CENTERS FOR DISEASE CONTROL

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

December 8, 1989/Vol. 38/No. 48

Current Trends

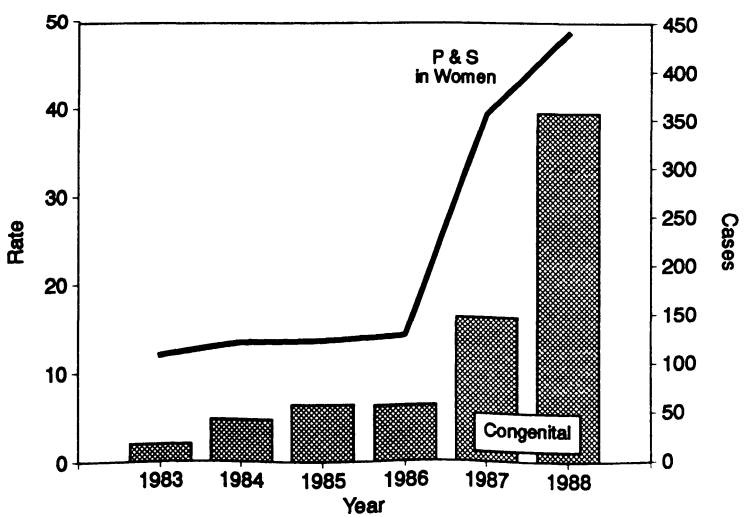
Congenital Syphilis — New York City, 1986–1988

From 1986 through 1988, the number of reported (*1*) cases of congenital syphilis (CS) in New York City (NYC) increased >500%, from 57 to 357 (Figure 1). From January through June, 1989, 779 newborns with reactive serologic tests for syphilis were reported. Based on previous NYC data, an estimated 57%–68% of these infants represent true congenitally acquired infections, which projects to 888–1059 CS cases for 1989.* Because syphilis has been associated with use of crack cocaine, the NYC Department of Health conducted a case-control study to examine the relationship between maternal cocaine/crack use† and CS cases in 1988 in NYC.

*Numbers reported in this article differ from those in *MMWR* Table II because of lags in reporting.

†In this population, most cocaine was used in the form of smokable "crack"; intravenous and intranasal administration were also included.

FIGURE 1. Rate per 100,000 women of primary and secondary (P&S) syphilis and cases of congenital syphilis (infants <1 year of age) — New York City, 1983–1988



Congenital Syphilis — Continued

Data were obtained from NYC birth certificates and an attached Confidential Medical Section containing maternal drug-use information collected routinely by a trained registrar on all mothers at delivery. Additional information on cocaine/crack use was obtained by health department personnel investigating CS reports.

Of the 357 CS cases in 1988, 302 (85%) (including three sets of twins) were matched to birth certificates; 55 (15%) could not be matched either because of discrepancies in birth date or name spelling or because they were stillborn and did not have a birth certificate. Demographic characteristics were similar for matched and unmatched infants. Controls (two for each case) were selected from birth certificate files and were matched for hospital of delivery, date of birth, and race/ethnicity. A total of 299 case-mothers and 598 control-mothers were studied; 71% were black, 22% Hispanic, 5% non-Hispanic white, and 3% of unknown or other races.

Case-mothers were similar in mean age (25 years) and Medicaid coverage to control-mothers but were less likely to be married or to have received prenatal care (Table 1). Case-mothers were significantly more likely to have used cocaine/crack during pregnancy (odds ratio [OR] = 6.6); use of other drugs (but of no particular drug) was also more likely. Infants of case-mothers were more likely to be of low birth weight (<2500 g) (36% of cases compared with 12% of controls; OR = 4.3; 95% confidence interval [CI] = 3.0–6.1) and preterm (<37 weeks' gestation) (30% of cases, compared with 17% of controls; OR = 2.1; 95% CI = 1.5–2.9). When health department interview data about drug use (available for case-mothers only) were included in the analysis, the proportion of case-mothers who used cocaine/crack during pregnancy increased from 28% (according to birth certificate data) to 39% (117/299).

One hundred fifty-three (51%) case-mothers reported having had one or more prenatal-care visits; of these, 49 (32%) began prenatal care in the last trimester. When case-mothers were subdivided according to cocaine/crack use during pregnancy, users did not differ demographically from nonusers but were more likely to have received no prenatal care (36% vs. 24%; $p<0.03$) and less likely to have had one or more prenatal-care visits (35% vs. 62%; $p<0.001$); for 29% of users and 14% of nonusers, no data on prenatal care were available.

TABLE 1. Characteristics of congenital syphilis case- and control-mothers — New York City, 1986–1988

Maternal charactistics	Cases* (n = 299)		Controls* (n = 598)			
	Yes	(%)	Yes	(%)	OR†	95% CI§
Medicaid	172/284	(61)	328/583	(56)	1.2	0.9–1.6
Age <20 yrs	39/299	(13)	104/597	(17)	0.7	0.5–1.1
No prenatal care	86/239	(36)	59/534	(11)	5.2	3.5–7.7
Unmarried	250/299	(84)	387/598	(65)	2.8	1.9–4.0
Not high school graduate	167/280	(60)	224/577	(39)	2.3	1.7–3.2
Cocaine use	84/296	(28)	33/586	(6)	6.6	4.2–10.5
Any drug use	154/296	(52)	83/586	(14)	6.6	4.7–9.2

*Denominators vary because missing data were excluded.
†Odds ratio.
§95% confidence interval.

Congenital Syphilis — Continued

Reported by: S Schultz, MD, Deputy Commissioner, M Zweig, MPH, T Singh, PhD, M Htoo, MD, New York City Dept of Health. Clinical Research Br, Div STD/HIV Prevention, Center for Prevention Svcs, CDC.

Editorial Note: In 1988, health departments reported to CDC 691 CS cases in infants <1 year of age—the highest number since penicillin became widely used to treat syphilis in pregnant women in the early 1950s (*2*). Because CS can be prevented by detection and treatment of syphilis early in pregnancy, this increase indicates gaps in syphilis control and prenatal care. Nationwide, as in NYC, the epidemiology of CS parallels trends for early syphilis in women; in addition, almost half the CS infants reported to CDC were delivered to mothers who received no prenatal care (*3*).

This increase in CS in NYC parallels a 240% increase in the number of reported cases of primary and secondary syphilis in women, from 541 in 1986 to 1841 in 1988. Such increases have been linked elsewhere to use of cocaine/crack (*4–8*). In NYC, the proportion of mothers reporting use of cocaine increased from 1 per 1000 live births in 1981 to 21 per 1000 in 1988 (*9*); no other drug has increased similarly in use.

The practice of trading sex with multiple partners for drugs, especially cocaine/crack, now appears to play a major role in the transmission of syphilis (*5–7*). Because under these circumstances the identities of sex partners are often unknown, the traditional syphilis-control strategy of partner notification may not be effective—a failure that has been linked to CS (*8*). In the NYC study, cocaine/crack use was also related to lack of prenatal care. Mothers of infants with CS may not access the health-care system fully.

Primary prevention of CS will require innovative efforts to decrease syphilis incidence. Since drug users often do not use health-care services, targeted screening programs may be necessary. For example, because untreated early syphilis is present in 2% of prisoners (*10*), many of whom are incarcerated for drug-related offenses, screening programs could be directed at that population. Innovative screening programs are especially important for detecting and treating syphilis in males.

Prevention of CS will also require increased use of prenatal care. In all states, serologic screening for syphilis is required during pregnancy; a second screening is recommended during the third trimester for high-risk populations, and follow-up and treatment must be assured. For example, in Orange County, California, rapid syphilis screening and treatment were instituted in 1986 in prenatal-care clinics so that women could be tested and treated during the same visit; as a result, CS decreased from 12 cases in 1985 to one case each in 1987 and 1988 (*11*).

Screening for syphilis at delivery is also recommended by CDC for mothers who live in areas of high syphilis prevalence (*12*) and was recently mandated for all mothers by the State of New York. Since the consequences of nontreatment are grave and follow-up is often difficult, infants should not leave the hospital until the results of syphilis screening are known (*12*). Ideally, the mother's blood should be screened because use of cord blood for screening may give both false-positive and false-negative results (*13*).

The large increase in the number of CS cases in NYC reflects in part the use of revised, more sensitive reporting guidelines for CS. These were published in 1988, but a modified version (see box) has been approved by the Council of State and Territorial Epidemiologists and CDC. These guidelines enable reporting of CS based on information available at birth or at the initial investigation. Infants born to women with untreated or inadequately treated syphilis are now considered to have presump-

Congenital Syphilis — Continued

SURVEILLANCE CASE DEFINITION FOR CONGENITAL SYPHILIS

For reporting purposes, congenital syphilis includes cases of congenitally acquired syphilis in infants and children, as well as syphilitic stillbirths.

