CENTERS FOR DISEASE CONTROL



MORBIDITY AND MORTALITY WEEKLY REPORT

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Epidemiologic Notes and Reports

Occupational Fatality Associated with a Robot — Michigan

On July 21, 1984, a 34-year-old male worker in Michigan was operating an automated die-casting system that included an industrial robot. At approximately 1:15 p.m., he was found pinned between the back end of the robot and a 4-inch-diameter steel safety pole used to restrict undesired arm movement by the robot. The robot stalled, applying sustained pressure to the chest of the operator, who experienced cardiopulmonary arrest. After emergency rescue efforts by personnel from the company, the city fire department, and the city emergency medical service, the worker was admitted comatose to a local hospital, where he died 5 days later.

An investigation by the medical examiner revealed no physical signs of crush injury; radiographs of bones and internal organs were negative, as was a test for blood-alcohol. The cause of death was identified as necrosis of the brain due to cardiopulmonary arrest. At the request of the medical examiner, a team from the National Institute for Occupational Safety and Health (NIOSH) investigated the workplace and interviewed managers, union representatives, co-workers, rescuers, and the medical examiner.

The company had 24 die-cast machines, two of which were automated with robots. The operator, who had 15 years' experience in die-casting operations, had completed a 1-week robotic training course, including a discussion of safety issues, approximately 1 month before the incident. His co-workers considered him a most adept operator.

On the day of the incident, the robot was programmed to extract a casting from a die-cast machine, dip it into a quench tank, and insert it into a trim press. This entire cycle, involving 27 computer programmed steps, required approximately 1 minute to complete. Two sides of the robot's "work envelope" were surrounded by a safety rail with an electrical interlock gate. At approximately 1 p.m., the operator had entered the work envelope of the robot, probably by climbing over, under, or around the safety rail. His reason for doing so is unknown. Because an air gun was found beside the operator, he may have been trying to clean up "flash" and scrap metal that had accumulated on the floor; however, that task was usually done by another employee when the robot was on hold. Although the operator had received instructions during the training course and warnings on the job against such entry, fellow workers had occasion-ally seen him inside the work envelope while the robot was operating and had cautioned him about this prohibited activity. After the fatality, the employer replaced the safety rail with a chain link fence to further restrict entry into the work envelope of the robot.

Several factors may have contributed to this fatal incident: (1) the behavior of the operator suggests a great confidence in his ability to interact safely with the functioning robot and may have led to unwarranted overconfidence; (2) the safety rail used to separate workers from the

Occupational Fatality – Continued

robot was probably less effective in preventing deliberate entry than unintentional entry; (3) neither the operator nor the other workers seemed to recognize the hazard posed by the fixed pole in the robotic work area that enabled a potentially fatal "pinch point" between the moving back of the robot and the pole.

Reported by Div of Safety Research, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Based on information available to NIOSH, this is the first documented case of a robot-related fatality in the United States. In two cases reported in Japan, the workers sustained extensive crush injuries (1). Although an industrial robot was first used in the United States in 1961 (2), the use of robots has increased most significantly since the late 1970s (3). In 1982, an estimated 6,200 industrial robots were used in U.S. workplaces, comprising 22% of the worldwide total (3). In the United Kingdom, the largest proportion of robots (35.2%) used in 1982 was for welding, while only 3.0% were used for die casting (3). Two surveys of nonfatal occupational injuries associated with robots showed that unauthorized entry into the robotic work envelope accounted for 11.2% of all such injuries in Japan (4) and for 5.1% in Sweden (5). In both surveys, the largest proportion of injuries occurred during programming or repairing of the robot.

Robotics have evolved in the workplace in response to economic and ergonomic factors. Future accelerated use of this technology is anticipated and will give rise to potential hazards (6). The robot-related death reported here suggests several changes in the design and installation of robotic equipment and in the training and supervision of workers that could prevent such incidents in all establishments that now use or anticipate using robots (7). The failure of employees to recognize hazards associated with robots is an important problem. While workers may easily identify hazards associated with the working zone of a robot's more obvious moving parts (or "arms"), they may be less aware of the dangers associated with movement of other elements of the robot assembly. In the present case, the operator was trapped between a fixed object (safety pole) and the rear end of the robot, an area often assumed to be out of the danger zone associated with a robot's working arm. Recognizing and planning for all potential hazards in the operation is essential. Because robots generally require more space than humans who perform the same tasks, placing robots in existing production lines creates space utilization problems. Therefore, the space requirements must be thoroughly understood so that workers know about and are shielded from inadequate clearances and dangerous "pinch points." These issues must be considered in advance to avoid creating new danger zones for personnel who operate, maintain, and service robotic systems.

The investigation reported here was conducted as part of the Fatal Accident Circumstances and Epidemiology (FACE) Program of NIOSH (8). For further information, contact: Division of Safety Research, NIOSH, Morgantown, West Virginia 26505.

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International Notes

Update: Acquired Immunodeficiency Syndrome - Europe

As of December 31, 1984, 762 cases of acquired immunodeficiency syndrome (AIDS) have been reported to the World Health Organization (WHO) Collaborating Centre on AIDS. During 1984, 417 cases were diagnosed—over half those reported since the disease was first reported and nearly twice the number reported in 1983 (235 cases). The number reported during the last quarter should be considered provisional because of the time lapse between date of diagnosis and notification to the national surveillance centers (Table 1).

For the last 6 months, the greatest increases in the number of cases were observed in France-80 cases (three per week); Federal Republic of Germany-56 cases (two/week); United Kingdom-54 cases (two/week); Netherlands-21 cases (one/week); and Switzerland-13 cases (one/2 weeks).

The 15 countries collaborating with the Centre for the last report (1) have reported 125 new cases, an increase of 11 cases per week.

Two countries, Austria and Belgium, have just joined the Centre. Austria had reported seven cases at the first European Meeting on AIDS held in Aarhus, Denmark, in October 1983 and now reports 13 cases (six additional cases); Belgium, which had reported 38 cases, now reports 65 cases (27 additional cases).

The highest rates of AIDS cases per million population (1983 populations, Institut National D'Etudes Démographics [INED], Paris) were observed in Belgium and Denmark (7/million).

