM. 1979	1980	CUM. 1980	1980	1980	CUM. 1980	CUM. 1980
UNITED STATES	29	12,807	12,010	24	1,895	1,952	48	7,053	41	40	3,256	46
NEW ENGLAND	–	668	287	–	103	102	3	552	2	2	212	2
Maine	–	33	17	–	5	5	1	285	–	–	68	1
N.H.	–	326	33	–	8	9	–	19	1	–	35	–
Vt.	–	226	118	–	13	6	1	10	–	–	3	–
Mass.	–	59	13	–	34	36	–	121	–	2	79	–
R.I.	–	2	102	–	7	7	–	22	–	–	9	1
Conn.	–	22	4	–	36	39	1	95	1	–	18	–
MID. ATLANTIC	7	3,762	1,469	5	349	290	10	795	5	20	546	7
Upstate N.Y.	3	686	616	2	113	105	9	113	4	19	207	2
N.Y. City	2	1,176	751	–	89	70	1	90	1	–	92	2
N.J.	2	827	57	1	71	71	–	96	–	1	101	–
Pa.	–	1,073	45	2	76	44	–	496	–	–	146	3
E.N. CENTRAL	13	2,423	3,133	2	217	210	9	2,682	19	5	784	3
Ohio	1	376	266	–	72	86	1	1,119	15	–	4	1
Ind.	1	91	202	–	36	42	4	115	–	1	327	–
Ill.	–	335	1,402	–	41	11	1	353	1	–	159	–
Mich.	–	235	823	2	55	53	–	794	–	–	126	1
Wis.	11	1,386	440	–	13	18	3	301	3	4	168	1
W.N. CENTRAL	1	1,311	1,717	2	70	60	3	242	1	–	197	3
Minn.	1	1,097	1,209	–	20	10	–	13	1	–	27	1
Iowa	–	–	16	–	9	9	1	40	–	–	8	–
Mo.	–	64	409	2	28	31	–	71	–	–	45	1
N. Dak.	–	–	20	–	1	1	–	4	–	–	5	–
S. Dak.	–	–	2	–	4	4	–	2	–	–	2	–
Nebr.	–	83	–	–	–	–	–	9	–	–	1	–
Kans.	–	67	61	–	8	5	2	103	–	–	109	1
S. ATLANTIC	4	1,880	1,836	6	462	481	11	953	5	10	329	9
Del.	–	3	1	–	2	5	–	39	–	–	1	–
Md.	–	71	15	–	46	41	–	315	–	–	70	1
D.C.	–	–	–	–	1	–	–	4	–	–	1	–
Va.	1	302	268	1	45	69	5	61	–	1	51	2
W. Va.	1	23	53	1	16	8	3	89	–	1	23	1
N.C.	–	128	111	1	89	75	1	89	2	–	46	1
S.C.	–	159	150	–	53	59	–	203	–	–	51	2
Ga.	–	810	450	1	79	68	1	3	–	–	–	1
Fla.	2	384	788	2	131	156	1	150	3	8	86	1
E.S. CENTRAL	–	340	196	1	172	144	8	851	3	–	80	3
Ky.	–	55	37	–	53	29	5	748	1	–	37	1
Tenn.	–	179	51	–	45	40	–	24	2	–	38	1
Ala.	–	22	84	1	47	36	3	21	–	–	3	1
Miss.	–	84	24	–	27	39	–	58	–	–	2	–
W.S. CENTRAL	1	927	885	4	202	303	–	253	3	–	118	11
Ark.	1	14	7	–	18	24	–	20	–	–	4	1
La.	–	13	245	3	75	115	–	65	1	–	10	2
Okla.	–	745	22	–	18	27	–	–	–	–	4	–
Tex.	–	155	611	1	91	137	–	168	2	–	100	8
MOUNTAIN	–	467	306	2	64	78	1	191	3	–	137	–
Mont.	–	2	53	–	3	8	–	55	–	–	42	–
Idaho	–	–	18	–	4	8	–	15	–	–	18	–
Wyo.	–	–	36	–	2	1	–	–	1	–	1	–
Colo.	–	24	60	1	17	5	–	51	1	–	11	–
N. Mex.	–	13	38	–	8	4	–	–	–	–	5	–
Ariz.	–	373	72	–	12	33	–	34	–	–	30	–
Utah	–	47	18	1	3	8	1	27	1	–	25	–
Nev.	–	8	11	–	15	11	–	9	–	–	5	–
PACIFIC	3	1,029	2,181	2	256	284	3	534	–	3	853	8
Wash.	3	177	1,126	–	49	45	2	129	–	3	76	–
Oreg.	–	–	58	2	44	25	–	66	–	–	50	–
Calif.	NA	841	916	–	155	199	NA	312	NA	NA	711	8
Alaska	–	5	17	–	8	5	–	11	–	–	11	–
Hawaii	–	6	64	–	–	10	1	16	–	–	5	–
Guam	NA	5	11	–	1	1	NA	9	NA	NA	–	–
P.R.	9	119	330	–	9	4	2	126	–	–	18	8
V.I.	NA	6	5	–	1	3	NA	2	NA	NA	–	–
Pac. Trust Terr.	NA	6	8	–	–	1	NA	14	NA	NA	1	–

