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Epidemiologic Notes and Reports

Contamination of Potable Water by Phenol from a Solar Water Tank Liner — Georgia

In July 1980, when the kitchen facility of a Georgia hospital was relocated, employees and patients complained of an intermittent foul taste and odor in food and water, variously described as resembling iodine or chlorine. The problem was worse in the early morning but returned throughout the day. Originally attributed to "new plumbing," corrective measures, including hyperchlorination, failed. Investigation revealed that the phenolic resin liner of the solar water tank had been improperly cured, and phenolic compounds were identified in the water.

Because many employees and patients developed nausea, vomiting, and/or diarrhea, an infectious etiology was suspected. Urine was collected for determination of phenol; none was detected by the ferric chloride method, and definite association could not be established. Routine bacteriologic and viral cultures of the water were negative. Water samples from the system were assayed by gas chromatography mass spectrophotometry. Qualitative analysis of the storage-tank water disclosed phenol, *o*, *m*, or *p*-t-butyl phenol 4-chlorophenol, 2-cyclohexene-1-ol, and 2-cyclohexene-1-one. Quantitative analysis revealed a concentration of 0.35 mg/l of phenol.

The solar-heated water system had been installed several months earlier. When initially connected, the water had been muddy despite prolonged flushing. When inspected during the investigation, the 9,000-gallon storage tank disclosed several large, rusted areas and considerable muddy sediment in the inferior free space. The tank was abraded to the steel shell and recoated with protective phenolic resin; the recoating resin had been improperly cured at 21.1 C (70 F) instead of 149 C (300 F).

Reported by RC Trincher, MD, JP Rissing, MD, Veterans Administration Medical Center and Medical College of Georgia, Augusta, Georgia.

Editorial Note: Phenolic resins, which commonly line water storage tanks, result from combining phenols and formaldehyde; polymerization is achieved by catalysts. Catalyst, pH, phenol/formaldehyde ratio, temperature, and duration of reaction primarily determine resulting resin characteristics. Nonpolymerized components, including phenols, are free to disassociate after application. Resin selection depends on the intended use, including temperature and potability of stored water. The resin selected in this case was unsuitable for potable water when cured at 21.1 C (70 F) because leached phenolic compounds cause a foul taste and odor. The phenolic concentrations decrease with time; however, halides, including chlorine, react strongly with phenol. Increased chlorine concentrations result in increased odor and taste in the water (*1,2*).

Phenol is readily absorbed through the skin, mucous membranes, and gastrointestinal tract and is rapidly excreted by the kidneys. Oral administration of undiluted phenol can cause necrosis and hemorrhage of mucous membranes.

Potable Water — Continued

Systemic poisoning is manifested by headache, dizziness, tinnitus, vertigo, tremors, twitchings, and convulsions (*3*). In subacute poisonings, anorexia, nausea, and vomiting may occur. Lethal dosage ranges from 80 mg/kg to 1,300 mg/kg.

Based on chronic toxicity data on animals, ambient water criteria proposed by the Environmental Protection Agency in 1979 are 3.4 mg/l, allowing for an approximate 7 mg/day intake. In areas of chlorination, a level of 0.001 mg/l is suggested, based on the objectionable taste and odor produced by chlorinated phenols, which have a taste threshold of 0.005 mg/l (*2*).

Only one incidence of phenol contamination of a water-supply system has been reported previously (*4*). This involved spillage of 10,000 gallons of phenol, which contaminated the wells of approximately 25 households. Household members subsequently developed diarrhea, mouth sores, dark urine, and burning mouth.

References

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2. U.S. Environmental Protection Agency. Phenol: hazard profile. Cincinnati, Ohio.
3. von Oettingen WF. Phenol and its derivatives: the relation between their chemical constitution and their effect on the organism. National Institutes of Health Bulletin No. 190, 1949;27-9, 44-7.
4. Baker EL, Landrigan PJ, Bertozzi PE, Field PH, Basteyns BJ, Skinner HG. Phenol poisoning due to contaminated drinking water. Arch Environ Health 1978; 33:89-94.

Human Rabies — Kenya

A 23-year-old agricultural extension volunteer working in Kikima, Machakos District, Kenya, was bitten by her puppy on May 31, 1983. She died of rabies on August 27, 89 days after the bite and 20 days after onset of symptoms. Medical records indicated the patient had been given three doses of human diploid cell rabies vaccine (HDCV), 0.1 ml intradermally, for preexposure prophylaxis, the last dose of which she received in late November 1982. She was reportedly informed at that time that additional doses of vaccine would be necessary should a rabies exposure occur. The patient's May 31 diary entry described a behavior change in her puppy (which was too young to be immunized against rabies) and her hope that he was not rabid.

The patient was well until approximately August 8, when she noted left arm pain. On August 10, she was seen in a Nairobi medical clinic with complaints of insomnia and increasing left arm, shoulder, and neck pain. She was hospitalized on August 11 and placed in the intensive care unit. When asked about animal exposures, she failed to report the bite.

Rabies virus was isolated by CDC from a cervical cord specimen obtained at autopsy. Rabies monoclonal antibodies indicated that the isolate was rabies and not one of the rabies-related viruses, such as Mokola or Duvenhage, which have been isolated from humans in sub-Saharan Africa.

Reported by R Gibbs, MD, K Miller, MD, Peace Corps, Washington, DC, S Waterman, Peace Corps, Nairobi; M Warshaw, MD, D Silverstein, MD, GL Timms, FRC Path, Nairobi Hospital, Nairobi; C Oster, MD, US Army Medical Research Unit, Nairobi, B Johnson, PhD, P Tukei, MBCHB, Virus Research Center, Nairobi; T arap Siongok, MD, Ministry of Health, Kenya; Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: This is the first case of human rabies reported in a person with a history of preexposure rabies prophylaxis with HDCV. Investigations are continuing into the circumstances of previous vaccination, potency of the vaccine used for preexposure prophylaxis,

Human Rabies — Continued

and reasons for failure to seek postexposure treatment, since two 1.0 ml intramuscular (IM) booster doses of HDCV are recommended when rabies exposure occurs in persons who previously received preexposure prophylaxis.

