



MORBIDITY AND MORTALITY WEEKLY REPORT

- 13 Premature Mortality — United States, 1982
- 14 Electrocution of a Truck Driver — West Virginia
- 15 Influenza Outbreak — Louisiana
- 16 Update: Gastrointestinal Illness Associated with Imported Semi-Soft Cheese
- 22 Foodborne Botulism — Illinois
- 24 Smallpox: Post-Eradication Policy — Destruction of Variola Virus Stocks

*Perspectives in Disease Prevention and Health Promotion***Premature Mortality — United States, 1982**

In this issue, Table V has been updated to show premature mortality expressed as Years of Potential Life Lost (YPLL) from the first birthday to age 65 for persons who died in 1982. These new data are based on age- and cause-specific death rates for 1982 from the National Center for Health Statistics (NCHS) (1).

From 1981 to 1982, the total YPLL for persons who died between ages 1 and 65 years decreased by 4.6% (Table 1), in contrast to a decline of 1.3% between 1980 and 1981 (2). The relative rankings of the nine causes of death included in previous versions of Table V did not change between 1981 and 1982. Accidents remained the leading cause of premature loss of life, although they underwent the largest percentage decrease in YPLL (8.5%) of any cause between the 2 years. Substantial reductions in YPLL also occurred for cerebrovascular disease (7.0%), suicide and homicide (6.4%), and chronic liver disease and cirrhosis (5.8%). Only diabetes mellitus exhibited an increase in YPLL, and this increase was small (0.3%). Since the YPLL for both 1981 and 1982 are based on preliminary NCHS mortality data, the absolute YPLL and relative differences may change slightly when final mortality statistics become available.

Reported by Div of Surveillance and Epidemiologic Studies, Epidemiology Program Office, CDC.

References

1. National Center for Vital Statistics, Monthly Vital Statistics Report (MVSr), 31:21-2 (October 5, 1983).
2. CDC. Premature death — United States. MMWR 1983;32:118-9.

TABLE 1. Comparison of years of potential life lost (YPLL) (ages 1-65), by selected underlying causes of death — United States, 1981, 1982

Cause (Ninth Revision ICD, 1975)	Percent difference in YPLL from 1981 to 1982*
Accidents and adverse effects (E800-E949)	8.5
Malignant neoplasms (140-208)	0.7
Diseases of heart (390-398, 402, 404-429)	3.4
Suicides, homicides (E950-E978)	6.4
Cerebrovascular diseases (430-438)	7.0
Chronic liver disease and cirrhosis (571)	5.8
Pneumonia and influenza (480-487)	4.3
Chronic obstructive pulmonary diseases and allied conditions (490-496)	2.0
Diabetes mellitus (250)	-0.3
All causes (total)	4.6

*Percent difference = $\frac{(1981 \text{ YPLL} - 1982 \text{ YPLL})}{1981 \text{ YPLL}} \times 100$

Electrocution of a Truck Driver — West Virginia

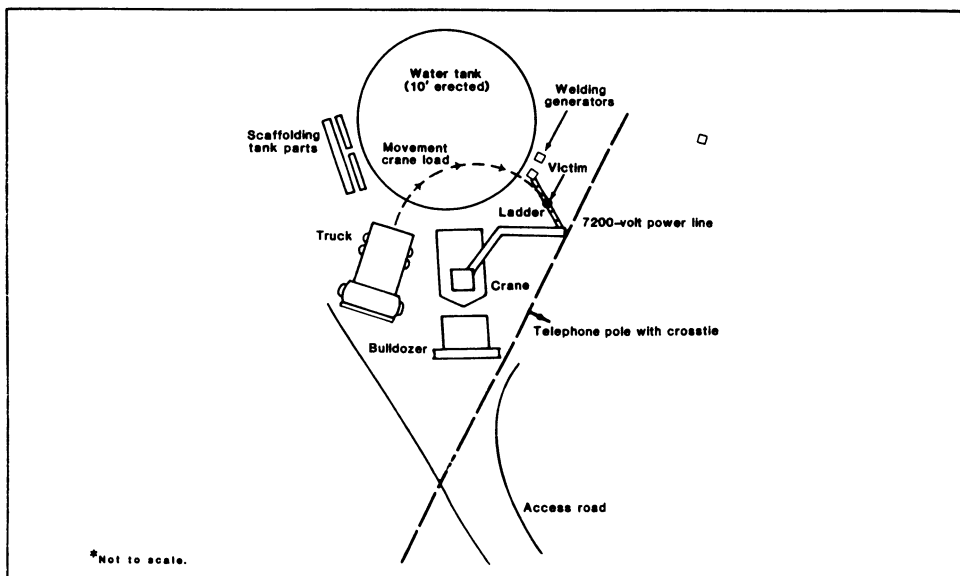
On October 15, 1982, a 28-year-old truck driver was pronounced dead on arrival at the emergency room of a West Virginia hospital. He had delivered a load of fabricated metal parts to the construction site of a 200,000-gallon water tank and was electrocuted while helping remove a ladder from his truck. Efforts to revive him by fellow workers, and later by emergency rescue workers, were unsuccessful.

A post-mortem examination identified two entrance electrical burns (one on the right ring finger, the other on the left middle finger) and one exit burn (on the sole of the right foot). No further evidence of injury or disease was found. Results of a toxicologic evaluation (including a blood-alcohol determination and a urinalysis for other drugs) were negative.

The Deputy Chief Medical Examiner of Northern West Virginia invited the National Institute for Occupational Safety and Health (NIOSH) to provide technical assistance. Researchers visited the site and spoke with the owner of the construction firm, the job foreman, and other workers, including the operator of the crane that had removed the ladder; they also interviewed the worker's wife. The following sequence of events had occurred: a five-man crew had erected the tank to a height of 10 feet; the truck driver arrived on site (Figure 1) in late morning with a truckload of fabricated metal parts, including a 30-foot, steel-enclosed ladder; a 15-ton, cab-mounted crane was used to lift and transport parts from the delivery truck to the ground. While lifting the ladder from the truck, the crane operator paused because the ladder would not clear some welding generators located near the tank; in an effort to help, the truck driver left the truck and grasped the ladder with both hands to swing it over the generators; he was electrocuted when the crane cable contacted a 7,200-volt overhead power line; the crane operator became aware of the electrical contact when he saw flames leaping from the cable; seconds later the truck driver was found unconscious 20 feet from the generators.