NA: Not available.
All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending September 6, 1980, and September 8, 1979 (36th week)

REPORTING AREA	TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		VENEREAL DISEASES (Civilian)						RABIES (in Animals)
								GONORRHEA			SYPHILIS (Pri. & Sec.)			
	1980	CUM. 1980	CUM. 1980	1980	CUM. 1980	1980	CUM. 1980	1980	CUM. 1980	CUM. 1979	1980	CUM. 1980	CUM. 1979	CUM. 1980
UNITED STATES	397	18,830	133	8	297	35	891	16,154	672,374	677,783	431	17,999	16,706	4,511
NEW ENGLAND	14	546	6	–	8	1	9	420	16,885	16,886	12	420	333	47
Maine	–	40	–	–	1	–	–	22	974	1,186	–	5	10	21
N.H.	–	12	–	–	–	–	–	25	626	637	–	1	16	6
Vt.	1	19	–	–	–	–	–	16	405	397	–	5	1	–
Mass.	11	298	4	–	5	1	5	178	7,041	6,664	6	268	186	13
R.I.	1	55	1	–	1	–	2	64	1,102	1,388	2	24	10	–
Conn.	1	122	1	–	1	–	2	115	6,737	6,614	4	117	110	7
MID. ATLANTIC	54	3,057	2	2	61	1	39	2,667	72,660	73,356	67	2,551	2,519	53
Upstate N.Y.	15	605	1	–	9	–	13	664	13,827	12,249	11	219	177	26
N.Y. City	29	1,091	1	–	27	1	3	900	27,378	29,129	31	1,663	1,714	–
N.J.	7	646	–	–	12	–	14	719	13,918	13,447	4	305	334	12
Pa.	3	715	–	2	13	–	9	384	17,537	18,531	21	364	294	15
E.N. CENTRAL	80	2,748	1	2	26	–	23	2,433	105,219	105,173	62	1,701	2,234	689
Ohio	10	490	–	–	6	–	11	245	27,512	29,261	7	257	425	42
Ind.	9	272	–	–	–	–	2	244	10,801	9,093	5	137	165	60
Ill.	20	979	–	1	10	–	6	1,088	33,376	32,576	24	962	1,257	379
Mich.	32	850	1	–	6	–	3	619	23,646	24,738	25	281	323	12
Wis.	9	157	–	1	4	–	1	237	9,884	9,505	1	64	64	196
W.N. CENTRAL	13	692	21	–	21	–	50	876	32,173	33,182	11	230	220	1,444
Minn.	5	136	1	–	3	–	–	139	5,269	5,573	1	77	61	154
Iowa	–	61	1	–	1	–	2	126	3,459	4,006	–	14	27	309
Mo.	4	318	18	–	15	–	32	332	14,324	14,295	4	114	100	307
N. Dak.	1	34	–	–	–	–	–	13	446	554	–	3	2	174
S. Dak.	–	33	–	–	1	–	2	34	965	1,133	–	2	2	297
Nebr.	1	28	1	–	–	–	4	56	2,432	2,318	–	6	2	82
Kans.	2	82	–	–	1	–	10	176	5,278	5,303	6	14	26	121
S. ATLANTIC	81	4,177	9	3	36	17	569	4,653	169,266	164,592	152	4,318	3,995	350
Del.	–	56	–	–	1	–	2	72	2,279	2,736	–	10	21	1
Md.	9	526	2	–	2	3	63	547	18,359	20,118	20	316	262	24