Of the last five Americans reported to have died of rabies, four (including this patient) were exposed to rabid dogs outside the United States (*1-3*). These cases emphasize that: (1) Protection from clinical rabies in persons given preexposure prophylaxis requires that two IM doses of HDCV be given after exposure, one each on days 0 and 3. Persons who have not received preexposure prophylaxis should receive five doses of HDCV, one each on days 0, 3, 7, 14, and 28 *and* 20 IU/kg of human rabies immune globulin on day 0. (2) Laboratory diagnostic tests are subject to error, and direct microscopic examination for Negri bodies is less reliable than examination by fluorescent microscopy.

Human rabies is becoming rare in the United States, primarily because of effective dog-control programs and adequate access to excellent rabies biologics. Americans traveling abroad should be aware of the risk of rabies from dog or cat bites. Most countries in Asia (except Taiwan and Japan), Africa, and Latin America have significant endemic rabies, especially among dogs. Animal vaccines obtained locally in developing countries sometimes do not appear to be immunogenic and may not provide protection for the vaccinated animal.

CDC continues to recommend that, while traveling, persons bitten by animals in countries not known to be rabies-free should seek immediate advice regarding rabies postexposure prophylaxis. Although rabies is almost always fatal once symptoms occur, proper adherence to effective preventive and treatment procedures can eliminate the risk of human disease.

References

1. CDC. Human rabies—Rwanda. MMWR 1982;31:135.
2. CDC. Human rabies acquired outside the United States from a dog bite. MMWR 1981;30:537-40.
3. CDC. Imported human rabies. MMWR 1983;32:78-80, 85-6.

Pseudomonas pickettii Colonization Associated with a Contaminated Respiratory Therapy Solution — Illinois

From July 30 to August 1, 1983, five infants in the special-care nursery of a hospital in Chicago, Illinois, became colonized with *Pseudomonas pickettii*, which had not been reported by the hospital's microbiology department in any culture during the previous 15 months. Colonization was detected because all endotracheally intubated infants had had routine cultures of endotracheal aspirates performed three times a week. At this time, CDC has not confirmed any patient disease due to *P. pickettii* in hospitals receiving contaminated Modu-Dose solutions.

Each of the colonized infants had a history of endotracheal intubation before the positive culture, and in all five cases, the isolation was made from an endotracheal aspirate. All infants also had undergone endotracheal suctioning, which was routinely performed by first instilling 0.25 ml 0.9% NaCl solution, distributed commercially as sterile 5-ml unit-dose vials (Modu-Dose*, Becton Dickinson Respiratory Systems, Lincoln Park, New Jersey), into the endotracheal tube to assist in loosening secretions. The remainder of the solution in the vial was discarded after use on each patient.

*Use of trade names is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

Pseudomonas pickettii *Colonization — Continued*

On August 3, 1983, the hospital became aware of the manufacturer's recall of Modu-Dose products (because of intrinsic bacterial contamination), and the product was removed from all patient-care areas. Epidemiologic evaluation revealed that Modu-Dose was commonly used by the respiratory therapy department, with the heaviest use in the special-care nursery. Adult patients also received this product as a diluent for bronchodilator solutions in hand-held jet nebulizers and intermittent, positive-pressure breathing circuits. Surveillance cultures of adults were carried out, but no colonization was found. However, only in the special-care nursery was the product instilled directly into the lower respiratory tract. No further colonization of infants has occurred since use of the product was discontinued on August 3.

Samples of Modu-Dose from different lots in use thoughout the hospital were cultured by the hospital's microbiology department. Vials from one lot of 0.9% NaCl (no. 93608) distributed only to the special-care nursery on July 26 were found positive for *P. pickettii*. CDC has confirmed the identity of isolates from infants in this hospital as *P. pickettii* and has confirmed contamination of the implicated lot with that microorganism. Thirty-nine (65%) of 60

(Continued on page 501)

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

Disease	38th Week Ending			Cumulative, 38th Week Ending		
	September 24, 1983	September 25, 1982	Median 1978-1982	September 24, 1983	September 25, 1982	Median 1978-1982
Aseptic meningitis	577	395	395	7,695	6,102	5,272
Encephalitis: Primary (arthropod-borne & unspec.)	73	55	55	1,148	1,043	848
Post-infectious	2	1	1	63	63	162
Gonorrhea: Civilian	20,201	20,979	21,756	649,533	696,707	722,734
Military	539	542	542	17,704	19,771	20,066
Hepatitis: Type A	483	494	570	15,489	16,360	20,294
Type B	510	475	426	16,612	15,623	12,822
Non A, Non B	68	47	N	2,439	1,692	N
Unspecified	193	215	236	5,677	6,283	7,376
Legionellosis	15	31	N	511	444	N
Leprosy	8	5	5	185	153	143
Malaria	23	27	29	583	812	812
Measles: Total*	8	49	64	1,238	1,270	12,120
Indigenous	6	N	N	1,027	N	N
Imported	2	N	N	211	N	N
Meningococcal infections: Total	32	37	31	2,113	2,294	2,021
Civilian	32	37	30	2,098	2,281	2,006
Military	-	-	-	15	13	15
Mumps	36	26	71	2,492	4,287	7,184
Pertussis	64	45	45	1,670	1,114	1,114
Rubella (German measles)	11	22	29	791	2,024	3,293
Syphilis (Primary & Secondary): Civilian	761	706	577	23,491	24,063	19,296
Military	10	9	9	297	318	235
Toxic-shock syndrome	5	N	N	296	N	N
Tuberculosis	508	570	547	17,014	18,406	19,647
Tularemia	9	7	7	243	184	163
Typhoid fever	11	10	10	301	294	357
Typhus fever, tick-borne (RMSF)	31	13	24	1,056	840	897
Rabies, animal	91	134	127	4,399	4,722	4,722