Country	Oct. 1983 [†]	July 1984	Oct. 1984	Dec. 1984	Rates [§]
Austria	7	0	0	13	1.7
Belgium	38	0	0	65	6.6
Czechoslovakia	0	0	0	0	0.0
Denmark	13	28	31	34	6.6
Finland	0	0	4	5	1.0
France	94	180	221	260	4.8
Federal Republic					
of Germany	42	79	110	135	2.2
Greece	0	2	2	6	0.6
lceland	0	0	0	0	0.0
Italy	3	8	10	14	0.3
Netherlands	12	21	26	42	2.9
Norway	0	0	4	5	1.2
Poland	0	0	0	0	0.0
Spain	6	14	18	18	0.5
Sweden	4	7	12	16	1.9
Switzerland	17	28	33	41	6.3
United Kingdom	24	54	88	108	1.9
Total	260	421	559	762	2.0

 TABLE 1. Reported acquired immunodeficiency syndrome cases and estimated rates per

 million population — 17 European countries*

*Austria, Belgium, Czechoslovakia, Denmark, Finland, France, Federal Republic of Germany, Greece, Iceland, Italy, Netherlands, Norway, Poland, Spain, Sweden, Switzerland, and United Kingdom.

[†]These data were reported at the 1st European Meeting on AIDS held in Aarhus, Denmark, October 1983.

§Based on 1983 populations, INED, Paris.

AIDS - Continued

However, 83% of the Belgian patients (54/65) were Africans, of whom only 18 lived in Belgium before the onset of the first symptoms, in contrast with Denmark, where no African or Caribbean patients have been registered. The rate in Switzerland was six per million; France five per million; Netherlands—three per million; Federal Republic of Germany and United Kingdom—two per million.

Among the 762 AIDS patients, 376 deaths were reported, for a case-fatality rate of 49% (Table 2). Sixty-one percent of the patients diagnosed 1 year ago and 83% diagnosed 3 years ago have died. Sixty-four percent (484/762) of the patients presented with one or more opportunistic infections; 20% (151/762) had Kaposi's sarcoma (KS) alone; 16% (121/762) opportunistic infection with KS. The category "Other" includes three cases of progressive multifocal leukoencephalitis (France—two; Denmark—one) and three cases of cerebral lymphoma alone (one each in Federal Republic of Germany, Switzerland, and the United Kingdom). The case-fatality rate was 67% in the category "Other"; 60% for opportunistic infection with KS; 55% for opportunistic infection alone; and 24% for KS alone (Table 2).

Ninety-two percent of the patients were men (Table 3). The sex ratio was 11.7, compared with 15.3 at the last report and can be explained by 20 new cases among women diagnosed in Belgium. Forty-six percent of the patients belonged to the 30- to 39-year age group. The

Disease category	Cases (%)	Deaths (%)	
Opportunistic infection	484 (64)	264 (55)	
Kaposi's sarcoma	151 (20)	36 (24)	
Opportunistic infection			
and Kaposi's sarcoma	121 (16)	72 (60)	
Others	6 (A 1)	4 (67)	
Unknown	O (O)	0 (0)	
Total	762 (100)	376 (49)	

 TABLE 2. Acquired immunodeficiency syndrome cases and number of deaths, by disease category — 17 European countries, through December 31, 1984

TABLE 3. Acquired immunodeficiency syndrome cases, by age group and sex - 17 European countries, through December 31, 1984

Age group	Males	Females	Total No. (%)
0-11 months	4	1	5 (< 1)
1-4 years	0	0	0 (0)
5-9 years	0	0	0 (0)
10-14 years	2	0	2 (< 1)
15-19 years	4	0	4 (< 1)
20-29 years	106	31	137 (18)
30-39 years	335	18	353 (46)
40-49 years	188	8	196 (26)
50-59 years	45	2	47 (6)
≥ 60 years	7	0	7 (< 1)
Unknown	11	0	11 (1)
Total *	702	60	762 (100)

*Sex ratio = 11.7.

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0- to 1-year age group comprised: one boy from Burundi and one from Zaire diagnosed in Belgium; one French girl with a Zairian father, one Haitian boy, and one Zairian boy diagnosed in France. Two children with hemophilia in the 10- to 14-year age group were diagnosed in France. The 15- to 19-year age group comprised: two hemophilia patients (one each in Austria and Spain); one homosexual (France); and one unspecified case (Federal Republic of Germany).

Cases were geographically distributed as follows (Table 4):

European*: 605 cases (79% of total). Five hundred seventy-eight patients lived in Europe before the onset of the first symptoms of AIDS, and 27 (4%) of the 605 patients lived outside Europe (United States—six; Zaire—four; Haiti—three; and one each in Togo, Gabon, Nicaragua, Venezuela, Ghana, South Africa, Burundi, and Bermuda). For six patients, the country of residence was not specified.

Caribbean: 24 cases (3%). Twenty-two patients lived in Europe before the onset of the first symptoms: 18 Haitians diagnosed in France and one in Belgium; one Dominican and one Jamaican lived in the United Kingdom; one of unspecified origin lived in Switzerland. Two other Haitian patients diagnosed in France lived in Haiti.

African: 111 cases (15%). In the previous report, 8% of the patients were Africans; the increase is due to the participation of Belgium. These cases were diagnosed in seven European countries and originated from 18 African countries. Sixty-seven percent were from Zaire, and 11%, from the Congo. Among the 16 other countries, the number of cases diagnosed in Europe varied from one to three. This distribution cannot be considered representative of the AIDS situation in Africa. The majority (52%) of these patients lived in Europe before the onset of the first symptoms.

*The word European refers to the patients originating from one of the 32 countries belonging to the WHO European region.

