

# M M W R

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### Epidemiologic Notes and Reports

#### Measles on a College Campus — Ohio

Between January 15, and February 9, 1985, 12 confirmed cases of measles among students at The Ohio State University have been reported to the Ohio Department of Health. Two cases have been serologically confirmed. The index case is a senior student who acquired measles while traveling to London and Sierra Leone between December 8, 1984, and January 5, 1985. His rash onset was January 15; he subsequently infected four additional students. To date, students in one fraternity, one sorority, and three dormitories have been infected. In addition, several students in a brother fraternity at neighboring Miami University of Ohio have been exposed to a potentially infectious student from The Ohio State University.

The student health service, assisted by the Ohio Department of Health, has initiated several control measures, which include: (1) holding voluntary vaccination clinics in affected dormitories and at the student health clinic; (2) publicizing the outbreak on campus and in the surrounding community; and (3) increasing surveillance on campus and in the surrounding community. To date, 500 doses of vaccine have been administered to the student body, which consists of approximately 50,000 students. Additional clinics are planned for fraternity and sorority members.

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**Editorial Note:** Measles outbreaks on college campuses have been reported with increasing frequency in recent years (1). In 1980, 1.5% of all reported cases occurred on college campuses, compared with 19.8% of all cases reported in 1983. In 1984, one large outbreak in New Hampshire involved 29 students or their family contacts at Dartmouth College, the community, and patients and staff at the community hospital (2). The current outbreak has already involved three generations, and additional spread seems likely.

The propensity of measles to spread among college students is related to several factors, the most important of which include: (1) many college-aged students may have missed measles vaccination in the first years following licensure of measles vaccine; (2) college students tend to congregate in large groups (e.g., dormitories, fraternities and sororities, and social and sporting events); and (3) many colleges and universities lack immunization requirements. Since approximately 5%-15% of college-aged individuals are currently susceptible to measles when tested serologically (4), college campuses effectively become a gathering place where large pools of susceptibles congregate. Any introduction of measles virus is likely to spread easily in such a susceptible population.

Measles outbreaks on college campuses are costly and disruptive. It is estimated that the Dartmouth outbreak cost over \$30,000 to control (2). The direct costs of controlling the 1983 outbreak at Indiana University at Bloomington exceeded \$225,000 (1).

*Measles — Continued*

Because it is more cost-effective to prevent measles outbreaks than to attempt to control them (1), in May 1983, the American College Health Association adopted a preadmission immunization policy recommending that, by September 1985, colleges and universities require all students born after 1956 to present documentation of immunity to measles and other vaccine-preventable diseases before matriculation. A similar recommendation was made in 1980 by the Immunization Practices Advisory Committee (5). Several universities have already implemented such policies. In Mississippi, students registering for the first time at state-supported 4-year colleges and universities are required to furnish proof of immunity to measles and rubella. Currently, neither The Ohio State University nor the other affected colleges in Ohio have immunization requirements for matriculating students.

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2. CDC. Measles—New Hampshire. MMWR 1984;33:549-54, 559.
3. Bart KJ, Stenhouse DH. Measles and rubella on college campuses: the need to act. J Am College Health 1983;32:58-62.
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### **Rabies Postexposure Prophylaxis with Human Diploid Cell Rabies Vaccine: Lower Neutralizing Antibody Titers with Wyeth Vaccine**

On February 16, 1985, Wyeth Laboratories recalled Wyeth human diploid cell rabies vaccine (WYVAC™) from the market. This resulted from two postlicensure studies of antibody responses after postexposure prophylaxis with human diploid cell rabies vaccine (HDCV) conducted by CDC over the last 6 months. The studies—one, a passive surveillance system, and the other, a randomized prospective study—demonstrated that not all individuals receiving postexposure prophylaxis with Wyeth Laboratories' HDCV had antibody titers acceptable by the CDC criterion\* and that antibody titers after rabies postexposure prophylaxis with Wyeth HDCV were lower than those with Merieux HDCV (IMOVAX™).

In the passive surveillance system, sera were examined from 39 persons (in four states) who had completed postexposure prophylaxis with rabies immune globulin (RIG) and five doses of HDCV; 22 had been vaccinated with Merieux vaccine, and 17, with Wyeth vaccine. Two of the 17 Wyeth vaccine recipients had an inadequate titer by the CDC criterion (1,2); one had no detectable titer. Three additional persons had low titers (acceptable by CDC's criterion but not by the World Health Organization's criterion). In contrast, all 22 recipients of Merieux vaccine had adequate titers by both criteria.

The reason for some low responses after postexposure administration of Wyeth HDCV is unknown. The product has consistently met all applicable release standards, and the failures could not be attributed to a single vaccine lot. Certain host factors may have contributed to the poor response. The median age of the five poor responders to Wyeth vaccine was 42

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\*At present, CDC considers a neutralizing antibody titer that produces complete inhibition in the rapid fluorescent focus inhibition test at 1:5 dilution or greater (1:11 or greater by the Reed-Muench method) an acceptable response to immunization (1). The World Health Organization considers 0.5 IU/ml or greater (2) an acceptable response (approximately equivalent to 1:56 by the Reed-Muench method or complete inhibition at the 1:25 dilution).

*HDCV – Continued*

years, compared with 21 years for the responders. One low responder was a 42-year-old person with epilepsy on chronic phenytoin therapy; phenytoin has inhibitory effects on some immune functions (3). The individual who showed no detectable neutralizing antibody after prophylaxis with Wyeth vaccine was a healthy but obese (6 ft., 275 lbs.) 32-year-old male who received all injections in the buttocks. Two of the three low responders also received their vaccine in the buttocks.

While the surveillance program was being conducted, a prospective study was undertaken. The study participants received rabies postexposure prophylaxis of RIG with five doses of either Merieux or Wyeth vaccine of similar potencies. Titers in the Merieux group were significantly higher (Table 1), although all persons in both groups had acceptable titers 2-4 weeks after completing prophylaxis (4).

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**Editorial Note:** Annually, approximately 20,000 people receive rabies postexposure prophylaxis with HDCV in the United States (5). Since the early 1980s, when duck embryo vaccine was replaced by the more immunogenic HDCV, no person has developed rabies after having received the recommended postexposure prophylaxis of RIG and vaccine. Until the current report, data showed that Wyeth HDCV administered intramuscularly induced acceptable antibody levels.