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1983		Cum. 1983
Anthrax	-	Plague	34
Botulism: Foodborne	14	Poliomyelitis: Total	4
Infant (Wash. 1, Hawaii 1)	47	Paralytic	4
Other	-	Psittacosis (Ga. 1, La. 1)	93
Brucellosis (Mo. 1)	146	Rabies, human	2
Cholera	1	Tetanus (Mo. 1, Tex. 3, Calif. 1)	58
Congenital rubella syndrome	17	Trichinosis (Hawaii 1)	27
Diphtheria (Pa. 1, Calif. 1)	3	Typhus fever, flea-borne (endemic, murine) (Hawaii 1)	41
Leptospirosis (N.Y. City 1, Okla. 1)	37		

*Two of the 8 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending September 24, 1983 and September 25, 1982 (38th week)

Reporting Area	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy	Malaria
		Primary	Post-infectious			A	B	NA,NB	Unspecified			
	1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1982	1983	1983	1983	1983	1983	Cum. 1983	Cum. 1983
UNITED STATES	577	1,148	63	649,533	696,707	483	510	68	193	15	185	583
NEW ENGLAND	24	47	-	16,700	16,576	12	28	2	11	1	3	27
Maine	3	-	-	808	855	1	-	1	-	-	-	1
N.H.	-	5	-	533	569	-	1	-	-	-	2	-
Vt.	-	1	-	319	314	3	1	-	-	-	-	1
Mass.	6	22	-	7,095	7,400	3	10	-	11	-	-	12
R.I.	6	1	-	935	1,113	1	7	-	-	-	-	4
Conn.	9	18	-	7,010	6,325	4	9	1	-	1	1	9
MID ATLANTIC	59	95	5	82,612	85,960	60	63	10	10	-	24	79
Upstate N.Y.	31	23	-	12,827	14,050	7	16	3	1	-	-	23
N.Y. City	2	10	-	33,163	35,294	17	4	-	-	-	23	21
N.J.	-	16	-	15,599	15,841	12	21	2	9	-	-	22
Pa.	26	46	5	21,023	20,775	24	22	5	-	-	1	13
E.N. CENTRAL	199	401	20	90,139	100,732	55	60	6	10	11	6	46
Ohio	90	130	9	24,277	27,271	30	19	1	3	8	1	6
Ind.	23	147	1	9,170	12,223	8	4	2	4	2	-	5
Ill.	-	17	7	23,328	28,467	2	4	1	-	-	2	16
Mich.	85	75	-	25,136	23,806	15	33	2	3	1	3	14
Wis.	1	32	3	8,228	8,965	-	-	-	-	-	-	5
W.N. CENTRAL	41	89	9	30,167	32,786	12	12	1	1	2	6	22
Minn.	-	19	1	4,302	4,728	7	2	1	-	-	4	6
Iowa	5	49	-	3,407	3,453	-	1	-	-	-	-	3
Mo.	32	17	-	14,360	15,678	2	8	-	-	2	1	3
N. Dak.	-	-	-	316	436	-	-	-	-	-	-	2
S. Dak.	2	-	2	803	887	2	-	-	-	-	-	1
Nebr.	-	3	-	1,946	2,001	-	-	-	-	-	-	1
Kans.	2	1	6	5,033	5,603	1	1	-	1	-	1	6
S. ATLANTIC	96	161	15	169,455	182,594	33	94	12	18	1	9	90
Del.	3	-	-	3,069	2,925	1	1	-	-	-	-	1
Md.	21	18	-	21,657	22,735	2	21	2	6	-	1	14
D.C.	-	-	-	11,435	10,582	-	3	-	-	-	-	15
Va.	23	39	2	15,292	14,302	4	13	2	1	1	1	18
W. Va.	7	29	-	1,862	2,073	-	1	-	-	-	-	1
N.C.	25	33	-	26,265	28,651	3	6	-	3	-	-	3
S.C.	1	3	-	15,913	17,874	-	7	-	-	-	-	5
Ga.	3	6	1	33,388	36,594	4	17	2	1	-	1	9
Fla.	13	33	12	40,574	46,858	19	25	6	7	-	6	24
E.S. CENTRAL	32	52	1	54,656	60,590	34	35	3	-	-	-	9
Ky.	4	9	-	6,459	8,180	21	8	-	-	-	-	-
Tenn.	14	15	-	22,436	23,768	8	11	1	-	-	-	-
Ala.	11	22	-	16,781	17,969	2	10	2	-	-	-	6
Miss.	3	6	1	8,980	10,673	3	6	-	-	-	-	3
W.S. CENTRAL	44	126	2	93,174	95,999	87	49	4	97	-	25	53
Ark.	-	6	-	7,362	7,982	2	4	-	2	-	-	1
La.	11	17	-	18,324	16,918	9	10	2	1	-	1	8
Okla.	1	25	1	10,703	10,562	14	10	2	2	-	-	10
Tex.	32	78	1	56,785	60,537	62	25	-	92	-	24	34
MOUNTAIN	34	54	4	20,783	23,686	61	37	7	8	-	12	24
Mont.	-	2	-	863	961	-	-	-	-	-	-	-
Idaho	-	1	-	872	1,159	-	-	-	-	-	-	2
Wyo.	-	2	-	540	686	1	-	-	-	-	-	1
Colo.	19	30	-	5,815	6,419	8	9	2	-	-	2	8
N. Mex.	3	1	-	2,576	3,138	8	6	2	-	-	-	5
Ariz.	6	8	4	5,960	6,197	32	13	2	7	-	9	5
Utah	6	10	-	989	1,146	4	-	1	1	-	1	3
Nev.	-	-	-	3,168	3,980	8	9	-	-	-	-	-
PACIFIC	48	123	7	91,847	97,784	129	132	23	38	-	100	233
Wash.	7	12	1	6,922	8,186	3	7	1	1	-	15	11
Oreg.	-	-	3	4,921	5,775	33	3	4	-	-	1	9
Calif.	37	104	3	75,759	79,519	91	119	17	37	-	57	212
Alaska	1	-	-	2,443	2,455	-	1	1	-	-	-	-
Hawaii	3	7	-	1,802	1,849	2	2	-	-	-	27	1
Guam	U	-	-	87	106	U	U	U	U	U	-	2
P.R.	9	1	1	1,893	2,040	6	6	1	14	-	-	2
V.I.	U	-	-	188	205	U	U	U	U	U	-	-
Pac. Trust Terr.	U	-	-	-	338	U	U	U	U	U	-	-