			Nationa	lity		
Pat	ient risk groups	European	Caribbean	African	Others	Total
1.	Male homosexual or bisexual	514	2	5	16	537
2.	Intravenous-drug abuser	11	0	0	0	11
3.	Hemophilia patient	20	0	0	0	20
4.	Transfusion recipient (without other risk factors)	4	0	4	0	8
5.	1- and 2-associated	9	0	0	2	11
6.	No known risk factor male female	29 15	17 4	64 29	2 0	112 48
7.	Unknown	3	1	9	2	15
Tot	al	605	24	111	22	762

TABLE 4. Acquired immunodeficiency syndrome cases, by patient risk group and geographic origin — 17 European countries, through December 31, 1984

AIDS - Continued

Other origins: 22 cases (3%). Most of these patients originated from the American continent: United States – 16; and one each in Nicaragua, Argentina, Peru, and Canada. One patient originated from Pakistan, and one, from Australia. Thirteen of these patients did not live in Europe before the onset of the first symptoms.

Among the Europeans: 85% (514/605) were homosexual or bisexual (Table 4); 2% (11/605) were drug abusers; and 1% (9/605), both homosexual and drug abusers. The latter 20 cases were diagnosed in the Federal Republic of Germany-nine; Spain-three; France-three; Austria-two; Italy-two; Switzerland-one.

Three percent (20/605) were hemophilia patients. For four of the 605 European patients, the only risk factor found was blood transfusion. For 7% (44/605), no risk factor was found. The information was not obtained for three patients.

Among the Caribbean patients, two of 24 were homosexual; 21 presented no risk factors; for one, the information was not obtained.

The overall presentation of the progress of the AIDS situation in Europe does not take into account the important differences between the countries. Furthermore, the total increase in the number of cases in each country is only of informative value if it is related to the total (*Continued on page 155*)

	1	1 th Week End	ing	Cumulat	ive, 11th Week	Ending
Disease	Mar. 16, 1985	Mar. 17, 1984	Median 1980-1984	Mar. 16, 1985	Mar. 17, 1984	Median 1980-1984
Acquired Immunodeficiency Syndrome (AIDS)	55	78	N	1,141	711	Ν
Aseptic meningitis	90	52	76	728	869	869
Encephalitis: Primary (arthropod-borne						
& unspec.)	23	18	18	173	157	172
Post-infectious	3	-	2	24	9	16
Gonorrhea: Civilian	15,007	16,469	17,000	163,177	173,372	197,940
Military	319	427	427	3,953	4,170	5,796
Hepatitis: Type A	429	404	475	4,252	4,411	4,974
Туре В	491	488	432	4,934	5,024	4,095
Non A, Non B	86	67	N	829	720	N
Unspecified	172	108	191	1,028	926	1,787
Legionellosis	10	6	N	110	95	N
Leprosy	1	3	3	66	47	46
Malaria	13	10	17	134	118	159
Measles: Total*	64	80	80	303	523	523
Indigenous	55	80	N	246	457	N
Imported	9	-	N	57	66	N
Meningococcal infections Total	79	70	83	673	721	724
Civilian	79	70	83	673	721	721
Military	-	-	-	-	-	4
Mumps	88	66	135	750	756	1,189
Pertussis	28	40	25	234	373	222
Rubella (German measles)	18	7	54	64	111	423
Syphilis (Primary & Secondary) Civilian	381	516	586	5,026	5,993	6,464
Military	5	5	5	32	63	84
Toxic Shock syndrome	4	10	N	77	92	N
Tuberculosis	415	397	444	3,804	3,991	4,853
Tularemia	1	-	-	21	13	18
Typhoid fever	1	3	8	42	66	72
Typhus fever, tick-borne (RMSF)		-	1	5	10	10
Rabies, animal	65	117	112	824	876	997

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

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1985		Cum 1985
Anthrax Botulism: Foodborne Infant (Wash. 1) Other Brucellosis	- 1 9 - 17	Plague Poliomyelitis: Total Paralytic Psittacosis (Fla. 1, Colo. 1, N. Mex. 1) Rabies, human	1 1 26
Cholera	-	Tetanus	11
Congenital rubella syndrome Diphtheria Leptospirosis (Upstate N.Y. 1, Ala. 1)	6	Trichinosis Typhus fever, flea-borne (endemic, murine)	3

*Eight of the 64 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. .