A CONFIRMED CASE of congenital syphilis is an infant in whom *Treponema pallidum* is identified by darkfield microscopy, fluorescent antibody, or other specific stains in specimens from lesions, placenta, umbilical cord, or autopsy material.

A PRESUMPTIVE CASE of congenital syphilis is either of the following:

A. Any infant whose mother had untreated or inadequately treated* syphilis at delivery, regardless of findings in the infant;

OR

B. Any infant or child who has a reactive treponemal test for syphilis and any one of the following:
   1. any evidence of congenital syphilis on physical examination†; or
   2. any evidence of congenital syphilis on long-bone radiograph; or
   3. reactive cerebrospinal fluid (CSF) VDRL§; or
   4. elevated CSF cell count or protein (without other cause)§; or
   5. quantitative nontreponemal serologic titers which are fourfold higher than the mother's (both drawn at birth); or
   6. reactive test for FTA-ABS-19S-IgM antibody§.

A SYPHILITIC STILLBIRTH is defined as a fetal death in which the mother had untreated or inadequately treated syphilis at delivery of a fetus after a 20-week gestation or of a fetus weighing >500 g.

---

*Inadequate treatment consists of any nonpenicillin therapy or penicillin given <30 days prior to delivery.

†Signs in an infant (<2 years of age) may include hepatosplenomegaly, characteristic skin rash, condyloma lata, snuffles, jaundice (syphilitic hepatitis), pseudoparalysis, or edema (nephrotic syndrome). Stigmata in an older child may include: interstitial keratitis, nerve deafness, anterior bowing of shins, frontal bossing, mulberry molars, Hutchinson's teeth, saddle nose, rhagades, or Clutton's joints.

§It may be difficult to distinguish between congenital and acquired syphilis in a seropositive child after infancy. Signs may not be obvious and stigmata may not yet have developed. Abnormal values for CSF VDRL, cell count, and protein, as well as IgM antibodies, may be found in either congenital or acquired syphilis. Findings on long-bone radiographs may help, since these would indicate congenital syphilis. The decision may ultimately be based on maternal history and clinical judgment; the possibility of sexual abuse also needs to be considered.

Congenital Syphilis — Continued

tive CS, regardless of symptoms or follow-up (*1*). Since most such infants are infected, they should be treated, even when asymptomatic (*12*). Despite the increased sensitivity of these guidelines, true morbidity and mortality from CS are still underestimated, largely because stillbirths are a common sequelae of untreated maternal syphilis. Although reportable under the revised guidelines, syphilis-associated stillbirths are generally unrecognized and unreported.

New York State and California are now implementing the revised reporting guidelines. In Los Angeles County, use of these guidelines has stimulated increased reporting of CS (*14*). Use of these guidelines should permit more accurate estimates of the number of CS cases and improve surveillance by providing comparable, representative data nationwide.

References

1. CDC. Guidelines for the prevention and control of congenital syphilis. MMWR 1988;37 (no. S-1).
2. Venereal Disease Program, Public Health Service. VD fact sheet. Washington, DC: US Department of Health, Education, and Welfare, Public Health Service, 1954 (no. 11):16; PHS publication no. 341.
3. CDC. Congenital syphilis—United States, 1983–1985. MMWR 1986;35:625–8.
4. CDC. Syphilis and congenital syphilis—United States, 1985–1988. MMWR 1988;37:486–9.
5. CDC. Relationship of syphilis to drug use and prostitution—Connecticut and Philadelphia, Pennsylvania. MMWR 1988;37:755–8,764.
6. Rolfs RT, Goldberg M, Sharrar RG. Risk factors for syphilis: cocaine use and prostitution. Am J Public Health (in press).
7. Scribner R, Cohen D. The streets of Babylon: syphilis and sex for drugs in Los Angeles County [Abstract]. In: Program and abstracts of the 117th annual meeting of the American Public Health Association and related organizations. Washington, DC: American Public Health Association, 1989:18.
8. Andrus JK, Fleming DW, Harger DR, et al. Partner notification and epidemic syphilis. Ann Intern Med (in press).
9. New York City Department of Health. Maternal drug abuse—New York City. City Health Information 1989;8,8:1–4.
10. Moran JS, Peterman T. Sexually transmitted diseases in prisons and jails. The Prison J (in press).
11. Lawrence AM, Morrison C. The prevention of congenital syphilis in Orange County, California [Abstract]. In: Proceedings of the 1988 STD National Conference. Atlanta: US Department of Health and Human Services, Public Health Service, 1988:46.
12. CDC. 1989 Sexually transmitted diseases treatment guidelines. MMWR 1989;38(no. S-8): 9–12.
13. Larsen SA, Hunter EF, McGrew BD. Syphilis. In: Wentworth BE, Judson FN, eds. Laboratory methods for the diagnosis of sexually transmitted diseases. Washington, DC: American Public Health Association, 1984:18.
14. Cohen DA, Boyd D, Pabhudas I, Mascola L. The effects of case definition, maternal screening, and reporting criteria on rates of congenital syphilis. Am J Public Health (in press).

Epidemiologic Notes and Reports

Lead Poisoning Associated with Intravenous-Methamphetamine Use — Oregon, 1988

Between August 1 and September 6, 1988, 14 cases of non-A, non-B (NANB) hepatitis were reported in Marion County, Oregon, to the Oregon Health Division (OHD) by the county health department and private physicians. Previously, an average of less than one case per month was reported in the county. During the same period, OHD learned that eight intravenous-methamphetamine users (IVMUs) in Oregon thought to have NANB hepatitis had also been recently diagnosed with lead poisoning. A statewide media campaign describing the lead poisoning outbreak was conducted to alert IVMUs, physicians, and county health departments. In addition, OHD implemented a reporting system for suspected and confirmed lead poisoning cases.

A suspected case of IVMU-associated lead poisoning was defined as three or more of the following symptoms in an IVMU: abdominal pain, nausea, vomiting, lower back and leg pains, weakness, weight loss, and anorexia. A confirmed case was defined as seronegativity for both acute hepatitis A and acute hepatitis B and a blood-lead level of ≥40 μg/dL (1.93 μmol/L) and/or an erythrocyte protoporphyrin (EP) level of ≥60 μg/dL (1.06 μmol/L) in an IVMU.

In 1988, 37 suspected and 14 confirmed cases were reported to OHD; in 1989, no suspected or confirmed cases have been reported. Clinical evaluation for lead poisoning was completed for 19 suspected cases. In six, blood-lead levels were <25 μg/dL (1.21 μmol/L); the other 13 had blood-lead levels of ≥40 μg/dL, and/or EP levels of >60 μg/dL. One person with an uncertain history of methamphetamine use was asymptomatic but had a blood-lead level of 87 μg/dL (4.2 μmol/L).

The 14 confirmed case-patients ranged in age from 24 to 36 years (mean: 27.1; median: 29); 11 were male. Except for one person who had onset in March 1988, onset of symptoms occurred between July 20 and August 17, 1988. The most common symptoms were abdominal pain, vomiting, constipation, nausea, and weakness; duration of symptoms ranged from 3 weeks to 6 weeks. Blood-lead levels ranged from 49 μg/dL to 513 μg/dL. Analysis of an illicit methamphetamine sample provided by one of the patients with confirmed lead poisoning detected 60% lead by weight.

Reported by: DB Chandler, PhD, RL Norton, MD, Oregon Health Science Univ Poison Center, Portland; KW Kauffman, J Gordon, PhD, LR Foster, MD, State Epidemiologist, Health Div, Oregon Dept of Human Resources. Div of Environmental Hazards and Health Effects, Center for Environmental Health and Injury Control, CDC.

Editorial Note: This report has two important clinical and public health implications. First, lead poisoning may not be diagnosed if physicians do not have a high index of suspicion, especially for illness in persons not usually considered to be at risk for lead poisoning. Second, illicit products may be grossly contaminated with poisonous substances. Products manufactured in clandestine laboratories have caused substantial mortality and morbidity (e.g., parkinsonism in drug users exposed to 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine–contaminated meperidine analogs [*1*] and toxic-oil syndrome following use of contaminated rapeseed oil [*2*]).

Acute lead poisoning from IV exposure to lead has been previously reported (*1–3*); some of these cases resulted from illicit methamphetamine use. In the Oregon

Lead Poisoning – Continued

outbreak, the total number of IVMUs affected by lead-contaminated methamphetamine was probably greater than reported because the case definition excluded IVMUs with blood-lead levels <40 μg/dL. In addition, the population at risk (i.e., IVMUs) is difficult to study; almost half the suspected cases were lost to follow-up, and many exposed or ill persons probably did not identify themselves to health-care providers.