The present low responses in some individuals may be due to both intrinsic differences in the two vaccines and accompanying host factors. Wyeth HDCV is a subunit vaccine, disrupted with tri-(n)butyl phosphate and further inactivated with beta-propiolactone, while Merieux HDCV is a whole virus vaccine inactivated with beta-propiolactone. Other factors, including older age, receipt of mildly immunosuppressive medications and administration of the vaccine into the buttocks, may also have contributed to the lower responses. Injections in the gluteal region will almost always be delivered into fat (6). It is not known whether there is a difference in absorption of the two types of HDCV when administered by this route. It has re-

**TABLE 1. Rabies neutralizing antibody titers,\* by vaccine and days after the start of treatment with rabies immune globulin and the first of five doses of HDCV**

	Days 7-8 titer† (range)	Days 9-10 titer (range)	Days 14-15 titer (range)	Days 49-63 titer (range)
Merieux HDCV n = 43	1:11 (1:8-1:320)	1:50 (1:8-1:280)	1:800 (1:40-1:2200)	1:1200 (1:280-1:5400)
Wyeth HDCV n = 23	1:11 (neg.-1:45)	1:13 (1:7-1:280)	1:210 (1:13-1:1200)	1:280 (1:70-1:1400)
p value§	NS	< 0.05	< 0.001	< 0.001

\*Titers obtained by Reed-Muench interpolation of rapid fluorescent focus inhibition test.

†Median titer for group.

§Differences between two vaccine groups, Kruskal Wallis Test.

*HDCV — Continued*

cently been recognized that administration of hepatitis B vaccine in the gluteal area probably results in a poorer response than vaccination in the deltoid (7). It is recommended that all adult immunizations be administered in the deltoid region (8,9); the deltoid area is the preferred site for HDCV vaccination. The gluteal area remains an acceptable site for large volumes of RIG. HDCV and RIG should never be administered in the same anatomic sites.

One 1.0-ml intramuscular booster with Merieux HDCV in the deltoid area is recommended, based on review of available information, for all persons who have been potentially exposed to rabies since October 15, 1984, and who have received postexposure prophylaxis with Wyeth HDCV (unless sera obtained after postexposure prophylaxis demonstrated an acceptable antibody titer). Merieux HDCV can be obtained by calling 800-327-2842. Anyone currently receiving Wyeth vaccine should complete the course with Merieux vaccine and does not require an additional booster. Serologic testing is recommended if a systemic allergic reaction (serum sickness or urticaria) occurred during previous administration of postexposure prophylaxis. In that case, an acceptable serologic response obviates the need for a booster vaccine dose. Serum testing continues to be indicated if a patient who received postexposure prophylaxis with HDCV is immunosuppressed (by diseases or medications) (1). State health departments can be contacted for the addresses of laboratories where serologic testing is available.

Wyeth vaccine administered preexposure and in the recommended 1.0 ml intramuscular doses (three injections) has been effective in inducing antibodies. Based on currently available information, persons so vaccinated need neither serologic testing nor booster doses of HDCV, except for those select groups previously identified (1). In the event of future exposure to rabies, persons who have received preexposure prophylaxis with either type of HDCV should receive two 1.0-ml intramuscular booster doses of HDCV (one each on days 0 and 3), as is currently recommended (1).

*References*

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## Update: Influenza Activity — United States

For the week ending February 16, 1985, 11 states (Florida, Hawaii, Nebraska, New Hampshire, New Mexico, Oklahoma, Pennsylvania, South Carolina, South Dakota, Texas, and Virginia) and the District of Columbia reported widespread outbreaks of influenza-like illness, and 17 states reported regional outbreaks.

Trends of influenza activity are represented in Figure 1. Family physicians who report weekly to CDC noted an average of 9.7 cases of influenza-like illness for the reporting week ending February 6, compared with the average of 6.6 cases at the beginning of January.

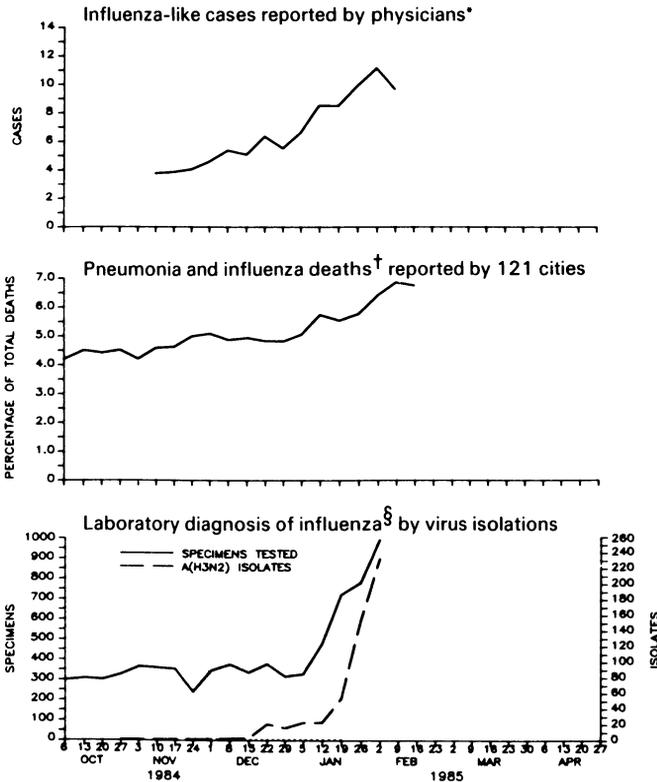
Influenza — Continued

Of total deaths reported from 121 U.S. cities, the percentage associated with pneumonia and influenza (P&I) was 6.8% for the week ending February 16 and 6.9% for the preceding week. This compares with recent seasons when the P&I percentage exceeded 6%: in 1981, the P&I percentage peaked at 6.9%, and in 1976, at 7.7%. On both occasions, many outbreaks of influenza associated with type A(H3N2) strains were in progress.

The total number of type A(H3N2) virus isolates reported to CDC from the network of WHO Collaborating Laboratories in the United States has increased sharply for the reporting weeks ending January 26 and February 2. Including recent reports from Maine and Vermont, influenza type A(H3N2) isolates have so far been reported from 44 states. Type B isolates have accounted for only nine of the 707 isolates reported by the collaborating laboratories.

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FIGURE 1. Indicators of influenza activity, by week — United States, 1984-1985



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

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

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

## Influenza — Continued

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## International Notes

## Crimean-Congo Hemorrhagic Fever — Republic of South Africa

During August and September 1984, eight cases of Crimean-Congo hemorrhagic fever (CCHF) occurred in a hospital in Capetown, Republic of South Africa. Two patients died.

The index case was a 26-year-old man from the Vredenburg district, approximately 120 kilometers north of Cape Town. Although he had no evidence of a recent tick bite, he had had regular contact with farm animals. His illness began on August 28, with a sore throat, muscle pains, and pyrexia. Four days later, he had slight hematemeses, followed by a massive gastrointestinal hemorrhage the next day. After resuscitation at a peripheral hospital, he was transferred to a hospital in Cape Town, late on September 3.