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			March	n 16, 19	85 and Ma	arch 17, 19	84 (11t	h Weel	<)			
	AIDS	Aseptic Menin-	Encer	halitis		orrhea	н	epatitis (V	(iral), by ty		Legionel-	Leprosy
Reporting Area		gitis	Primary	Post-in- fectious		ilian)	A	В	NA,NB	Unspeci- fied	losis	
	Cum. 1985	1985	Cum. 1985	Cum. 1985	Cum. 1985	Cum. 1984	1985	1985	1985	1985	1985	Cum. 1985
UNITED STATES	1,141	90	173	24	163,177	173,372	429	491	86	172	10	66
NEW ENGLAND Maine	36 2	3	3	:	5,231 215	5,453 202	4	32	6 1	15	1	-
N.H. Vt.	-	-	1	-	119	125	-	-	1	-	:	-
Mass	23	2	2	-	48 1,880	83 2,041	1	19	2	14	-	-
R.I. Conn.	1 10	1 -	-	-	406 2,563	351 2,651	3	13	2	1	1	-
MID ATLANTIC	433	21	24	-	21,929	22,731	56	86	7	7	-	6
Upstate N.Y. N.Y. City	62 269	15	10 1	-	3,220 9,194	3,434 9,761	39 1	43 1	5	2	-	6
N.J. Pa	68 34	5 1	7 6	-	4,682 4,833	3,396 6,140	11 5	25 17	1	3 2		-
EN CENTRAL	72	14	48	5	24,054	23,952	28	58	6	7	3	1
Ohio Ind	15 4	3 2	16 9	2	6,050 2,211	6,012 2,448	11 1	20 4	1 1	3 1	2	1
III. Mich	29 14	4 5	4 16	2	7,364 6,817	6,059 6,861	9 7	4 30	2 2	1 2	1	-
Wis	10	-	3	1	1,612	2,572	-		-	-	-	-
W N CENTRAL Minn	11 3	2	12 4	2 1	8,540 1,326	7,921 1,074	18	12 2	1	1	-	-
lowa Mo	2	-	7	-	920	956	- 8	1	1	- 1	-	-
N Dak	4	2	-	1	3,895 68	3,715 98	1	-	-	-	-	-
S Dak Nebr	-	-	1	-	155 730	251 557	9	1 4	-	-	-	-
Kans	2	-	-		1,446	1,270	-	-	-	-	-	-
S ATLANTIC Del	160 3	14	20 1	10	35,466 719	44,450 703	23	76	16	14	2 1	1
Md D C	21 21	2	6	1	5,495 2,968	5,646 3,286	3	20 4	1	1	-	-
Va	9	2	1	3	3,756	4,361		3	1	5	1	-
W Va N C	1 11	î	1 9	-	443 7,117	514 7,277	2	5	2	-	-	1
S C Ga	1 26	2	2	-	4,661	4,196 8,471	2	13 10	1	1	-	-
Fla	67	7	-	6	10,307	9,996	16	20	11	7	-	-
ES CENTRAL Kv	9 4	13 11	7	3	14,339 1,579	14,658 1,799	7 5	31 5	4	6 2	-	-
Tenn Ala	4	-	4 1	3	5,639 4,396	5,846 4,819	1	15 10	1 3	3 1	-	-
Miss	1	2	-	-	2,725	2,194	1	1	-	-	-	-
W S CENTRAL Ark	70	6	16 1	-	23,525 2,274	23,849 1,962	56	36	3	48	1	8
La	3	2	-	-	5,080	5,452	1 12	5 4	1	- 3	1	1
Okla Tex	2 65	4	8 7	-	2,308 13,863	2,678 13,757	43	27	2	45	-	7
MOUNTAIN	18	1	6	2	5,338	5,363	68	41	10	20	1 1	-
Mont Idaho	-	-	-	-	168 181	252 251	3	i	1	1	-	-
Wyo Colo	-	1	2	-	148 1,554	154 1,502	2 10	1 7	2	6	-	-
N Mex Ariz	3	-	-	-	654 1,589	647 1,401	8 25	2 10	3	2 4		-
Utah Nev	1		4	2	215 829	304 852	8 12	11	1 3	6 1	-	:
PACIFIC	332	16	37	2	24,755	24,995	169	119	33	54	2	50
Wash Oreg	17	1	2	-	1,730 1,407	1,759 1,434	7 22	7 5	6 2	1	-	7 1
Calif.	303	7	35	2	20,628	20,721	139	105	25	52	1	38
Alaska Hawaii	4	8	-	-	613 377	632 449	1	1	-	-	1	4
Guam P R	-	U	-	-	6	65	U 17	U 26	U	U	U	-
V.I	19 1	Ū	1	1	830 68	782 93	U	U	Ū	5 U	U	2
Pac. Trust Terr.	-	U	-	-	-	-	U	U	U	U	U	-

TABLE III. Cases of specified notifiable diseases, United States, weeks ending March 16, 1985 and March 17, 1984 (11th Week)

N Not notifiable

4

			Mea	sles (Rub	eola)		Menin-	Г — — — — — — — — — — — — — — — — — — —							
Reporting Area	Malaria	Indig	enous	Impoi	_	Total	gococcal Infections	Mur	nps		Pertussis			Rubella	
	Cum. 1985	1985	Cum 1985	1985	Cum. 1985	Cum. 1984	Cum. 1985	1985	Cum. 1985	1985	Cum. 1985	Cum 1984	1985	Cum 1985	Cu 198
UNITED STATES	134	55	246	9	57	523	673	88	750	28	234	373	18	64	11
NEW ENGLAND Maine	6	-	-	3	3	1	31	3	23	-	8	11		3	1
N.H.	-	-	-	-	-	1	1 2	-	2 4	1	2 2	-3	-	1	
Vt Mass	-3	-	-	3 †	-3	-	4 7	-	2	-	1	4		-	
R.I. Conn.	1	-	-	-	-	-	6	3	12 2		2 1	3 1	-	2	1
	2	•	-	-	-	-	11	-	1	-	-	-	-	-	
MID ATLANTIC Upstate N.Y.	20 8	4 2	11 5	2	5 1	12	109	9	90	2	39	22	5	14	
N.Y. City	6	2	6	-	ź	9	46 11	7	60 8	2	17	12 1	3	5 6	
N.J. Pa.	2 4	-		2†	2	3	21 31	2	11	-	1 14	1	2	3	
E.N. CENTRAL		•	- 4					-			• •	8	-	-	
Ohio	6 1	2	54	-	13 13	249 2	117 42	32 8	343 68	5 5	39	118	1	6	2
Ind. III.	-	-	-	-		2	18	1	11	-	13 11	26 66	-	-	
Mich.	- 5	2	3 34	-	-	46 198	19 27	4 19	54 180	-	2	10	:	-	1
Wis.	-	-	17	-	-	1	11	-	30	:	5 8	7 9	1	6	
W.N. CENTRAL	3	-		2	2	-	29	1	11	2	17	58		1	1
Minn. Iowa	1	-	-	-	-	-	8	-	-	-	7	2	-		1
Mo.	1	-	-	2†	§ 2	-	4 16	1	4 5	1	1 6	3 10	-	-	
N. Dak. S. Dak.	1	-	-	-	-	-	-	-	-	i	3	-	-	-	
Nebr	-			-	-		1	-	-	:	-	1	-	-	
Kans.	-	-	-	-	-	-	-	-	2			40		1	1
S. ATLANTIC	19	2	6	-	3	4	133	8	61	3	41	43	4	8	
Del. Md.	3	:	-	-	1	-	2	-	-	-	-	-	-	-	1
D.C.	3	-	-	-	1	-	17 4	2	8	-	11	3	-	1	
Va. W. Va.	5	2	4	-	1	1	18	-	10	-	1	7	-		
N.C.	i	-	-	-	-	-	3 21	3 3	24 6		6	4 15	-	-	
S.C. Ga.	1		-	-	-	-	11	-	1	-	-	1	-	2	
Fla.	5	-	2	-	-	3	22 35		2 10	1 2	9 14	4 9	4	4	
S. CENTRAL	2			_		3	28								
(у.	-	-	-	-	-	1	2	-	6 1	-	3 1	2 1	-	1	
Fenn. Ala.	2	-	-	-	-	2	10 11	-	4	-	1	1	-	-	
Miss.	-	-			-	-	5	-	1	-	1		2	-	
N.S. CENTRAL	6		2			64	58	12	71		10	40			
Ark.	-	-	-	-	-	-	6	-	1	1	12 7	46 9	6	10	
.a. Okla.		-		-		-	9	- N	N	1	- 5	1	-		
ſex.	6	-	2	-	-	64	34	12	70	-	5	28 8	6	- 9	
MOUNTAIN	5	42	133	-	16	83	37	4	55	3	16	32		1	
Mont. daho	-	42	133	-	16	-	3	-	3	1	2	16	-	-	
Nyo.	-	-		-	-	-	3	-	3		-	1	-	-	
Colo. N. Mex.	2	-	-	-	-	-	8	1	10	2	7	11		-	
Ariz.	3	-		-	-	58	4 13	N 3	N 33		2 2	2		-	
Jtah Jev.	-	-	-	-	-	25	4	-	2	-	23	1	-	1	:
	-	-	-	-	-	-	2	-	4	-	-	-	-	-	
ACIFIC Vash	67	5	40	2	15	107	131	19	90	12	59	41	2	20	4
Dreg	5 2	2	-	-	-	13	23 11	2 N	4 N	4	9 5	8 4	-	1	
alif. Jaska	51	4	37	1+	12	92	96	16	77	7	42	16	2	17	4
awaii	1	1	3	1+	3	2	1	1	27	1	1 2	13	-	2	
uam		U	7								4		•	2	
.R.	-	3	38	U -		56	3	U 4	37	U	1	:	U	- 4	
.l. ac. Trust Terr.	-	U	1	U	5	-	-	U	3	U	-	-	U	-	
ee. muat left.	-	U	-	U	-	-	-	U	-	U	-	-	υ	-	

