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Epidemiologic Notes and Reports

AIDS Due to HIV-2 Infection — New Jersey

The first reported case of AIDS caused by human immunodeficiency virus type 2 (HIV-2) in the United States was diagnosed in December 1987. The patient, a West African, came to the United States in 1987. In December, the patient visited a physician because of a 3-year history of weight loss and recent onset of neurologic symptoms. A CAT scan of the head revealed mass lesions that biopsy showed to be caused by *Toxoplasma gondii*. Biopsy of a lymph node revealed acid-fast bacteria.

The patient did not give a history of sexual intercourse, use of nonsterile needles, or donation of blood while in the United States. All family members and household contacts, both in the United States and abroad, are reported to be well.

Because the diagnosis of cerebral toxoplasmosis without other underlying cause of immunodeficiency fits the CDC surveillance definition for AIDS, laboratory evidence of infection with HIV was sought. Testing of the patient's serum revealed a negative enzyme immunoassay (EIA) for antibody to HIV-1 with an indeterminate HIV-1 Western blot. However, EIA for antibodies to HIV-2 (Genetic Systems Corporation, Seattle, Washington [research test kit]) was repeatedly reactive and HIV-2 Western blot revealed bands for antibodies to *gag* (p26), *pol* (p34), and *env* (gp140) proteins. DNA amplification by the polymerase chain reaction technique with HIV-1-specific and HIV-2-specific DNA probes (*1*) revealed HIV-2 DNA but not HIV-1 DNA in the patient's lymphocytes and confirmed the diagnosis of HIV-2 infection.

Reported by: SH Weiss, MD, J Lombardo, MD, PhD, J Michaels, MD, LR Sharer, MD, M Tayyarah, MD, J Leonard, MD, A Mangia, MD, P Kloser, MD, S Sathe, MD, R Kapila, MD, New Jersey Medical School, Univ of Medicine and Dentistry of New Jersey, Newark; NM Williams, MD, R Altman, MD, MPH, J French, MA, WE Parkin, DVM, State Epidemiologist, New Jersey State Dept of Health. Genetic Systems Corp, Seattle, Washington. AIDS Program, Center for Infectious Diseases, CDC.

Editorial Note: This patient represents the only documented case of HIV-2 infection in the United States. HIV-2 is closely related to HIV-1 and was first reported to be associated with AIDS in 1986 in West Africa, where the virus is believed to be endemic (*2-8*). Several well-documented cases of HIV-2 infection have also been reported among Europeans and among West Africans residing in Europe (*3,4,8*). The spectrum of disease and modes of transmission of HIV-2 are similar to those of HIV-1 (*2-5*). These modes of transmission include sexual intercourse; however, infected

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persons present no risk to nonsexual household contacts (*9*). The present case undoubtedly represents infection acquired in West Africa since illness began before the patient's arrival in the United States. The patient has had no known activities that would have exposed others in this country to HIV-2.

Because of the reports of HIV-2 infection in West Africa and Europe, CDC and the Food and Drug Administration (FDA) initiated surveillance for HIV-2 in the United States in January 1987. To date, CDC, FDA, and collaborating investigators have screened 22,699 serum samples with anti-HIV-2 EIA (*10*). Of these specimens, 14,196 (63%) were from individuals whose activities placed them at increased risk for HIV-1 infection and who would, therefore, potentially be at risk for HIV-2 infection. The remaining 8,503 were from asymptomatic blood donors randomly selected from three areas of the United States, two of which have reported large numbers of AIDS patients. Overall, 35 (0.2%) of the serum samples were reactive by anti-HIV EIA using HIV-2 antigens but not by anti-HIV EIA using HIV-1 antigens. However, none of these EIAs could be confirmed when tested by HIV-2-specific Western blot. An additional 70 (0.3%) of the samples were reactive by Western blot with *gag*, *pol*, and *env* antigens of both HIV-1 and HIV-2. All of the dually reactive specimens were from individuals whose activities placed them at increased risk for HIV-1 infection. None were from the randomly selected blood donors. Sera from these dually reactive subjects were studied for the presence of type-specific neutralizing antibody to HIV-1 or HIV-2, antibody to synthetic peptides specific for HIV-1 or HIV-2 (Genetic Systems Corporation, Seattle, Washington [research test kit]), or HIV-1 and HIV-2 DNA by DNA amplification (*1*). Sixty of the subjects were shown to be infected with HIV-1 but not HIV-2. Ten are still under investigation.

It is reassuring that HIV-2-specific tests on sera from 22,699 persons, including 8,503 randomly selected U.S. blood donors, failed to reveal HIV-2 infection. However, the occasional presence of this virus in the United States, as in Europe, should be anticipated. The anti-HIV-1 EIA tests currently used for screening all U.S. blood donors are estimated to detect 42% to 92% of HIV-2 infections (*4,11*). Surveillance for HIV-2 in the United States is being continued to monitor the frequency of infection. Because the modes of transmission of HIV-1 and HIV-2 are similar, preventive measures for these related viruses are the same (*12*).

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Current Trends

Continuing Increase in Infectious Syphilis — United States

Through the first 46 weeks of 1987, 31,323 cases of infectious (primary and secondary) syphilis were reported to CDC through the *MMWR* Morbidity Surveillance System. This total exceeds the number of cases reported for the same period in 1986 by 32%. The projected annual incidence of infectious syphilis for 1987 is 14.7/100,000, which would be the highest rate since 1950. While 56% of all cases and 83% of the increase were reported from Florida, New York City (NYC), and California, 25 of the other 49 reporting areas also had increases. Nine areas had absolute increases of over 100 cases; in two of these areas, the relative increases were over 100% (Table 1). With the exception of Oregon and Connecticut, areas with high incidence rates experienced the greatest increases. Texas, with a 22% decrease in reported cases, and Louisiana, with a 9% decrease, were notable exceptions to the overall pattern of increase.

Fourteen areas reporting increases and five reporting decreases during the first 8 months of 1987 were asked to provide data on patients' race, sex, and sexual preference for further analysis. Overall, the areas providing this supplementary information contain 51% of the U.S. population and 79% of the syphilis cases reported through the first 46 weeks of 1987.

In the 14 areas reporting increases (13 states and NYC), relative increases were greatest for females and heterosexual males of all racial/ethnic backgrounds (Table 2). The greatest absolute increases occurred among blacks. The increase for males occurred among heterosexual males, and the decrease among homosexual/bisexual males occurred primarily among white males (*1*). Exceptions to this overall

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pattern occurred in Connecticut and Georgia. In Connecticut, the relative and absolute increases were greatest among white heterosexual males. In Georgia, increases occurred only among white and black males, and a substantial portion of the increase appeared to be among homosexual/bisexual males.

In the five states reporting decreases, the only exception to the overall pattern of decrease occurred among white females. The number of reported cases increased by 51% (20 cases) in this group.

The pattern of increase differed among reporting areas. In some areas, such as Philadelphia and Los Angeles, the increase appears to have plateaued in the middle of 1987. However, in other areas, such as NYC, Florida, and Oregon, the increase continued to climb. In still others, such as Pennsylvania (excluding Philadelphia), the increase began during this period.

Reported by: RG Sharrar, MD, M Goldberg, Philadelphia Dept of Public Health. Participating City and State Health Depts and STD Control Programs. Div of Sexually Transmitted Diseases, Center for Prevention Svcs, CDC.