(Continued on page 99)

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

Disease	7th Week Ending			Cumulative, 7th Week Ending		
	Feb. 16, 1985	Feb. 18, 1984	Median 1980-1984	Feb. 16, 1985	Feb. 18, 1984	Median 1980-1984
Acquired Immunodeficiency Syndrome (AIDS)	U	62	N	605	449	N
Aseptic meningitis	52	46	60	439	601	575
Encephalitis: Primary (arthropod-borne & unsp.)	11	10	12	86	102	104
Post-infectious	3	2	1	13	8	8
Gonorrhea: Civilian	12,398	16,251	16,251	101,989	113,391	126,768
Military	327	430	481	2,001	2,889	3,821
Hepatitis: Type A	222	353	468	2,390	2,561	3,006
Type B	326	440	374	2,818	3,034	2,333
Non A, Non B	51	69	N	438	433	N
Unspecified	64	82	113	515	523	1,018
Legionellosis	3	7	N	64	50	N
Leprosy	2	-	3	12	26	26
Malaria	12	7	12	68	73	85
Measles: Total*	2	35	34	34	223	223
Indigenous	2	34	N	12	166	N
Imported	-	1	N	22	57	N
Meningococcal infections: Total	52	78	67	342	403	410
Civilian	52	78	66	342	403	406
Military	-	-	-	-	-	2
Mumps	92	76	76	372	447	569
Pertussis	17	30	25	123	206	135
Rubella (German measles)	1	10	45	22	54	215
Syphilis (Primary & Secondary): Civilian	385	618	598	3,169	3,880	3,992
Military	4	5	6	24	45	56
Toxic Shock syndrome	5	8	N	42	57	N
Tuberculosis	254	416	452	2,002	2,393	2,863
Tularemia	1	1	1	14	5	12
Typhoid fever	3	7	7	23	39	44
Typhus fever, tick-borne (RMSF)	1	-	-	5	7	7
Rabies, animal	60	73	73	401	494	605

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1985		Cum 1985
Anthrax	-	Plague	-
Botulism: Foodborne	-	Poliomyelitis: Total	-
Infant	4	Paralytic	-
Other (Md. 1)	1	Psittacosis (N. Y. City 1)	17
Brucellosis	4	Rabies, human	-
Cholera	-	Tetanus (Ohio 1, Tex. 1)	5
Congenital rubella syndrome	-	Trichinosis	4
Diphtheria	-	Typhus fever, flea-borne (endemic, murine)	-
Leptospirosis	5		

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

**TABLE III. Cases of specified notifiable diseases, United States, weeks ending  
February 16, 1985 and February 18, 1984 (7th Week)**

Reporting Area	AIDS	Aseptic Mening- itis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA,NB	Unspeci- fied		
			Cum. 1985	Cum. 1985	Cum. 1985	Cum. 1984	1985	1985	1985	1985		
UNITED STATES	605	52	86	13	101,989	113,391	222	326	51	64	3	12
NEW ENGLAND	17	1	2	-	3,080	3,810	3	16	3	6	-	-
Maine	1	-	-	-	151	142	-	-	-	-	-	-
NH	-	-	1	-	74	85	-	-	-	-	-	-
Vt	-	-	-	-	34	52	1	2	1	-	-	-
Mass	11	1	1	-	1,095	1,440	2	10	-	6	-	-
RI	1	-	-	-	250	225	-	4	1	-	-	-
Conn	4	-	-	-	1,476	1,866	-	-	1	-	-	-
MID ATLANTIC	241	12	5	-	15,890	14,061	25	60	7	4	-	1
Upstate N Y	44	7	2	-	1,929	2,041	5	21	3	1	-	-
N Y City	149	5	-	-	7,378	6,261	3	-	-	-	-	1
N J	32	-	3	-	2,697	1,894	12	30	2	3	-	-
Pa	16	-	-	-	3,886	3,865	5	9	2	-	-	-
EN CENTRAL	45	8	28	2	14,505	16,449	28	53	3	2	1	-
Ohio	14	2	10	1	3,917	4,060	14	20	1	2	-	-
Ind	2	-	6	-	1,230	1,921	3	5	-	-	-	-
Ill	15	3	1	-	4,289	4,400	-	3	-	-	-	-
Mich	10	3	9	-	4,428	4,414	11	25	2	-	1	-
Wis	4	-	2	1	641	1,654	-	-	-	-	-	-
WN CENTRAL	10	4	5	-	5,766	5,188	7	22	3	-	-	-
Minn	2	1	-	-	803	727	-	1	1	-	-	-
Iowa	2	1	4	-	620	619	1	6	1	-	-	-
Mo	4	2	-	-	2,675	2,372	5	10	1	-	-	-
N Dak	-	-	-	-	34	54	-	-	-	-	-	-
S Dak	-	-	-	-	110	173	-	-	-	-	-	-
Nebr	-	-	-	-	506	376	1	5	-	-	-	-
Kans	2	-	-	-	1,018	867	-	-	-	-	-	-
S ATLANTIC	61	12	13	6	21,624	28,595	37	76	15	11	1	-
Del	1	-	1	-	462	494	1	-	1	-	1	-
Md	8	3	3	-	2,995	3,803	3	9	1	1	-	-
D C	11	-	-	-	1,844	1,986	-	-	-	-	-	-
Va	6	-	1	3	2,448	2,870	12	13	-	-	-	-
W Va	-	-	-	-	319	310	-	-	1	-	-	-
N C	7	3	7	-	4,205	4,563	1	5	1	1	-	-
S C	1	-	1	-	3,022	2,606	1	7	2	1	-	-
Ga	8	1	-	-	-	5,579	4	13	-	-	-	-
Fla	19	5	-	3	6,329	6,384	15	29	9	8	-	-
ES CENTRAL	8	-	3	3	8,828	9,552	3	13	2	1	-	-
Ky	3	-	1	-	972	1,172	1	2	-	1	-	-
Tenn	-	-	1	-	3,642	3,832	2	11	2	-	-	-
Ala	4	U	1	3	2,490	3,151	U	U	U	U	U	-
Miss	1	-	-	-	1,724	1,397	-	-	-	-	-	-
WS CENTRAL	38	9	5	-	15,499	15,598	29	26	2	31	-	-
Ark	-	-	-	-	1,496	1,332	-	-	-	-	-	-
La	1	4	-	-	3,396	3,682	-	2	1	-	-	-
Okla	-	1	3	-	1,581	1,759	3	1	-	-	-	-
Tex	37	4	2	-	9,026	8,825	26	23	1	31	-	-
MOUNTAIN	14	5	4	1	3,519	3,424	64	46	11	9	1	-
Mont	-	-	-	-	104	182	8	1	-	1	-	-
Idaho	-	-	-	-	119	136	5	2	1	-	-	-
Wyo	-	-	-	-	104	87	-	-	-	-	-	-
Colo	4	2	2	-	1,070	864	3	11	-	5	-	-
N Mex	2	-	-	-	443	438	17	2	-	-	1	-
Ariz	6	1	-	-	998	933	13	16	8	2	-	-
Utah	-	2	2	1	144	190	3	4	2	-	-	-
Nev	2	-	-	-	537	594	15	10	-	1	-	-
PACIFIC	171	1	21	1	13,278	16,714	26	14	5	-	-	11
Wash	7	1	1	-	987	1,130	5	1	3	-	-	-
Oreg	4	-	-	-	921	918	21	10	1	-	-	1
Calif	160	U	20	1	10,746	14,055	U	U	U	U	U	7
Alaska	-	-	-	-	387	362	-	2	-	-	-	-
Hawai	-	-	-	-	237	249	-	1	1	-	-	3
Guam	-	U	-	-	-	45	U	U	U	U	U	-
P R	9	2	1	-	594	462	-	1	-	3	-	-
VI	-	-	-	-	54	62	1	-	-	-	-	-
Pac Trust Terr	-	U	-	-	-	-	U	U	U	U	U	-