D.C.	15	253	–	1	4	–	–	329	11,989	10,717	2	317	311	–
Va.	NA	430	–	2	6	4	76	303	15,161	15,779	16	392	334	12
W. Va.	4	154	–	–	3	1	3	59	2,295	2,270	–	15	41	17
N.C.	15	747	3	–	2	5	254	835	24,150	23,732	14	298	320	17
S.C.	4	381	–	–	3	4	129	401	15,991	15,473	4	240	205	46
Ga.	–	562	4	–	–	–	38	1,278	32,605	31,392	50	1,240	1,093	173
Fla.	34	1,068	–	–	15	–	4	829	46,437	42,375	46	1,490	1,408	60
E.S. CENTRAL	61	1,730	9	–	8	12	86	1,797	55,202	57,832	17	1,474	1,089	247
Ky.	31	385	–	–	2	3	16	114	8,102	7,620	1	103	116	109
Tenn.	21	581	6	–	–	7	50	525	19,869	20,886	5	616	463	103
Ala.	1	449	1	–	2	2	12	780	16,280	17,099	11	309	203	35
Miss.	8	315	2	–	4	–	8	378	10,951	12,227	–	446	307	–
W.S. CENTRAL	62	2,099	58	1	37	4	97	2,145	86,807	87,088	105	3,620	3,010	1,096
Ark.	14	227	37	–	4	2	19	168	7,382	6,936	9	133	99	143
La.	14	397	–	–	–	–	2	544	15,694	15,453	16	876	720	7
Okla.	11	213	16	1	4	1	56	192	8,642	8,437	–	69	63	188
Tex.	23	1,262	5	–	29	1	20	1,241	55,089	56,262	80	2,542	2,128	758
MOUNTAIN	12	498	23	–	20	–	14	857	26,366	27,387	3	449	320	180
Mont.	–	20	7	–	1	–	3	43	1,014	1,345	–	1	8	33
Idaho	–	22	1	–	1	–	1	15	1,139	1,207	–	24	21	2
Wyo.	–	16	3	–	–	–	2	30	775	740	–	8	5	13
Colo.	2	73	5	–	6	–	3	210	7,109	7,200	2	115	65	43
N. Mex.	2	101	–	–	2	–	4	110	3,254	3,451	–	78	62	37
Ariz.	5	210	1	–	7	–	–	263	7,093	7,723	–	154	94	48
Utah	1	33	4	–	3	–	1	54	1,302	1,381	–	11	3	3
Nev.	2	23	2	–	–	–	–	132	4,680	4,340	1	58	62	1
PACIFIC	20	3,283	4	–	80	–	4	306	107,796	112,287	2	3,236	2,986	405
Wash.	12	305	–	–	3	–	–	NA	8,811	9,564	NA	154	157	–
Oreg.	1	121	1	–	9	–	1	182	7,645	7,178	1	70	122	3
Calif.	NA	2,750	2	NA	68	NA	3	NA	86,366	89,905	NA	2,891	2,618	358
Alaska	–	41	1	–	–	–	–	74	2,721	3,542	–	7	21	44
Hawaii	7	66	–	–	–	–	–	50	2,253	2,098	1	114	68	–
Guam	NA	30	–	NA	–	NA	–	NA	72	85	NA	4	–	–
P.R.	6	126	–	–	21	–	–	68	1,888	1,430	10	413	342	38
V.I.	NA	–	–	NA	–	NA	–	NA	108	120	NA	10	6	–
Pac. Trust Terr.	NA	30	–	NA	–	NA	–	NA	258	329	NA	–	1	–

NA: Not available.
All delayed reports and corrections will be included in the following week's cumulative totals.

