CENTERS FOR DISEASE CONTROL

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

March 13, 1987 / Vol. 36 / No. 9

International Notes

Survey of Non-U.S. Hemophilia Treatment Centers for HIV Seroconversions Following Therapy With Heat-Treated Factor Concentrates

Until 3 years ago, non-heat-treated factor concentrates were used in treating congenital and acquired clotting factor deficiencies. At that time, heat-treated factor concentrates were introduced because the unheated concentrates had been epidemiologically linked with the exposure of large numbers of U.S. hemophilia patients to the human immunodeficiency virus (HIV) (*1*). There have now been a few reports of HIV seroconversion associated with heat-treated factor concentrates (*2,3*). Because several hemophilia treatment centers (HTCs) outside the United States began using heat-treated factor concentrates somewhat earlier, a sample of major non-U.S. HTCs identified by the U.S. National Hemophilia Foundation were contacted during November and December 1986 and asked to help estimate the continued risk of seroconversion among their patients deficient in factor VIII and factor IX. Patients with von Willebrand's disease and other clotting factor deficiencies were not included.

The directors of 13 HTCs located in western Europe, Canada, and Australia were asked to provide information concerning: 1) HIV antibody seroprevalence rates within their patient populations; 2) whether they were using, and when they had begun to use, heat-treated factor concentrate products (*4-6*); and 3) details regarding any HIV seroconversions occurring among their patients while receiving heat-treated factor concentrates. Most HTCs monitor the serologic status of their seronegative hemophilia A and B patients at approximately 3-month intervals and were confident of all these patients' serologic status as of late July 1986. Of the combined total of 2,370 hemophilia A patients and 434 hemophilia B patients served by the HTCs in this survey, over 1,300 were still seronegative when heat-treated factor concentrates became available. Approximately 50% of the seronegative patients were classified as severely deficient in factor VIII or factor IX; the remainder had either moderate or mild hemophilia*.

*Severity is defined on the basis of percent of normal factor activity: severe, < 1% of normal; moderate, 2-5% of normal; mild, > 5% of normal.

HIV Seroconversions — Continued

Of the 23 patients who had their first documented positive HIV antibody test after receiving heat-treated factor concentrate, 16 seroconverted within 6 months of last receiving untreated factor concentrates. The remaining seven individuals fell into three groups (Table 1). Group 1: Two patients were first found to be seropositive more than 6 months after starting to use heat-treated factor concentrate products (at 7 and 10 months, respectively). However, for both of these patients, the last seronegative test had taken place several months before their last treatment with unheated factor concentrates. Group 2: Two patients who were seronegative within the initial 6 months of heat-treated factor concentrate therapy (at 3 and 5 months, respectively) were not tested again until after the initial 6 months (at 8 and 10 months, respectively), at which time they were seropositive. Group 3: Three pediatric patients were seronegative at 8, 12, and 16 months after first receiving heat-treated factor VIII concentrate but had their first of many consistently seropositive tests at 10, 13, and 22 months after treatment, respectively.

The patients in Group 3 had no reported risk factors for HIV infection other than hemophilia and reportedly had received no other blood components during this time period. All three pediatric patients were severely deficient in factor VIII. One child, a 6-year-old, had received vials from four lots in the 10-month interim before seroconversion. He is presently asymptomatic and his reported T-cell values are normal; no HIV cultures have been attempted. The other two children, aged 4 and 13, had received large amounts of heat-treated factor VIII concentrates for extended periods either as therapy for an inhibitor or as routine care. The 4-year-old was found to be HIV culture positive in 1986 and now has AIDS. The 13-year-old had severe T-cell abnormalities by mid-1986 and now has lymphadenopathy and encephalopathy.

The many lots of concentrate received by each of the three patients in Group 3 had come from three different U.S. manufacturers. The plasma used by each of the U.S. manufacturers was collected before serologic screening of donors for HIV antibody became available. In addition, during the first 5 months of the 13-month interval before seroconversion, one of the three patients had also received extremely large amounts of heat-treated factor VIII concentrate prepared by a European manufacturer using a wet-heat process. The manufacturer had used unscreened plasma from U.S. donors.

The three patients who seroconverted (Group 3) represent 0.7% of the total 450 initially seronegative hemophilia A patients and 0.2% of the total 1,300 patients who were serologically monitored for >1 year after beginning to use unscreened, heat-treated factor. Since

TABLE 1. Distribution of patients in surveyed non-U.S. hemophilia treatment centers, by interval between therapy with heat-treated factor concentrates and HIV seroconversion

Last seronegative test	First seropositive test after initial 6 months
Preceding heat-treated factor usage	2
During initial 6 months of heat-treated factor usage	2
After initial 6 months of heat-treated factor usage	3

HIV Seroconversions — Continued

November 1985, no seroconversions have been observed among the patients included in the survey.

Although information on the transition to using unscreened, heat-treated factor in each HTC is readily available, the dates of subsequent transition to using donor-screened, heat-treated factor concentrate products by each HTC are not. One HTC reported beginning to use donor-screened, heat-treated factor therapy in August 1985; however, for most HTCs, this transition occurred between February and July 1986. No cases of seroconversion following the use of donor-screened, heat-treated products were identified through this survey.

Four percent (50) of the 1,300 seronegative patients in this survey were followed for >1 year while receiving donor-screened, heat-treated factor concentrates. Follow-up on the remainder is approaching 1 year. In early March 1987, supplemental information was obtained from eight of the 13 HTCs. These eight HTCs collectively have 60% of the seronegative patients; no further seroconversions have been found. Although over 600 patient-years of therapy with donor-screened product have elapsed without a recognized HIV seroconversion, the risk associated with unscreened, heat-treated product is so low that several more months of surveillance will be required before a statistically significantly further reduction of risk can be substantiated.