The researchers concluded that five circumstances were involved in producing this fatal injury: (1) the crew supervisor was not present at the time of the accident; (2) high-voltage

FIGURE 1. Site* of a fatal occupational electrocution — West Virginia



Electrocution — Continued

power lines near the worksite were neither insulated nor deenergized (insulation sleeves were later added); (3) the crane and the material to be lifted were located so close to the power lines that inadvertent contact with the lines was possible; (4) in lifting the ladder, the crane swung toward, rather than away from, the power lines; (5) the truck driver manually assisted the crane's movement of the metal ladder and apparently did not notice the close proximity of the crane to the power lines. Reversing any one of these circumstances may have averted the accident.

Reported by JL Frost, MD, Deputy Chief Medical Examiner for the State of West Virginia; Div of Safety Research, National Institute for Occupational Safety and Health, CDC.

Editorial Note: In terms of the data in Table V (Years of potential life lost, page 21), the truck driver's death resulted in 37 years of potential life lost before age 65, illustrating how accidents are a leading cause of lost years of potential life. Because accidents often kill the young, they contribute disproportionately to loss of potential years of life. Such accidents as this are frequent. Data from the Bureau of Labor Statistics indicate that at least 260 occupational electrocutions occurred in 1981 (7). Like the event described here, many are readily preventable. Measures that would have prevented this man's death are not difficult, elaborate, or costly. Dangerous operations can be carried out safely if thoughtful planning and careful supervision are observed.

The findings reported here were part of the pilot study on Fatal Accident Circumstances and Epidemiology (FACE) being conducted by NIOSH in collaboration with the medical examiners in West Virginia and adjacent states. This project is designed to determine whether epidemiologic research can identify causative factors in fatal accidents, the correction of which would facilitate prevention. Persons who wish to receive similar technical assistance are encouraged to contact the Director, Division of Safety Research, NIOSH, Morgantown, West Virginia, (304) 291-4595.

Reference

1. Department of Labor, Bureau of Labor Statistics. Occupational injuries and illnesses in the United States by industry, 1981. Washington, D.C.: U.S. Government Printing Office, Bulletin 2164, 1982.

Epidemiologic Notes and Reports

Influenza Outbreak — Louisiana

The first outbreak of influenza confirmed by virus isolation in the contiguous states for the 1983-1984 season occurred in a home for retarded children in Louisiana. Of 44 children at the home, 33 (75%) experienced a febrile illness (temperature 38.3 C [101 F] or greater) between January 2 and January 4, 1984. Four cases among young adult staff and a volunteer worker occurred at the same time, and six additional cases, three in children and three in adults, were reported from January 5 to January 7. Two type A(H1N1) influenza viruses have been isolated from specimens collected on January 5 from ill children. CDC has received preliminary reports of other possible outbreaks of influenza, mainly among college students and schoolchildren from areas in the South Atlantic and South Central regions, which are under investigation.

Three additional states have reported their first influenza virus isolations for the current season. In Denver, Colorado, two isolates of type A(H1N1) virus were obtained from children; in Nashville, Tennessee, two isolates of type A(H3N2) virus were obtained from young siblings; and in Oregon, a type B virus was obtained from a 35-year-old man.

Reported by RL Guy, MD, New Orleans, J McMichael, ET Wood, S Guey, DDS, Commissioner, Plaquemines Parish Health Dept, R Gohd, PhD, Charity Hospital, New Orleans, K Kelso, L McFarland, DrPH, CT Caraway, DVM, State Epidemiologist, Louisiana State Dept of Health; G Meiklejohn, MD, University of

Influenza — Continued

Colorado Medical Center, Denver; P Wright, MD, Vanderbilt University, Nashville, Tennessee; B Matsuda, MPH, Oregon Public Health Laboratory; State Epidemiologists and Laboratory Directors; Div of Field Svcs, Epidemiology Program Office, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Update: Gastrointestinal Illness Associated with Imported Semi-Soft Cheese

In September 1983, three clusters of gastrointestinal illness associated with eating imported French Brie cheese occurred in the District of Columbia (1). All three outbreaks involved one lot of cheese and one distributor in the Washington, D.C., area. Cases of similar clinical illness have subsequently been identified in four states (Colorado, Georgia, Illinois, and Wisconsin) associated with eating the same brand of semi-soft cheese (either Brie or Camembert). The lots implicated in these states included at least one lot produced approximately 40 days after the cheese that caused the District of Columbia cases. Stool specimens were collected in Illinois and Wisconsin from ill individuals and from well family members who did not eat the cheese. *Escherichia coli* serotype O27:H20 producing a heat-stable toxin was identified in stool specimens from seven of 15 recently ill persons and from none of eight controls.

(Continued on page 22)

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

Disease	2nd Week Ending			Cumulative, 2nd Week Ending		
	January 14, 1984	January 15, 1983	Median 1979-1983	January 14, 1984	January 15, 1983	Median 1979-1983
Acquired Immunodeficiency Syndrome (AIDS)	8	N	N	38	N	N
Septic meningitis	55	90	73	123	165	155
Encephalitis: Primary (arthropod-borne & unsp.)	3	22	15	9	39	26
Post-infectious	-	1	1	1	1	1
Gonorrhea: Civilian	13,884	17,790	17,976	25,930	36,136	36,136
Military	601	648	630	790	1,017	1,054
Hepatitis: Type A	200	383	378	415	697	697
Type B	271	360	288	536	686	553
Non A, Non B	30	45	N	70	73	N
Unspecified	63	132	155	102	224	275
Legionellosis	5	11	N	8	23	N
Leprosy	-	2	2	5	11	6
Malaria	3	11	11	18	16	21
Measles: Total*	17	4	47	23	15	62
Indigenous	17	4	N	21	10	N
Imported	-	-	N	2	5	N
Meningococcal infections: Total	45	43	54	78	85	85
Civilian	45	43	54	78	83	85
Military	-	-	-	-	2	-
Mumps	60	45	94	99	104	143
Pertussis	14	17	15	18	26	25
Rubella (German measles)	1	11	38	5	25	67
Syphilis (Primary & Secondary): Civilian	400	718	581	696	1,329	1,137
Military	2	21	5	3	23	18
Toxic Shock syndrome	5	9	N	9	17	N
Tuberculosis	251	349	398	464	565	588
Tularemia	1	-	2	3	4	3
Typhoid fever	1	11	11	1	15	15
Typhus fever, tick-borne (RMSF)	1	-	1	3	1	1
Rabies, animal	50	78	77	75	165	150