TABLE IV. Deaths in 121 U.S. cities,* week ending September 6, 1980 (36th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)					P&I** TOTAL
	ALL AGES	>65	45-64	25-44	<1	
NEW ENGLAND	626	417	146	29	18	27
Boston, Mass.	164	97	40	14	7	7
Bridgeport, Conn.	41	28	10	1	2	1
Cambridge, Mass.	21	16	5	–	–	2
Fall River, Mass.	28	20	7	1	–	–
Hartford, Conn.	78	46	21	3	2	–
Lowell, Mass.	17	14	2	–	–	1
Lynn, Mass.	22	14	6	2	–	–
New Bedford, Mass.	28	21	5	2	–	–
New Haven, Conn.	40	27	12	–	1	1
Providence, R.I.	56	38	12	1	3	2
Somerville, Mass.	8	7	1	–	–	2
Springfield, Mass.	43	28	12	1	1	1
Waterbury, Conn.	30	23	5	2	–	7
Worcester, Mass.	50	38	8	2	2	3
MID. ATLANTIC	2,450	1,566	597	159	48	92
Albany, N.Y.	54	30	17	3	3	–
Allentown, Pa.	29	20	8	–	–	–
Buffalo, N.Y.	121	76	29	7	6	4
Camden, N.J.	33	24	7	1	–	1
Elizabeth, N.J.	33	22	7	3	–	2
Erie, Pa.†	51	35	9	2	–	2
Jersey City, N.J.	44	33	6	2	–	2
Newark, N.J.	52	26	17	5	1	–
N.Y. City, N.Y.	1,321	852	307	97	26	47
Paterson, N.J.	18	13	4	1	–	–
Philadelphia, Pa.†	293	171	84	20	9	12
Pittsburgh, Pa.†	56	31	20	1	2	4
Reading, Pa.	33	25	5	1	–	–
Rochester, N.Y.	126	89	24	8	1	9
Schenectady, N.Y.	29	16	8	4	–	2
Scranton, Pa.†	20	16	3	–	–	1
Syracuse, N.Y.	58	31	21	4	–	–
Trenton, N.J.	23	13	8	–	–	–
Utica, N.Y.	27	19	8	–	–	2
Yonkers, N.Y.	29	24	5	–	–	4
E.N. CENTRAL	2,009	1,202	494	150	73	55
Akron, Ohio	60	38	11	2	7	–
Canton, Ohio	37	24	7	4	1	4
Chicago, Ill.	534	306	127	56	22	8
Cincinnati, Ohio	131	80	37	6	3	–
Cleveland, Ohio	144	76	42	7	9	3
Columbus, Ohio	87	59	20	6	–	4
Dayton, Ohio	93	49	29	7	4	2
Detroit, Mich.	219	124	50	23	5	9
Evansville, Ind.	33	22	9	–	1	1
Fort Wayne, Ind.	60	32	15	7	2	3
Gary, Ind.	8	5	2	–	1	–
Grand Rapids, Mich.	53	29	16	3	2	2
Indianapolis, Ind.	124	82	28	5	5	4
Madison, Wis.	32	18	7	4	2	1
Milwaukee, Wis.	110	70	30	5	3	4
Peoria, Ill.	34	31	1	1	1	–
Rockford, Ill.	48	27	14	3	2	2
South Bend, Ind.	29	20	7	1	–	1
Toledo, Ohio	114	70	27	9	2	6
Youngstown, Ohio	59	40	15	1	1	1
W.N. CENTRAL	652	414	134	50	24	19
Des Moines, Iowa	43	28	13	2	–	–
Duluth, Minn.	24	22	–	1	1	1
Kansas City, Kans.	32	25	2	3	1	1
Kansas City, Mo.	112	68	25	7	3	4
Lincoln, Nebr.	25	20	3	1	–	1
Minneapolis, Minn.	84	46	18	8	5	7