The clustering of cases within a 1-month period suggests a point-source epidemic. Whether contamination of the methamphetamine with lead-containing material was deliberate or a result of inadequate processing is unknown. However, lead acetate is a reagent in the manufacture of phenyl-2-propanone, a precursor of methamphetamine in the amalgam process.

Most of the Oregon patients had only slightly elevated SGOT levels (median: 124 IU/L). However, elevations of bilirubin (median: 2.4 mg/dL) and marked increases in SGOT levels in some of these persons are unusual in lead poisoning. Particularly because IV-drug use is the most commonly identified risk factor reported by persons with NANB hepatitis (*4,5*), some of these patients may have had either acute or chronic NANB hepatitis of viral etiology in addition to lead poisoning. Alternatively, these abnormalities in SGOT and bilirubin may have resulted from exposure to solvents used to manufacture the methamphetamine. Physicians should be aware that acute lead poisoning can have many signs and symptoms similar to those of NANB hepatitis and that illicit methamphetamine can contain substantial amounts of lead (*3*).

During the outbreak, the OHD notified health-care providers that any NANB hepatitis case should be reviewed for possible lead poisoning. Because there have been no indications of a continuing problem, no further actions have been taken.

References

1. Ruttenber AJ, Garbe PL, Kalter HD, et al. Meperidine analog exposure in California narcotics abusers: initial epidemiologic findings. In: Markey SP, Castagnoli N, Trevor AJ, Kopin IJ, eds. MPTP: a neurotoxin producing a Parkinsonian syndrome. Orlando: Academic Press, 1986: 339–53.
2. World Health Organization. Toxic oil syndrome: mass food poisoning in Spain—report of a WHO meeting, Madrid 21–25 March 1983. Copenhagen: World Health Organization Regional Office for Europe, 1984:1–2.
3. Allcott JV, Barnhart RA, Mooney LA. Acute lead poisoning in two users of illicit methamphetamine. JAMA 1987;258:510–1.
4. Alter MJ, Hadler SC, Francis DP, Maynard JE. The epidemiology of non-A, non-B hepatitis in the United States. In: Dodd RY, Barker LF, eds. Infection, immunity, and blood transfusion. New York: Alan R. Liss, 1985:71–9.
5. CDC. Hepatitis surveillance report no. 52. Atlanta: US Department of Health and Human Services, Public Health Service, 1989:25–7.

Ebola Virus Infection in Imported Primates – Virginia, 1989

In late November 1989, Ebola virus was isolated from cynomolgus monkeys (*Macaca fascicularis*) imported into the United States from the Philippines via Amsterdam and New York. During quarantine in a primate facility in Virginia, numerous macaques died, some with findings consistent with simian hemorrhagic fever (SHF). The U.S. Army Medical Research Institute of Infectious Diseases tested 10 animals and, from three, isolated SHF from tissues and serum; however, five other

Ebola Virus — Continued

animals of the 10 tested were positive for Ebola virus. Monkeys from a later shipment quarantined in a second room also had unusually high mortality and were tested by a rapid antigen detection enzyme-linked immunosorbent assay. Ebola viral antigen was detected in serum and/or tissues from seven of these monkeys. Primary liver material from animals in both rooms exhibited particles with typical filovirus morphology by electron microscopy and Ebola virus antigen by immunohistochemistry.

All persons who might have come in contact with the monkeys or with tissue or blood specimens from them have been identified and will be under surveillance by the Virginia State Department of Health for 3 weeks after the last possible exposure for each contact. As of December 6, no evidence of infection has appeared in any of the exposed persons. Any person with symptoms compatible with Ebola infection will be admitted to a local hospital and cared for under CDC guidelines for suspected cases of viral hemorrhagic fevers (*1*). Appropriate guidelines for management of newly imported primates have been sent to all U.S. primate importation and

(Continued on page 837)

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

Disease	48th Week Ending			Cumulative, 48th Week Ending		
	Dec. 2, 1989	Dec. 3, 1988	Median 1984-1988	Dec. 2, 1989	Dec. 3, 1988	Median 1984-1988
Acquired Immunodeficiency Syndrome (AIDS)	269	U*	138	31,794	28,446	12,185
Aseptic meningitis	198	163	164	9,252	6,509	9,631
Encephalitis: Primary (arthropod-borne & unspec)	14	12	13	826	760	1,128
Post-infectious	2	2	2	77	113	106
Gonorrhea: Civilian	11,612	12,079	14,484	635,910	642,041	777,626
Military	137	116	216	10,036	10,712	15,563
Hepatitis: Type A	530	655	514	32,274	24,447	21,099
Type B	483	464	474	20,940	20,880	23,737
Non A, Non B	19	52	52	2,129	2,357	3,245
Unspecified	34	59	62	2,104	2,172	4,031
Legionellosis	23	13	13	1,018	920	756
Leprosy	1	10	4	155	165	217
Malaria	25	19	12	1,159	945	945
Measles: Total†	19	27	27	14,226	2,753	2,753
Indigenous	19	27	27	13,578	2,426	2,426
Imported	-	-	-	648	327	327
Meningococcal infections	46	36	40	2,425	2,575	2,461
Mumps	116	131	131	5,066	4,328	4,328
Pertussis	99	88	60	3,392	2,870	2,870
Rubella (German measles)	1	3	4	394	193	505
Syphilis (Primary & Secondary): Civilian	621	960	571	38,548	35,608	25,709
Military	8	1	3	234	143	150
Toxic Shock syndrome	9	3	7	348	330	330
Tuberculosis	412	447	447	19,575	19,561	19,619
Tularemia	2	-	1	136	178	178
Typhoid Fever	5	4	4	455	373	345
Typhus fever, tick-borne (RMSF)	10	11	4	603	588	675
Rabies, animal	57	97	76	4,262	4,016	4,982

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1989		Cum. 1989
Anthrax	-	Leptospirosis (Hawaii 1)	97
Botulism: Foodborne	24	Plague	4
Infant (Calif. 1)	19	Poliomyelitis, Paralytic	-
Other	4	Psittacosis (Ohio 1, Mo. 1, Calif. 1)	93
Brucellosis (Iowa 1, Ky. 1, Tex. 1, Ariz. 1)	82	Rabies, human	1
Cholera	-	Tetanus	41
Congenital rubella syndrome	3	Trichinosis (Mass. 1, Mo. 1, Calif. 1)	22
Congenital syphilis, ages < 1 year	243		
Diphtheria	3		