N Not notifiable

U Unavailable

**TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending February 16, 1985 and February 18, 1984 (7th Week)**

Reporting Area	Malaria Cum. 1985	Measles (Rubeola)					Menin- gococcal infections Cum. 1985	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total		1985	Cum. 1985	1985	Cum. 1985	Cum. 1984	1985	Cum. 1985	Cum. 1984
		1985	Cum. 1985	1985	Cum. 1985	Cum. 1984									
UNITED STATES	68	2	12	-	22	223	342	92	372	17	123	206	1	22	54
NEW ENGLAND	2	-	-	-	-	-	21	2	12	2	3	3	-	2	1
Maine	-	-	-	-	-	-	1	-	1	-	-	-	-	-	1
N.H.	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
Vt.	-	-	-	-	-	-	4	-	-	-	1	1	-	-	-
Mass.	1	-	-	-	-	-	4	1	9	1	1	1	-	1	-
R.I.	-	-	-	-	-	-	6	1	1	1	1	1	-	-	-
Conn.	1	-	-	-	-	-	6	-	1	-	-	-	-	-	-
MID ATLANTIC	11	1	1	-	1	3	40	8	61	3	21	16	1	6	-
Upstate N.Y.	4	-	-	-	1	-	12	3	43	3	8	8	-	1	-
N.Y. City	3	1	1	-	-	3	1	2	2	-	5	-	1	4	-
N.J.	-	-	-	-	-	-	13	-	5	-	-	-	-	1	-
Pa.	4	-	-	-	-	-	14	3	11	-	8	8	-	-	-
E.N. CENTRAL	5	1	7	-	-	144	71	59	153	3	25	47	-	4	5
Ohio	1	-	-	-	-	-	24	11	47	-	8	12	-	-	-
Ind.	-	-	-	-	-	-	9	1	7	-	11	20	-	-	-
Ill.	-	1	1	-	-	16	8	6	22	1	1	5	-	-	3
Mich.	4	-	-	-	-	128	23	41	59	1	2	4	-	4	1
Wis.	-	-	6	-	-	-	7	-	18	-	3	6	-	-	1
W.N. CENTRAL	1	-	-	-	-	-	21	1	7	5	11	45	-	1	4
Minn.	-	-	-	-	-	-	5	-	4	5	2	-	-	-	-
Iowa	-	-	-	-	-	-	3	-	1	1	3	-	-	-	-
Mo.	1	-	-	-	-	-	12	1	4	-	3	2	-	-	-
N. Dak.	-	-	-	-	-	-	1	-	-	-	2	-	-	-	1
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
Nebr.	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
Kans.	-	-	-	-	-	-	-	-	2	-	-	36	-	1	3
S. ATLANTIC	12	-	1	-	2	-	68	8	29	4	20	27	-	1	6
Del.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Md.	2	-	-	-	1	-	5	4	5	2	3	1	-	-	-
D.C.	1	-	-	-	1	-	3	-	-	-	-	-	-	-	-
Va.	2	-	-	-	-	-	8	-	6	1	1	5	-	-	-
W. Va.	1	-	-	-	-	-	3	2	8	-	-	3	-	-	-
N.C.	1	-	-	-	-	-	12	-	1	1	5	8	-	-	-
S.C.	-	-	-	-	-	-	10	-	1	-	1	1	-	1	-
Ga.	1	-	-	-	-	-	13	-	2	-	3	3	-	1	1
Fla.	4	-	1	-	-	-	13	2	6	-	8	6	-	-	5
E.S. CENTRAL	2	-	-	-	-	2	19	1	2	-	3	2	-	1	-
Ky.	-	-	-	-	-	-	2	-	-	-	1	1	-	1	-
Tenn.	-	-	-	-	-	2	10	-	1	-	1	1	-	-	-
Ala.	2	U	-	U	-	-	5	U	-	U	1	-	U	-	-
Miss.	-	-	-	-	-	-	2	1	1	-	-	-	-	-	-
W.S. CENTRAL	4	-	-	-	-	31	27	2	21	-	9	18	-	1	4
Ark.	-	-	-	-	-	-	3	-	1	-	5	9	-	1	1
La.	-	-	-	-	-	-	2	N	N	-	-	-	-	-	-
Okla.	-	-	-	-	-	-	4	N	N	-	4	3	-	-	-
Tex.	4	-	-	-	-	31	18	2	20	-	-	6	-	-	3
MOUNTAIN	2	-	-	-	8	23	20	11	39	-	4	30	-	-	3
Mont.	-	-	-	-	8	-	2	-	2	-	-	15	-	-	-
Idaho	-	-	-	-	-	-	-	-	2	-	-	1	-	-	1
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colo.	-	-	-	-	-	-	4	3	8	-	2	11	-	-	-
N. Mex.	2	-	-	-	-	3	4	N	N	-	1	2	-	-	-
Ariz.	-	-	-	-	-	-	5	7	23	-	1	-	-	-	-
Utah	-	-	-	-	-	20	4	1	2	-	-	1	-	-	2
Nev.	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-
PACIFIC	29	-	3	-	11	20	55	-	48	-	27	18	-	6	31
Wash.	4	-	-	-	-	5	7	-	2	-	2	6	-	-	-
Oreg.	1	-	-	-	-	-	5	N	N	-	4	4	-	-	-
Calif.	22	U	2	U	10	13	43	U	39	U	19	8	U	6	30
Alaska	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Hawaii	1	-	1	-	1	2	-	-	6	-	2	-	-	-	1
Guam	-	U	-	U	-	18	-	U	-	U	-	-	U	-	1
P.R.	-	-	20	-	-	-	14	1	25	-	1	-	-	4	1
V.I.	-	-	2	2	2	-	-	-	1	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