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1984		Cum. 1984
Anthrax	-	Plague	-
Botulism: Foodborne	-	Poliomyelitis: Total	-
Infant (Va. 1)	1	Paralytic	-
Other	-	Psittacosis (Vt. 1)	1
Brucellosis (Mass. 1, Va. 2)	3	Rabies, human	-
Cholera	-	Tetanus	-
Congenital rubella syndrome	-	Trichinosis	2
Diphtheria	-	Typhus fever, flea-borne (endemic, murine) (Hawaii 1)	2
Leptospirosis	-		

*There were no cases of internationally imported measles reported for this week.

**TABLE III. Cases of specified notifiable diseases, United States, weeks ending
January 14, 1984 and January 15, 1983 (Second Week)**

Reporting Area	AIDS	Aseptic Menin- gitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA,NB	Unspeci- fied		
	Cum. 1984	1984	Cum. 1984	Cum. 1984	Cum. 1984	Cum. 1983	1984	1984	1984	1984	1984	Cum. 1984
UNITED STATES	38	55	9	1	25,930	36,136	200	271	30	63	5	5
NEW ENGLAND	-	6	-	-	963	843	2	14	1	28	1	-
Maine	-	-	-	-	39	56	-	-	-	-	-	-
N.H.	-	-	-	-	20	24	-	1	1	-	-	-
Vt.	-	-	-	-	13	18	-	1	-	-	-	-
Mass.	-	1	-	-	314	314	2	4	-	28	1	-
R.I.	-	5	-	-	32	50	-	8	-	-	-	-
Conn.	-	-	-	-	545	381	-	-	-	-	-	-
MID ATLANTIC	5	3	1	-	2,925	3,600	36	44	1	12	-	-
Upstate N.Y.	-	3	-	-	179	218	7	11	1	1	-	-
N.Y. City	-	-	-	-	1,470	1,644	22	9	-	3	-	-
N.J.	5	-	1	-	358	670	7	24	-	8	-	-
Pa.	-	-	-	-	918	1,068	-	-	-	-	-	-
E.N. CENTRAL	4	12	4	-	4,060	4,606	21	47	4	4	4	1
Ohio	3	3	1	-	1,304	1,286	17	21	2	2	2	-
Ind.	-	-	-	-	240	273	-	1	-	1	-	-
Ill.	-	1	-	-	534	1,064	-	-	-	-	-	-
Mich.	1	8	3	-	1,537	1,510	4	25	2	1	2	1
Wis.	-	-	-	-	445	473	-	-	-	-	-	-
W.N. CENTRAL	-	3	1	-	1,246	1,781	28	16	5	-	-	-
Minn.	-	-	-	-	290	304	1	2	-	-	-	-
Iowa	-	-	1	-	167	163	1	3	2	-	-	-
Mo.	-	-	-	-	449	808	6	9	3	-	-	-
N. Dak.	-	-	-	-	13	18	-	-	-	-	-	-
S. Dak.	-	-	-	-	45	37	19	-	-	-	-	-
Nebr.	-	3	-	-	109	128	1	2	-	-	-	-
Kans.	-	-	-	-	173	323	-	-	-	-	-	-
S. ATLANTIC	7	20	2	1	6,292	8,956	10	100	6	10	-	-
Del.	-	-	1	-	157	235	1	1	-	-	-	-
Md.	4	4	1	-	1,081	1,265	-	16	1	5	-	-
D.C.	1	-	-	-	403	629	-	-	-	-	-	-
Va.	1	3	-	1	774	678	2	14	3	3	-	-
W. Va.	-	-	-	-	66	93	-	-	-	-	-	-
N.C.	-	8	-	-	1,146	985	2	7	2	2	-	-
S.C.	-	-	-	-	754	1,029	-	18	-	-	-	-
Ga.	-	1	-	-	-	1,580	4	38	-	-	-	-
Fla.	1	4	-	-	1,911	2,462	1	6	-	-	-	-
E.S. CENTRAL	-	4	-	-	2,537	3,247	25	13	3	-	-	-
Ky.	-	2	-	-	262	431	18	2	1	-	-	-
Tenn.	-	2	-	-	1,018	1,063	4	4	2	-	-	-
Ala.	-	-	-	-	969	1,033	3	7	-	-	-	-
Miss.	-	-	-	-	288	720	-	-	-	-	-	-
W.S. CENTRAL	-	1	-	-	4,564	5,088	15	1	-	2	-	-
Ark.	-	-	-	-	432	456	-	-	-	-	-	-
La.	-	-	-	-	1,265	523	1	-	-	-	-	-
Okla.	-	1	-	-	471	600	14	1	-	2	-	-
Tex.	-	-	-	-	2,396	3,509	-	-	-	-	-	-
MOUNTAIN	-	5	-	-	892	1,010	45	27	6	6	-	-
Mont.	-	-	-	-	42	61	1	1	-	1	-	-
Idaho	-	-	-	-	43	42	1	1	-	1	-	-
Wyo.	-	-	-	-	16	55	1	-	1	-	-	-
Colo.	-	1	-	-	269	255	5	6	1	4	-	-
N. Mex.	-	-	-	-	102	131	7	-	1	-	-	-
Ariz.	-	2	-	-	215	256	13	14	1	-	-	-
Utah	-	1	-	-	52	40	15	5	1	-	-	-
Nev.	-	1	-	-	153	170	2	-	1	-	-	-
PACIFIC	22	1	1	-	2,451	7,005	18	9	4	1	-	4
Wash.	-	1	-	-	117	359	2	-	1	-	-	-
Oreg.	-	-	-	-	242	266	16	7	2	1	-	-
Calif.	22	U	1	-	1,888	6,143	U	U	U	U	U	3
Alaska	-	-	-	-	123	102	-	1	-	-	-	-
Hawaii	-	-	-	-	81	135	-	1	1	-	-	1
Guam	-	U	-	-	-	11	U	U	U	U	U	-
P.R.	-	2	-	-	132	120	1	9	-	5	-	-
V.I.	-	-	-	-	14	19	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	-	-	-	U	U	U	U	U	-