Editorial note: These increases in infectious syphilis not only reverse the downward trend of the past 4 years, they also suggest an important shift in the epidemiology of the disease in the United States. As infectious syphilis has decreased among homosexual and bisexual males, largely because of changes in sexual behavior due to AIDS, a sizeable increase has occurred among heterosexuals. A similar shift was documented earlier in two small outbreaks (*2,3*).

While the cause of this increase is unknown, several hypotheses have been proposed. First, anecdotal reports from persons interviewing syphilis patients and their sexual partners indicate that prostitution in which nonintravenous drugs (especially "crack" cocaine) are exchanged for sex may be partially responsible for outbreaks of syphilis as well as other sexually transmitted diseases. A review of

TABLE 1. Reporting areas with the largest absolute increases in infectious syphilis — United States, weeks 1-46, 1987

	Number of Cases		Increase		
State	**1986**	**1987**	**Absolute**	**(%)**	**1987 Rate***
Florida	3,747	6,674	2,927	(78)	65.9
New York City	1,870	4,327	2,457	(131)	67.8
California	4,837	6,533	1,696	(35)	27.8
North Carolina	461	650	189	(41)	11.7
Georgia	1,333	1,506	173	(13)	28.3
Oregon	103	269	166	(161)	11.2
Maryland	403	556	153	(38)	14.2
Connecticut	147	282	135	(92)	10.0
Tennessee	566	672	106	(19)	15.8
Washington, D.C.	268	353	85	(32)	63.3
Mississippi	486	564	78	(16)	24.2
Nevada	91	142	51	(56)	17.0
New York State	173	223	50	(29)	2.4
Arizona	219	268	49	(22)	9.4
South Carolina	619	662	43	(7)	22.2

*Per 100,000; based on 1985 Bureau of the Census projections.

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records of interviews in Philadelphia showed that the proportion of patients associated with both prostitution and drug use increased significantly between 1985 and 1987 (*4*).

Second, some investigators have suggested that routine use of spectinomycin (which does not appear to cure incubating syphilis [*5,6*]) in areas where a sizeable proportion of gonorrhea infections are caused by β-lactamase-producing organisms may explain the increase in infectious syphilis.* Events in NYC, Florida, and Los Angeles are compatible with this theory; however, for several other areas† with sizeable increases in reported syphilis, spectinomycin was not in common use before the increases began. While this mechanism may play a role in some areas, it alone cannot account for the nationwide increase.

Third, a decrease in the resources available for syphilis control programs has been suggested as a contributing factor. Twenty reporting areas provided data on the number of staff available for syphilis control during 1985 and 1986. Ten of these areas

*Parenteral penicillin regimens used to treat gonorrhea have been shown to cure incubating syphilis acquired at the same time as gonorrhea infection (*7*).
†Arizona, Baltimore, Connecticut, North Carolina, Oregon, and Philadelphia.

TABLE 2. Cases of infectious syphilis from 14 reporting areas,* by race, sex, and sexual preference — United States, January-August, 1987

	Number of Cases		Change	
Category	**1986**	**1987**	**Absolute**	**(%)**
Heterosexual Males†				
Total	**5,503**	**9,727**	**+4,224**	**(+77)**
White	647	940	+293	(+45)
Black	3,461	6,436	+2,975	(+86)
Hispanic	1,200	1,874	+674	(+56)
Other	195	477	+282	(+145)
Homosexual/Bisexual Males†				
Total	**1,691**	**1,441**	**−250**	**(−15)**
White	650	430	−220	(−34)
Black	750	795	+45	(+6)
Hispanic	158	161	+3	(+2)
Other	133	55	−78	(−59)
Females				
Total	**3,302**	**5,761**	**+2,459**	**(+75)**
White	376	629	+253	(+67)
Black	2,480	4,317	+1,837	(+74)
Hispanic	332	580	+248	(+75)
Other	114	235	+121	(+106)

*Arizona, California, Connecticut, Florida, Georgia, Maryland, Massachusetts, Mississippi, North Carolina, Oregon, Pennsylvania, South Carolina, Tennessee, and New York City. Data for California (other than Los Angeles and San Francisco) are for the first 6 months only.
†Males naming at least one male sexual partner were classified as "homosexual/bisexual"; those not naming any were classified as "heterosexual." Overall, 87% of males were interviewed in 1986 and 85%, in 1987. Over 80% of males were interviewed in all reporting areas except New York City, where 55% were interviewed in 1986 and 45%, in 1987.

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reported increases in the number of persons interviewing patients with early syphilis between 1985 and 1986; four reported no change; and six reported decreases. Areas reporting increases in total syphilis morbidity were somewhat more likely to report a decrease in the number of interviewers; however, the association was not statistically significant.

The increases in infectious syphilis among females and heterosexuals are disturbing for three reasons. First, an increase in the number of females with syphilis will likely be followed by increased morbidity and mortality from congenital syphilis. Second, the marked increase among inner-city, heterosexual minority groups suggests that high-risk sexual activity is increasing in these groups despite the risk of HIV infection, which is already elevated because of the high prevalence of intravenous drug abuse. Third, studies in Africa and in the United States suggest that genital ulcer diseases such as primary syphilis increase the risk of HIV transmission (*8,9*).

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Current Trends

Antigenic Variation of Recent Influenza A(H3N2) Viruses

Analysis of recent influenza A(H3N2) viruses indicates antigenic drift from the previously prevalent strains A/Mississippi/1/85 and A/Leningrad/360/86. One reference variant virus strain, A/Victoria/7/87, was first isolated in Australia in April of this year. A second reference variant, A/Sichuan/2/87, was first isolated in China, also in April. In hemagglutination inhibition tests with antiserum from infected ferrets, antibody to A/Victoria/7/87 reacts poorly with other strains, even though the virus itself is inhibited well by antiserum to A/Mississippi/1/85 (Table 1). Antiserum to A/Sichuan/2/87 reacts at lower titers with viruses such as A/Mississippi/1/85 and A/Leningrad/360/86, which circulated earlier, than it does with A/Sichuan/2/87 anti-

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gen. Also, A/Sichuan/2/87 is inhibited poorly by antisera to all of the viruses that circulated earlier. Analysis of about 50 recently isolated A(H3N2) viruses from Asia, Oceania, and the United States indicates a spectrum of antigenic specificity, with many isolates having reaction patterns intermediate between A/Leningrad/360/86 and A/Sichuan/2/87.

The antibody response induced by the current type A(H3N2) vaccine component is greater toward the homologous A/Leningrad/360/86 virus than toward the reference variants A/Victoria/7/87 and A/Sichuan/2/87. This response confirms the existence of antigenic variation in recent virus isolates. Vaccinees in all age groups developed titers of 40 or more to A/Leningrad/360/86 with greater frequency than they did to the new antigenic variants (Table 2). In addition, the geometric mean titers were higher to the homologous A/Leningrad/360/86 antigen than to the antigenic variants A/Sichuan/2/87 or A/Victoria/7/87.