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending March 16, 1985 and March 17, 1984 (11th Week)

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

		March 16	, 1985 and	March '	17, 1984	(11th Wee	ek)		
Reporting Area	Syphilis (Primary &	(Civilian) Secondary)	Toxic- shock Syndrome	Tuber	rculosis	Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1985	Cum. 1984	1985	Cum 1985	Cum 1984	Cum. 1985	Cum. 1985	Cum. 1985	Cum 1985
UNITED STATES	5,026	5,993	4	3,804	3,991	21	42	5	824
NEW ENGLAND	113	130	-	128	109	:	3	no chang	<i>C</i> .
Maine N H	3	1	-	11	6 8	-	-		-
Vt Mass	62	- 79	-	78	2 56	-	2	-	-
RI	4	6	-	16	14	-	-	-	-
Conn	44	43	-	23	23	-	1	-	-
MID ATLANTIC	633	807	1	743	737 123	1	5 3	-	90 16
Upstate N Y N Y City	31 417	63 465	-	95 411	309	1	-	-	-
N J Pa	131 54	168 111	- 1	50 187	134 171	-	1		1 73
			'			-			
E N CENTRAL Ohio	246 25	272 51	-	494 90	520 108	-	4	-	10 1
Ind	17	35	-	55	56	-	2	-	2
lll Mich	132 60	104 61	-	225 99	210 117	-	1	-	2
Wis	12	21	-	25	29	-	-	-	5
W N CENTRAL	65	88	2	101	101	7	2	-	130
Minn	19	16	-	19 18	17 17	1	2	-	16 41
lowa Mo	11 21	9 52	1	42	40	5	-	-	7
N Dak	-	-	-	-	4	-	-	-	16
S Dak Nebr	4	- 3	1	5 5	3 9	1	-	-	43 7
Kans	9	8		12	11	-	-	-	-
S ATLANTIC	1,297	1,856	-	770	904	4	7	3	268
Del	12	7	-	7	12	-	-	-	167
Md D C	103 69	93 64	-	89 34	98 28	-	1	-	-
Va	71	105	-	50	70	-	1	-	32
W Va N C	2 150	8 215	-	18 79	33 156	4		2	2
SC	173	178	-	103	108	-	-	1	7
Ga Fla	717	310 876		115 275	112 287	-	5	-	38 22
	456	388		317	364	2	2	2	40
E S CENTRAL Ky	456	20	-	60	92	-	-	-	5
Tenn Ala	120 167	90 139		90 123	114 128	2	2	1	6 29
Miss	153	139	-	44	30		-	-	-
W S CENTRAL	1,240	1,440		370	376	2	2	-	138
Ark	69	56	-	29	31	1	-	-	17
La Okla	229 43	272 42	-	58 50	53 39	1	-	-	3 19
Tex	899	1,070	-	233	253	-	2	-	99
MOUNTAIN	170	134	-	69	80	3	-		69
Mont	1	-	-	5	2	-	-	-	32
ldaho Wyo	2	8 1	-	2 1	4	-	-	-	2
Colo	40	30	-	3	7	-	-	-	- 1
N Mex Ariz	18 97	15 49		14 37	19 37	1		-	34
Utah	2	6	-	2	7	2	-	-	-
Nev	7	25	-	5	4	-	-	-	-
PACIFIC	806	878	1	812	800	2	17	-	79
Wash Oreg	12 24	35 23		30 25	37 33	1	-		-
Calif	754	800	1	679	662	1	17	-	79
Alaska Hawaii	16	1 19	-	38 40	17 51	-	-	-	-
		15							
Guam P R	196	201	U	2 61	4 62	-	1		4
V.I.	-	6	U	-	1	-	-		-
Pac. Trust Terr.	-	-	U	-	-	-	-	-	-

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending March 16, 1985 and March 17, 1984 (11th Week)