Omaha, Nebr.	65	35	16	5	5	1
St. Louis, Mo.	123	72	28	12	5	2
St. Paul, Minn.	61	46	9	4	1	1
Wichita, Kans.	83	52	20	7	3	1
S. ATLANTIC	1,181	686	324	93	34	53
Atlanta, Ga.	109	68	28	10	1	2
Baltimore, Md.	381	207	111	36	11	9
Charlotte, N.C.	64	32	21	8	1	2
Jacksonville, Fla.	79	46	24	4	1	4
Miami, Fla.	85	57	17	4	4	–
Norfolk, Va.	38	18	14	2	4	2
Richmond, Va.	72	42	21	4	2	6
Savannah, Ga.	38	23	12	3	–	5
St. Petersburg, Fla.	91	73	10	2	5	8
Tampa, Fla.	71	44	14	7	3	7
Washington, D.C.	127	64	42	11	2	8
Wilmington, Del.	26	12	10	2	–	–
E.S. CENTRAL	624	368	138	51	41	23
Birmingham, Ala.	96	59	25	6	3	–
Chattanooga, Tenn.	42	24	9	5	2	2
Knoxville, Tenn.	52	37	9	3	–	1
Louisville, Ky.	48	29	11	3	3	6
Memphis, Tenn.	151	75	33	19	17	3
Mobile, Ala.	90	59	17	2	8	3
Montgomery, Ala.	40	29	7	1	2	3
Nashville, Tenn.	105	56	27	12	6	5
W.S. CENTRAL	1,267	709	315	127	50	43
Austin, Tex.	57	27	11	11	3	4
Baton Rouge, La.	61	36	9	6	3	5
Corpus Christi, Tex.	70	37	16	8	6	–
Dallas, Tex.	125	75	37	8	3	1
El Paso, Tex.	58	32	12	5	4	5
Fort Worth, Tex.	75	44	20	9	–	8
Houston, Tex.	382	193	107	35	19	6
Little Rock, Ark.	51	23	13	9	3	4
New Orleans, La.	173	102	44	16	1	–
San Antonio, Tex.	114	71	25	13	4	5
Shreveport, La.	39	27	9	2	1	3
Tulsa, Okla.	62	42	12	5	3	2
MOUNTAIN	516	291	105	53	19	12
Albuquerque, N.Mex.	68	18	11	14	2	3
Colo. Springs, Colo.	30	23	3	2	1	2
Denver, Colo.	101	61	18	10	2	3
Las Vegas, Nev.	59	35	11	8	1	2
Ogden, Utah	11	4	3	1	2	–
Phoenix, Ariz.	115	67	32	9	5	1
Pueblo, Colo.	22	15	3	2	1	–
Salt Lake City, Utah	36	17	11	1	3	–
Tucson, Ariz.	74	51	13	6	2	1
PACIFIC	1,360	864	299	86	57	49
Berkeley, Calif.	12	8	3	–	–	–
Fresno, Calif.	44	28	8	4	3	3
Glendale, Calif.	28	19	8	1	–	2
Honolulu, Hawaii	60	32	16	7	2	5
Long Beach, Calif.	64	44	14	2	1	6
Los Angeles, Calif.	331	212	70	21	15	5
Oakland, Calif.	80	51	18	2	4	9
Pasadena, Calif.	18	9	3	2	2	–
Portland, Oreg.	101	64	21	8	6	–
Sacramento, Calif.	68	52	8	3	1	6
San Diego, Calif.††	103	63	24	6	5	1
San Francisco, Calif.	154	96	35	16	4	3
San Jose, Calif.††	117	72	27	8	5	3
Seattle, Wash.	109	68	28	5	3	4
Spokane, Wash.	38	25	7	1	5	–
Tacoma, Wash.	33	21	9	–	1	2
TOTAL	10,685	6,517	2,552	798	364	373