TABLE 1. Hemagglutination-inhibition reactions* of influenza type A(H3N2) viruses

Reference Antigen	Ferret Antisera A/Bangkok 1/79	A/Phil 2/82	A/Caen 1/84	A/Miss 1/85	A/Len 360/86	A/Vict 7/87	A/Sichuan 2/87
A/Bangkok/1/79	**1,280**	160	160	640	320	40	40
A/Philippines/2/82	20	**160**	40	320	160	10	80
A/Caen/1/84	20	80	**640**	640	320	20	320
A/Mississippi/1/85	160	320	320	**1,280**	640	40	320
A/Leningrad/360/86	20	160	80	320	**640**	40	160
A/Victoria/7/87	80	80	160	640	160	**640**	160
A/Sichuan/2/87	<10	10	80	160	160	40	**1,280**

*Titers are the reciprocal of antiserum dilutions; homologous titers appear in bold type. When comparing reactions of sera with different antigens, fourfold or greater differences are considered significant.

TABLE 2. Hemagglutination-inhibition serum antibody response to influenza vaccine in immunized* children and adults — United States, fall 1988

Age Group	Type A(H3N2) Strain	Prevaccine Sera: Percent with Titer ≥40	Prevaccine Sera: (GMT)†	Postvaccine Sera: Percent with Titer ≥40	Postvaccine Sera: (GMT)†
Children and Young Adults	A/Leningrad/360/86	22	(16)	84	(97)
	A/Sichuan/2/87	19	(16)	69	(43)
	A/Victoria/7/87	19	(13)	72	(53)
Adults	A/Leningrad/360/86	20	(14)	60	(33)
	A/Sichuan/2/87	8	(8)	30	(14)
	A/Victoria/7/87	8	(7)	33	(15)
Elderly	A/Leningrad/360/86	66	(34)	76	(47)
	A/Sichuan/2/87	38	(21)	45	(22)
	A/Victoria/7/87	46	(24)	54	(32)

*Volunteers received trivalent influenza vaccine containing 15 μg each of hemagglutinin of A/Leningrad/360/86(H3N2), A/Taiwan/1/86(H1N1), and B/Ann Arbor/1/86 viruses.
†Geometric mean titer.

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Reported by: P Graves, G Meiklejohn, MD, School of Medicine, Univ of Colorado Health Sciences Center, Denver, Colorado. F Ruben, MD, Univ of Pittsburg, Pittsburg, Pennsylvania. P Palmer, K Edwards, MD, Vanderbilt Univ, Nashville, Tennessee. Influenza Research Center, Baylor College of Medicine, Houston, Texas. Participating State and Territorial Epidemiologists and State Laboratory Directors. Sentinel Physicians of the American Academy of Family Physicians. WHO Collaborating Laboratories. WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: In 1987, the World Health Organization Collaborating Centers for Influenza (Atlanta and London), in conjunction with National Influenza Centers in several countries in Asia and Oceania, detected antigenic variants of influenza A(H3N2). Evidence is accumulating that these viruses are infecting persons of all age groups, including high-risk elderly persons (*1*). These variants are associated with the reappearance of influenza A(H3N2) viruses after a period of quiescence during the winter of 1986/87.

Antigenic variation has always complicated influenza vaccine formulation. The occurrence of viruses that exhibit antigenic drift from the vaccine strain has on

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

Disease	3rd Week Ending			Cumulative, 3rd Week Ending		
	Jan. 23, 1988	Jan. 24, 1987	Median 1983-1987	Jan. 23, 1988	Jan. 24, 1987	Median 1983-1987
Acquired Immunodeficiency Syndrome (AIDS)	553	43	96	1,478	525	273
Aseptic meningitis	53	81	81	183	285	275
Encephalitis: Primary (arthropod-borne & unspec)	7	14	16	29	47	47
Post-infectious	-	1	1	1	1	4
Gonorrhea: Civilian	11,843	17,412	17,412	37,223	54,299	48,058
Military	243	353	349	598	1,066	1,066
Hepatitis: Type A	480	420	420	1,050	1,099	1,094
Type B	254	389	448	695	1,106	1,116
Non A, Non B	29	53	58	84	167	164
Unspecified	25	55	83	82	149	217
Legionellosis	6	10	6	19	47	26
Leprosy	-	4	4	4	13	13
Malaria	10	2	11	21	33	31
Measles: Total*	54	17	9	74	59	25
Indigenous	53	3	4	72	43	19
Imported	1	14	4	2	16	7
Meningococcal infections	53	55	55	144	190	142
Mumps	43	289	59	145	502	180
Pertussis	9	21	18	36	80	75
Rubella (German measles)	6	16	5	7	21	21
Syphilis (Primary & Secondary): Civilian	542	571	571	1,578	1,810	1,480
Military	3	3	3	7	5	10
Toxic Shock syndrome	3	1	4	9	10	19
Tuberculosis	245	225	304	618	772	772
Tularemia	2	2	1	7	5	5
Typhoid Fever	4	7	4	6	11	11
Typhus fever, tick-borne (RMSF)	-	-	-	-	4	4
Rabies, animal	27	53	75	106	177	197

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1988		Cum. 1988
Anthrax	-	Leptospirosis	2
Botulism: Foodborne	-	Plague	-
Infant	-	Poliomyelitis, Paralytic	-
Other	-	Psittacosis (Oreg. 3)	3
Brucellosis	2	Rabies, human	-
Cholera	-	Tetanus (Ala. 1)	1
Congenital rubella syndrome	-	Trichinosis (Mo. 1)	2
Congenital syphilis, ages < 1 year	-		
Diphtheria	-		

*One of the 54 reported cases for this week was 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 January 23, 1988 and January 24, 1987 (3rd Week)