N: Not notifiable U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending September 24, 1983 and September 25, 1982 (38th week)

Reporting Area	Measles (Rubeola)					Menin-gococcal Infections	Mumps			Pertussis			Rubella		
	Indigenous		Imported*		Total										
	1983	Cum. 1983	1983	Cum. 1983	Cum. 1982	Cum. 1983	1983	Cum. 1983	Cum. 1982	1983	Cum. 1983	Cum. 1982	1983	Cum. 1983	Cum. 1982
UNITED STATES	6	1,027	2	211	1,270	2,113	36	2,492	4,287	64	1,670	1,114	11	791	2,024
NEW ENGLAND	-	2	-	14	14	108	5	104	165	4	55	46	-	13	16
Maine	-	-	-	-	-	8	-	16	39	-	4	4	-	-	-
N.H.	-	-	-	3	3	3	2	21	15	-	6	4	-	4	10
Vt.	-	-	-	-	2	7	-	14	7	1	8	2	-	3	-
Mass.	-	2	-	3	3	37	1	25	71	3	31	20	-	6	2
R.I.	-	-	-	-	-	8	1	13	15	-	5	11	-	-	1
Conn.	-	-	-	8	6	45	1	15	18	-	1	5	-	-	3
MID ATLANTIC	-	70	2	26	158	352	4	203	269	4	316	221	-	135	98
Upstate N.Y.	-	1	1 †	9	109	110	-	77	63	3	101	89	-	26	48
N.Y. City	-	43	1 †	13	41	67	-	33	45	-	47	30	-	86	32
N.J.	-	26	-	1	4	55	1	35	39	-	19	21	-	3	17
Pa.	-	-	-	3	4	120	3	58	122	1	149	81	-	20	1
E.N. CENTRAL	-	595	-	56	77	389	6	1,194	2,260	22	360	245	-	109	178
Ohio	-	72	-	13	1	116	-	540	1,563	11	120	70	-	2	-
Ind.	-	396	-	4	2	46	2	35	37	4	48	17	-	23	27
Ill.	-	125	-	33	24	117	-	124	257	1	109	100	-	46	66
Mich.	-	2	-	5	50	67	2	424	298	6	32	21	-	15	48
Wis.	-	-	-	1	-	43	2	71	105	-	51	37	-	23	37
W.N. CENTRAL	-	-	-	6	49	117	1	141	559	5	102	59	1	38	58
Minn.	-	-	-	-	-	16	-	27	437	1	38	24	1	8	5
Iowa	-	-	-	-	-	13	1	37	31	-	6	6	-	-	-
Mo.	-	-	-	1	2	59	-	21	9	1	15	14	-	-	38
N. Dak.	-	-	-	-	-	4	-	-	-	-	1	-	-	-	-
S. Dak.	-	-	-	-	-	4	-	-	1	-	7	5	-	-	1
Nebr.	-	-	-	-	3	1	-	2	-	-	-	1	-	-	-
Kans.	-	-	-	5	44	20	-	54	81	3	35	9	-	30	14
S. ATLANTIC	6	169	-	31	41	440	4	168	250	10	201	205	1	93	77
Del.	-	-	-	-	-	11	-	8	12	-	3	6	-	-	1
Md.	-	6	-	4	3	43	1	26	28	3	17	50	-	3	34
D.C.	-	-	-	-	1	5	-	-	-	-	-	1	-	-	-
Va.	-	10	-	13	14	62	-	30	33	1	46	23	-	2	12
W. Va.	-	-	-	-	3	2	2	42	89	-	7	7	-	-	1
N.C.	-	-	-	1	-	86	-	10	12	3	26	31	-	10	1
S.C.	-	-	-	4	-	45	1	9	15	-	13	16	-	1	1
Ga.	-	8	-	-	-	72	-	43	16	-	56	33	-	11	12
Fla.	6	145	-	9	20	114	-	-	45	3	33	38	1	66	15
E.S. CENTRAL	-	1	-	5	7	130	-	48	49	1	26	43	3	14	45
Ky.	-	-	-	1	1	27	-	21	16	-	11	5	3	13	27
Tenn.	-	-	-	-	6	44	-	22	19	-	6	22	-	-	2
Ala.	-	1	-	4	-	38	-	2	8	1	5	5	-	1	-
Miss.	-	-	-	-	-	21	-	3	6	-	4	11	-	-	16
W.S. CENTRAL	-	39	-	35	44	222	1	210	177	10	333	74	2	108	100
Ark.	-	5	-	8	-	17	-	2	7	-	17	3	-	-	1
La.	-	-	-	25	2	44	-	45	6	1	7	10	-	9	1
Okla.	-	1	-	-	27	26	-	-	-	-	237	5	-	-	3
Tex.	-	33	-	2	15	135	1	163	164	9	72	56	2	99	95
MOUNTAIN	-	-	-	3	21	85	4	104	87	2	173	58	1	32	77
Mont.	-	-	-	-	-	16	-	2	3	-	1	1	-	5	5
Idaho	-	-	-	-	-	6	-	6	4	-	15	11	-	8	6
Wyo.	-	-	-	-	1	2	-	-	2	-	6	2	-	4	7
Colo.	-	-	-	2	8	29	2	14	16	1	105	16	1	1	6
N. Mex.	-	-	-	-	-	7	-	-	-	-	12	6	-	-	6
Ariz.	-	-	-	1	12	16	1	71	37	1	18	21	-	6	14
Utah	-	-	-	-	-	8	-	6	19	-	16	1	-	7	21
Nev.	-	-	-	-	-	1	1	5	6	-	-	-	-	1	12
PACIFIC	-	151	-	35	859	270	11	320	471	6	104	163	3	249	1,375
Wash.	-	1	-	4	40	37	2	40	64	-	16	20	-	12	38
Oreg.	-	7	-	2	12	39	-	-	-	-	6	27	-	13	6
Calif.	-	142	-	27	801	185	7	251	390	5	75	88	3	222	1,319
Alaska	-	-	-	2	1	2	1	13	7	-	4	-	-	1	5
Hawaii	-	1	-	-	5	7	1	16	10	1	3	28	-	1	7
Guam	U	1	U	1	6	1	U	1	3	U	-	-	U	-	2
P.R.	-	94	-	-	110	11	2	114	58	-	11	21	-	4	11
V.I.	U	-	U	5	-	-	U	-	3	U	-	-	U	2	1
Pac. Trust Terr.	U	-	U	-	-	-	U	-	5	U	-	-	U	-	-