U Unavailable

March 16, 1985 (11th Week)															
		All Caus	ses, By A	.ge (Year	s)					All Cause	es, By Aç	je (Years)		_
Reporting Area	All Ages	≥65	45-64	25-44	1-24	<1	P&I** Total	Reporting Area	All Ages	≥65	45-64	25-44	1-24	<1	P&I** Total
NEW ENGLAND	744 184	528 123	151 38	27 8	21 8	17 7	72 20	S. ATLANTIC	1,375	894	315		40	35	101
Boston, Mass. Bridgeport, Conn.	51	35	10	ŝ	2	í	20 5	Atlanta, Ga. Baltimore, Md.	179 231	107 148	47 54		6 10	2 6	3 9
Cambridge, Mass.	33	25	8	-	-	-	6	Charlotte, N.C.	94	58	25		2	2	14
Fall River, Mass.	26	21	4 13	1	-		4	Jacksonville, Fla.	108	67	32		2	-	12
Hartford, Conn. Lowell, Mass.	50 34	31 22	10	4	1	1	4 4	Miami, Fla. Norfolk, Va.	116 82	78 48	26 21		3 5	1 7	4 11
Lynn, Mass.	24	18	5	-	i	-		Richmond, Va.	93	59	19		- 5	' 7	13
New Bedford, Mass		26	8	-	2	-	2	Savannah, Ga	54	35	15	2	-	2	5
New Haven, Conn. Providence, R.I.	50 94	32 71	11 16	4 2	3 1	4	1 13	St. Petersburg, Fla.	121	101	12		4	1	11
Somerville, Mass	6	5	1	-	2	-	13	Tampa, Fla. Washington, D.C.	80 196	47 131	25 36		1 7	- 7	6 13
Springfield, Mass.	68	51	11	3	1	2	3	Wilmington, Del.	21	15	3				
Waterbury, Conn.	31	28	3			-	5	5 0 051170 A							
Worcester, Mass.	57	40	13	1	1	2	5	E.S. CENTRAL Birmingham, Ala.	807 122	556 73	179		12 4	21	61
MID. ATLANTIC	3,047	2,087	619	209	62	68	183	Chattanooga, Tenn.	59	43	32		4	6 5	2 9
Albany, N.Y.	58	42	12	-	1	2	2	Knoxville, Tenn.	80	65	12		i	-	5
Allentown, Pa.	30 127	23 94	4 25	1	2 3	2		Louisville, Ky	138	94	30		-	4	14
Buffalo, N.Y. Camden, N.J.	28	23	25 4	1	3	2	13	Memphis, Tenn. Mobile, Ala.	141 84	97 65	31 15		4	3 2	10 10
Elizabeth, N.J.	30	19	7	4	-	-	1	Montgomery, Ala	59	41	14			1	4
Erie, Pa t	23	15	2	4	2	-	2	Nashville, Tenn.	124	78	38		1	-	7
Jersey City, N.J. N.Y. City, N.Y.	62 1,373	42 936	14 257	3 121	2 31	1 28	1 69	W.S. CENTRAL	1,711	1.009	410	100	7.4		
Newark, N.J.	60	31	14	11	2	1	4	Austin, Tex.	52	34	410		71 2	61 3	104 5
Paterson, N.J.	34	19	8	3	-	4	3	Baton Rouge, La.	60	30	21		2	3	
Philadelphia, Pa.†	711 67	461 48	177 16	43	12	18	56	Corpus Christi, Tex	72	52	10		1	3	7
Pittsburgh, Pa.† Reading, Pa.	29	24	5	-	-	3	2 3	Dallas, Tex. El Paso, Tex.	220 87	121 51	51 21		16 6	9 4	7
Rochester, N.Y.	140	105	24	5	2	4	13	Fort Worth, Tex.	134	76	26		8	13	
Schenectady, N.Y.	27 43	22	5	-		-	2	Houston, Tex	535	291	142	69	22	11	18
Scranton, Pa.† Syracuse, N.Y.	43 97	30 76	10 17	2 1	1	2	4	Little Rock, Ark New Orleans, La	88	61	20		1	2	
Trenton, N.J.	39	27	7	3	i	1	-	San Antonio, Tex	156 194	92 125	47 44		2 8	3 6	
Utica, N.Y.	32	25	6	1	-	-	2	Shreveport, La.	31	· 22	6		1	-	
Yonkers, N.Y.	37	25	5	3	2	2	6	Tulsa, Okla	82	54	13		2	4	3 7
	2,430 87	1,736 56	402	127	76	88	126	MOUNTAIN	704	445	156		22	34	49
Akron, Ohio Canton, Ohio	50	35	17 12	9 2	4	1	2	Albuquerque, N.Me. Colo. Springs, Colo	× 77	46	19		3	2	8
Chicago, III §	553	462	11	26	16	37	16	Denver, Colo	132	19 79	5 32		2 2	2 13	
Cincinnati, Ohio	153	104	35	7	6	1	21	Las Vegas, Nev	95	62	26		1		3
Cleveland, Ohio Columbus, Ohio	189 131	124 82	37 35	14 3	8 2	6 9	7 8	Ogden, Utah Phoenix, Ariz	18	12	3		2	1	2
Dayton, Ohio	112	86	18	6	1	1	9	Pueblo, Colo	160 20	106	26		4	11	3
Detroit, Mich.	277	173	53	27	14	10	10	Salt Lake City, Utah	50	29	13		5	3	4
Evansville, Ind	56 68	38 45	12	2	1	3	2	Tucson, Ariz	123	78	28		3	2	16
Fort Wayne, Ind. Gary, Ind.	10	45 6	22 2	1	-	-	4	PACIFIC	2,405	1,643	470	105	~~	~~	
Grand Rapids, Mich	1 47	32	7	3	4	1	2	Berkeley, Calif.	2,405	1,043	470		60 1	60	142 1
Indianapolis, Ind	164	108	39	8	6	3	3	Fresno, Calif	73	43	19		2	2	ż
Madison, Wis. Milwaukee, Wis.	54 126	35 96	9 25	3 4	4	3	10 4	Glendale, Calif. Honolulu, Hawaii	66	55	8		-	-	8
Peoria, III.	39	27	8	2	i	1	2	Long Beach, Calif.	86 121	53 83	21 25		2 2	5 1	5 4
Rockford, III.	43	30	11	1	-	1	4	Los Angeles, Calif.	803	549	155		22	13	28
South Bend, Ind.	69	44	16	2	2	5	6	Oakland, Calif	85	52	21	5	7	-	5
Toledo, Ohio Youngstown, Ohio	129 73	92 61	26 7	4	2 4	5	9 5	Pasadena, Calif. Portland, Oreg.	33 165	26	4	1	-	2	
							5	Sacramento, Calif.	126	121 97	25 21	10 3	4 2	5 3	14 11
W.N. CENTRAL	778	545	143	43	23	24	44	San Diego, Calif.	144	94	29	8	6	7	13
Des Moines, Iowa Duluth, Minn.	71 29	56 20	8	5 2	2 1	1	1	San Francisco, Calif San Jose, Calif		116	38	18	1	4	12
Kansas City, Kans.	35	20	5 7	2	2	1	1	San Jose, Calif. Seattle, Wash.	206 163	134 113	39		6	11	16
Kansas City, Mo.	122	84	24	9	4	1	13	Spokane, Wash	56	37	35 9		2 2	3 2	6 9
Lincoln, Nebr.	33	22	9	-	-	2 7	1	Tacoma, Wash	80	54	18		1	2	3
Minneapolis, Minn.	97 105	66 68	17 25	4 6	3 4	7 2	1 7	TOTAL	14,001	t			ac -		
Omaha, Nebr. St. Louis, Mo.	162	127	25 19	8	2	6	9	TOTAL	14,001	9,443	2,845	906	387	408	882
St. Paul, Minn.	56	34	12	3	4	3	3								
Wichita, Kans	68	47	17	2	1	1	8								
						-		L							