Reporting Area	AIDS	Aseptic Menin-gitis	Encephalitis: Primary	Encephalitis: Post-in-fectious	Gonorrhea (Civilian)		Hepatitis (Viral), by type: A	B	NA,NB	Unspeci-fied	Legionel-losis	Leprosy
	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	1,478	183	29	1	37,223	54,299	1,050	695	84	82	19	4
NEW ENGLAND	85	10	-	-	1,169	1,670	36	59	7	9	1	2
Maine	2	1	-	-	27	59	1	3	-	1	-	-
N.H.	3	4	-	-	31	20	2	2	1	-	-	-
Vt.	-	1	-	-	11	12	-	1	-	-	-	-
Mass.	56	1	-	-	336	568	24	48	5	8	1	2
R.I.	4	2	-	-	100	122	8	4	1	-	-	-
Conn.	20	1	-	-	664	889	1	1	-	-	-	-
MID. ATLANTIC	222	21	1	-	3,120	9,103	45	68	7	2	6	1
Upstate N.Y.	88	12	1	-	535	795	31	15	2	-	6	-
N.Y. City	87	-	-	-	1,800	5,594	3	29	-	2	-	1
N.J.	47	9	-	-	665	847	11	24	5	-	-	-
Pa.	-	-	-	-	120	1,867	-	-	-	-	-	-
E.N. CENTRAL	167	38	4	-	6,169	7,018	265	97	4	8	6	-
Ohio	1	16	3	-	1,268	2,024	231	29	-	-	-	-
Ind.	1	4	-	-	539	366	1	1	-	1	-	-
Ill.	91	-	-	-	1,970	2,057	3	1	-	-	-	-
Mich.	63	18	1	-	2,172	1,966	30	64	4	7	5	-
Wis.	11	-	-	-	220	605	-	2	-	-	1	-
W.N. CENTRAL	50	9	2	-	1,475	1,900	49	19	2	-	3	-
Minn.	15	3	-	-	184	353	2	3	-	-	-	-
Iowa	2	-	2	-	138	198	1	9	1	-	1	-
Mo.	16	-	-	-	964	1,016	14	4	-	-	-	-
N. Dak.	-	-	-	-	7	20	-	-	-	-	-	-
S. Dak.	1	4	-	-	28	47	-	-	-	-	-	-
Nebr.	7	-	-	-	34	33	7	-	-	-	2	-
Kans.	9	2	-	-	120	233	25	3	1	-	-	-
S. ATLANTIC	161	30	-	-	9,239	14,476	31	124	4	2	1	-
Del.	2	1	-	-	171	165	-	4	-	-	-	-
Md.	-	3	-	-	675	1,129	-	7	-	-	-	-
D.C.	6	1	-	-	614	864	-	-	-	-	-	-
Va.	2	4	-	-	980	1,225	7	9	-	-	-	-
W. Va.	3	3	-	-	68	72	-	5	-	1	-	-
N.C.	26	2	-	-	1,161	2,357	6	28	2	-	-	-
S.C.	12	-	-	-	510	1,714	2	52	2	-	-	-
Ga.	28	1	-	-	1,732	2,077	6	3	-	-	-	-
Fla.	82	15	-	-	3,328	4,873	10	16	-	1	1	-
E.S. CENTRAL	44	11	2	-	3,276	3,722	38	36	8	1	2	-
Ky.	-	3	1	-	269	349	31	6	3	-	-	-
Tenn.	31	2	-	-	972	1,226	5	19	4	-	1	-
Ala.	5	4	1	-	1,283	1,269	-	11	1	1	1	-
Miss.	8	2	-	-	752	878	2	-	-	-	-	-
W.S. CENTRAL	246	1	-	-	6,245	6,698	18	10	2	2	-	-
Ark.	3	-	-	-	381	687	-	1	-	-	-	-
La.	22	-	-	-	2,139	657	-	-	-	-	-	-
Okla.	10	1	-	-	279	582	13	4	1	2	-	-
Tex.	211	-	-	-	3,446	4,772	5	5	1	-	-	-
MOUNTAIN	69	6	3	-	831	1,293	151	83	9	12	-	-
Mont.	2	-	-	-	24	26	4	5	1	-	-	-
Idaho	-	-	-	-	21	30	8	7	-	-	-	-
Wyo.	-	-	-	-	5	14	-	-	-	-	-	-
Colo.	1	4	1	-	222	303	8	12	1	3	-	-
N. Mex.	4	-	-	-	92	128	37	13	-	-	-	-
Ariz.	45	-	1	-	251	418	61	29	5	5	-	-
Utah	10	2	1	-	39	53	27	9	2	4	-	-
Nev.	7	-	-	-	177	321	6	8	-	-	-	-
PACIFIC	434	57	17	1	5,699	8,419	417	199	41	46	-	1
Wash.	1	-	-	-	345	517	14	2	1	-	-	-
Oreg.	20	-	-	-	185	318	94	33	5	2	-	-
Calif.	404	51	16	1	5,048	7,332	291	161	35	44	-	1
Alaska	2	3	-	-	76	170	18	3	-	-	-	-
Hawaii	7	3	1	-	45	82	-	-	-	-	-	-
Guam	-	-	-	-	7	19	-	-	-	-	-	-
P.R.	11	2	1	-	97	110	-	18	2	2	-	-
V.I.	-	-	-	-	15	20	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	22	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	3	10	-	-	-	-	-	-