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

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending September 24, 1983 and September 25, 1982 (38th week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1983	Cum. 1982	1983	1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1983
UNITED STATES	23,491	24,063	5	508	17,014	243	301	1,056	4,399
NEW ENGLAND	488	414	-	11	478	4	11	6	27
Maine	15	4	-	-	27	-	-	-	6
N.H.	17	4	-	1	31	-	-	1	4
Vt.	1	2	-	-	9	-	-	-	1
Mass.	305	277	-	2	252	3	9	2	10
R.I.	16	19	-	4	35	1	-	-	-
Conn.	134	108	-	4	124	-	2	3	6
MID ATLANTIC	2,984	3,278	-	71	3,021	1	52	24	204
Upstate N.Y.	213	352	-	14	513	1	7	6	68
N.Y. City	1,791	1,941	-	20	1,181	-	17	1	-
N.J.	580	453	-	19	651	-	22	8	23
Pa.	400	532	-	18	676	-	6	9	113
E.N. CENTRAL	1,180	1,486	3	115	2,313	3	47	76	400
Ohio	336	228	2	23	366	-	12	43	51
Ind.	89	153	1	11	257	-	3	12	28
Ill.	525	816	-	29	987	1	23	14	211
Mich.	166	218	-	48	584	1	9	6	14
Wis.	64	71	-	4	119	1	-	1	96
W.N. CENTRAL	286	412	1	25	532	75	9	51	644
Minn.	111	88	-	-	104	-	2	-	112
Iowa	18	24	-	2	47	-	-	-	159
Mo.	107	242	-	20	268	54	6	25	89
N. Dak.	2	7	-	-	6	-	-	1	62
S. Dak.	11	1	1	-	32	8	-	5	96
Nebr.	11	11	-	-	20	6	-	3	58
Kans.	26	39	-	3	55	7	1	17	68
S. ATLANTIC	6,296	6,515	-	103	3,475	13	48	441	1,470
Del.	28	17	-	16	48	-	-	4	5
Md.	383	355	-	6	282	5	8	39	613
D.C.	280	360	-	6	141	-	3	-	1
Va.	429	442	-	7	352	1	13	60	520
W. Va.	20	22	-	-	106	-	2	12	102
N.C.	598	522	-	14	511	6	3	181	19
S.C.	401	384	-	7	312	-	1	76	24
Ga.	1,145	1,367	-	15	645	1	2	65	165
Fla.	3,012	3,046	-	32	1,078	-	16	4	21
E.S. CENTRAL	1,650	1,669	-	54	1,528	17	7	98	301
Ky.	120	86	-	15	377	1	3	22	68
Tenn.	455	468	-	12	465	11	1	47	167
Ala.	656	624	-	16	397	-	1	23	66
Miss.	419	491	-	11	289	5	2	6	-
W.S. CENTRAL	6,192	6,275	-	41	2,022	102	43	346	839
Ark.	148	158	-	11	238	63	2	35	143
La.	1,286	1,414	-	-	266	3	3	1	21
Okla.	157	130	-	4	187	28	2	221	87
Tex.	4,601	4,573	-	26	1,331	8	36	89	588
MOUNTAIN	484	592	-	14	452	23	10	12	187
Mont.	7	3	-	7	41	5	1	6	66
Idaho	6	24	-	-	23	2	-	2	12
Wyo.	10	15	-	-	10	5	-	2	11
Colo.	121	164	-	-	56	3	1	-	20
N. Mex.	128	149	-	1	87	3	1	-	9
Ariz.	120	124	-	4	185	1	5	-	33
Utah	19	18	-	-	30	3	1	1	6
Nev.	73	95	-	2	20	1	1	1	30
PACIFIC	3,931	3,422	1	74	3,193	5	74	2	327
Wash.	127	121	-	9	186	2	3	-	2
Oreg.	109	84	-	6	135	2	3	-	1
Calif.	3,629	3,127	1	55	2,652	1	66	2	309
Alaska	10	10	-	-	42	-	-	-	15
Hawaii	56	80	-	4	178	-	2	-	-
Guam	-	1	U	U	4	-	-	-	-
P.R.	648	520	-	1	363	-	-	-	41
V.I.	16	25	U	U	2	-	-	-	-
Pac. Trust Terr.	-	-	U	U	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending September 24, 1983 (38th week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	548	376	113	28	14	17	34
Boston, Mass.	137	74	35	12	6	10	15
Bridgeport, Conn.	40	27	11	1	1	-	3
Cambridge, Mass.	45	36	8	1	-	-	6
Fall River, Mass.	20	19	1	-	-	-	-
Hartford, Conn.	32	19	7	3	1	2	-
Lowell, Mass.	25	20	5	-	-	-	-
Lynn, Mass.	14	10	2	2	-	-	-
New Bedford, Mass.	27	21	4	1	1	-	1
New Haven, Conn.	39	29	4	2	-	4	-
Providence, R.I.	53	30	15	5	2	1	1
Somerville, Mass.	4	4	-	-	-	-	-
Springfield, Mass.	47	37	8	1	1	-	4
Waterbury, Conn.	26	19	7	-	-	-	2
Worcester, Mass.	39	31	6	-	2	-	2
MID. ATLANTIC	2,312	1,522	487	156	73	74	74
Albany, N.Y.	44	31	5	1	4	3	-
Allentown, Pa. §	19	19	-	-	-	-	-
Buffalo, N.Y.	97	65	22	5	1	4	8
Camden, N.J.	30	17	9	2	-	2	-
Elizabeth, N.J.	19	12	5	2	-	-	-
Erie, Pa.†	33	27	6	-	-	-	1
Jersey City, N.J.	45	27	8	7	1	2	-
N.Y. City, N.Y.	1,324	861	275	106	47	35	38
Newark, N.J.	41	26	10	3	-	2	2
Paterson, N.J.	41	23	12	3	1	2	1
Philadelphia, Pa.†	211	122	52	14	9	14	12
Pittsburgh, Pa.†	61	43	14	1	1	2	1
Reading, Pa.	31	25	4	1	-	1	1
Rochester, N.Y.	99	74	18	1	4	2	6
Schenectady, N.Y.	24	17	4	1	2	-	1
Scranton, Pa.†	24	16	6	2	-	-	2
Syracuse, N.Y.	86	58	20	2	3	3	-
Trenton, N.J.	34	23	6	4	-	1	-
Utica, N.Y.	15	8	5	1	-	1	-
Yonkers, N.Y.	34	28	6	-	-	-	1
E.N. CENTRAL	2,135	1,368	479	124	85	79	75
Akron, Ohio	73	52	11	-	3	7	-
Canton, Ohio	38	26	8	3	-	1	2
Chicago, Ill.	469	290	106	41	17	15	19
Cincinnati, Ohio	157	109	33	4	5	6	11
Cleveland, Ohio	170	103	39	8	9	11	-
Columbus, Ohio	91	53	25	5	6	2	2
Dayton, Ohio	123	77	28	6	6	6	1
Detroit, Mich.	216	119	68	11	10	8	7
Evansville, Ind.	39	29	5	2	1	2	2
Fort Wayne, Ind.	60	34	18	7	1	-	2
Gary, Ind.	28	16	6	3	2	1	-
Grand Rapids, Mich.	71	50	10	4	3	4	5
Indianapolis, Ind.	147	83	44	8	9	3	3
Madison, Wis.	29	16	7	1	3	2	2
Milwaukee, Wis.	114	80	23	3	3	5	3
Peoria, Ill.	58	41	9	3	2	3	7
Rockford, Ill.	47	37	6	2	1	1	2
South Berid, Ind.	43	35	4	4	-	-	3
Toledo, Ohio	96	67	19	6	3	1	3
Youngstown, Ohio	66	51	10	3	1	1	1
W.N. CENTRAL	705	483	127	41	26	25	37
Des Moines, Iowa	57	48	6	1	1	1	6
Duluth, Minn.	29	22	3	1	2	1	1
Kansas City, Kans.	23	12	8	2	1	-	-
Kansas City, Mo.	113	64	32	7	2	5	6
Lincoln, Nebr.	31	22	6	3	-	-	4
Minneapolis, Minn.	96	63	15	9	5	4	3
Omaha, Nebr.	82	57	15	-	7	3	2
St. Louis, Mo.	140	100	19	9	6	6	8
St. Paul, Minn.	70	55	9	4	-	2	2
Wichita, Kans.	64	40	14	5	2	3	5