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

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

**TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending February 16, 1985 and February 18, 1984 (7th Week)**

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1985	Cum. 1984	1985	Cum. 1985	Cum. 1984	Cum. 1985	Cum. 1985	Cum. 1985	Cum. 1985
UNITED STATES	3,169	3,880	5	2,002	2,393	14	23	5+	401
NEW ENGLAND	69	90	1	80	71	-	3	-	-
Maine	2	1	-	2	4	-	-	-	-
N.H.	-	-	-	-	5	-	-	-	-
Vt.	-	-	-	-	2	-	-	-	-
Mass	38	59	1	49	33	-	2	-	-
R.I.	1	4	-	13	10	-	-	-	-
Conn	28	26	-	16	17	-	1	-	-
MID ATLANTIC	451	525	-	450	458	-	5	-	71
Upstate N.Y.	23	42	-	44	75	-	3	-	12
N.Y. City	297	294	-	258	177	-	-	-	-
N.J.	77	111	-	28	94	-	1	-	-
Pa.	54	78	-	120	112	-	1	-	59
E.N. CENTRAL	147	194	2	268	307	-	2	1	5
Ohio	12	35	2	52	78	-	1	1	1
Ind	10	29	-	33	32	-	1	-	-
Ill	83	81	-	114	114	-	-	-	1
Mich	35	34	-	53	67	-	-	-	-
Wis	7	15	-	16	16	-	-	-	3
W.N. CENTRAL	39	62	1	50	55	4	2	-	80
Minn	14	12	-	6	8	-	2	-	7
Iowa	7	5	-	14	9	-	-	-	31
Mo	10	37	-	18	22	3	-	-	5
N Dak	-	-	-	-	2	-	-	-	7
S Dak	1	-	-	2	1	-	-	-	25
Nebr	1	3	1	3	6	1	-	-	5
Kans	6	5	-	7	7	-	-	-	-
S ATLANTIC	841	1,180	1	393	539	3	5	2+	44
Del	4	1	-	3	7	-	-	-	-
Md	64	64	1	42	66	-	1	-	-
D.C.	41	37	-	22	10	-	-	-	-
Va	44	60	-	18	41	-	1	-	13
W.Va	-	5	-	13	18	-	-	-	-
N.C.	96	124	-	35	101	3	-	1	-
S.C.	113	119	-	51	78	-	-	1	4
Ga	-	204	-	52	63	-	-	-	15
Fla	479	566	-	157	155	-	3	-	12
E.S. CENTRAL	274	274	-	168	233	1	-	2	21
Ky	11	14	-	39	62	-	-	-	3
Tenn	73	61	-	42	77	1	-	1	2
Ala	108	91	U	66	79	-	-	1	16
Miss	82	108	-	21	15	-	-	-	-
W.S. CENTRAL	787	909	-	178	200	2	-	-	80
Ark	40	31	-	7	6	-	-	-	8
La	149	194	-	41	26	-	-	-	3
Okla	26	23	-	24	24	2	-	-	9
Tex	572	661	-	106	144	-	-	-	60
MOUNTAIN	106	74	-	34	36	3	-	-	53
Mont	1	-	-	5	1	-	-	-	25
Idaho	2	4	-	1	3	-	-	-	-
Wyo	3	1	-	1	-	-	-	-	2
Colo	25	10	-	-	-	-	-	-	-
N.Mex	7	8	-	4	9	1	-	-	1
Ariz	63	28	-	20	19	-	-	-	25
Utah	1	3	-	-	3	2	-	-	-
Nev	4	20	-	3	1	-	-	-	-
PACIFIC	455	572	-	381	494	1	6	-	47
Wash	12	25	-	7	22	-	-	-	-
Oreg	19	15	-	13	18	1	-	-	-
Calif	414	519	U	321	414	-	6	-	47
Alaska	-	-	-	18	8	-	-	-	-
Hawaii	10	13	-	22	32	-	-	-	-
Guam	-	-	U	-	2	-	-	-	-
P.R.	135	138	-	40	27	-	1	-	1
V.I.	-	2	-	-	-	-	-	-	-
Pac. Trust Terr.	-	-	U	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,\* week ending  
February 16, 1985 (7th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
<b>NEW ENGLAND</b>	828	579	182	28	17	22	91	<b>S. ATLANTIC</b>	1,465	955	336	112	27	34	87
Boston, Mass.	220	142	59	8	5	6	23	Atlanta, Ga.	154	105	26	15	6	2	4
Bridgeport, Conn.	54	40	10	2	1	4	1	Baltimore, Md.	260	178	57	16	3	6	7
Cambridge, Mass.	34	28	5	-	1	-	3	Charlotte, N.C.	116	68	29	13	3	3	14
Fall River, Mass.	38	29	9	-	-	-	2	Jacksonville, Fla.	138	95	27	8	4	4	13
Hartford, Conn.	71	51	13	2	3	2	9	Miami, Fla.	108	71	29	6	-	2	5
Lowell, Mass.	39	29	7	1	2	-	2	Norfolk, Va.	66	39	14	7	2	4	5
Lynn, Mass.	24	14	9	1	-	-	1	Richmond, Va.	88	49	22	9	5	3	5
New Bedford, Mass.	23	19	4	-	-	-	4	Savannah, Ga.	43	32	6	4	-	1	7
New Haven, Conn.	68	40	15	4	1	8	1	St. Petersburg, Fla.	138	117	15	4	1	1	9
Providence, R.I.	89	61	18	4	2	4	14	Tampa, Fla.	91	59	23	6	1	1	7
Somerville, Mass.	19	16	3	-	-	-	4	Washington, D.C.	216	114	75	19	1	7	10
Springfield, Mass.	37	29	4	4	-	-	7	Wilmington, Del.	47	28	13	5	1	-	1
Waterbury, Conn.	39	29	8	1	1	-	7	<b>E.S. CENTRAL</b>	954	698	152	46	26	32	59
Worcester, Mass.	73	52	18	1	1	1	11	Birmingham, Ala.	118	65	32	6	4	11	5
<b>MID ATLANTIC</b>	3,093	2,097	638	234	64	60	187	Chattanooga, Tenn.	45	33	8	2	1	1	5
Albany, N.Y.	65	45	15	1	3	1	2	Knoxville, Tenn.	86	58	21	5	2	-	7
Allentown, Pa.	20	12	8	-	-	-	2	Louisville, Ky.	150	105	35	6	2	2	12
Buffalo, N.Y.	99	71	22	5	-	1	10	Memphis, Tenn. ‡	240	217	2	6	7	8	16
Camden, N.J.	52	31	9	5	3	4	1	Mobile, Ala.	93	58	21	7	4	3	5
Elizabeth, N.J.	29	22	3	2	-	2	1	Montgomery, Ala. §	52	46	-	2	2	2	3
Erie, Pa. †	42	26	10	1	1	4	5	Nashville, Tenn.	170	116	33	12	4	5	6
Jersey City, N.J.	64	41	15	7	-	1	3	<b>W.S. CENTRAL</b>	1,333	856	290	102	37	48	92
N.Y. City, N.Y.	1,702	1,151	329	156	34	32	96	Austin, Tex.	73	53	12	5	-	3	6
Newark, N.J.	83	38	30	14	-	1	6	Baton Rouge, La.	47	25	18	2	-	2	2
Paterson, N.J.	20	11	6	2	-	1	4	Corpus Christi, Tex.	21	12	5	4	-	-	-
Philadelphia, Pa. †	390	265	91	16	9	9	16	Dallas, Tex.	252	143	79	15	7	8	10
Pittsburgh, Pa. †	81	50	25	5	-	1	5	El Paso, Tex.	80	53	19	4	1	3	7
Reading, Pa.	39	30	7	-	2	-	3	Fort Worth, Tex.	113	78	22	3	6	4	13
Rochester, N.Y.	129	98	23	4	2	2	10	Houston, Tex.	114	52	23	24	7	8	7
Schenectady, N.Y.	43	31	6	3	3	-	5	Little Rock, Ark.	85	60	17	5	1	2	13
Scranton, Pa. †	23	19	4	-	-	-	2	New Orleans, La.	151	96	35	11	5	4	8
Syracuse, N.Y.	122	89	19	10	3	1	11	San Antonio, Tex.	236	155	45	21	7	4	23
Trenton, N.J.	36	23	11	1	1	-	2	Shreveport, La. §	61	59	-	1	-	1	1
Utica, N.Y.	27	23	1	-	3	-	3	Tulsa, Okla.	100	70	15	7	3	5	10
Yonkers, N.Y.	27	21	4	2	-	-	3	<b>MOUNTAIN</b>	801	530	175	51	19	26	53
<b>E.N. CENTRAL</b>	2,441	1,761	402	141	58	78	136	Albuquerque, N.Mex.	108	69	28	8	2	1	8
Akron, Ohio	124	81	29	8	5	1	3	Colo. Springs, Colo.	38	28	6	2	1	1	7
Canton, Ohio	36	27	9	-	-	-	6	Denver, Colo.	123	79	25	10	3	6	9
Chicago, Ill. ‡	550	461	11	25	16	36	16	Las Vegas, Nev.	121	71	36	6	4	4	8
Cincinnati, Ohio	121	82	30	5	2	2	9	Ogden, Utah	24	20	2	1	1	-	4
Cleveland, Ohio	173	123	34	8	5	3	8	Phoenix, Ariz.	185	128	37	12	2	6	3
Columbus, Ohio	176	114	39	12	5	6	7	Pueblo, Colo.	24	12	9	-	2	1	1
Dayton, Ohio	132	86	33	10	2	1	13	Salt Lake City, Utah	51	31	10	4	1	5	3
Detroit, Mich.	268	165	59	32	5	7	7	Tucson, Ariz.	127	92	22	8	3	2	10
Evansville, Ind.	50	34	12	1	2	1	4	<b>PACIFIC</b>	2,193	1,666	320	101	49	53	180
Fort Wayne, Ind.	56	38	13	4	-	1	2	Berkeley, Calif.	23	20	1	1	-	1	3
Gary, Ind.	20	11	7	-	1	1	2	Fresno, Calif.	110	79	21	5	2	3	15
Grand Rapids, Mich.	42	28	9	3	1	1	5	Glendale, Calif. §	27	27	-	-	-	-	-
Indianapolis, Ind.	170	109	39	13	4	5	7	Honolulu, Hawaii	75	45	25	3	1	1	5
Madison, Wis.	51	35	10	5	-	1	6	Long Beach, Calif.	132	95	20	8	4	5	8
Milwaukee, Wis.	168	132	22	5	4	5	12	Los Angeles, Calif. §	525	488	6	3	15	9	20
Peoria, Ill.	45	30	8	2	2	3	3	Oakland, Calif.	94	70	13	9	2	-	8
Rockford, Ill.	56	46	9	1	-	-	11	Pasadena, Calif.	41	30	8	2	-	1	6
South Bend, Ind.	21	16	4	1	-	-	2	Portland, Oreg.	152	113	28	3	2	6	12
Toledo, Ohio	109	82	18	5	-	4	8	Sacramento, Calif.	147	94	37	9	1	6	14
Youngstown, Ohio	73	61	7	1	4	-	5	San Diego, Calif.	146	101	28	8	6	3	20
<b>W.N. CENTRAL</b>	858	625	145	44	19	25	59	San Francisco, Calif.	192	130	38	16	2	6	7
Des Moines, Iowa	72	56	7	7	-	2	7	San Jose, Calif.	208	146	36	16	4	6	29
Duluth, Minn.	31	22	5	1	3	-	1	Seattle, Wash.	157	118	21	10	6	2	11
Kansas City, Kans.	38	24	6	4	-	4	-	Spokane, Wash.	57	42	10	2	1	2	6
Kansas City, Mo.	110	70	26	7	4	3	11	Tacoma, Wash.	107	68	28	6	3	2	16
Lincoln, Nebr.	48	37	9	1	1	-	11	<b>TOTAL</b>	13,966	9,767	2,640	859	316	378	944
Minneapolis, Minn.	100	78	13	5	-	4	4								
Omaha, Nebr.	95	68	22	2	1	2	8								
St. Louis, Mo.	188	154	19	6	5	4	7								
St. Paul, Minn.	77	58	12	5	1	1	3								
Wichita, Kans.	99	58	26	6	4	5	7								