*Because AIDS cases are not received weekly from all reporting areas, comparison of weekly figures may be misleading.
†There were no cases of internationally imported measles reported for this week.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending December 2, 1989 and December 3, 1988 (48th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989
UNITED STATES	31,794	9,252	826	77	635,910	642,041	32,274	20,940	2,129	2,104	1,018	155
NEW ENGLAND	1,297	509	23	2	19,096	20,127	680	1,027	67	79	64	9
Maine	66	30	5	-	243	366	24	56	6	1	6	-
N.H.	38	53	1	-	167	252	58	55	9	4	2	-
Vt.	13	41	4	-	62	110	36	76	7	-	3	-
Mass.	699	162	7	2	7,538	6,777	214	568	25	57	39	7
R.I.	77	111	-	-	1,359	1,884	51	74	5	10	14	1
Conn.	404	112	6	-	9,727	10,738	297	198	15	7	-	1
MID. ATLANTIC	9,323	1,305	38	6	88,836	101,983	3,860	3,275	196	223	259	21
Upstate N.Y.	1,278	532	31	5	16,075	14,399	895	645	72	13	87	4
N.Y. City	4,829	164	4	1	33,223	43,460	395	1,297	32	173	44	15
N.J.	2,186	-	3	-	13,570	14,530	435	561	30	7	41	1
Pa.	1,030	609	-	-	25,968	29,594	2,135	772	62	30	87	1
E.N. CENTRAL	2,462	1,859	306	9	120,533	109,003	1,920	2,431	246	99	283	4
Ohio	460	629	124	4	31,486	24,444	386	436	40	22	118	-
Ind.	321	250	43	3	8,983	8,252	203	372	29	40	59	1
Ill.	1,078	366	66	2	39,755	32,315	840	616	101	23	20	3
Mich.	477	498	47	-	31,194	34,568	270	624	47	14	44	-
Wis.	126	116	26	-	9,115	9,424	221	383	29	-	42	-
W.N. CENTRAL	799	468	38	4	30,720	27,419	1,382	946	109	30	37	1
Minn.	164	59	4	1	3,525	3,636	158	109	21	7	3	-
Iowa	55	79	15	-	2,594	2,057	171	45	15	5	6	-
Mo.	416	208	3	-	18,698	15,807	715	650	45	12	17	-
N. Dak.	8	12	4	-	129	179	5	23	4	2	1	-
S. Dak.	4	13	4	-	258	449	21	10	9	-	2	-
Nebr.	32	22	5	-	1,466	1,416	89	26	3	2	2	1
Kans.	120	75	3	3	4,050	3,875	223	83	12	2	6	-
S. ATLANTIC	6,542	1,831	162	25	172,697	180,943	3,380	4,056	316	349	134	2
Del.	74	77	1	-	3,025	2,849	82	138	5	8	12	-
Md.	637	224	19	2	20,014	19,206	1,032	685	26	28	29	-
D.C.	444	26	-	-	9,893	13,525	9	31	2	-	1	-
Va.	393	391	41	3	14,835	13,314	313	295	66	216	11	-
W. Va.	49	95	85	-	1,383	1,261	26	94	11	10	-	-
N.C.	491	210	8	2	26,345	25,686	421	976	83	-	35	1
S.C.	322	36	1	-	15,706	14,431	84	584	4	11	8	-
Ga.	1,008	129	3	1	34,164	34,208	352	385	13	8	24	-
Fla.	3,124	643	4	17	47,332	56,463	1,061	868	106	68	14	1
E.S. CENTRAL	714	664	48	2	52,215	50,725	390	1,524	152	12	63	-
Ky.	115	207	20	1	5,105	5,177	121	377	49	5	9	-
Tenn.	250	122	5	-	17,645	17,597	148	773	35	-	39	-
Ala.	207	233	20	-	16,785	15,198	76	240	56	3	13	-
Miss.	142	102	3	1	12,680	12,753	45	134	12	4	2	-
W.S. CENTRAL	2,677	900	78	7	66,605	68,376	3,613	2,105	140	487	51	25
Ark.	65	47	8	-	7,802	6,804	259	70	15	10	3	-
La.	458	75	21	1	14,031	13,698	252	353	16	2	10	-
Okla.	169	80	12	4	5,924	6,485	446	193	36	36	26	-
Tex.	1,985	698	37	2	38,848	41,389	2,656	1,489	73	439	12	25
MOUNTAIN	1,015	304	16	5	13,640	13,873	4,701	1,399	198	141	58	3
Mont.	17	6	-	-	177	384	88	44	7	3	3	1
Idaho	21	2	-	1	164	308	159	123	13	3	2	-
Wyo.	16	9	-	-	103	188	54	9	2	-	-	-
Colo.	358	146	3	1	2,962	3,126	484	162	55	59	5	-
N. Mex.	86	12	2	1	1,177	1,362	634	202	31	3	7	1
Ariz.	288	96	5	-	5,506	5,044	2,487	534	50	57	25	1
Utah	65	21	1	2	417	499	464	104	25	5	8	-
Nev.	164	12	5	-	3,134	2,962	331	221	15	11	8	-
PACIFIC	6,965	1,412	117	17	71,568	69,592	12,348	4,177	705	684	69	90
Wash.	485	-	6	1	5,981	6,616	2,898	906	189	65	24	8
Oreg.	220	-	-	-	2,921	2,990	2,161	487	76	15	2	1
Calif.	6,074	1,284	96	16	61,242	58,475	6,497	2,643	425	588	40	68
Alaska	16	36	12	-	945	967	627	59	7	5	1	-
Hawaii	170	92	3	-	479	544	165	82	8	11	2	13
Guam	1	5	1	-	124	143	6	-	-	7	-	1
P.R.	1,384	95	2	1	1,000	1,210	183	223	17	19	-	8
V.I.	27	-	-	-	568	414	-	8	-	-	-	-
Amer. Samoa	-	-	-	-	44	77	36	-	2	-	-	5
C.N.M.I.	-	-	-	-	73	52	3	10	-	2	-	1