TABLE IV. Deaths in 121 U.S. cities,* week ending March 16 1985 (11th Week)

* 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 Com-plete counts will be available in 4 to 6 weeks. tt Total includes unknown ages.

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

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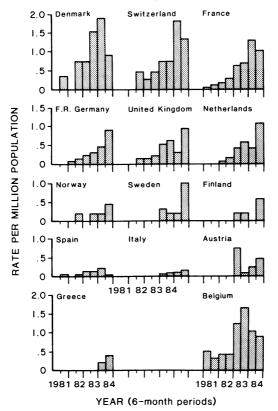
AIDS - Continued

population of the country. Figure 1 shows the variation in the rates per million population per half year for each country where cases have been diagnosed. This figure is difficult to interpret given the qualitative differences in the national surveillance systems. Nevertheless, three situations stand out: for six countries (Denmark, France, Netherlands, Federal Republic of Germany, Switzerland, United Kingdom) the general trend of these rates show a constant increase (the data of the second half of 1984 should be considered provisional).

The situation in Belgium is different; stable in 1981 and 1982, it showed an increase in 1983 and a decrease in 1984. This is explained by the arrival of African patients, mainly from Zaire, for treatment in 1983. In 1984, facilities were set up in Zaire for these patients, hence the decrease in the number of cases in Belgium for that year. Of the 65 cases reported, only seven originated from Belgium. For the third group of countries (Austria, Finland, Greece, Italy, Norway, Spain, and Sweden), the half-year trends do not clearly indicate an increase. If the African cases were excluded, Belgium would come into this group.

Editorial Note: As of December 31, 1984, 17 countries were taking part in the surveillance of AIDS in Europe by reporting their respective data to the Centre. Since the last report (Octo-

FIGURE 1. Incidence rates of acquired immunodeficiency syndrome, by 6-month period of diagnosis — 14 European countries, through December 31, 1984*



*Denmark, Switzerland, France, Federal Republic of Germany, and United Kingdom had cases reported before 1981, which are not included.

AIDS - Continued

ber 15, 1984) (1), two more countries, Austria and Belgium, have provided data. The Centre used the CDC case definition. One source per country, recognized by the respective national health authorities, provides the information, and each source is responsible for the quality of the data provided.

Reported by JB Brunet, MD, Institut de Médecine et D'Épidémiologie Tropicales, Hopital Claude Bernard (WHO Collaborating Centre on AIDS), Paris, France; Federal Ministry of Health and Environmental Protection, Vienna, Austria; Conseil Supérieur de l'Hygiène Publique, Ministère de la Santé, Brussels, Belgium; Institute of Virology, Bratislava, Czechoslovakia; Statens Serum Institute, Copenhagen, Denmark; Institute of Biomedical Sciences, Tampere, Finland; Direction Générale de la Santé, Paris, France; Robert Koch Institute, West Berlin, Federal Republic of Germany; Ministère de la Santé, Athens, Greece; General Direction of Public Health, Reykjavik, Iceland; Instituto Superiore di Sanita, Rome, Italy; Staatstoezicht op de Volksgezondheid, Leidfehendam, Netherlands; National Institute of Public Health, Oslo, Norway; National Institute of Hygiene, Warsaw, Poland; Ministerio de Sanidad y Consumo, Madrid, Spain; National Bacteriological Laboratory, Stockholm, Sweden; Office Federal de la Santé Publique, Berne, Switzerland; Communicable Disease Surveillance Centre, London, United Kingdom.

Reference

1. CDC. Update: acquired immunodeficiency syndrome – Europe. MMWR 1985;34:21-2, 28-31.

Epidemiologic Notes and Reports

Botulism from Fresh Foods — California

In August 1984, three cases of botulism were reported in California from two episodes in which the ill persons had eaten improperly handled food made from fresh ingredients.

Episode 1: Botulism was reported in a 61-year-old Santa Cruz County woman and her 13year-old granddaughter. The older woman had classic symptoms of bilateral ptosis, diplopia, and facial weakness; the granddaughter was less ill. Food histories revealed no recent exposures to home-canned food, but improper food handling was identified as the likely cause of illness. Three days before onset, the grandmother prepared two turkey loaves that included cereal, onion, and green pepper. One loaf was consumed without incident immediately after cooking. The other was inadvertently stored in the gas oven with the pilot light on (later measured at 32.2 C [90 F]), until the grandmother discovered it the next afternoon. She tasted a small portion before reheating it at approximately 150 C (300 F) for approximately 20 minutes and served the turkey loaf to the three other members of her household. Thirty-six hours later, she awoke with ptosis, diplopia, and facial weakness. Of the others who ate the rewarmed loaf, only the granddaughter developed symptoms. When questioned, she could not recall tasting the turkey loaf with her grandmother before reheating, but did recall eating a portion from the center of the loaf. Type A botulinal toxin was detected in the sera of both patients. Trivalent botulinum antitoxin was administered, and both recovered completely. Since the turkey loaves were completely consumed, confirmatory tests on the suspected vehicle were not possible.