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 January 23, 1988 and January 24, 1987 (3rd Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	1988	Cum. 1988	Cum. 1987
UNITED STATES	21	53	72	1	2	59	144	43	145	9	36	80	6	7	21
NEW ENGLAND	3	1	1	-	-	5	20	-	2	-	2	1	-	-	-
Maine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N.H.	-	-	-	-	-	-	1	-	2	-	2	1	-	-	-
Vt.	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-
Mass.	2	1	1	-	-	-	12	-	-	-	-	-	-	-	-
R.I.	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-
Conn.	1	-	-	-	-	-	3	-	-	-	-	-	-	-	-
MID. ATLANTIC	2	2	2	-	-	11	14	3	7	-	-	11	-	-	-
Upstate N.Y.	-	-	-	-	-	-	7	-	-	-	-	9	-	-	-
N.Y. City	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N.J.	-	-	-	-	-	1	7	1	5	-	-	-	-	-	-
Pa.	-	2	2	-	-	10	-	2	2	-	-	2	-	-	-
E.N. CENTRAL	1	-	-	-	-	20	20	15	42	-	1	15	-	-	2
Ohio	-	-	-	-	-	-	10	-	-	-	-	7	-	-	-
Ind.	-	-	-	-	-	-	1	5	6	-	-	-	-	-	-
Ill.	-	-	-	-	-	1	-	1	1	-	-	-	-	-	1
Mich.	1	-	-	-	-	19	9	9	32	-	1	1	-	-	1
Wis.	-	-	-	-	-	-	-	-	3	-	-	7	-	-	-
W.N. CENTRAL	-	-	-	-	-	-	4	13	17	1	5	12	-	-	-
Minn.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iowa	-	-	-	-	-	-	-	7	8	-	1	2	-	-	-
Mo.	-	-	-	-	-	-	4	3	4	-	-	5	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Nebr.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Kans.	-	-	-	-	-	-	-	3	4	1	1	4	-	-	-
S. ATLANTIC	2	-	-	1	2	-	11	-	3	2	6	16	-	-	-
Del.	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Md.	-	-	-	1†	1	-	1	-	-	-	-	-	-	-	-
D.C.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Va.	-	-	-	-	-	-	2	-	1	-	1	5	-	-	-
W. Va.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
N.C.	-	-	-	-	1	-	-	-	2	2	4	9	-	-	-
S.C.	2	-	-	-	-	-	4	-	-	-	-	-	-	-	-
Ga.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Fla.	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-
E.S. CENTRAL	-	-	-	-	-	-	10	3	36	-	2	1	-	-	2
Ky.	-	-	-	-	-	-	2	-	1	-	-	-	-	-	2
Tenn.	-	-	-	-	-	-	6	2	34	-	2	-	-	-	-
Ala.	-	-	-	-	-	-	2	1	1	-	-	-	-	-	-
Miss.	-	-	-	-	-	-	-	N	N	-	-	1	-	-	-
W.S. CENTRAL	1	-	-	-	-	-	4	1	11	-	-	-	-	-	-
Ark.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
La.	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Okla.	1	-	-	-	-	-	-	-	6	-	-	-	-	-	-
Tex.	-	-	-	-	-	-	4	1	3	-	-	-	-	-	-
MOUNTAIN	1	7	12	-	-	-	5	-	4	-	3	3	-	-	1
Mont.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-
Colo.	-	7	12	-	-	-	4	-	2	-	-	-	-	-	-
N. Mex.	-	-	-	-	-	-	1	N	N	-	-	1	-	-	-
Ariz.	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-
Utah	-	-	-	-	-	-	-	-	1	-	1	-	-	-	1
Nev.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC	11	43	57	-	-	23	56	8	23	6	17	21	6	7	16
Wash.	1	-	-	-	-	-	2	1	3	1	1	1	-	-	-
Oreg.	2	29	29	-	-	1	6	N	N	2	2	6	-	-	1
Calif.	7	14	28	-	-	22	47	6	18	3	6	13	6	7	14
Alaska	1	-	-	-	-	-	1	1	2	-	-	-	-	-	-
Hawaii	-	-	-	-	-	-	-	-	-	-	8	1	-	-	1
Guam	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
P.R.	1	-	-	-	-	-	-	-	2	-	-	1	-	-	-
V.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending January 23, 1988 and January 24, 1987 (3rd Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	1,578	1,810	9	618	772	7	6	-	106
NEW ENGLAND	39	23	2	4	13	-	2	-	1
Maine	2	-	1	-	-	-	-	-	-
N.H.	1	-	1	-	-	-	-	-	1
Vt.	-	-	-	-	1	-	-	-	-
Mass.	19	16	-	2	3	-	2	-	-
R.I.	-	-	-	1	-	-	-	-	-
Conn.	17	7	-	1	9	-	-	-	-
MID. ATLANTIC	271	197	-	153	154	-	-	-	13
Upstate N.Y.	10	3	-	17	42	-	-	-	-
N.Y. City	230	127	-	76	82	-	-	-	-
N.J.	30	25	-	28	22	-	-	-	-
Pa.	1	42	-	32	8	-	-	-	13
E.N. CENTRAL	33	56	-	100	118	1	-	-	3
Ohio	-	1	-	22	22	-	-	-	-
Ind.	7	1	-	2	1	-	-	-	-
Ill.	21	45	-	44	65	-	-	-	1
Mich.	5	1	-	27	27	1	-	-	-
Wis.	-	8	-	5	3	-	-	-	2
W.N. CENTRAL	5	8	3	19	27	3	-	-	16
Minn.	1	4	-	4	6	-	-	-	-
Iowa	1	-	1	3	5	-	-	-	10
Mo.	1	4	1	5	13	2	-	-	1
N. Dak.	-	-	-	-	1	-	-	-	4
S. Dak.	-	-	-	7	2	-	-	-	-
Nebr.	2	-	1	-	-	1	-	-	1
Kans.	-	-	-	-	-	-	-	-	-
S. ATLANTIC	582	617	-	133	140	1	-	-	25
Del.	3	5	-	-	-	1	-	-	-
Md.	19	32	-	17	6	-	-	-	10
D.C.	18	4	-	4	6	-	-	-	-
Va.	20	16	-	16	16	-	-	-	6
W. Va.	-	-	-	4	8	-	-	-	3
N.C.	33	42	-	9	22	-	-	-	-
S.C.	15	47	-	25	28	-	-	-	-
Ga.	97	96	-	3	4	-	-	-	6
Fla.	377	375	-	55	50	-	-	-	-
E.S. CENTRAL	90	110	2	59	89	1	-	-	4
Ky.	-	-	1	25	5	1	-	-	1
Tenn.	11	68	-	-	-	-	-	-	-
Ala.	49	42	1	30	38	-	-	-	3
Miss.	30	-	-	4	46	-	-	-	-
W.S. CENTRAL	208	252	-	13	20	-	-	-	18
Ark.	-	11	-	-	1	-	-	-	7
La.	21	34	-	-	-	-	-	-	-
Okla.	13	12	-	7	3	-	-	-	2
Tex.	174	195	-	6	16	-	-	-	9
MOUNTAIN	12	15	1	13	13	1	1	-	13
Mont.	-	2	-	-	-	-	-	-	10
Idaho	-	1	1	-	2	-	-	-	-
Wyo.	-	-	-	-	-	-	-	-	2
Colo.	12	6	-	1	-	1	1	-	-
N. Mex.	-	-	-	4	1	-	-	-	-
Ariz.	-	6	-	6	8	-	-	-	1
Utah	-	-	-	-	-	-	-	-	-
Nev.	-	-	-	2	2	-	-	-	-
PACIFIC	338	532	1	124	198	-	3	-	13
Wash.	-	9	-	8	8	-	-	-	-
Oreg.	8	12	-	9	6	-	-	-	-
Calif.	327	510	1	94	162	-	3	-	13
Alaska	-	-	-	3	7	-	-	-	-
Hawaii	3	1	-	10	15	-	-	-	-
Guam	-	-	-	-	-	-	-	-	-
P.R.	36	34	-	6	8	-	-	-	4
V.I.	1	2	-	-	1	-	-	-	-
Amer. Samoa	-	1	-	-	2	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending January 23, 1988 (3rd Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	687	485	130	44	15	13	65
Boston, Mass.	173	112	37	9	7	8	22
Bridgeport, Conn.	38	31	4	2	1	-	3
Cambridge, Mass.	23	18	5	-	-	-	3
Fall River, Mass.	30	25	4	-	1	-	1
Hartford, Conn.	68	42	16	9	-	1	1
Lowell, Mass.	38	31	6	1	-	-	3
Lynn, Mass.	15	14	1	-	-	-	-
New Bedford, Mass.	21	16	4	1	-	-	1
New Haven, Conn.	50	34	8	5	1	2	2
Providence, R.I.	48	33	9	4	1	1	2
Somerville, Mass.	8	8	-	-	-	-	-
Springfield, Mass.	50	33	11	4	1	1	7
Waterbury, Conn.	39	27	8	2	2	-	9
Worcester, Mass.	86	61	17	7	1	-	11
MID. ATLANTIC	3,185	2,098	616	299	94	78	152
Albany, N.Y.	63	45	7	2	7	2	2
Allentown, Pa.	21	13	5	3	-	-	-
Buffalo, N.Y.§	103	75	19	7	-	2	5
Camden, N.J.	56	30	14	9	3	-	1
Elizabeth, N.J.	29	17	9	1	2	-	1
Erie, Pa.†	45	33	10	1	-	1	4
Jersey City, N.J.	56	35	9	9	1	2	2
N.Y. City, N.Y.	1,774	1,141	345	197	55	36	83
Newark, N.J.	98	43	27	16	10	2	-
Paterson, N.J.	40	18	12	4	1	5	2
Philadelphia, Pa.	398	283	67	29	8	11	22
Pittsburgh, Pa.†	87	61	17	5	1	3	1
Reading, Pa.	34	28	4	1	-	1	1
Rochester, N.Y.	123	96	19	1	2	5	18
Schenectady, N.Y.	36	30	3	3	-	-	-
Scranton, Pa.†	28	20	7	1	-	-	-
Syracuse, N.Y.	100	65	23	5	2	5	6
Trenton, N.J.	44	26	13	2	2	1	1
Utica, N.Y.	25	23	1	1	-	-	-
Yonkers, N.Y.	25	16	5	2	-	2	3
E.N. CENTRAL	2,367	1,569	514	149	61	73	105
Akron, Ohio	35	24	7	-	1	3	-
Canton, Ohio	36	28	7	1	-	-	2
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	139	94	29	9	4	3	12
Cleveland, Ohio	175	109	44	11	3	8	1
Columbus, Ohio	80	41	22	6	5	6	1
Dayton, Ohio	115	74	25	12	3	1	2
Detroit, Mich.	232	139	53	21	8	10	9
Evansville, Ind.	57	44	12	-	1	-	4
Fort Wayne, Ind.	61	47	9	2	2	1	4
Gary, Ind.	15	10	1	1	2	1	2
Grand Rapids, Mich.	79	54	12	5	6	2	10
Indianapolis, Ind.	215	143	46	17	5	4	1
Madison, Wis.	41	25	11	1	2	2	4
Milwaukee, Wis.	161	107	38	8	5	3	10
Peoria, Ill.	57	42	14	-	1	-	4
Rockford, Ill.	51	37	9	2	-	3	5
South Bend, Ind.	74	57	15	1	1	-	7
Toledo, Ohio	116	85	22	4	2	3	11
Youngstown, Ohio	64	47	13	3	-	1	-
W.N. CENTRAL	876	600	169	54	31	22	58
Des Moines, Iowa	72	46	15	6	4	1	7
Duluth, Minn.	28	24	3	1	-	-	-
Kansas City, Kans.	38	26	7	1	2	2	-
Kansas City, Mo.	123	83	28	6	4	2	9
Lincoln, Nebr.	36	28	6	-	1	1	3
Minneapolis, Minn.	190	135	26	12	6	11	17
Omaha, Nebr.	88	62	16	5	4	1	9
St. Louis, Mo.	174	106	43	18	5	2	5
St. Paul, Minn.	53	42	10	1	-	-	1
Wichita, Kans.	74	48	15	4	5	2	7