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

\*\* Pneumonia and influenza

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

‡ Total includes unknown ages

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

*Crimean-Congo Hemorrhagic Fever — Continued*

On admission, the patient was in a severe hemorrhagic state requiring rapid transfusion to maintain blood volume. He was transferred to an intensive-care unit, where hemorrhagic fever was suspected. Although the bleeding was controlled, the patient died of multiple organ failure on September 8. The diagnosis was confirmed by isolation of the CCHF virus from blood taken on September 4 and from liver tissue removed immediately after death. No antibodies were detected.

Patients 2, 3, and 4 were nurses who had cared for the index patient during his first few hours in the intensive-care unit and before the institution of isolation procedures. Five days after initial contact, they developed pyrexia, muscle pain, sore throat, conjunctivitis, and upper abdominal tenderness. Four days after the onset of symptoms, a bleeding tendency was noted, and their platelet counts fell dramatically.

Patients 5 and 6 were nurses who had no direct contact with the index patient but came in contact with contaminated material during the setting up of isolation procedures. Five days after this contact, they developed symptoms similar to those of patients 2, 3, and 4. Purpura and bleeding also began on the fourth day of illness.

CCHF was confirmed in patients 2-6 by isolation of the virus and a rising antibody titer.

Patient 7 was a 37-year-old surgeon who had had no known direct contact with the index patient but had visited the intensive-care unit before isolation. Headache and pyrexia began 5 days later, followed by severe thrombocytopenia and bleeding after an additional 5 days. CCHF was not initially suspected, but the virus was isolated from his blood. Despite intensive supportive measures, he died 8 days after onset of illness. As with patient 1, there was no antibody response.