N: Not notifiable

U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending
January 14, 1984 and January 15, 1983 (Second Week)

Reporting Area	Malaria						Menin- gococcal Infections	Mumps		Pertussis			Rubella		
			Indigenous		Imported *										
	Cum. 1984	1984	Cum. 1984	1984	Cum. 1984	Cum. 1983	Cum. 1984	1984	Cum. 1984	1984	Cum. 1984	Cum. 1983	1984	Cum. 1984	Cum. 1983
UNITED STATES	18	17	21	-	2	15	78	60	99	14	18	26	1	5	25
NEW ENGLAND	1	-	-	-	-	-	4	-	2	-	1	1	-	-	-
Maine	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
N.H.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Vt.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Mass.	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-
R.I.	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-
Conn.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
MID ATLANTIC	-	-	-	-	-	-	6	17	24	-	1	5	-	-	-
Upstate N.Y.	-	-	-	-	-	-	2	-	2	-	1	3	-	-	-
N.Y. City	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
N.J.	-	-	-	-	-	-	3	17	20	-	-	2	-	-	-
Pa.	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
E.N. CENTRAL	-	9	9	-	-	11	16	11	26	1	1	11	1	2	5
Ohio	-	-	-	-	-	-	9	3	5	-	-	8	-	-	1
Ind.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ill.	-	9	9	-	-	11	2	6	12	1	1	-	-	1	-
Mich.	-	-	-	-	-	-	5	2	9	-	-	-	1	1	1
Wis.	-	-	-	-	-	-	-	-	-	-	-	3	-	-	3
W.N. CENTRAL	2	-	-	-	-	-	8	3	5	2	3	1	-	-	3
Minn.	-	-	-	-	-	-	-	-	-	1	2	-	-	-	2
Iowa	-	-	-	-	-	-	4	-	-	1	1	-	-	-	-
Mo.	2	-	-	-	-	-	2	1	2	-	-	1	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
Kans.	-	-	-	-	-	-	1	2	2	-	-	-	-	-	1
S. ATLANTIC	2	-	-	-	-	-	28	6	8	1	1	2	-	-	1
Del.	1	-	-	-	-	-	1	1	1	-	-	-	-	-	-
Md.	1	-	-	-	-	-	3	1	3	-	-	-	-	-	-
D.C.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Va.	-	-	-	-	-	-	3	1	1	-	-	-	-	-	-
W. Va.	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-
N.C.	-	-	-	-	-	-	2	1	1	-	-	-	-	-	-
S.C.	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-
Ga.	-	-	-	-	-	-	9	-	-	-	-	2	-	-	1
Fla.	-	-	-	-	-	-	6	N	N	-	-	-	-	-	-
E.S. CENTRAL	-	-	-	-	-	-	3	2	3	-	-	-	-	-	1
Ky.	-	-	-	-	-	-	-	2	3	-	-	-	-	-	1
Tenn.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Ala.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W.S. CENTRAL	-	-	-	-	-	-	1	-	-	-	-	4	-	-	2
Ark.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
La.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Okla.	-	-	-	-	-	-	-	N	N	-	-	-	-	-	-
Tex.	-	-	-	-	-	-	-	-	-	-	-	4	-	-	2
MOUNTAIN	1	8	12	-	-	-	3	18	18	7	7	1	-	-	1
Mont.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colo.	-	-	-	-	-	-	2	-	-	7	7	-	-	-	-
N. Mex.	-	-	-	-	-	-	-	N	N	-	-	1	-	-	-
Ariz.	1	-	-	-	-	-	-	17	17	-	-	-	-	-	-
Utah	-	8	12	-	-	-	-	-	-	-	-	-	-	-	1
Nev.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC	12	-	-	-	2	4	9	3	13	3	4	1	-	3	12
Wash.	1	-	-	-	-	-	2	3	3	3	3	-	-	-	-
Oreg.	-	-	-	-	-	-	3	N	N	-	-	-	-	-	-
Calif.	10	U	-	U	2	4	4	U	10	U	1	1	U	3	12
Alaska	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hawaii	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guam	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
P.R.	1	-	-	-	-	5	-	3	4	-	-	-	-	-	-
V.I.	-	-	-	-	-	2	-	-	-	-	-	-	-	-	1
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*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
January 14, 1984 and January 15, 1983 (Second Week)**