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-84	25-44	1-24	<1	Total
S. ATLANTIC	1,376	852	334	108	46	34	65
Atlanta, Ga.	184	104	45	18	12	5	4
Baltimore, Md.	260	163	76	11	6	4	10
Charlotte, N.C.	117	73	29	8	5	2	12
Jacksonville, Fla.	94	63	17	7	6	1	6
Miami, Fla.	92	47	27	14	3	1	-
Norfolk, Va.	65	41	16	4	2	2	5
Richmond, Va.	92	55	27	4	1	5	6
Savannah, Ga.	66	48	12	5	1	-	10
St. Petersburg, Fla.	86	72	8	3	1	2	-
Tampa, Fla.	72	39	21	5	2	4	4
Washington, D.C.	215	121	52	26	7	8	8
Wilmington, Del.	33	26	4	3	-	-	-
E.S. CENTRAL	772	522	153	63	11	23	49
Birmingham, Ala.	108	73	20	9	3	3	1
Chattanooga, Tenn.	96	68	19	4	-	5	7
Knoxville, Tenn.	116	81	23	8	2	2	11
Louisville, Ky.	81	54	17	3	-	7	4
Memphis, Tenn.	112	79	22	9	1	1	8
Mobile, Ala.	37	21	14	2	-	-	3
Montgomery, Ala.	31	23	5	2	1	-	1
Nashville, Tenn.	191	123	33	26	4	5	14
W.S. CENTRAL	1,407	902	300	113	50	39	84
Austin, Tex.	79	52	13	7	3	4	10
Baton Rouge, La.	71	43	19	7	2	-	9
Corpus Christi, Tex.	46	28	5	7	2	4	-
Dallas, Tex.	230	139	48	24	9	10	8
El Paso, Tex.	69	49	14	3	2	1	7
Fort Worth, Tex	108	78	15	9	2	4	6
Houston, Tex.§	308	176	74	34	13	11	7
Little Rock, Ark.	66	44	12	3	3	1	7
New Orleans, La.	113	65	29	10	8	1	-
San Antonio, Tex.	207	148	49	5	5	-	21
Shreveport, La.	33	21	8	2	-	2	1
Tulsa, Okla.	77	59	14	2	1	1	8
MOUNTAIN	724	499	133	45	23	23	57
Albuquerque, N. Mex.	94	66	14	10	1	2	6
Colo. Springs, Colo.	50	34	12	3	1	-	9
Denver, Colo.	113	86	16	4	3	4	7
Las Vegas, Nev.	133	86	29	11	5	2	11
Ogden, Utah	30	26	3	1	-	-	7
Phoenix, Ariz.	114	70	21	7	6	10	8
Pueblo, Colo.	27	19	7	-	1	-	4
Salt Lake City, Utah	59	39	14	2	1	3	-
Tucson, Ariz.	104	73	17	7	5	2	5
PACIFIC	1,933	1,307	376	144	48	45	139
Berkeley, Calif.	17	12	3	1	1	-	2
Fresno, Calif.	67	43	11	5	2	6	10
Glendale, Calif.	19	16	2	1	-	-	2
Honolulu, Hawaii	76	50	17	5	2	2	11
Long Beach, Calif.	133	89	27	8	3	6	21
Los Angeles Calif.	441	287	87	34	13	7	15
Oakland, Calif.	62	37	16	7	1	1	4
Pasadena, Calif.	37	29	4	3	1	-	-
Portland, Oreg.	88	62	15	5	2	4	6
Sacramento, Calif.	151	107	31	11	-	2	17
San Diego, Calif.	135	92	19	15	7	2	17
San Francisco, Calif.	159	108	32	17	-	2	8
San Jose, Calif.	167	108	40	10	2	7	14
Seattle, Wash.	285	194	56	19	13	3	3
Spokane, Wash.	47	37	7	2	1	-	6
Tacoma, Wash.	49	36	9	1	-	3	3
TOTAL	13,327††	8,834	2,725	1,019	379	350	774

*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 4 weeks.

TABLE V. Estimated years of potential life lost (YPLL) before age 65* and cause-specific mortality, by cause of death — United States, 1986

Cause of Mortality (ICD, 9th Revision)	YPLL for Persons Dying in 1985	YPLL for Persons Dying in 1986	Cause-Specific Mortality,1986† (Rate/100,000)
All Causes (Total)	11,858,619	12,054,242	870.8
Unintentional Injuries§ (E800-E949)	2,279,211	2,371,024	39.7
Malignant Neoplasms (140-208)	1,833,900	1,821,682	193.3
Diseases of the Heart (390-398, 402, 404-429)	1,576,689	1,534,607	318.7
Suicide/Homicide (E950-E978)	1,267,906	1,342,693	22.0
Congenital Anomalies (740-759)	678,058	651,523	5.1
Prematurity¶ (765-769)	448,146	438,351	2.8
Sudden Infant Death Syndrome (798)	342,818	313,555	2.0
Acquired Immunodeficiency Syndrome**	160,038	246,823	3.6
Cerebrovascular Disease (430-438)	250,593	232,583	61.3
Chronic Liver Diseases and Cirrhosis (571)	239,053	225,028	10.9
Pneumonia and Influenza (480-487)	169,881	166,389	29.2
Chronic Obstructive Pulmonary Diseases (490-496)	128,011	127,889	31.3
Diabetes Mellitus (250)	114,848	126,652	15.1

*For details of calculation, see *MMWR* Supplement, *Premature Mortality in the United States*, December 19, 1986, Vol. 35, No. 2S. Cause-specific mortality rates for 1986 were obtained from the National Center for Health Statistics, *Monthly Vital Statistics Report (MVSR)*, Vol. 35, No. 13, August 24, 1987. Cause-specific deaths for 1985 were obtained from the *MVSR*, Vol. 36, No. 5, Supplement, August 28, 1987. Age-specific population estimates for 1985 and 1986 were obtained from the Bureau of the Census, *Estimates of the Population of the United States by Age, Sex, and Race: 1980 to 1986*, Series P-25, No. 1000.

†Cause-specific mortality rates as reported in the National Center for Health Statistics' *Monthly Vital Statistics Report* are compiled from a 10% sample of all deaths.

§Equivalent to accidents and adverse effects.

¶Category derived from disorders relating to short gestation and respiratory distress syndrome.