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,203	719	308	89	37	50	51
Atlanta, Ga.	125	74	32	10	4	5	2
Baltimore, Md.	252	145	64	24	9	10	7
Charlotte, N.C.	64	37	20	3	1	3	3
Jacksonville, Fla.	95	54	26	5	2	8	5
Miami, Fla.	81	52	20	5	2	2	5
Norfolk, Va.	57	36	18	1	1	1	6
Richmond, Va.	82	46	19	6	5	6	7
Savannah, Ga.	59	37	13	4	2	3	3
St. Petersburg, Fla.	98	84	12	2	-	-	5
Tampa, Fla.	63	38	14	7	3	1	4
Washington, D.C.	164	77	54	18	5	10	-
Wilmington, Del.	63	39	16	4	3	1	4
E.S. CENTRAL	682	412	166	49	11	44	24
Birmingham, Ala.	103	57	30	11	1	4	3
Chattanooga, Tenn.	53	39	6	3	-	5	2
Knoxville, Tenn.	41	26	12	3	-	-	-
Louisville, Ky.	118	62	36	11	1	8	5
Memphis, Tenn.	175	99	45	6	7	18	5
Mobile, Ala.	38	28	9	1	-	-	3
Montgomery, Ala.	51	30	9	6	-	6	3
Nashville, Tenn.	103	71	19	8	2	3	3
W.S. CENTRAL	1,230	713	297	120	52	48	35
Austin, Tex.	44	24	13	4	1	2	4
Baton Rouge, La.	54	34	12	4	3	1	3
Corpus Christi, Tex.	67	38	17	6	1	5	-
Dallas, Tex.	180	102	38	18	14	8	-
El Paso, Tex.	47	24	12	5	4	2	-
Fort Worth, Tex.	81	53	18	5	2	3	4
Houston, Tex.	297	157	77	43	15	5	7
Little Rock, Ark.	67	43	12	4	3	5	3
New Orleans, La.	95	50	30	10	2	3	-
San Antonio, Tex.	163	104	41	8	4	6	13
Shreveport, La.	45	27	8	6	-	4	-
Tulsa, Okla.	90	57	19	7	3	4	1
MOUNTAIN	616	354	139	50	44	29	14
Albuquerque, N.Mex.	87	31	22	9	18	7	2
Colo. Springs, Colo.	30	16	9	3	2	-	2
Denver, Colo.	134	87	32	7	2	6	3
Las Vegas, Nev.	63	29	21	8	5	-	-
Ogden, Utah	21	13	4	1	1	2	-
Phoenix, Ariz.	140	80	28	11	10	11	4
Pueblo, Colo.	17	11	2	2	1	1	-
Salt Lake City, Utah	42	22	12	4	4	-	2
Tucson, Ariz.	82	65	9	5	1	2	1
PACIFIC	1,789	1,162	373	120	62	72	94
Berkeley, Calif.	18	15	3	-	-	-	-
Fresno, Calif.	54	27	12	8	1	6	2
Glendale, Calif.	17	15	1	-	1	-	-
Honolulu, Hawaii	53	31	12	3	3	4	2
Long Beach, Calif.	105	72	26	3	1	3	3
Los Angeles, Calif.	537	357	105	43	18	14	12
Oakland, Calif.	65	33	18	9	4	1	3
Pasadena, Calif.	34	25	4	2	2	1	4
Portland, Oreg.	119	84	20	7	1	7	5
Sacramento, Calif.	89	52	19	5	4	9	6
San Diego, Calif.	176	108	49	10	6	3	23
San Francisco, Calif.	136	90	27	9	3	7	5
San Jose, Calif.	159	88	44	12	9	6	18
Seattle, Wash.	142	105	20	5	5	7	2
Spokane, Wash.	46	35	7	2	2	-	6
Tacoma, Wash.	39	25	6	2	2	4	3
TOTAL	11,220††	7,109	2,489	777	404	438	438