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1984	Cum. 1983	1984	1984	Cum. 1984	Cum. 1984	Cum. 1984	Cum. 1984	Cum. 1984
UNITED STATES	696	1,329	5	251	464	3	1	3	75
NEW ENGLAND	14	45	-	16	19	-	-	-	1
Maine	-	-	-	1	1	-	-	-	1
N.H.	-	-	-	-	-	-	-	-	-
Vt.	-	1	-	1	1	-	-	-	-
Mass.	8	26	-	9	11	-	-	-	-
R.I.	1	1	-	-	-	-	-	-	-
Conn.	5	17	-	5	6	-	-	-	-
MID ATLANTIC	115	142	-	71	114	-	-	-	12
Upstate N.Y.	5	9	-	17	17	-	-	-	-
N.Y. City	66	81	-	19	41	-	-	-	-
N.J.	23	26	-	8	24	-	-	-	-
Pa.	21	26	-	27	32	-	-	-	12
E.N. CENTRAL	31	68	1	29	43	-	1	-	9
Ohio	15	19	-	4	13	-	1	-	1
Ind.	10	9	-	6	6	-	-	-	1
Ill.	-	22	-	17	22	-	-	-	3
Mich.	3	10	1	-	-	-	-	-	-
Wis.	3	8	-	2	2	-	-	-	4
W.N. CENTRAL	12	19	3	8	9	-	-	-	18
Minn.	3	10	-	-	-	-	-	-	3
Iowa	3	1	1	2	2	-	-	-	6
Mo.	6	7	-	3	3	-	-	-	3
N. Dak.	-	-	-	-	-	-	-	-	6
S. Dak.	-	-	-	1	1	-	-	-	-
Nebr.	-	-	2	2	2	-	-	-	-
Kans.	-	1	-	-	1	-	-	-	-
S. ATLANTIC	240	326	1	83	125	-	-	-	13
Del.	-	1	-	-	-	-	-	-	-
Md.	18	16	-	14	24	-	-	-	-
D.C.	12	16	-	3	5	-	-	-	-
Va.	14	13	-	1	1	-	-	-	6
W. Va.	-	1	1	3	6	-	-	-	1
N.C.	24	32	-	14	19	-	-	-	-
S.C.	30	30	-	12	25	-	-	-	-
Ga.	-	65	-	-	-	-	-	-	6
Fla.	142	152	-	36	45	-	-	-	-
E.S. CENTRAL	53	86	-	14	28	-	-	-	4
Ky.	2	3	-	1	5	-	-	-	1
Tenn.	15	19	-	-	2	-	-	-	-
Ala.	16	46	-	13	21	-	-	-	3
Miss.	20	18	-	-	-	-	-	-	-
W.S. CENTRAL	136	323	-	12	12	-	-	1	15
Ark.	7	6	-	-	-	-	-	1	4
La.	50	55	-	6	6	-	-	-	-
Okla.	5	7	-	-	-	-	-	-	2
Tex.	74	255	-	6	6	-	-	-	9
MOUNTAIN	29	22	-	3	5	3	-	2	1
Mont.	-	2	-	-	-	-	-	2	-
Idaho	-	1	-	-	-	-	-	-	-
Wyo.	1	1	-	-	-	-	-	-	-
Colo.	4	5	-	-	-	-	-	-	-
N. Mex.	2	-	-	2	2	-	-	-	-
Ariz.	9	8	-	-	2	1	-	-	1
Utah	2	1	-	1	1	2	-	-	-
Nev.	11	4	-	-	-	-	-	-	-
PACIFIC	66	298	-	15	109	-	-	-	2
Wash.	-	12	-	3	4	-	-	-	-
Oreg.	6	2	-	5	5	-	-	-	-
Calif.	57	282	U	U	93	-	-	-	1
Alaska	-	-	-	-	-	-	-	-	1
Hawaii	3	2	-	7	7	-	-	-	-
Guam	-	-	U	U	-	-	-	-	-
P.R.	26	-	-	11	12	-	-	-	1
V.I.	-	-	-	-	-	-	-	-	-
Pac. Trust Terr.	-	-	U	U	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
January 14, 1984 (Second Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	761	560	144	30	12	15	62	S. ATLANTIC	1,526	976	364	95	50	41	70
Boston, Mass.	191	117	53	9	6	6	28	Atlanta, Ga.	175	115	34	12	5	9	7
Bridgeport, Conn.	33	26	5	1	-	1	2	Baltimore, Md.	361	238	79	27	9	8	9
Cambridge, Mass.	30	23	7	-	-	-	5	Charlotte, N.C.	87	58	18	4	4	3	2
Fall River, Mass.	26	19	7	-	-	-	1	Jacksonville, Fla.	142	93	36	9	4	-	12
Hartford, Conn.	86	62	13	4	3	4	-	Miami, Fla.	96	49	26	14	5	2	2
Lowell, Mass.	26	20	5	1	-	-	1	Norfolk, Va.	63	41	13	2	4	3	8
Lynn, Mass.	29	23	2	2	2	-	1	Richmond, Va.	108	58	32	6	5	7	2
New Bedford, Mass.	32	23	8	1	-	-	2	Savannah, Ga.	56	40	11	2	2	1	4
New Haven, Conn.	101	82	12	5	1	1	3	St. Petersburg, Fla.	132	105	18	4	1	4	8
Providence, R.I.	57	46	9	-	-	2	6	Tampa, Fla.	76	48	20	2	5	1	7
Somerville, Mass.	4	4	-	-	-	-	-	Washington, D.C.	180	97	62	13	5	3	5
Springfield, Mass.	54	45	6	3	-	-	4	Wilmington, Del.	50	34	15	-	1	-	4
Waterbury, Conn.	36	31	2	2	-	1	2	E.S. CENTRAL	981	633	236	60	41	11	44
Worcester, Mass.	56	39	15	2	-	-	7	Birmingham, Ala.	150	97	31	7	12	3	3
MID. ATLANTIC	2,749	1,821	601	195	62	68	129	Chattanooga, Tenn.	108	70	26	7	5	-	3
Albany, N.Y.	55	35	15	2	1	2	-	Knoxville, Tenn.	95	62	21	8	4	-	6
Allentown, Pa.	20	14	5	1	-	-	-	Louisville, Ky.	113	69	28	5	7	4	6
Buffalo, N.Y.	131	84	36	6	3	2	11	Memphis, Tenn.	192	117	57	14	4	-	8
Camden, N.J.	43	27	12	3	1	-	4	Mobile, Ala.	90	59	20	6	5	-	6
Elizabeth, N.J.	35	27	7	1	-	-	1	Montgomery, Ala.	33	20	8	3	1	1	1
Erie, Pa.†	48	40	7	1	-	-	1	Nashville, Tenn.	200	139	45	10	3	3	11
Jersey City, N.J.	54	40	5	5	2	2	1	W.S. CENTRAL	1,680	1,030	386	125	66	73	75
N.Y. City, N.Y.	1,561	1,020	341	134	35	31	67	Austin, Tex.	76	54	9	6	3	4	3
Newark, N.J.	94	45	22	18	-	7	8	Baton Rouge, La.	61	44	13	4	-	-	3
Paterson, N.J.	38	25	7	1	-	5	-	Corpus Christi, Tex.	44	30	7	2	2	3	1
Philadelphia, Pa.†	193	123	58	7	2	3	11	Dallas, Tex.	296	169	74	28	10	15	8
Pittsburgh, Pa.†	58	35	15	3	1	4	3	El Paso, Tex.	72	44	15	7	2	4	4
Reading, Pa.	39	34	3	1	-	1	1	Fort Worth, Tex.	157	98	44	8	7	-	6
Rochester, N.Y.	122	93	17	5	5	2	12	Houston, Tex.	405	240	98	38	18	11	6
Schenectady, N.Y.	33	26	6	-	1	-	2	Little Rock, Ark.	96	52	28	7	3	6	9
Scranton, Pa.†	22	18	3	-	-	1	2	New Orleans, La.	70	35	8	4	3	20	-
Syracuse, N.Y.	95	64	22	1	4	4	1	San Antonio, Tex.	213	133	53	10	12	5	17
Trenton, N.J.	55	32	9	5	6	3	1	Shreveport, La.	29	23	6	-	-	-	2
Utica, N.Y.	21	17	1	1	1	1	1	Tulsa, Okla.	161	108	31	11	6	5	19
Yonkers, N.Y.	32	22	10	-	-	-	2	MOUNTAIN	738	464	162	52	27	32	31
E.N. CENTRAL	2,784	1,934	553	133	69	83	116	Albuquerque, N.Mex.	75	45	14	9	4	2	5
Akron, Ohio	73	50	15	5	-	3	-	Colo. Springs, Colo.	40	30	6	1	1	2	5
Canton, Ohio	35	25	9	1	-	-	4	Denver, Colo.	155	88	35	11	4	17	2
Chicago, Ill. §	592	496	13	19	20	32	13	Las Vegas, Nev.	62	32	20	6	3	1	4
Cincinnati, Ohio	225	155	52	10	1	7	21	Ogden, Utah	21	13	7	1	-	-	1
Cleveland, Ohio	186	118	56	5	3	4	4	Phoenix, Ariz.	172	107	43	13	6	3	6
Columbus, Ohio	177	109	43	11	8	6	7	Pueblo, Colo.	30	16	9	3	1	1	2
Dayton, Ohio	151	93	43	9	2	4	4	Salt Lake City, Utah	53	33	8	3	4	5	1
Detroit, Mich.	312	186	92	23	6	5	15	Tucson, Ariz.	130	100	20	5	4	1	5
Evansville, Ind.	67	50	12	2	2	1	1	PACIFIC	2,185	1,443	466	146	55	74	127
Fort Wayne, Ind.	61	38	14	5	3	1	6	Berkeley, Calif.	21	15	5	1	-	-	-
Gary, Ind.	23	10	8	4	1	-	2	Fresno, Calif.	61	37	15	5	3	1	4
Grand Rapids, Mich.	84	56	19	5	2	2	7	Glendale, Calif.	46	31	12	2	-	1	-
Indianapolis, Ind.	216	140	61	5	6	4	2	Honolulu, Hawaii	78	48	20	5	-	5	8
Madison, Wis.	48	34	9	3	1	1	3	Long Beach, Calif.	101	67	24	6	2	2	6
Milwaukee, Wis.	155	102	35	10	5	3	3	Los Angeles, Calif.	692	445	151	50	20	25	26
Peoria, Ill.	67	44	14	4	3	2	9	Oakland, Calif.	83	61	15	5	1	1	5
Rockford, Ill.	43	30	7	2	1	3	3	Pasadena, Calif.	37	28	6	1	1	1	5
South Bend, Ind.	37	30	5	2	-	-	4	Portland, Oreg.	187	122	41	13	2	9	12
Toledo, Ohio	150	103	32	7	5	3	7	Sacramento, Calif.	88	53	21	7	3	4	5
Youngstown, Ohio	82	65	14	1	-	2	1	San Diego, Calif.	153	104	32	9	4	4	12
W.N. CENTRAL	864	600	172	43	21	27	44	San Francisco, Calif.	158	100	29	18	3	8	8
Des Moines, Iowa	105	68	25	8	2	2	6	San Jose, Calif.	142	89	32	9	7	5	9
Duluth, Minn.	40	28	9	1	1	1	1	Seattle, Wash.	194	136	42	8	5	3	12
Kansas City, Kans.	33	19	9	1	2	2	1	Spokane, Wash.	70	54	11	1	2	2	9
Kansas City, Mo.	133	88	28	6	4	6	8	Tacoma, Wash.	74	53	10	6	2	3	6
Lincoln, Nebr.	56	45	9	1	1	-	6	TOTAL	14,268††	9,461	3,084	879	403	424	698
Minneapolis, Minn.	105	74	22	2	1	6	2								
Omaha, Nebr.	113	74	27	6	1	5	8								
St. Louis, Mo.	126	90	21	10	5	-	8								
St. Paul, Minn.	79	62	11	2	2	2	2								
Wichita, Kans.	74	52	11	6	2	3	2								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza