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

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending December 2, 1989 and December 3, 1988 (48th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1989	1989	Cum. 1989	1989	Cum. 1989	Cum. 1988	Cum. 1989	1989	Cum. 1989	1989	Cum. 1989	Cum. 1988	1989	Cum. 1989	Cum. 1988
UNITED STATES	1,159	19	13,578	-	648	2,753	2,425	116	5,066	99	3,392	2,870	1	394	193
NEW ENGLAND	83	3	341	-	38	115	179	1	81	5	373	316	-	6	9
Maine	1	-	-	-	1	7	16	-	-	-	25	24	-	-	-
N.H.	2	1	9	-	7	88	17	-	15	-	16	47	-	4	5
Vt.	4	-	1	-	2	-	8	-	2	-	6	5	-	1	-
Mass.	45	-	82	-	21	4	100	1	55	2	294	200	-	1	3
R.I.	19	-	38	-	3	-	1	-	-	-	11	17	-	-	1
Conn.	12	2	211	-	4	16	37	-	9	3	21	23	-	-	-
MID. ATLANTIC	219	2	777	-	178	978	363	8	441	15	296	236	1	79	14
Upstate N.Y.	34	2	57	-	98	37	128	4	169	9	127	142	-	63	2
N.Y. City	89	-	105	-	16	52	43	-	19	4	17	8	1	16	7
N.J.	60	-	408	-	6	346	76	-	180	-	32	18	-	-	3
Pa.	36	-	207	-	58	543	116	4	73	2	120	68	-	-	2
E.N. CENTRAL	79	1	4,521	-	102	249	316	11	584	40	460	289	-	27	32
Ohio	11	-	1,516	-	35	85	116	7	153	39	107	49	-	3	1
Ind.	11	-	112	-	-	57	30	-	50	-	46	71	-	-	-
Ill.	34	-	2,305	-	1	72	82	-	186	-	128	56	-	21	27
Mich.	15	1	312	-	23	31	64	4	148	1	45	37	-	1	4
Wis.	8	-	276	-	43	4	24	-	47	-	134	76	-	2	-
W.N. CENTRAL	35	-	727	-	11	18	74	9	418	3	173	128	-	6	2
Minn.	10	-	17	-	-	11	16	-	2	-	46	48	-	-	-
Iowa	5	-	12	-	1	2	2	5	50	-	15	34	-	1	-
Mo.	12	-	458	-	-	5	21	4	73	-	92	23	-	4	-
N. Dak.	2	-	-	-	-	-	-	-	-	-	3	11	-	-	-
S. Dak.	1	-	-	-	-	-	8	-	-	1	4	5	-	-	-
Nebr.	2	-	108	-	2	-	18	-	5	-	7	-	-	-	-
Kans.	3	-	132	-	8	-	9	-	288	2	6	7	-	1	2
S. ATLANTIC	199	2	648	-	76	418	434	48	971	3	340	251	-	10	18
Del.	7	-	42	-	1	-	2	-	1	-	1	7	-	-	-
Md.	37	2	68	-	36	17	72	35	484	3	77	46	-	2	1
D.C.	10	-	37	-	5	-	15	4	136	-	3	1	-	-	-
Va.	42	-	20	-	3	220	56	2	129	-	34	24	-	-	11
W. Va.	2	-	53	-	-	6	13	-	15	-	33	9	-	-	-
N.C.	21	-	187	-	3	5	65	4	41	-	72	66	-	1	1
S.C.	10	-	15	-	-	-	32	2	39	-	-	1	-	-	-
Ga.	12	-	2	-	16	-	74	-	81	-	50	36	-	-	2
Fla.	58	-	224	-	12	170	105	1	45	-	70	61	-	7	3
E.S. CENTRAL	18	8	247	-	4	69	84	7	233	3	195	101	-	5	2
Ky.	1	-	40	-	4	35	44	-	9	-	1	12	-	-	-
Tenn.	5	2	150	-	-	-	10	4	82	2	111	29	-	4	2
Ala.	6	6	56	-	-	-	25	-	28	1	76	55	-	1	-
Miss.	6	-	1	-	-	34	5	N	N	-	7	5	-	-	-
W.S. CENTRAL	71	-	3,254	-	75	17	174	21	1,556	3	369	233	-	50	10
Ark.	-	-	3	-	19	1	13	3	184	-	30	34	-	-	3
La.	2	-	109	-	-	-	41	14	681	-	26	18	-	5	-
Okla.	8	-	126	-	-	8	24	-	197	3	63	62	-	1	1
Tex.	61	-	3,016	-	56	8	96	4	494	-	250	119	-	44	6
MOUNTAIN	26	3	364	-	54	169	69	4	241	13	668	807	-	37	6
Mont.	1	-	12	-	1	53	2	-	4	-	39	2	-	1	-
Idaho	2	-	-	-	7	1	2	-	26	-	74	339	-	32	-
Wyo.	1	-	-	-	-	-	1	-	8	-	-	2	-	2	-
Colo.	6	3	80	-	19	115	21	1	56	-	98	32	-	1	2
N. Mex.	4	-	16	-	15	-	2	N	N	2	35	50	-	-	-
Ariz.	9	-	141	-	4	-	27	3	122	10	398	352	-	-	-
Utah	-	-	114	-	-	-	6	-	18	1	23	29	-	-	3
Nev.	3	-	1	-	8	-	8	-	7	-	1	1	-	1	1
PACIFIC	429	-	2,699	-	110	720	732	7	541	14	518	509	-	174	100
Wash.	34	-	31	-	22	7	79	6	51	2	186	116	-	-	-
Oreg.	20	-	12	-	48	8	53	N	N	-	13	50	-	3	-
Calif.	364	-	2,635	-	28	691	584	-	469	12	293	275	-	149	69
Alaska	3	-	1	-	-	2	13	-	2	-	1	8	-	-	-
Hawaii	8	-	20	-	12	12	3	1	19	-	25	60	-	22	31
Guam	3	U	-	U	-	1	1	U	6	U	1	-	U	-	1
P.R.	1	-	562	-	-	231	7	-	8	2	6	15	-	8	3
V.I.	-	U	4	U	-	-	-	U	18	U	-	-	U	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	3	U	-	-	U	-	-
C.N.M.I.	1	U	-	U	-	-	-	U	6	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 December 2, 1989 and December 3, 1988 (48th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989
UNITED STATES	38,548	35,608	348	19,575	19,561	136	455	603	4,262
NEW ENGLAND	1,560	1,121	21	605	506	2	40	7	9
Maine	13	12	6	25	20	-	-	-	2
N.H.	13	6	2	24	11	-	1	-	2
Vt.	1	3	-	8	4	-	-	-	-
Mass.	464	412	7	338	298	2	26	4	2
R.I.	29	31	2	63	39	-	6	1	-
Conn.	1,040	657	4	147	134	-	7	2	3
MID. ATLANTIC	7,749	7,157	61	4,100	4,040	3	130	65	737
Upstate N.Y.	882	576	13	330	511	1	37	14	55
N.Y. City	3,424	4,373	4	2,323	2,218	1	58	3	-
N.J.	1,316	918	13	813	667	-	27	27	37
Pa.	2,127	1,290	31	634	644	1	8	21	645
E.N. CENTRAL	1,800	1,114	57	2,030	2,162	3	49	55	119
Ohio	156	104	18	339	412	-	10	26	10
Ind.	55	49	8	186	222	1	4	19	2
Ill.	799	483	12	953	956	-	24	7	29
Mich.	643	423	19	433	476	1	6	3	29
Wis.	147	55	-	119	96	1	5	-	49
W.N. CENTRAL	297	222	42	505	486	53	7	76	546
Minn.	51	18	14	99	85	-	2	-	131
Iowa	33	23	6	47	51	-	2	4	110
Mo.	158	146	10	240	237	41	2	54	58
N. Dak.	2	2	-	14	15	-	-	1	58
S. Dak.	1	-	4	28	33	5	-	5	94
Nebr.	24	27	5	21	14	3	-	1	44
Kans.	28	6	3	56	51	4	1	11	51
S. ATLANTIC	12,995	13,369	25	4,134	4,145	6	44	218	1,271
Del.	198	96	2	38	42	-	2	1	36
Md.	776	657	1	353	390	2	9	18	357
D.C.	781	652	1	149	174	-	2	-	2
Va.	548	402	4	340	378	4	7	16	248
W. Va.	15	37	-	70	68	-	-	2	47
N.C.	1,056	765	6	548	479	-	2	113	7
S.C.	811	698	4	468	438	-	2	39	188
Ga.	2,208	2,389	3	684	681	-	6	24	223
Fla.	6,602	7,673	4	1,484	1,495	-	14	5	163
E.S. CENTRAL	2,902	1,859	9	1,534	1,606	7	3	65	337
Ky.	52	63	2	352	343	1	1	14	134
Tenn.	1,314	796	4	522	476	5	1	35	87
Ala.	858	533	2	423	481	-	1	6	112
Miss.	678	467	1	237	306	1	-	10	4
W.S. CENTRAL	5,805	4,073	26	2,354	2,468	41	16	89	585
Ark.	357	237	2	271	284	30	-	19	86
La.	1,457	803	-	292	311	-	1	1	12
Okla.	117	137	15	199	229	11	1	54	92
Tex.	3,874	2,896	9	1,592	1,644	-	14	15	395
MOUNTAIN	807	793	44	469	568	15	12	24	256
Mont.	1	3	-	16	30	1	-	14	71
Idaho	1	3	4	23	19	-	-	4	11
Wyo.	6	1	2	-	5	2	-	2	74
Colo.	61	105	9	46	97	3	2	3	31
N. Mex.	26	47	5	83	97	2	1	1	21
Ariz.	333	157	11	225	232	-	8	-	27
Utah	16	16	9	37	29	6	1	-	9
Nev.	363	461	4	39	59	1	-	-	12
PACIFIC	4,633	5,900	63	3,844	3,580	6	154	4	402
Wash.	386	228	4	221	212	-	10	-	-
Oreg.	233	284	-	129	135	4	6	1	-
Calif.	3,989	5,345	58	3,276	3,032	2	128	3	335
Alaska	10	15	-	49	45	-	-	-	67
Hawaii	15	28	1	169	156	-	10	-	-
Guam	4	3	-	68	31	-	3	-	-
P.R.	505	625	-	281	219	-	10	-	68
V.I.	8	2	-	4	6	-	1	-	-
Amer. Samoa	-	-	-	5	5	-	8	-	-
C.N.M.I.	8	1	-	21	25	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending December 2, 1989 (48th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	725	498	138	47	19	23	46
Boston, Mass.	210	123	47	22	11	7	21
Bridgeport, Conn.	37	29	5	3	-	-	2
Cambridge, Mass.	19	16	2	1	-	-	1
Fall River, Mass.	42	32	6	4	-	-	3
Hartford, Conn.	69	42	16	5	1	5	3
Lowell, Mass.	30	20	8	1	-	1	3
Lynn, Mass.	23	13	9	1	-	-	2
New Bedford, Mass.	31	27	2	2	-	-	1
New Haven, Conn.	44	31	4	4	-	5	4
Providence, R.I.	64	49	12	-	3	-	3
Somerville, Mass.	3	2	1	-	-	-	-
Springfield, Mass.	47	32	10	1	1	3	2
Waterbury, Conn.	36	28	5	2	1	-	1
Worcester, Mass.	70	54	11	1	2	2	-
MID. ATLANTIC	2,962	1,950	539	325	88	60	135
Albany, N.Y.	51	32	12	3	3	1	4
Allentown, Pa.	15	14	1	-	-	-	-
Buffalo, N.Y.	109	74	21	8	5	1	4
Camden, N.J.	48	32	7	3	6	-	3
Elizabeth, N.J.	40	31	8	-	-	1	1
Erie, Pa.†	62	47	9	3	2	1	6
Jersey City, N.J.	83	51	16	9	1	6	2
N.Y. City, N.Y.	1,705	1,084	322	229	47	23	56
Newark, N.J.	75	37	13	16	5	4	9
Paterson, N.J.	33	17	9	7	-	-	1
Philadelphia, Pa.	208	128	42	18	9	11	13
Pittsburgh, Pa.†	73	54	9	6	1	3	2
Reading, Pa.§	32	29	1	2	-	-	4
Rochester, N.Y.	165	121	25	9	3	7	9
Schenectady, N.Y.	20	13	4	3	-	-	-
Scranton, Pa.†	31	26	1	-	2	2	3
Syracuse, N.Y.	110	82	21	5	2	-	6
Trenton, N.J.	36	29	5	2	-	-	4
Utica, N.Y.	37	24	10	1	2	-	1
Yonkers, N.Y.	29	25	3	1	-	-	7
E.N. CENTRAL	2,669	1,753	556	198	66	96	118
Akron, Ohio	48	36	9	1	2	-	-
Canton, Ohio	39	31	6	2	-	-	3
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	143	97	35	5	4	2	20
Cleveland, Ohio	176	101	45	18	1	11	2
Columbus, Ohio	150	96	32	9	9	4	-
Dayton, Ohio	161	104	39	9	2	7	7
Detroit, Mich.	352	189	81	41	14	27	11
Evansville, Ind.	40	29	8	-	-	3	1
Fort Wayne, Ind.	83	58	16	5	3	1	4
Gary, Ind.	32	20	4	5	3	-	2
Grand Rapids, Mich.	53	35	12	5	1	-	6
Indianapolis, Ind.	197	123	49	17	5	3	3
Madison, Wis.	51	35	10	5	-	1	6
Milwaukee, Wis.	189	140	30	15	2	2	9
Peoria, Ill.	61	52	5	-	-	4	3
Rockford, Ill.	70	49	10	5	4	2	3
South Bend, Ind.	70	53	9	3	3	2	9
Toledo, Ohio	103	77	19	5	-	2	5
Youngstown, Ohio	87	66	12	3	3	3	8
W.N. CENTRAL	836	599	151	38	23	25	48
Des Moines, Iowa	80	58	12	7	3	-	5
Duluth, Minn.	29	23	5	-	-	1	6
Kansas City, Kans.	40	19	15	2	2	2	3
Kansas City, Mo.	96	72	17	3	2	2	5
Lincoln, Nebr.	52	41	9	-	2	-	4
Minneapolis, Minn.	132	92	23	7	5	5	13
Omaha, Nebr.	121	90	21	3	3	4	9
St. Louis, Mo.	150	105	32	7	1	5	-
St. Paul, Minn.	72	52	6	6	5	3	-
Wichita, Kans.	64	47	11	3	-	3	3