*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.

††Data not available this week. Figures are estimates based on average percent of regional totals.

Pentachlorophenol — Continued

PCP has been reported to be embryolethal and embryotoxic in rats (*4*) and hamsters (*5*). To date, PCP has not been shown to be carcinogenic in animals or humans (*6*). Vapors of this compound are lethal to plants, and owners of PCP-treated log homes may find house plants dying.

Vaporization of PCP, the likely cause of the elevated PCP levels among the log home residents, can be reduced substantially by coating interior log walls made of PCP-treated wood with a sealer such as polyurethane (*7*). Residents of log homes (up to 30,000 are sold each year) should consult the manufacturer on whether the logs have been treated with PCP.

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Methyl Alcohol Toxicity in Teacher Aides Using Spirit Duplicators — Washington

The National Institute for Occupational Safety and Health (NIOSH) recently conducted an investigation in a school district in Washington state to determine if operating duplicators that use methyl alcohol ("spirit duplicators") could cause adverse health effects.

The environmental and medical evaluation, requested by the Public School Employees Union of Washington, was conducted from February 5-15, 1980, in the Everett School District, where 58 spirit duplicators are used by 84 teacher aides in 18 schools. Operating the duplicator involves placing a master copy, on which a reverse image is printed in an alcohol-soluble dye, on the duplicator drum. As the paper to be printed is fed under the drum, it comes in contact with a wick that is saturated with 99% methyl alcohol. As the alcohol-wetted paper comes in contact with the master copy, the alcohol dissolves a small portion of the dye and transfers the image to the finished sheet. The evaporated methyl alcohol may thus result in an inhalation exposure to the operator, and handling freshly duplicated paper may result in exposure by skin absorption.

As part of the investigation, methyl alcohol concentrations were measured in the breathing zone of 21 aides while they were operating duplicators and collating and stapling

Methyl Alcohol Toxicity — Continued

duplicated papers. Measurements were made in 12 of the 18 schools and involved 21 of the 58 duplicators. This grouping represented a cross-section of small and large rooms, rooms with operable and non-operable windows or no windows at all, rooms that had no local-exhaust ventilation, and some that had wall or ceiling fans or kitchen range-type hoods above the duplicators.

The amount of methyl alcohol vapor concentrated in the air during the use of the duplicators with no local-exhaust ventilation ranged from 365 to 3,080 parts per million (ppm) in a 15-minute period. Breathing-zone concentrations around 15 of the 20 machines tested (75%) exceeded 800 ppm, the NIOSH recommended 15-minute exposure limit. With the 11 possible local-exhaust ventilation systems turned on, the concentration ranged from 80 to 1,340 ppm. Only 1 exceeded 800 ppm.

A questionnaire was given to 66 teacher aides and to an equal number of randomly chosen age- and sex-matched teachers. It revealed that 45% of the teacher aides had experienced adverse symptoms the month before the study, compared to 23% of the teachers ($p<0.025$). These symptoms included blurred vision (reported by 23% of the aides compared to 1.5% of the teachers), dizziness (30% of aides vs. 1.5% of teachers), and headaches (34% vs 18%). Nausea (18% vs. 6%) and skin problems (11% vs. 1%) were also more frequently reported in aides, but these differences were not statistically significant ($p<0.10$). Although these data are the result of self-reporting, and therefore subject to bias, the 2 groups showed comparable prevalences of symptoms unrelated to methyl alcohol toxicity. The prevalence of cases (a case was defined by various symptom aggregations*) was greater for aides in all 5-year age groups except age 41-45. There was a statistically significant difference for case rates in various age strata, using the Mantel-Haenszel Chi-square test ($p<0.05$). The attack rate increased according to the amount of time spent at a duplicating machine.

When investigators constructed enclosures around 6 duplicators and used the existing exhaust systems, the breathing-zone concentrations of methyl alcohol ranged from 9 to 130 ppm. These concentrations represented a 90%-98% reduction in the corresponding concentrations as measured with no exhaust systems and a 33%-94% reduction in the corresponding concentrations as measured with the existing systems in use.

Reported by the Hazard Evaluations and Technical Assistance Br, Div of Surveillance, Hazard Evaluations and Field Studies (DSHEFS), NIOSH, CDC.