† Because of changes in reporting methods in these 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

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

TABLE V. Years of potential life lost, deaths, and death rates, by cause of death, and estimated number of physician contacts, by principal diagnosis, United States

Cause of morbidity or mortality (Ninth Revision ICD, 1975)	Years of potential life lost before age 65 by persons dying in 1982*	Estimated mortality August 1983		Estimated number of physician contacts August 1983†
		Number‡	Annual Rate/100,000§	
ALL CAUSES (TOTAL)	9,429,000	158,590	798.3	112,000,000
Accidents and adverse effects (E800-E949)	2,367,000	9,000	45.3	6,700,000
Malignant neoplasms (140-208)	1,809,000	37,190	187.2	1,700,000
Diseases of heart (390-398, 402, 404-429)	1,566,000	56,930	286.6	5,800,000
Suicides, homicides (E950-E978)	1,314,000	4,110	20.7	—
Cerebrovascular diseases (430-438)	256,000	11,860	59.7	900,000
Chronic liver disease and cirrhosis (571)	252,000	2,010	10.1	100,000
Pneumonia and influenza** (480-487)	118,000	3,400	17.1	700,000
Chronic obstructive pulmonary diseases and allied conditions (490-496)	114,000	5,150	25.9	900,000
Diabetes mellitus (250)	106,000	2,800	13.1	2,800,000
Prenatal care††				2,900,000
Infant mortality††		3,200	10.0 / 1,000 live births	