Patient 8 was a senior member of the nursing staff who had contact with all the other CCHF patients. Her probable mode of infection was an unintentional needle prick while nursing patient 3. Prophylactic treatment with antibody-rich plasma, ribavirin, and interferon was begun, but she developed headache, weakness, jaundice, and elevated liver enzymes. Her illness was milder than those of the other patients, and she did not develop thrombocytopenia. Although the antibody titer rose during her illness, no virus was isolated.

Treatment was mainly supportive. Multiple platelet transfusions were essential to maintain hemostasis. Convalescent anti-CCHF plasma was administered to patients 2-5. Patients 2-6 did not develop major hemorrhages and were discharged 10-12 days after onset of symptoms.

The hospital is a 2,000-bed teaching hospital. The correct diagnosis was suspected 12 hours after admission and barrier nursing had begun on the index patient. Stringent isolation procedures, including use of protective clothing and goggles, were instituted 36 hours after admission. Laboratory confirmation of the diagnosis was received only 2 days after the patient died.

During the first 24 hours, numerous blood specimens were handled in various hospital laboratories without precautions. Fully equipped laboratories were later set up in the isolation area for blood cross-matching and hematologic and chemical investigations. Virologic studies were carried out in the high security (P4) laboratory of the National Institute of Virology in Johannesburg.

Altogether, 35 persons came in contact with the index patient while in the hospital, including students, technicians, and cleaning staff. Patient 8 was the only tertiary case, among the numerous contacts with patient 7.

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*Crimean-Congo Hemorrhagic Fever — Continued*

**Editorial Note:** CCHF was first reported in South Africa in 1981 (1). Subsequently, a number of cases have occurred (2), but secondary cases have not previously been reported in South Africa. CCHF has resulted in hospital epidemics in several other countries (3,4).

CCHF is caused by a Bunyavirus of the arbovirus group (5). Widespread occurrence of the antibodies in wild and domestic animals in South Africa has been documented (6). Transmission to humans is thought to be primarily via the *Hyalomma* genus of tick or contact with the blood of infected animals (6).

CCHF is being reported with increasing frequency from South Africa. Unlike previous South African cases, which have all been associated with exposure to ticks or livestock, the present outbreak was due to nosocomial spread of virus. Nosocomial infections with CCHF have occurred in other countries, including Iraq, the Soviet Union, and Pakistan (3,5,7). Contact with bloody secretions appeared to be the means of transmission in those outbreaks, although airborne transmission has been neither proven nor disproven (5). Similarly, in the South African outbreak, five of the six secondary cases and the tertiary case had direct contact with either a patient or contaminated material. Of particular interest is patient 7, the only secondary case to die, who had no known direct contact with a patient or with contaminated material. As in this outbreak, tertiary cases are often mild, perhaps because of a low infective dose or of attenuation of the virus after human passage (3).

Treatment of CCHF is mainly supportive. The role of prophylactic plasma, ribavirin, and interferon in reducing the severity of illness could not be evaluated in this situation. The four patients who received CCHF antibody-rich plasma had relatively mild disease. Although its efficacy is not firmly established, some reports suggest a beneficial role for plasma therapy, especially when administered early in the course of illness (5). Antiviral drugs, such as ribavirin, are of potential use in the treatment of CCHF, but they have yet to undergo clinical trials.

CCHF, as well as other viral hemorrhagic fevers, such as Ebola virus disease, Marburg virus disease, and Lassa fever, have the potential to spread in a hospital setting. Patients are often hospitalized with a severe illness, but the nonspecific nature of their signs and symptoms may not suggest a viral hemorrhagic fever (8). Furthermore, even simple isolation procedures, such as barrier nursing on open wards, can effectively halt transmission of these viruses (9). Thus, it is imperative that a diagnosis of a viral hemorrhagic fever be considered in any patient with an unknown febrile disease who either resides in or traveled to an endemic area within 3 weeks of the onset of symptoms. If other, more common causes of the fever, such as malaria or sepsis, can be reasonably excluded, measures for isolation of the patient should be taken immediately.

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*Current Trends*

**Update: Prospective Evaluation of Health-Care Workers  
Exposed via the Parenteral or Mucous-Membrane Route  
to Blood or Body Fluids from Patients  
with Acquired Immunodeficiency Syndrome — United States**

On August 15, 1983, CDC initiated prospective surveillance of health-care workers (HCWs) with documented parenteral or mucous-membrane exposure to potentially infectious body fluids from patients with definite or suspected acquired immunodeficiency syndrome (AIDS). As of December 31, 1984, 361 HCWs with such exposures were enrolled in CDC's surveillance registry under the auspices of participating hospitals, other health-care institutions, and state and local health departments in the United States. Each enrolled HCW is followed for 3 years with a semiannual interview, physical examination, and blood specimen collection. None of the HCWs have developed signs or symptoms suggestive of AIDS; 143 (40%) have now been followed for 12 months or longer.

Exposed HCWs have been reported from 33 states and the District of Columbia. Fifty-nine percent of the HCWs were reported from six states: New York (61), California (39), New Jersey (36), Pennsylvania (28), Florida (25), and Texas (23). As of December 31, 1984, the length of follow-up of HCWs ranged from 1 month to 45 months (mean 11 months; median 10 months). Two hundred eight (58%) HCWs were nurses; 66 (18%), physicians or medical students; 31 (9%), laboratory workers; 26 (7%), phlebotomists; 15 (4%), respiratory therapists; and the remaining 15 (4%) had less direct patient contact. Eighty-five percent were white, and 78% were female. Ages ranged from 18 years to 62 years (mean 33 years).

The majority of exposures occurred in direct patient-care areas; 187 (52%) occurred in patients' rooms or on the wards: 99 (27%), in intensive-care units; and seven (2%), in emergency clinics. Thirty-two (9%) incidents took place in laboratories, and 36 (10%) occurred in operating or procedure rooms and morgues. The types of exposures were: needlestick injuries (68%); mucosal exposures (13%); cuts with sharp instruments (10%); and contamination of open skin lesions with potentially infected body fluids (9%). Eighty-eight percent of the exposures were to blood or serum; 6%, to saliva; 2%, to urine; and the remaining 4%, to other body fluids or unknown sources. Postexposure care varied considerably. Forty-eight percent of exposed HCWs received either no specific treatment or local wound care only, while 35% received immune globulin either alone or in combination with other treatment.

Complete epidemiologic data have been collected on 226 of the patients to whom these HCWs were exposed. Two hundred nine (92%) were AIDS patients meeting the CDC surveillance definition, and 17 (8%) were suspected AIDS cases. Two hundred three (97%) of the 209 AIDS patients were in an identified risk group for acquiring AIDS. The distribution of the AIDS cases by disease category included: *Pneumocystis carinii* pneumonia (PCP), 62%; Kaposi's sarcoma (KS), 12%; both KS and PCP, 5%; and other opportunistic infections, 21%.