**Reflects CDC surveillance data.

Antigenic Variation — Continued

occasion resulted in diminished vaccine efficacy, such as the failure of A/Port Chalmers/1/73 to protect against A/Victoria/3/75 (*2*). However, reduced vaccine efficacy has not always occurred in such situations. In 1972, vaccine containing A/Aichi/2/68 reduced cases of influenza by 60% in an outbreak caused by the antigenic drift variant A/England/42/72 (*3*), and, in 1977, A/Victoria/3/75 vaccine protected adults from A/Texas/1/77 infection with 80% efficacy (*4*). The mechanism of such cross (heterovariant) protection is not precisely known. Although antigenic variants differ in some epitopes on the hemagglutinin, they also share other common hemagglutinin epitopes. Because type A(H3N2) viruses have circulated since 1968, most of the population has been primed by previously circulating strains and is, therefore, more responsive to heterovariant immunization. In addition, the antigenic changes described occurred in the hemagglutinin surface glycoprotein. Significant protection from illness may also be induced by the neuraminidase surface glycoprotein (*5,6*), which has shown less evidence of antigenic drift. Still other factors, such as the capacity of a strain to spread in the population, can emerge independently from changes in the antigenic properties of the hemagglutinin. Therefore, vaccine efficacy cannot be determined until placebo-controlled double-blind trials have been completed.

Nevertheless, laboratory studies, as well as preliminary observations during outbreaks of influenza A(H3N2) among high-risk residents of nursing homes, suggest that the A/Leningrad/360/86 component of the current vaccine may not provide optimal protection against presently circulating strains. These findings emphasize the need for health-care providers to be aware of the recommendations for use of the antiviral drug amantadine for controlling outbreaks and for prophylaxis or treatment of unprotected patients (*7*). Because amantadine, which is a prescription drug, must be given before exposure to prevent infection or within the first 1 or 2 days after onset of illness for treatment, contingency plans for its rapid use are needed. These plans include obtaining a physician's order to give the drug to high-risk patients at the first signs of influenza illness, knowing the precautions concerning dosage of the drug (particularly for persons with known renal insufficiency or with presumed reduced renal function, such as those over 64 years of age), and arranging for an adequate supply of the drug.

A fact sheet on amantadine, directed particularly at use in institutions caring for high-risk persons, is available through the Office of Public Inquiries, Centers for Disease Control, 1600 Clifton Road, NE, Atlanta, Georgia 30333.

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Antigenic Variation — Continued

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Current Trends

Changes in Premature Mortality — United States, 1979-1986

Premature mortality in the United States, as measured in total years of potential life lost (YPLL) before age 65 (*1*), has been analyzed for data collected annually since 1979.* The overall trend from 1979 to 1986 was toward lower YPLL and YPLL rates, even though the number and rate of YPLL increased from 1984 to 1986 (Table V, page 45).

The total number of YPLL decreased by 6.0%, and the rate of YPLL per 1,000 persons fell by 13.3% during the period 1979-1986 (Table 1). The greatest absolute rate decline from 1979 to 1986 was in YPLL due to unintentional injuries (Figure 1). The ranking of the leading causes of YPLL changed only slightly from 1979 to 1986, with the exception of the addition of the acquired immunodeficiency syndrome (AIDS) (Table 1). Fewer than five AIDS deaths were recorded in 1979; however, by 1986, AIDS had become the eighth leading cause of YPLL and accounted for 2.0% of total YPLL.

*The period for which U.S. mortality data coded according to the International Classification of Diseases, Ninth Revision, (ICD-9) are available.

TABLE 1. Ranking of leading causes of years of potential life lost (YPLL) before age 65 and percentage of change in rates — United States, 1979 and 1986

Cause of Mortality	Ranking 1979	Ranking 1986	YPLL Rate Change 1979–1986 (%)
All Causes	—	—	(−13.3)
Unintentional Injuries	1	1	(−21.3)
Malignant Neoplasms	2	2	(−6.7)
Diseases of the Heart	3	3	(−16.1)
Suicide/Homicide	4	4	(−5.7)
Congenital Anomalies	6	5	(−17.1)
Prematurity	5	6	(−45.5)
Sudden Infant Death Syndrome	7	7	(−17.2)
Acquired Immunodeficiency Syndrome	—*	8	—†
Cerebrovascular Disease	8	9	(−25.9)
Chronic Liver Diseases and Cirrhosis	9	10	(−28.1)
Pneumonia and Influenza	10	11	(−21.6)
Chronic Obstructive Pulmonary Diseases	12	12	(+8.3)
Diabetes Mellitus	11	13	(+6.2)

*Unranked.
†Not calculable.

Premature Mortality – Continued

From 1979 to 1986, the rate of YPLL decreased for ten of the leading causes of death and increased for three. Unintentional injuries accounted for the largest portion of the decrease (30.0%) among the causes of death with rate decreases. Most of the decline in injuries occurred between 1980 and 1982 and is attributable to a decrease in motor vehicle-related deaths in the 15- to 24-year age group. Prematurity (respiratory distress syndrome and disorders relating to short gestation and unspecified low birthweight) had the largest relative decline in rate of YPLL per 1,000 persons. In large part, this decline was due to a greater than one-third reduction in the rate of infant deaths due to respiratory distress syndrome. Prematurity (−17.4%) and diseases of the heart (−14.0%) followed injuries in contributing to the overall decline in YPLL rates from 1979 to 1986.

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

Reference

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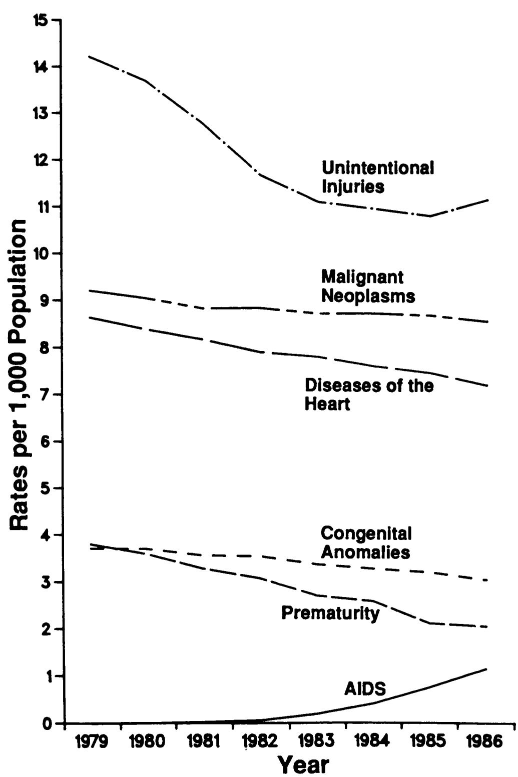
FIGURE 1. Rates of years of potenital life lost (YPLL) for causes with rate changes ≥0.5, by year – United States, 1979-1986



Epidemiologic Notes and Reports

Update: Influenza Activity – United States

Indicators of influenza activity are increasing throughout the United States. For the week ending January 23, 1988, 2 states* reported widespread outbreaks of influenza-like activity, and 10 states† reported regional influenza-like activity. This is the second week with reports of widespread influenza-like activity. For the report week ending January 16, 1988, physicians§ reported that 6% of their outpatients were diagnosed as having influenza-like illness. While this level is the highest reported so far this year, it is below the usually observed peak of 10%-12%.