*Years of potential life lost for persons between 1 year and 65 years old at the time of death are derived from the number of deaths in each age category as reported by the National Center for Health Statistics, *Monthly Vital Statistics Report* (MVSr), Vol. 31, No. 13, October 5, 1983, multiplied by the difference between 65 years and the age at the mid-point of each category. As a measure of mortality, "Years of potential life lost" underestimates the importance of diseases that contribute to death without being the underlying cause of death.

†The number of deaths is estimated by CDC by multiplying the estimated annual mortality rates (MVSr Vol. 32, No. 9, December 28, 1983, pp. 8-9) and the provisional U.S. population in that month (MVSr Vol. 32, No. 8, November 21, 1983, p. 1) and dividing by the days in the month as a proportion of the days in the year.

§Annual mortality rates are estimated by NCHS (MVSr Vol. 32, No. 9, December 28, 1983, pp. 8-9), using the underlying cause of death from a 10% systematic sample of death certificates received in state vital statistics offices during the month and population estimates from the Bureau of the Census.

¶IMS America *National Disease and Therapeutic Index* (NDTI), Monthly Report, August 1983, Section III. This estimate comprises the number of office, hospital, and nursing home visits and telephone calls prompted by each medical condition based on a stratified random sample of office-based physicians (2,100) who record all private patient contacts for 2 consecutive days each quarter. The accuracy of the estimates is unknown, and the number provided should be used only as a gross indicator of morbidity.

**Data for "infectious diseases and their sequelae" as a cause of death and physician visits comparable to other multiple-code categories (e.g., "malignant neoplasms") are not presently available.

††"Prenatal care" (NDTI) and "Infant mortality" (MVSr Vol. 32, No. 8, November 21, 1983, p. 1) are included in the table because "Years of potential life lost" does not reflect deaths of children < 1 year.

Gastrointestinal Illness — Continued

E. coli O27:H20 organisms were also isolated from single cases in Washington, D.C., and Atlanta, Georgia. Plasmid analysis of the organisms from patients who lived in different locations and who ate different lots of cheese revealed an identical plasmid profile. Attempts to isolate the organism from the cheese are in progress. Control measures included recalling the cheese nationwide and instituting a program of regulatory sampling in cooperation with the French government for the importation of semi-soft cheeses.

Reported by BJ Francis, MD, State Epidemiologist, Illinois Dept of Public Health; JP Davis, MD, State Epidemiologist, Wisconsin Dept of Health and Social Svcs; Emergency and Epidemiology Operations Br, US Food and Drug Administration; Div of Field Svcs, Epidemiology Program Office, Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Enterotoxigenic *E. coli* organisms commonly cause diarrhea in developing countries (2), and they have also been implicated as a common cause of travelers' diarrhea (3). They are rarely associated with illness acquired in the United States, Canada, or Europe (4-6). This represents the third foodborne outbreak caused by enterotoxigenic *E. coli* and the first common-source outbreak due to a strain producing heat-stable enterotoxin reported in the United States (7,8).

The association of a single pathogen with illness caused by eating semi-soft cheeses from at least two lots manufactured 1 month apart suggests a continuing common source of contamination; however, no information is yet available from the manufacturing plant in France. In a 1971 diarrheal-disease outbreak in the United States caused by enteroinvasive *E. coli* contaminating Brie, Camembert, or Coulommiers cheese produced by another French manufacturer, a contaminated water supply was implicated as the source of pathogenic organisms (9).

References

1. CDC. Gastrointestinal illness associated with imported Brie cheese—District of Columbia. MMWR 1983;32:533.
2. Ryder RW, Sack DA, Kapikian AZ, et al. Enterotoxigenic *Escherichia coli* and reovirus-like agent in rural Bangladesh. Lancet 1976;I:659-62.
3. Merson MH, Morris GK, Sack DA, et al. Travelers' diarrhea in Mexico. A prospective study of physicians and family members attending a congress. N Engl J Med 1976;294:1299-305.
4. Brunton J, Hinde D, Langston C, Gross R, Rowe B, Gurwith M. Enterotoxigenic *Escherichia coli* in central Canada. J Clin Microbiol 1980;11:343-8.
5. Back E, Blomberg S, Wadstrom T. Enterotoxigenic *Escherichia coli* in Sweden. Infection 1977;5:2-5.
6. Gangarosa EJ. Epidemiology of *Escherichia coli* in the United States. J Infect Dis 1978;137:634-8.
7. Taylor WR, Schell WL, Wells JG, et al. A foodborne outbreak of enterotoxigenic *Escherichia coli* diarrhea. N Engl J Med 1982;306:1093-5.
8. Wood LV, Wolfe WH, Ruiz-Palacios G, et al. An outbreak of gastroenteritis due to a heat-labile enterotoxin-producing strain of *Escherichia coli*. Infection and Immunity 1983;41:931-4.
9. Marier R, Wells JG, Swanson RC, Callahan W, Mehlman IJ. An outbreak of enteropathogenic *Escherichia coli* foodborne disease traced to imported French cheese. Lancet 1973;II:1376-8.

Foodborne Botulism — Illinois

From October 15, to October 21, 1983, 28 cases of foodborne botulism occurred in Peoria, Illinois. All 28 persons had eaten at the same restaurant from October 14 to October 16; all were hospitalized. Twelve patients required ventilatory support, and no deaths have been reported. Botulinal type A toxin was detected in serum and/or stool specimens in 13 patients. The epidemiologic investigation implicated sauteed onions served on a patty-melt sandwich as the source of the botulinal toxin.