*AIDS - Continued*

Tests for T-cell subsets have been performed at CDC on blood specimens from 269 (75%) of the exposed HCWs. The mean T-helper/T-suppressor (Th/Ts) ratio for the initial whole blood sample from these HCWs was 2.2 with a range of 0.4-5.4 (normal range 1.0-3.9). One hundred eighty-three (68%) of these initial blood specimens were obtained within 180 days from the dates of exposures. Six-month and 12-month follow-up Th/Ts ratios were performed on 69 and six of these 269 HCWs, respectively. All Th/Ts ratios on follow-up specimens were within the normal range, including those from nine HCWs whose initial ratios were less than 1.0.

Serologic testing using the enzyme-linked immunosorbent assay (1) and the Western blot technique (2) for antibody to the human T-lymphotropic virus type III (HTLV-III) has been done, with specific informed consent, on 40 HCWs enrolled in the surveillance system. The mean duration between the date of exposure and the latest serum sample tested was 10.5 months (range 0-29 months; median 8.5 months). The types of exposures included: needlestick injuries (29), cuts with sharp objects (five), mucosal exposures (five), and contamination of open skin lesions (five). None of the HCWs tested were HTLV-III-antibody positive. However, with a sample size of 40, the upper limit of the 95% confidence intervals for this incidence of seropositivity (0%) is 7%.

*Reported by Acquired Immunodeficiency Syndrome Needlestick Surveillance Cooperative Group; Immunization Div, Center for Prevention Svcs, Div of Host Factors, Div of Viral Diseases, Hospital Infections Program, Center for Infectious Diseases, CDC.*

**Editorial Note:** Because HTLV-III can be transmitted among intravenous drug abusers by sharing needles and through transfusion of blood and blood products, there is concern that HTLV-III could be transmitted to HCWs by unintentional needlestick or other parenteral or mucous-membrane exposures. A recent report describes an HCW in England who is believed to have developed HTLV-III antibody following parenteral exposure to the blood of an AIDS patient (3). The HCW reportedly had none of the recognized risk factors for AIDS and remains asymptomatic.

To date, there are no reported cases of AIDS among HCWs in the United States that can be linked to a specific occupational exposure. Of the 8,218 AIDS patients reported to CDC as of February 11, 1985, 278 (3%) have been HCWs. All but 24 (9%) of these HCWs belong to known AIDS risk groups. Epidemiologic investigations have been completed on 17 of these 24 HCWs; four are currently under investigation, and three died before investigations were completed. In six of the 17 completed investigations, nonoccupational exposures were the most likely sources of infection. No known risk factors for infection were identified in the remaining 11 patients; however, specific occupational exposures to definite or suspected AIDS patients could not be documented.

In December 1984, CDC began testing sera from HCWs enrolled in the surveillance system for antibody to HTLV-III. Testing was performed only with the specific informed consent of enrolled personnel and the agreement of cooperating investigators. Initial results from this analysis and from other similar investigations (4) suggest the risk of transmission of HTLV-III infection from AIDS patients to HCWs may be very small. Thus, to accurately determine the true risk of transmission of HTLV-III from AIDS patients to HCWs, large cohorts of exposed HCWs must be studied. Additional studies with larger cohorts of HCWs are in progress, and CDC will continue immunologic and serologic testing of HCWs from whom institutional investigators have obtained informed consent.

Studies of seroprevalence of HTLV-III among exposed HCWs are of great value from an epidemiologic perspective. However, serologic testing of asymptomatic HCWs for HTLV-III antibody should be done only with informed consent, and a mechanism should exist for transmitting the test results to the HCW in an appropriate manner. The U.S. Public Health Service

### *AIDS – Continued*

has developed specific recommendations for individuals, within or outside known risk groups for AIDS, who test positive for HTLV-III antibody (5-7). Health-care professionals should become familiar with and consider these recommendations when serologic testing of asymptomatic HCWs for HTLV-III antibody is contemplated.

Until additional data are available, HCWs should continue to follow previously published precautions when caring for persons with definite or suspected AIDS or when handling specimens from these patients (8,9).

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### *Notice to Readers*

#### **Diphtheria-Tetanus-Pertussis Vaccine Shortage**

On February 12, 1985, the American Academy of Pediatrics hosted a meeting to discuss ways of dealing with the current shortage of diphtheria-tetanus-pertussis (DTP) vaccine. The meeting was attended by representatives of the American Medical Association; American Academy of Family Practice; the vaccine manufacturer; state, county, and city health officials; the U.S. Department of Defense; and the U.S. Department of Health and Human Services.

Available information indicates that, overall, state health departments have approximately 2.3 months' supply of DTP vaccine on hand, but this vaccine is not uniformly distributed, with 18 states having supplies on hand of 1 month or less. Because of close inventory monitoring and prudent use of DTP reserves held by the manufacturer, vaccine has remained available in the public sector to date.

A survey conducted by eight different state health departments of 583 physicians indicated approximately one-third had had difficulties in obtaining DTP vaccine, and approximately one-half were following the current recommendations to defer the DTP doses for 18-month-old and 4- to 6-year-old children. In four states, where inventory estimates were made, physicians' current inventories ranged from 1.9 to 2.9 months' supply.

Lederle Laboratories reported the release for distribution of one DTP vaccine lot on February 12. This lot, about 35,000 vials (525,000 doses), has been divided among the company's

**DTP Vaccine – Continued**

five regional distribution centers located in Los Angeles, California; Atlanta, Georgia; Chicago, Illinois; Philadelphia, Pennsylvania; and Dallas, Texas. This vaccine is being distributed to health-care providers now.

Because currently available supplies of DTP vaccine are limited, the manufacturer is carefully coordinating the distribution of vaccine to both public and private health-care providers. Following extensive discussions, the group reached the following conclusions and recommendations:

1. Current information indicates that adequate supplies of DTP vaccine should become available in mid- or late 1985.
2. Until adequate supplies become available, it is important to continue the currently recommended practice of deferring the DTP vaccine doses for 18-month-old and 4- to 6-year-old children to assure that the initial three-dose immunization schedule for infants is met.
3. Practitioners should not administer partial doses of DTP vaccine in an effort to make the vaccine go further, since the degree of protection afforded by such partial doses is not certain.
4. Diphtheria-tetanus vaccine should not be substituted in the routine DTP vaccine schedule for 18-month-old and 4- to 6-year-old children.
5. It is important for practitioners to establish recall systems to ensure that children whose doses are deferred are recalled for the DTP vaccine they need once supplies become available.
6. Because some children will have their 18-month or "preschool dose" of DTP vaccine deferred this spring and summer, it may be necessary for day-care centers or school systems to allow provisional enrollment of such children until they can receive the needed doses.
7. As soon as adequate supplies become available, the Academy of Pediatrics and the U.S. Public Health Service will notify physicians so they can again resume the full DTP immunization schedule and recall those who need additional doses.

*Reported by U.S. Public Health Service Interagency Group to Monitor Vaccine Development, Production, and Usage.*

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