Editorial Note: Many reports of methyl alcohol toxicity deal with acute effects of ingestion such as blindness, paresthesia, and death. Less severe but still serious effects may result from occupational exposure where the route of exposure is by inhalation or percutaneous absorption. The findings of this investigation indicate the effects of occupational exposure to relatively smaller concentrations of methyl alcohol. This study demonstrates the potential health problem from these exposures, but also suggests that such exposures can be easily controlled by enclosing spirit duplicators and using local-exhaust ventilation. Drawings of 3 suggested enclosure and exhaust designs for these duplicators are available from the Hazard Evaluations and Technical Assistance Br, DSHEFS, NIOSH, Mail Stop F9, 4676 Columbia Parkway, Cincinnati, Ohio 45226.

*Any 1 of the following 4 symptom aggregations constituted a case: visual changes or blurred vision; 2 acute symptoms; 1 acute and 1 chronic symptom; or 3 chronic symptoms. The acute symptoms were headache, dizziness, numbness, giddiness, nausea, and vomiting; the chronic symptoms were unusual tiredness, muscle weakness, irritability, poor memory, and insomnia.

Human Exposure to Canine Rabies — Illinois

Although skunks accounted for 88% of the 246 rabid animals reported in Illinois in 1980 through the end of May, rabid dogs may be more of a human health hazard because of their close contact with humans, as the following 2 incidents illustrate.

In mid-May a stray dog spent a week in and around a southern Illinois school yard, where the animal was petted and played with by numerous elementary and junior-high school students. The animal was described as lethargic, with a limp in 1 rear limb and dried blood on its side. On May 16 it died in a coma. Fluorescent-antibody (FA) stain of cut sections of brain were subsequently found to be positive for rabies by the Illinois Department of Public Health Laboratory.

Of the 630 students at the school, 103 reported touching the dog and were interviewed by the local health department for a more detailed history of exposure. Twenty students received postexposure rabies prophylaxis. Two children were bitten, 2 were scratched, 1 kissed the dog on the lips, 4 had open wounds that the dog definitely licked, and 11 had possible saliva contact with open wounds. Some physicians decided to administer treatment because the young age of the students precluded accurate histories of exposure.

In an unrelated incident later that week in the same town, 5 people began rabies prophylaxis for exposure to a dog that, according to the owner, was showing signs of a central nervous system disorder before it was sacrificed. No brain specimen was submitted for FA testing.

As of June 4, 4 of the 25 vaccine recipients in these 2 incidents had reactions to the duck embryo vaccine (DEV). Angioneurotic edema developed in 1 child within 2 hours after the first DEV injection. With another child a maculopapular rash developed over the entire body surface after her second DEV injection. Both individuals were subsequently supplied human diploid cell strain (HDCS) rabies vaccine by CDC. Two children with severe local reactions to DEV continued treatment with the aid of antihistamines.

Reported by MJ Deaton, RN, CW Elder, DDS, Franklin-Williamson Bi-County Health Dept; BJ Francis, MD, MPH, State Epidemiologist, J Hawkins, CW Langkop, MSPH, RJ Martin, DVM, MPH, Illinois Dept of Public Health; Field Services Div, Bur of Epidemiology, CDC.

Editorial Note: Both of these rabies episodes could have been prevented if the public had been aware of the clinical signs of rabies in animals and the basic precautionary measures that should be taken to avoid exposures to this disease.

School officials should not allow children to play with stray animals on school grounds, and local animal-control offices should be contacted whenever such animals appear. Parents and the school nurse should be notified when children are bitten by animals while at school so that prompt action can be taken to capture the animal and prevent

The Morbidity and Mortality Weekly Report, circulation 91,840, is published by the Center for Disease Control, Atlanta, Georgia. The data in this report are provisional, based on weekly telegraphs 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. Send reports to: Center for Disease Control, Attn: Editor, Morbidity and Mortality Weekly Report, Atlanta, Georgia 30333.

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Canine Rabies – Continued

unnecessary rabies prophylaxis treatment.

Since the above episodes occurred, the HDCS rabies vaccine, produced by Merieux Institute in France, was licensed for use in the United States. This vaccine is now the vaccine of choice for rabies treatment. Recommendations for use of the new vaccine appeared recently in the MMWR (*1*).

Reference

1. MMWR 1980;29:265-72, 277-80.

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