* 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.

Pseudomonas pickettii *Colonization – Continued*

vials from this lot tested by CDC were found positive for *P. pickettii*; quantitative microbial counts made from all eight of eight contaminated vials tested demonstrated counts of 10,000 organisms/ml. In addition, one (5%) of 20 vials of one other lot of 0.9% NaCl (no. 93489) from this hospital was shown to be contaminated with *P. pickettii*. Also, *P. pickettii* has been recovered from two other lots of 0.9% NaCl, and one lot of 0.45% NaCl from two other hospitals. All lots were from the same manufacturer.

Since this report, four additional hospitals have reported respiratory colonization of infants and adults with aerobic, nonfermentative, gram-negative organisms and have associated this colonization with the use of Modu-Dose. In two of these hospitals, organisms cultured from Modu-Dose and patients have been reported as *P. pickettii*.

Reported by B Reisberg, MD, P Blanken, M Wade, E Webb, Northwestern Memorial Hospital, S Shulman, MD, S Gardner, Children's Memorial Hospital, Chicago, KT Reddi, MD, Bureau of Preventive Medicine, City of Chicago Dept of Health, BJ Francis, MD, State Epidemiologist, Illinois State Dept of Health; LA Schneider, MD, D McEvoy, St. Joseph's Hospital, Fort Wayne, CL Barrett, MD, State Epidemiologist, Indiana State Board of Health; MT Brady, MD, Children's Hospital, Columbus, TJ Halpin, MD, State Epidemiologist, Ohio State Dept of Health; DL Leong, PhD, DE Anderson, PhD, Sacred Heart Medical Center, Spokane, JM Kobayashi, MD, State Epidemiologist, Washington State Dept of Social and Health Svcs; M Haffner, MD, National Center of Devices and Radiological Health, I Weitzman, Emergency and Epidemiological Operations Br, U.S. Food and Drug Administration; Div of Field Svcs, Epidemiology Program Office; Div of Bacterial Diseases, Hospital Infections Program, Center for Infectious Diseases, CDC.

Editorial Note: Becton Dickinson Respiratory Systems manufactures Modu-Dose as sterile 3-ml and 5-ml vials of water, 0.45% NaCl, and 0.9% NaCl solutions for respiratory therapy use only. Following a microbiologic investigation by the company that confirmed bacterial contamination of some vials of Modu-Dose with *P. pickettii*, Becton Dickinson Respiratory Systems issued a voluntary product-recall notice on July 25 for all Modu-Dose water and saline solution vials with lot numbers through 93677.

P. pickettii is a slow-growing (optimal temperature 35 C [95 F]) species of aerobic, nonfermentative, gram-negative bacilli (*1*). Correct identification depends on the performance of a number of conventional biochemical tests (*2*), and may not always be possible if a laboratory depends on an automated system (*3*). The *P. pickettii* strains isolated from the patients and from the vials of Modu-Dose that have been confirmed by CDC belong to the biovar previously designated as Va-2 (oxidizes glucose and xylose but not lactose or maltose). *P. pickettii*, including Biovars Va-1, Va-2, and *P. thomasii*, are thought to be of low virulence, although there have been isolated case reports of bacteremia with *P. pickettii* (Va-2) and acute, nonfatal meningitis with *P. pickettii* (Va-1) (*4,5*). *P. thomasii* has also been responsible for an outbreak of hospital-acquired colonization and infection related to contamination of water purified in a hospital's pharmacy and improper autoclaving technique (*6*).

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International Notes

Influenza — Worldwide

From March to August 1983, influenza surveillance results indicate continuing, often focal outbreaks of influenza virus types A(H3N2) and A(H1N1); influenza virus type B was isolated less frequently. Several examples follow.

Asia: In Hong Kong, influenza A(H3N2) activity peaked in March and was replaced in June by influenza A(H1N1) virus. In Singapore, where type A(H3N2) virus had been isolated earlier in the year, type A(H1N1) strains also began to be isolated in markedly increased numbers in late May and June. A few type B viruses also were isolated in both countries during the same period. Limited outbreaks of influenza in Guandong Province, Peoples Republic of China, were associated with isolates of a few A(H3N2) viruses and an A(H1N1) virus in May and June. In Taiwan Province and in Bangkok, Thailand, A(H1N1) viruses were isolated from June to August.