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
S. ATLANTIC	1,204	732	250	128	54	39	73
Atlanta, Ga.	144	71	36	26	7	4	5
Baltimore, Md.	190	108	46	22	9	5	14
Charlotte, N.C.	63	38	9	10	2	4	8
Jacksonville, Fla.	156	100	35	13	3	5	10
Miami, Fla.	87	46	19	12	6	4	-
Norfolk, Va.	58	30	16	4	4	4	4
Richmond, Va.	93	64	17	5	3	4	14
Savannah, Ga.	44	33	6	3	-	2	4
St. Petersburg, Fla.	65	49	8	5	3	-	2
Tampa, Fla.	87	55	17	5	4	5	7
Washington, D.C.	182	109	38	21	12	2	5
Wilmington, Del.	35	29	3	2	1	-	-
E.S. CENTRAL	817	577	144	59	14	23	62
Birmingham, Ala.	119	76	23	10	4	6	1
Chattanooga, Tenn.	91	65	21	3	1	1	10
Knoxville, Tenn.	101	78	13	5	2	3	12
Louisville, Ky.	116	79	23	11	2	1	8
Memphis, Tenn.	168	120	30	11	3	4	17
Mobile, Ala.	55	37	6	7	1	4	1
Montgomery, Ala.	43	30	8	1	-	4	2
Nashville, Tenn.	124	92	20	11	1	-	11
W.S. CENTRAL	1,898	1,188	413	173	63	61	70
Austin, Tex.	70	41	20	6	-	3	3
Baton Rouge, La.	30	18	7	2	-	3	2
Corpus Christi, Tex.§	39	29	7	2	-	1	2
Dallas, Tex.	209	116	43	30	9	11	2
El Paso, Tex.	78	53	19	3	1	2	7
Fort Worth, Tex	95	59	25	7	3	1	3
Houston, Tex.§	734	436	169	89	24	16	18
Little Rock, Ark.	89	61	14	5	4	5	6
New Orleans, La.	149	100	29	8	7	5	-
San Antonio, Tex.	227	152	41	15	10	9	14
Shreveport, La.	54	37	13	1	1	2	4
Tulsa, Okla.	124	86	26	5	4	3	9
MOUNTAIN	836	543	170	67	35	21	56
Albuquerque, N. Mex.	102	63	15	12	10	2	9
Colo. Springs, Colo.	31	21	7	-	3	-	4
Denver, Colo.	128	85	26	13	3	1	5
Las Vegas, Nev.	141	87	33	12	6	3	15
Ogden, Utah	46	33	11	-	-	2	8
Phoenix, Ariz.	192	117	42	20	6	7	8
Pueblo, Colo.	31	22	5	2	2	-	3
Salt Lake City, Utah	51	35	9	3	2	2	-
Tucson, Ariz.	114	80	22	5	3	4	4
PACIFIC	1,991	1,271	362	224	70	59	115
Berkeley, Calif.	17	10	5	2	-	-	1
Fresno, Calif.§	75	52	14	5	2	2	6
Glendale, Calif.	27	18	6	1	1	-	2
Honolulu, Hawaii	81	53	17	4	6	1	5
Long Beach, Calif.§	82	55	14	8	1	4	14
Los Angeles Calif.	432	264	69	64	18	13	16
Oakland, Calif.	70	45	12	5	6	2	2
Pasadena, Calif.	52	35	10	3	1	3	2
Portland, Oreg.	122	82	17	12	4	7	1
Sacramento, Calif.	188	122	36	15	12	3	26
San Diego, Calif.	95	55	14	17	5	4	15
San Francisco, Calif.	220	114	55	42	5	4	4
San Jose, Calif.	180	116	39	14	5	6	8
Seattle, Wash.	222	150	38	23	3	8	3
Spokane, Wash.	67	53	9	4	-	1	4
Tacoma, Wash.	61	47	7	5	1	1	6
TOTAL	13,938††	9,111	2,723	1,259	432	407	723

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

**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

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

Ebola Virus — Continued

quarantine facilities, and surveillance for hemorrhagic disease in staff members and in recently imported primates is being instituted. An investigation is under way by CDC, in cooperation with foreign health officials, to identify the source of infection in the monkeys.

Reported by: D Dalgard, DVM, Hazelton Research Products, Inc, Reston; JY Baumgardner, MAS, CW Armstrong, MD, SR Jenkins, VMD, CD Woolard, MPH, GB Miller, Jr, MD, State Epidemiologist, Virginia State Dept of Health. PB Jahrling, PhD, TG Ksiazekdum, PhD, EO Johnson, PhD, CJ Peters, MD, US Army Medical Research Institute of Infectious Diseases, Frederick, Maryland. Div of Quarantine, Center for Prevention Svcs; Div of Viral and Rickettsial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Unlike SHF virus, which does not cause clinical illness in humans, Ebola virus can cause severe disease in humans. This report describes the first isolation of Ebola virus in the United States.

Ebola hemorrhagic fever was first recognized in 1976, when two epidemics occurred in southern Sudan and in Zaire (*2*). A subsequent outbreak occurred in 1979 in Sudan (*3*). All three outbreaks were associated with high case-fatality rates in humans. In these epidemics, nosocomial transmission (often by contaminated needles) was followed by person-to-person transmission to household members in close contact with blood or secretions from seriously ill patients.

The ecology, natural history, and mode of transmission in nature of Ebola virus and the related Marburg virus are unknown. Before this incident, no monkey had ever been found to be naturally infected with Ebola virus. The incubation period for Ebola virus is 5–9 days (range: 2–15 days) but can be shorter with parenteral transmission. Disease onset is abrupt and characterized by severe malaise, headache, high fever, myalgia, joint pains, and sore throat. The disease course is rapid and includes pharyngitis, conjunctivitis, diarrhea, abdominal pain, and occasionally facial edema and jaundice. Severe thrombocytopenia can occur, and hemorrhagic manifestations include petechiae and frank bleeding. Death occurs primarily as a result of hypovolemic shock and its consequences. There is no specific therapy (*1*), and patient management is usually directed at supportive measures.

The only previous documentation of transmission of this family of virus from primates to humans occurred in 1967, when African monkeys infected with Marburg virus were imported into Europe (*4*). In that outbreak, human infection occurred in 25 workers handling blood and tissues from infected monkeys, and six secondary (person-to-person transmission) cases occurred; seven persons died. Animal caretakers did not become infected.

As a result of the 1967 Marburg virus outbreak, the United States and several other countries instituted a 31-day quarantine for imported monkeys. The facility in the Virginia outbreak routinely has used a 45-day quarantine. In addition to quarantine measures, the use of universal precautions in handling animals or their specimens minimizes the risk for human infections. Suspected cases of illness in potentially exposed persons should be promptly reported through state health departments to the Special Pathogens Branch, Division of Viral and Rickettsial Diseases, Center for Infectious Diseases, CDC.

References

1. CDC. Management of patients with suspected viral hemorrhagic fever. MMWR 1988;37 (no. S-3):1–16.
2. World Health Organization. Ebola hemorrhagic fever in Sudan, 1976: report of a WHO/International Study Team. Bull WHO 1978;56:247–70.

Ebola Virus — Continued

3. Baron RC, McCormick JB, Zubeir OA. Ebola virus disease in southern Sudan: hospital dissemination and intrafamilial spread. Bull WHO 1983;61:997–1003.
4. Martini GA, Siegert R, eds. Marburg virus disease. Berlin: Springer-Verlag, 1971.