The patients were 20-72 years of age, and 20 were female. Detailed food histories were obtained from the patients and from groups of well persons who had consumed food at the restaurant during the same 3-day period. Each of these comparisons showed a highly signifi-

Foodborne Botulism — Continued

cant association between eating a patty-melt sandwich and developing botulism ($p < 0.001$). Of the 28 patients, 24 recalled eating the patty-melt, which consisted of toasted rye bread, sliced American cheese, one-half or one-third pound hamburger patty, and sauteed onions. The remaining four patients recalled eating a variety of food items, none of which were implicated by epidemiologic data. Review of the serving practices in the restaurant indicated that the same utensils were used in serving multiple food items, including the patty-melt.

An additional case-control study was conducted to determine which items on the patty-melt were associated with illness. Eighteen persons who had eaten the patty-melt during the 3-day period and remained well were identified through repeated news media announcements. These 18 controls, plus the 24 patients who ate patty-melts, represented 42 of the estimated maximum of 45 patty-melts served over the 3-day period. All 24 patients, but only 10 of 18 controls, reported eating the sauteed onions ($p = 0.0004$). The onions were said to have been prepared daily with fresh whole onions, margarine, paprika, garlic salt, and a chicken-base powder; they were held uncovered in a pan with a large volume of melted margarine on a warm stove (below 60 C [140 F]) and were not reheated before serving.

The original batch of sauteed onions was not available for culture or toxin testing, but type A botulinal toxin was detected in an extract made from washings of a discarded foil wrapper used by one of the patients to take a patty-melt home. Type A botulinal spores were cultured from five of 75 skins of whole onions taken from the restaurant. No other ingredients of the sauteed onions contained botulinal toxin or spores. Additional laboratory tests are pending.

Reported by SC Doughty, MD, RP O'Connor, MD, St. Francis Hospital-Medical Center and Methodist Medical Center, J Alexander, MD, GJ Sidler, MD, St. Francis Hospital-Medical Center, Peoria, S Churchill, JW Parker, PhD, R Tarter, T Woods, TF Jackamore, Jr, Staff, Peoria City/County Health Dept, JC Bhalerao, MD, Cottage Hospital, Galesburg, EJ Menamin, MD, Hindsdale Hospital, Hindsdale, P Hays, MD, Riverside Medical Center, Kankakee, M McVay, MD, Community Hospital of Ottawa, C Gibson, C Langkop, RJ Martin, DVM, BJ Francis, MD, State Epidemiologist, Illinois Dept of Public Health; US Food and Drug Administration—Chicago District Office, Chicago, Emergency and Epidemiology Operations Br, Rockville, Maryland, Region V Microbiology Laboratory, Cincinnati, Ohio, Food and Cosmetic Microbiology Br, Washington, DC; MA Malik, DVM, Epidemiology Br, J Damare, Microbiology Br, US Dept of Agriculture, Beltsville, Maryland; Div of Field Svcs, Epidemiology Program Office, Enteric Diseases Br, Div of Bacterial Diseases, Center for Infections Disease, CDC.

Editorial Note: This is the third largest foodborne botulism outbreak reported in the United States since 1899 (1). The two larger outbreaks occurred in 1977 in Michigan, when 58 people became ill after eating home-canned peppers at a restaurant (2), and in 1978 in New Mexico, when 34 people became ill after eating potato salad or bean salad at a restaurant (3). Botulism outbreaks are usually isolated incidents involving small numbers of people who have consumed improperly preserved home-canned or home-processed foods (4).

Epidemiologic evidence implicated the sauteed onions as the source of this outbreak. Recent investigations of pot pies (5) and baked potatoes (6) have demonstrated the ability of *C. botulinum* to grow and produce toxin in cooked foods held at temperatures below 60 C (140 F). Sauteed onions have never before been associated with botulism.

References

1. CDC. Botulism in the United States, 1899-1977. Handbook for epidemiologists, clinicians, and laboratory workers. Issued May 1979.
2. Terranova WA, Breman JG, Locey RP, Speck S. Botulism type B: epidemiologic aspects of an extensive outbreak. *Am J Epidemiol* 1978;108:150-6.
3. CDC. Botulism—New Mexico. *MMWR* 1978;27:138.
4. Smith LDS. Botulism: the organism, its toxins, the disease. Springfield, Illinois: Charles C. Thomas, 1977.
5. California State Department of Health Services. Botulism and commercial pot pie. California Morbidity, November 12, 1982 (44).
6. Sugiyama H, Woodburn M, Yang KH, Movroydis C. Production of botulism toxin in inoculated pack studies of foil-wrapped baked potatoes. *J Food Protection* 1981;44:896-8.

International Notes

Smallpox: Post-Eradication Policy — Destruction of Variola Virus Stocks

On December 10, 1983, South Africa destroyed its variola virus stocks, which were retained in the maximum containment laboratory of the National Institute of Virology, Sandringham (1).

Editorial Note: As a result of this action by South Africa, only two laboratories now retain variola virus, one at CDC, the other at the Research Institute for Viral Preparations, Moscow, USSR. Both laboratories are World Health Organization (WHO) Collaborating Centres with maximum containment facilities, which are providing laboratory support to the post-smallpox eradication surveillance and research program. They are periodically inspected by a WHO team.

Reported by WHO Weekly Epidemiological Record 1983;58:395.

Reference

1. WHO. Orthopoxvirus surveillance: post-smallpox eradication policy. Wkly Epidem Rec 1983;58:149-54.

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.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Assistant Editor
Karen L. Foster, M.A.

Editor
Michael B. Gregg, M.D.
Mathematical Statistician
Keewhan Choi, Ph.D.

☆U.S. Government Printing Office: 1984-746-149/2016B Region IV

**DEPARTMENT OF
HEALTH & HUMAN SERVICES**
Public Health Service
Centers for Disease Control
Atlanta GA 30333

Official Business
Penalty for Private Use \$300



S 6HCRH NEWV75 8129
DR VERNE F NEWHOUSE
VIROLOGY DIVISION
CID
7-B14

X

Postage and Fees Paid
U.S. Dept. of H.H.S.
HHS 396