Influenza A(H3N2), the predominant type this season, has now been identified in 25 states¶ (Figure 1). Eight states have reported isolates of influenza A, subtype pending.** Outbreaks of influenza A(H3N2) have now been documented in nursing homes in Minnesota, New York, and Wisconsin. In addition, an outbreak of influenza-like illness began during late December and continued into January in a facility for the mentally handicapped in South Dakota; both residents and staff were affected. South Dakota also reported an abrupt increase in school absenteeism due to influenza-like illness among students and staff. Sporadically occurring cases of Influenza B

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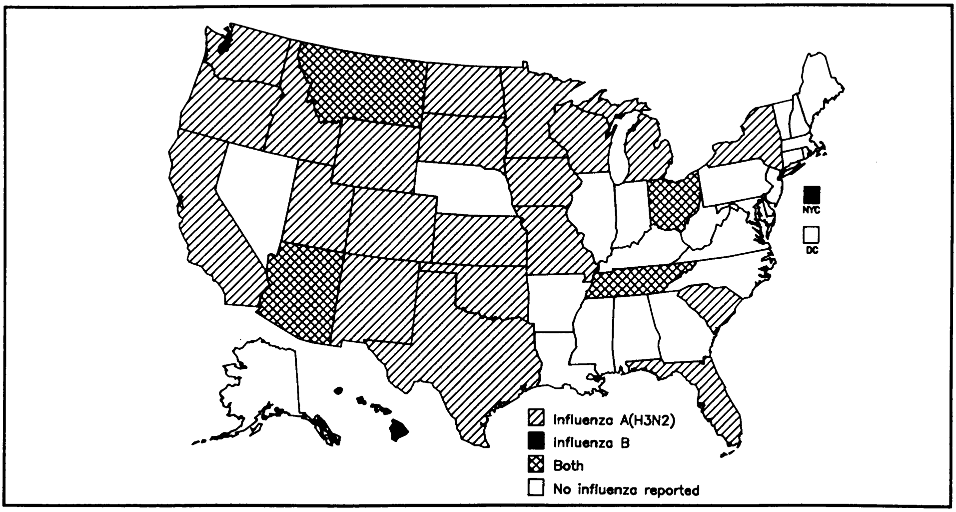
*Hawaii and South Dakota.
†Idaho, Kentucky, Mississippi, Missouri, Montana, Nebraska, Texas, Utah, Washington, and Wisconsin.
§Reported by approximately 160 physician members of the American Academy of Family Physicians. A patient with a temperature ≥37.8 °C (100 °F) and at least cough or sore throat was considered to have influenza-like illness.
¶Arizona, California, Colorado, Florida, Idaho, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Texas, Utah, Washington, Wisconsin, and Wyoming.
**Hawaii, Indiana, Kentucky, Louisiana, Nebraska, Mississippi, North Carolina, and Virginia.

FIGURE 1. States reporting isolates of influenza, by type – United States, October 19, 1987–January 25, 1988



Update: Influenza Activity – Continued

occurring cases of influenza B have been reported from 6 states;[††] however, influenza B has not been associated with any outbreaks.

In the 121 cities reporting regularly to CDC, 5.9% of deaths were associated with pneumonia and influenza (P&I) for the week ending January 16, 1988. This percentage does not exceeded the epidemic threshold[§§] for the influenza season to date (Figure 2).

Reported by: Participating State and Territorial Epidemiologists and State Laboratory Directors. Sentinel Physicians of the American Academy of Family Physicians. WHO Collaborating Laboratories. WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

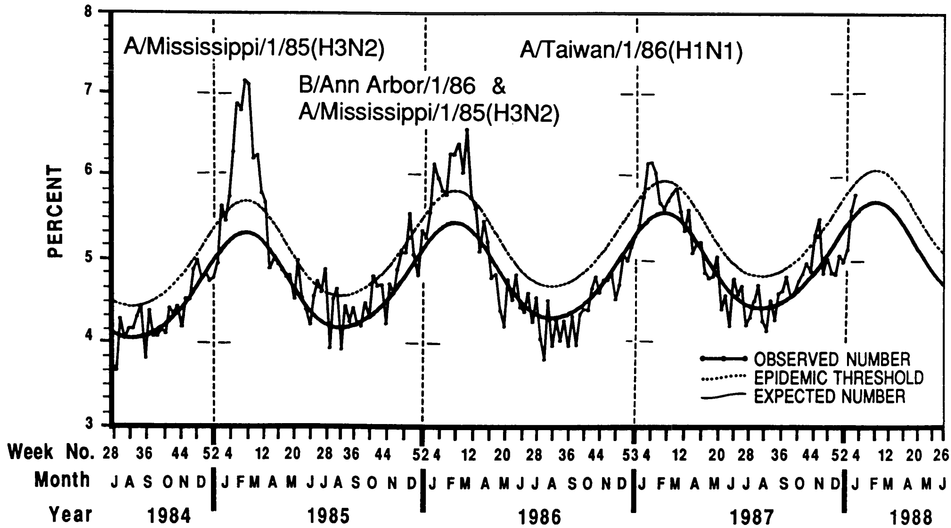
Reference

1. Lui K-J, Kendal AP. Impact of influenza epidemics on mortality in the United States from October 1972 to May 1985. Am J Public Health 1987;77:712-6.

[††]Arizona, Hawaii, Montana, New York, Ohio, and Tennessee.

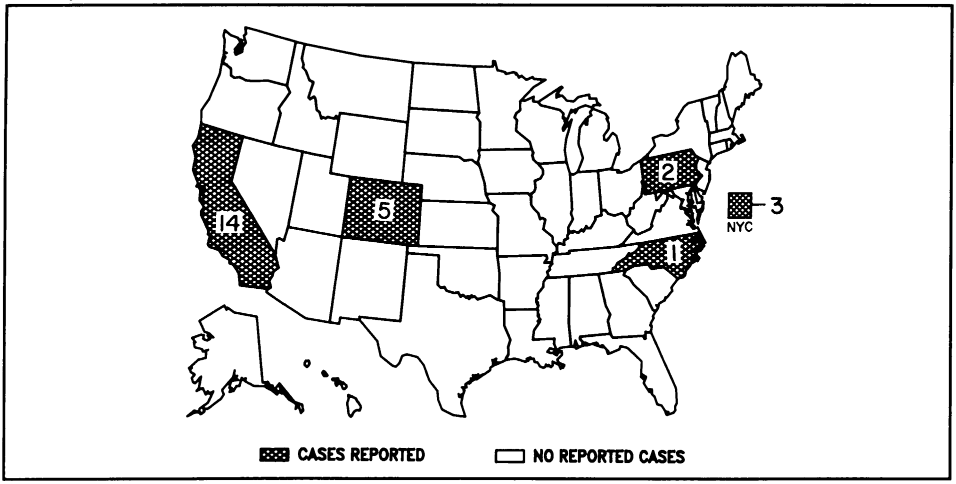
[§§]The epidemic threshold for the 1987/88 influenza season was estimated at 1.645 standard deviations above the values projected on the basis of a periodic regression model applied to observed P&I deaths for the previous 5-year period, but excluding the observations during influenza outbreaks (*1*).

FIGURE 2. Pneumonia and influenza deaths as a percentage of total deaths* – United States, July 1984–January 16, 1988



*Reported to CDC from 121 cities in the United States. Pneumonia and influenza deaths include all deaths for which penumonia is listed as a primary or underlying cause or for which influenza is listed on the death certificate.

FIGURE I. Reported measles cases – United States, weeks 51-52, 1987 and weeks 01-02, 1988



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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.

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