Topics in Minority Health

Prevalence of Overweight for Hispanics — United States, 1982–1984

Since 1960, CDC's National Center for Health Statistics (NCHS) has been conducting health and nutrition examination surveys for national, regional, and target populations. In 1982–1984, the Hispanic Health and Nutrition Examination Survey (HHANES) obtained health and nutrition data on the three largest Hispanic subgroups in the United States: 1) Mexican Americans in selected counties in Arizona, California, Colorado, New Mexico, and Texas; 2) Cuban Americans in Dade County (Miami), Florida; and 3) Puerto Ricans in the New York City area, including parts of New York, New Jersey, and Connecticut (*1,2*). These three subgroups constituted approximately 76% of the 1980 Hispanic population in the United States. This report presents selected findings for height, weight, and overweight by age, sex, and Hispanic origin.

"Overweight" was defined as body mass index (BMI) (weight in kg divided by height in m^2) equal to or greater than the 85th percentile of men or women aged 20–29 years from the Second National Health and Nutrition Examination Survey (NHANES II), conducted in 1976–1980 (*3*). "Severe overweight" was defined as a BMI equal to or greater than the 95th percentile from NHANES II. Men were categorized as "overweight" if BMI was ≥27.8 and "severely overweight" if BMI was ≥31.1. For women, BMI cutoff points were 27.3 and 32.2, respectively.

The HHANES found that:

- Approximately 30% of Mexican-American men, 29% of Cuban-American men, and 25% of Puerto Rican men were overweight (Figure 1). Approximately 39% of Mexican-American women, 34% of Cuban-American women, and 37% of Puerto Rican women were overweight (Figure 2). For both men and women, prevalences varied by age group.
- Approximately 10% of Mexican-American men, 11% of Cuban-American men, and 8% of Puerto Rican men were severely overweight (Table 1).
- Approximately 16% of Mexican-American women, 8% of Cuban-American women, and 14% of Puerto Rican women were severely overweight (Table 1).
- Mean weights for Mexican-American, Cuban-American, and Puerto Rican men aged 18–74 years were 166.0, 167.9, and 163.2 pounds, respectively; for women, mean weights were 144.4, 140.4, and 141.7 pounds, respectively (Table 2).
- Mean heights for Mexican-American men and women aged 18–74 years were 67.1 and 61.8 inches; for Cuban Americans, 67.4 and 61.8 inches; and for Puerto Ricans, 67.0 and 61.8 inches, respectively (Table 2).

Reported by: Div of Health Examination Statistics, National Center for Health Statistics; Div of Nutrition, Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The estimated prevalences of overweight reported for Hispanic Americans were, in general, substantially higher than those reported for non-Hispanic

Overweight Prevalence — Continued

Americans aged 20–74 years (*4*). For non-Hispanic men, the prevalence of overweight in 1976–1980 was 24% in whites and 26% in blacks, or approximately 4–5 percentage points lower than the prevalence in Hispanic-American men (*4*). For non-Hispanic women, the prevalence of overweight in whites was 25%—approximately 10–15 percentage points lower than in Hispanic-American women. For black women, however, the prevalence of overweight (44%) was slightly higher than

FIGURE 1. Percentage of overweight Hispanic-American men 20–74 years of age — Hispanic Health and Nutrition Examination Survey, 1982–1984

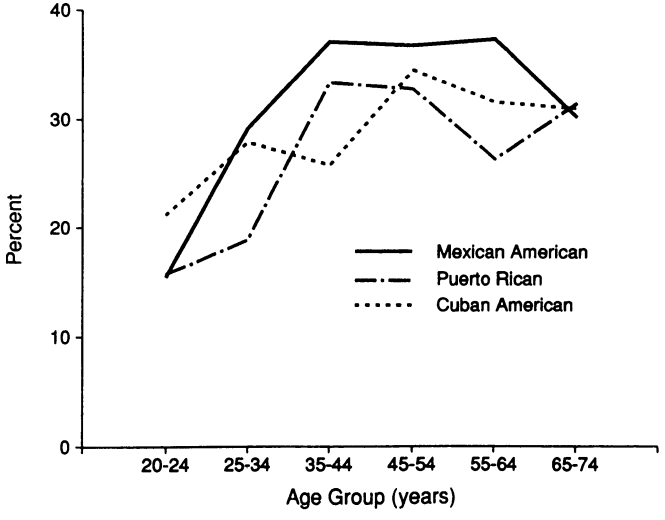
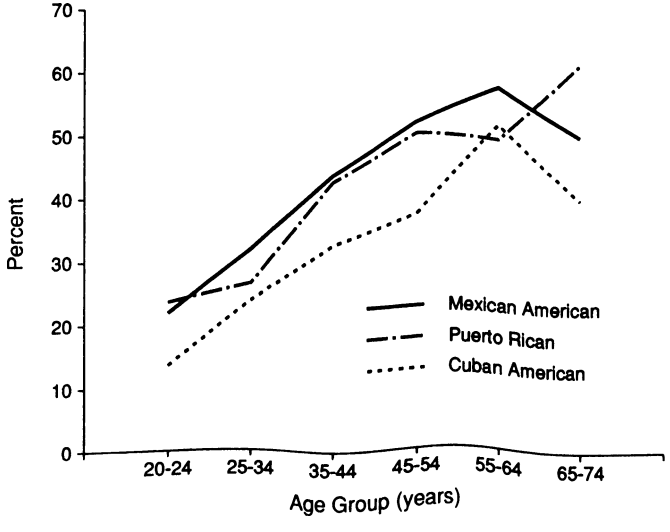


FIGURE 2. Percentage of overweight Hispanic-American women 20–74 years of age — Hispanic Health and Nutrition Examination Survey, 1982–1984



Overweight Prevalence — Continued

in Hispanic-American women. The prevalence of severe overweight reflected a similar ethnicity-specific pattern—only black women had a substantially higher prevalence (19%) of severe overweight than Hispanic-American women. Most persons gain weight as they age, at least through middle age; therefore, the high prevalence of overweight among Hispanic-American adults aged 20–24, especially among women, is of particular concern.

Overweight is an established risk factor for non-insulin-dependent diabetes mellitus (NIDDM). Because of a higher prevalence of overweight, Mexican Americans are at twofold to fourfold higher risk for developing NIDDM than are non-Hispanic white Americans (*5*). In addition, the average age of diagnosis of NIDDM in Mexican Americans is several years younger than in non-Hispanic white Americans (*5*), perhaps reflecting a longer duration of overweight in Mexican Americans than in non-Hispanic white Americans.

Several approaches can be used to treat obesity (*6,7*). For example, the Michigan Health Council has published detailed guidelines for weight-loss programs for adults. These guidelines and experience in the treatment of obesity suggest that dietary modification and regular exercise, such as walking, can improve and help maintain weight loss (*6,7*). Although more research is needed on the primary prevention of obesity, younger persons may also benefit from efforts aimed at preventing obesity, such as weight-loss programs for overweight adolescents (*8*). Recent studies of the treatment of adolescent obesity suggest that the most effective interventions for long-term weight changes in adolescents include counseling both the parents and the child and emphasizing small but successive changes in diet and exercise (*9*).

TABLE 1. Percentage of severely overweight Hispanic Americans 20–74 years of age — Hispanic Health and Nutrition Examination Survey, 1982–1984

Sex/Age (yrs)	Mexican American	Cuban American	Puerto Rican
Male			
20–24	4.3	6.6	1.6
25–34	11.7	15.7	7.5
35–44	10.2	5.6	7.3
45–54	13.7	12.2	13.1
55–64	15.7	12.1	8.4
65–74	7.4	5.0	10.2
Total	**10.3**	**10.6**	**7.7**
Female			
20–24	9.0	2.9	10.4
25–34	11.1	3.7	7.5
35–44	17.6	9.0	18.7
45–54	24.8	10.6	18.0
55–64	20.7	9.3	19.9
65–74	21.3	7.7	23.9
Total	**15.6**	**7.7**	**14.4**

Overweight Prevalence — Continued

References
1. NCHS. 1985 Plan and operation of the Hispanic Health and Nutrition Examination Survey, 1982–84. Vital Health Stat 1985;1(19); DHHS publication no. (PHS)85-1321.
2. NCHS, M Najjar, R Kuczmarski. Anthropometric data and prevalence of overweight for Hispanics: 1982–84. Vital Health Stat 1989;11(239); DHHS publication no. (PHS)89-1689.
3. NCHS, Najjar MF, Rowland M. Anthropometric reference data and prevalence of overweight, United States, 1976–80. Vital Health Stat 1987;11(238); DHHS publication no. (PHS)87-1688.
4. Life Sciences Research Office, Federation of American Societies for Experimental Biology. Nutrition monitoring in the United States—an update report on nutrition monitoring. Washington, DC: US Department of Agriculture/US Department of Health and Human Services, Public Health Service, 1989; DHHS publication no. (PHS)89-1255.
5. Raymond CA. Diabetes in Mexican-Americans: pressing problem in a growing population. JAMA 1988;259:1772.
6. Council on Scientific Affairs. Treatment of obesity in adults. JAMA 1988;260:2547–51.