Africa: Several type A(H3N2) viruses and a single type B virus were isolated from sporadic cases in Madagascar in March and April. In Johannesburg, South Africa, an outbreak of type A(H3N2) influenza occurred in July.

Oceania: An outbreak of type A(H1N1) virus was confirmed by virus isolation in New Caledonia during March. Starting in May, type A(H1N1) activity was also implicated in outbreaks in New Zealand, particularly in South Island. In contrast, type A(H3N2) viruses predominated in the central and northern parts of North Island. In Tasmania, Australia, an outbreak of type A(H1N1) occurred in July, but elsewhere in Australia, generally low levels of influenza A(H1N1) and A(H3N2) virus isolation were reported. Type B influenza viruses were also isolated occasionally in both countries.

Americas: Type A(H3N2) virus was isolated in French Guyana during March and in Uruguay during July. In Santiago, Chile, type A(H1N1) virus was isolated from young adults during July. In Belem, Brazil, A(H3N2) strains were most frequently isolated during a period of activity that peaked in May and June. Sporadic cases of A(H1N1) virus were reported in April in San Paulo, and type B virus was isolated in Rio de Janeiro. Type A(H3N2) virus caused an outbreak in Jamaica during July (see below), and in August, an A(H3N2) virus was isolated in the United States from a young adult who became ill in Colorado 2 days after returning from a 5-day visit to Mexico.

Antigenic analysis of A(H3N2) strains received at CDC indicates nearly all are very closely related to A/Philippines/2/82(H3N2), which replaced A/Bangkok/1/79 as the A(H3N2) component of the vaccine prepared for the 1983-1984 influenza season.

Jamaica: From July 12 through August 4, 1983, an outbreak of respiratory illness with 19 associated deaths was reported among the 591 residents of a facility housing chronically ill and indigent people in Kingston, Jamaica (Figure 1). Four of eight throat and nasopharyngeal cultures obtained from ill residents yielded influenza A(H3N2) virus similar to A/Phillippines/2/82.

Because body temperatures and other specific clinical manifestations of illness were not routinely documented during the outbreak, a case of respiratory illness was defined as a person with feverishness, cold symptoms, or acute cough from July 12 through August 4. Fever and cold symptoms were reported in 62 (91%) of 68 cases among residents, and cough was reported in 53 (78%). Three cases, but no deaths, were reported among the 149-member, predominantly female staff.

The outbreak was largely confined to the facility's male-resident wards. Thus, 66 (97%) of

Influenza – Continued

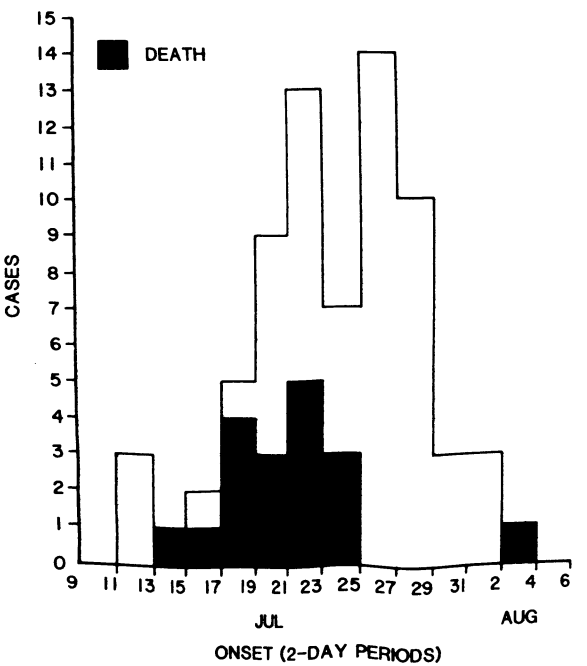
the 68 cases occurred among 328 adult male residents (attack rate 21%), probably because the women's and children's wards were geographically separate from the men's, and there was little interaction between residents and staff from the two areas. Men aged 70-89 had the highest attack rate (35%).

Preliminary analysis suggests that residents with diagnoses of cardiovascular disease, malnutrition, and senility were at higher risk of acquiring illness and subsequently dying. The case-fatality ratio for persons with these diagnoses was 53%, compared to an overall case-fatality ratio of 28%. There is no evidence of widespread influenza activity in Jamaica, and there have been no laboratory-documented cases in the community this summer.

Reported by Diagnostic Virology Section, Epidemiology Div, US Air Force School of Aerospace Medicine, San Antonio, Texas; Virus Diseases Unit, World Health Organization, Geneva; A Dyer, MD, Dept of Microbiology, Univ of West Indies, Kingston, Ministry of Health, Jamaica; Caribbean Epidemiology Centre, Port-of-Spain, Trinidad; Pan American Health Organization, Washington, DC; Div of Field Svcs, Epidemiology Program Office, International Health Program Office, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: The past several months' surveillance data are consistent with the previously detected trend toward displacement of A/Bangkok/1/79(H3N2)-like strains by A/Philippines/2/82(H3N2)-like strains (*1*), which have caused outbreaks in all continents where influenza has recently been active. These data also indicate that A(H1N1) virus is still cocirculating with A(H3N2) strains, and in certain times and places, have predominated. The generally low level of influenza B virus worldwide is typical of that observed in many recent years between periods of greater activity.

FIGURE 1. Reported cases of respiratory illness at a nursing home – Kingston, Jamaica, July 12-August 4, 1983



Influenza — Continued

The public and health-care providers should be aware that, although influenza activity remains unpredictable for next winter, the potential for severe impact always exists, particularly in the elderly and other high-risk groups (*2*), as illustrated by the Jamaica outbreak. Influenza vaccine may reduce morbidity and mortality in such groups and has been strongly recommended by the Immunization Practices Advisory Committee (*2*). Since influenza activity usually peaks in the United States during January to March, with major activity rarely occurring before mid- to late-December, it is preferable to administer vaccine during mid to late fall to maximize chances that immunity will persist until spring.

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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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