Episode 2: A 22-year-old Orange County man awoke at 2 a.m. with vomiting, blurred vision, and a "thick tongue." Symptoms progressed to total quadriplegia, then respiratory failure requiring mechanical ventilation. Forty hours before onset, he had consumed stew pre-

Botulism – Continued

pared by his roommate from fresh ingredients (including meat and unpeeled potatoes and carrots), then left overnight at room temperature. The stew was cooked in a 7-inch deep pot filled to the top and simmered for 45 minutes; the gas was then turned off and the pot left on the range. The roommate ate it hot after the initial cooking, without incident. The patient tasted it without reheating 16 hours later and complained of a bad taste. The roommate confirmed a sour taste, immediately spit it out, rinsed his mouth, and remained well. The stew was then discarded and could not be tested. Type A botulinal toxin was detected in the patient's serum; he was treated with botulinal antitoxin and recovered after extended hospitalization.

Adapted from California Morbidity (February 1, 1985 [4]), as reported by D Corzine, MD, Capitola, M Stroe, MD, Santa Cruz County Health Dept, CS Kim, MD, J Lysiak, MD, L Spurgeon, MD, J Wallace, MD, M Gallagher, Anaheim, T Prendergast, MD, Orange County Health Dept, SB Werner, MD, California Dept of Health Svcs; Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Because spores of *Clostridium botulinum* are ubiquitous in soil, they can contaminate fresh foods, particularly those harvested from the ground. The spores are quite heat resistant and can survive boiling for several hours. For spores to germinate and produce toxin, several conditions must be met, including appropriate temperature and pH and oxygen contents. Foodborne botulism generally results from home-canned vegetables that are contaminated with spores and are improperly prepared, thereby allowing the production of botulinal toxin. Toxin can also be elaborated in foods that are initially cooked, then held at ambient temperatures for at least 16 hours. The cases presented here are not unique, since the same mechanism of toxin production appears to have accounted for previous episodes of botulism from commercial pot pies, sauteed onions, and, in one instance, a baked potato (1-4). These foods were cooked, allowed to stand at ambient temperatures, and consumed later without reheating. Foods heated for serving should either be eaten hot or refrigerated and later reheated thoroughly (since the toxin is heat labile) before re-serving.

References

- 1. California Department of Health Services. Botulism and commercial pot pie. California Morbidity, November 12, 1982 (44).
- California Department of Health Services. Type A botulism associated with commercial pot pie. California Morbidity, December 30, 1976 (51).
- MacDonald KL, Spengler RF, Hatheway CL, Hargrett NT, Cohen ML. Type A botulism from sauteed onions. Clinical and epidemiologic observations. JAMA 1985;253:1275-8.
- 4. Louisiana Department of Health and Human Resources. Unpublished data.

Update: Influenza Activity - Europe, United States

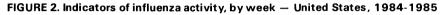
Europe: Although influenza activity occurred at low levels in many countries during late 1984 and early 1985, the level of activity increased in some European countries during February. Influenza type A(H3N2) has remained the predominant virus strain, but some putbreaks of type B and, to a lesser extent, type A(H1N1) have occurred this season.

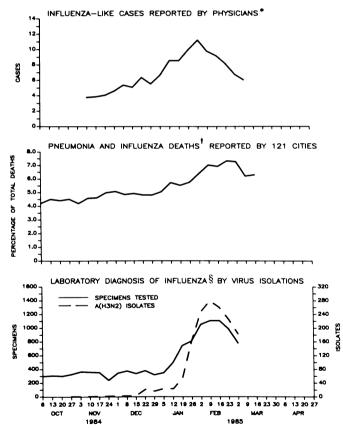
Following the widespread outbreaks during January 1985 in the Union of Soviet Socialist Republics and Norway (1), during February, influenza type A(H3N2) activity increased to widespread levels in the Federal Republic of Germany, the German Democratic Republic, Sweden, and Finland. The incidence of influenza-like illness also increased in southern France, where type A(H3N2), type B, and a few type A(H1N1) viruses were isolated. Influenza type A(H1N1)

Influenza – Continued

viruses were isolated in Switzerland in association with sporadic cases and localized outbreaks among children. An outbreak of influenza type B, affecting all age groups, occurred in Greece.

United States: Influenza morbidity and mortality continue to decline (Figure 2). For the week ending March 16, no state reported widespread outbreaks of influenza-like illness, and eight states reported regional outbreaks. For the preceding week, three states had reported widespread outbreaks, and 13 states regional outbreaks, of influenza-like illness. The most recent week that no state reported widespread outbreaks ended January 12. Of total deaths reported by 121 cities for the week ending March 16, 6.3% were associated with pneumonia or influenza, compared with the 6.2%, 7.3%, and 7.3% of the total deaths that were associated with pneumonia or influenza for the 3 preceding weeks.





*Reported to CDC by approximately 125 physician-members of the American Academy of Family Physicians. A case was defined as a patient with fever 37.8 C (100 F) or greater and at least cough or sore throat.

[†]Reported to CDC from 121 cities in the United States. Pneumonia and influenza deaths include all deaths where pneumonia is listed as a primary or underlying cause or where influenza is listed on the death certificate.

§Reported to CDC by WHO Collaborating Laboratories (including military sources).

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MMWR

Influenza – Continued

Reported by Virus Diseases Unit, World Health Organization, Geneva Switzerland; Participating physicians of the American Academy of Family Physicians; State and Territorial Epidemiologists; State Laboratory Directors; Other collaborating laboratories; Statistical Svcs Br, Div of Surveillance and Epidemiologic Studies, Epidemiology Program Office, WHO Collaborating Centre for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Reference

1. CDC. Update: influenza activity - worldwide, United States. MMWR 1985;34:114-6.

Erratum : Vol. 34, No. 10

p. 141. In the article, "Intestinal Myiasis — Washington," the first name in the credits should be: KL Matteson. The Morbidity and Mortality Weekly Report is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

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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