TABLE 2. Mean weight and height for Hispanic Americans 18–74 years of age — Hispanic Health and Nutrition Examination Survey, 1982–1984

Hispanic origin/ Age (yrs)	Weight (lbs)*		Height (in)†	
	Male	Female	Male	Female
Mexican American				
18–24	155.3	134.6	67.4	62.3
25–34	170.1	142.3	67.3	62.1
35–44	170.6	149.5	67.1	61.8
45–54	172.5	153.2	66.9	61.4
55–64	167.5	153.4	66.1	61.1
65–74	158.6	144.3	65.6	60.3
Total	**166.0**	**144.4**	**67.1**	**61.8**
Cuban American				
18–24	164.1	126.6	68.5	62.9
25–34	175.2	131.8	68.4	62.0
35–44	167.4	142.8	67.3	61.9
45–54	167.4	148.1	66.6	62.1
55–64	166.6	147.8	66.8	61.3
65–74	161.3	139.4	66.0	60.6
Total	**167.9**	**140.4**	**67.4**	**61.8**
Puerto Rican				
18–24	156.9	132.2	67.9	62.6
25–34	163.9	137.2	68.0	62.4
35–44	169.3	148.5	66.4	61.4
45–54	168.0	150.1	66.3	61.3
55–64	158.2	146.2	65.3	60.8
65–74	158.3	147.2	65.1	60.2
Total	**163.2**	**141.7**	**67.0**	**61.8**

*Includes clothing weight, estimated as ranging from 0.2 to 0.62 pound.
†Height without shoes.

Overweight Prevalence — Continued

7. Michigan Health Council. Toward safe weight loss: recommended interim guidelines for adult weight loss programs in Michigan. East Lansing, Michigan: Michigan Health Council, 1988.
8. Mellin LM. Adolescent obesity. J Dent Children 1988;(Jan–Feb):64–7.
9. Mellin LM, Slinkard LA, Irwin CE. Adolescent obesity intervention: validation of the SHAPE-DOWN Program. J Am Diet Assoc 1987;87:333–8.

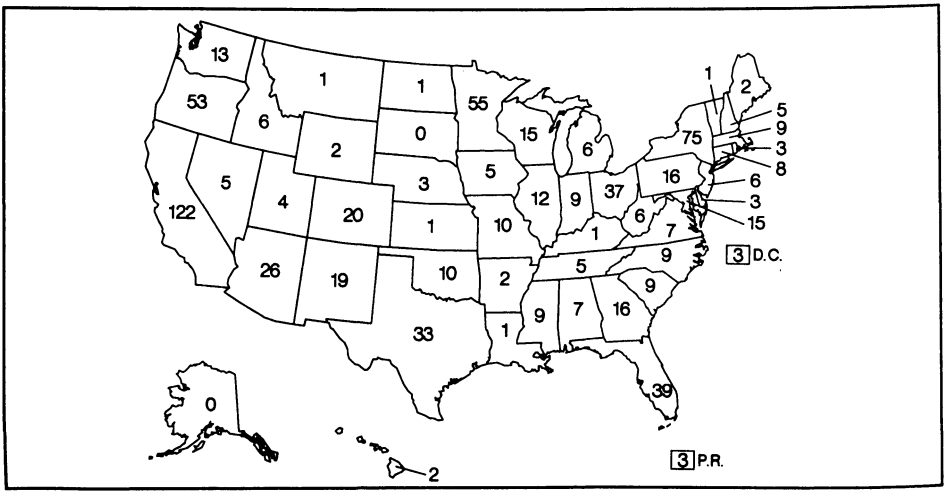
Epidemiologic Notes and Reports

Update: Eosinophilia-Myalgia Syndrome Associated with Ingestion of L-Tryptophan — United States

On November 9, 1989, CDC contacted all state health departments to inform them of a newly recognized syndrome involving severe, debilitating myalgias and eosinophilia (≥1000 eosinophils per mm^3). Eosinophilia-myalgia syndrome (EMS) was reported initially from New Mexico and was associated with ingestion of L-tryptophan–containing products (LTCPs) (*1,2*). To better characterize this syndrome and to assess the extent of the problem, CDC and state health departments implemented a national state-based surveillance system using a standardized case-report form. State health departments have telephoned numbers of EMS cases to CDC daily, then mailed completed case report forms; this results in a timely accumulation of total numbers but a lag in availability of detailed data.

As of December 6, 730 EMS cases have been reported to CDC from 48 states, the District of Columbia, and Puerto Rico. Only Alaska and South Dakota have reported no cases (Figure 1). Four deaths have been reported in patients who met the surveillance case definition and who used LT; one death has been confirmed as directly attributable to EMS, and the others are under investigation.

FIGURE 1. Eosinophilia-myalgia syndrome cases, by state — United States, as of December 6, 1989



Eosinophilia-Myalgia Syndrome – Continued

As of December 6, CDC has received completed report forms from 21 states with information about 64 cases fitting the case definition. Ages of these patients ranged from 14 years to 73 years (median: 44 years); 95% of patients were non-Hispanic white, 3% were black, and 2% were Hispanic. Fifty-two (81%) were female. Sixty-three (98%) had histories of LT ingestion preceding onset of symptoms; dosage ranged from 500 mg to 5000 mg per day (median: 1500 mg per day). Fifty-eight (91%) reported onset of symptoms during or after July 1989. Of the EMS patients reported thus far, 21 (33%) have required hospitalization.

Reported by: State and territorial health departments. Div of Environmental Hazards and Health Effects, Center for Environmental Health and Injury Control, CDC.

References

1. CDC. Eosinophilia-myalgia syndrome—New Mexico. MMWR 1989;38:765–7.
2. CDC. Eosinophilia-myalgia syndrome and L-tryptophan–containing products—New Mexico, Minnesota, Oregon, and New York, 1989. MMWR 1989;38:785–8.

Notice to Readers

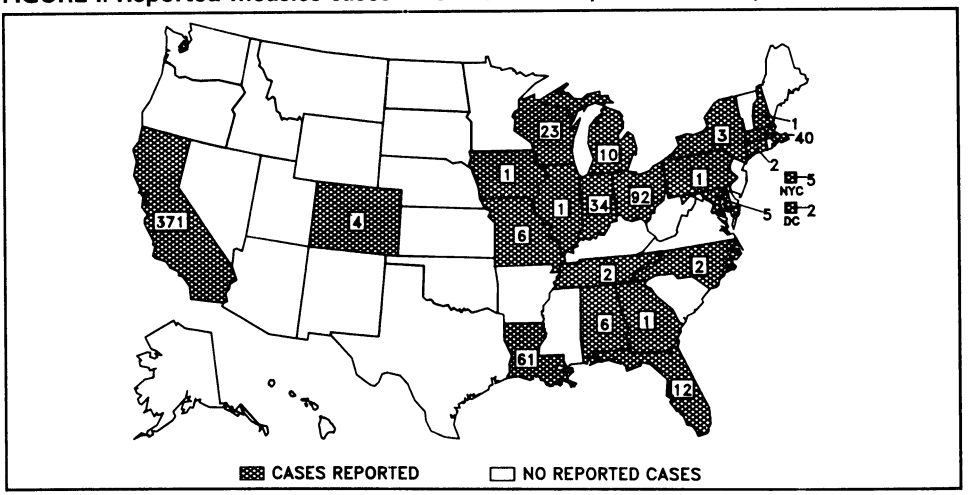
State Requirements for Reporting Infectious and Occupational Diseases

Two articles published in the December 1, 1989, issue of the *Journal of the American Medical Association* contain lists of infectious (*1*) and occupational (*2*) diseases required to be reported to each state. These articles are useful references for health practitioners and public health workers. A report on this subject will be published as an *MMWR Recommendations and Reports* in the near future.

References

1. Chorba TL, Berkelman RL, Safford SK, Gibbs NP, Hull HF. Mandatory reporting of infectious diseases by clinicians. JAMA 1989;262:3018–26.
2. Freund E, Seligman PJ, Chorba TL, Safford SK, Drachman JG, Hull HF. Mandatory reporting of occupational diseases by clinicians. JAMA 1989;262:3041–4.

FIGURE I. Reported measles cases — United States, weeks 44–48, 1989



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: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333; telephone (404) 332-4555.

☆U.S. Government Printing Office: 1990-731-103/02042 Region IV