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Editorial Note: Earlier published reports disclosed no seroconversions among selected hemophilia patients followed for up to 1 year after beginning therapy with heat-treated factor concentrates (*7-10*). However, during the past 12 months, published (*2,3*) and unpublished reports (personal communication, I Walker, MD, Hamilton, Ontario, Canada; FG Hill, MD, MRC Path, Birmingham, United Kingdom; G Mariani, MD, Rome, Italy) have described several hemophilia patients who had seroconverted after receipt of unscreened, heat-treated factor concentrates. In June 1986, one U.S. manufacturer (Armour Pharmaceutical Company) offered to exchange any remaining heat-treated factor VIII concentrates produced from plasma collected before the availability of a test for HIV antibody with the equivalent amount of antibody-screened product. Similar exchanges are now available through four other U.S. producers (Alpha Therapeutics, American Red Cross, Cutter Laboratories, Hyland Therapeutics).

The influence of previous exposure to allogeneic proteins and other infectious agents as well as the HIV inoculum size and differences in inoculum strain may alter the seroconversion intervals among hemophilia patients. For this reason, it is currently uncertain whether anecdotal reports that seroconversion in other risk groups occurs within 8 to 12 weeks after exposure can be generalized to hemophilia patients (*11*). One study suggests that the vast majority of hemophilia seroconversions would be detectable ≤26 weeks (*12*). The distribution of seroconversion latency periods for hemophilia patients is not yet known. Therefore, it is uncertain whether any of the three seroconversions in persons with a documented seronegative test ≥6 months after beginning to use only heat-treated factor concentrates could be associated with the former source of exposure.

No cases of seroconversion among patients using only donor-screened, heat-treated products have been reported to date. With the exception of the HTC surveyed in Australia, less than a year has elapsed since most of the HTCs surveyed began administering donor-

HIV Seroconversions — Continued

screened, heat-treated factor concentrates. Further longitudinal studies by several of the HTCs in this survey may substantiate the additional margin of safety provided by screening donated plasma for HIV antibody. Donor-screened, heat-treated factor concentrates remain the recommended therapy for patients requiring factor replacement.

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Epidemiologic Notes and Reports

Unintentional Ingestions of Prescription Drugs in Children Under Five Years Old

In 1985, the American Association of Poison Control Centers (AAPCC) received more than 60,000 reports of unintentional prescription drug ingestions involving children under the age of five (Consumer Product Safety Commission [CPSC], unpublished data). In addressing this problem, the CPSC initiated a study of the circumstances surrounding oral prescription drug ingestions by children under 5 years of age and of the efficacy of the closures used on the containers involved.

A non-random sample of oral prescription drug ingestions by children was obtained from reports received from February to May 1986 by nine poison control centers representing

Prescription Drugs — Continued

each of the U.S. Census regions*. Incidents were eligible for the study if the ingestion had been unintentional and had involved a child under 5 years of age. Incidents were excluded if they involved dosing errors or ingestion of veterinary drugs, non-oral prescription drugs, or over-the-counter medications, even if dispensed by prescription. Each center completed 225 investigations. The sample group represented 90% of the eligible reports for the time period.

Trained interviewers administered a telephone questionnaire to parents or other adults present when the ingestion took place. The data collected included 1) the age and sex of the child, 2) the demographics of the child's household, 3) the type of container, 4) who the medicine belonged to and how that person was related to the child, 5) where the child found the medicine, and 6) where the child was when the medicine was consumed. The respondents were also asked to mail the containers to the CPSC so the closures could be examined. Exposures to 1,982 drugs involving 2,015 children met the study criteria.

Seventy-six percent of the ingestions involved children from 1½ to 3½ years of age; 9% were < 1 year or > 4 years old (Table 2). Fifty-six percent of the children were male. The ingested drugs were more frequently owned by female, non-sibling relatives (mother, grandmother, great grandmother, aunt, or cousin) (44%) than by male, non-sibling relatives (12%). Grandparents' medications accounted for a substantial number of episodes (17%).

Of the 382 containers CPSC received for testing, 80% were child-resistant (Table 3). During follow-up telephone interviews, respondents who had not sent in the containers in-

*Shreveport, Louisiana; Detroit, Michigan; Pittsburgh, Pennsylvania; Louisville, Kentucky; Minneapolis, Minnesota; District of Columbia; San Diego, California; Boston, Massachusetts; and Salt Lake City, Utah.

TABLE 2. Age and sex of children < 5 years of age involved in unintentional ingestions of oral prescription drugs, Consumer Product Safety Commission study, 1986

Age	Sex		Total	Percent
	Males	Females		
< 6 months	1	3	4	0
6 months-< 1 year	19	16	35	2
1 year-< 1½ years	80	71	151	7
1½ years-< 2 years	199	167	366	18
2 years-< 2½ years	282	221	503	25
2½ years-< 3 years	197	157	354	18
3 years-< 3½ years	190	113	303	15
3½ years-< 4 years	84	73	157	8
4 years-< 4½ years	51	38	89	4
4½ years-< 5 years	30	23	53	3
Total	**1,133**	**882**	**2,015**	**100**

TABLE 3. Results of tests of 306 child-resistant containers involved in unintentional ingestions of oral prescription drugs, Consumer Product Safety Commission study, 1986

Type of closure	Number received	Not effective/functional (Percent)
Continuous-thread	229	69
Lug	73	52
Snap	4	75

Prescription Drugs — Continued

volved were asked to examine them; 76% of these had child-resistant closures. Sixty-seven percent of respondents who had to base their descriptions on recollection alone reported that the containers had child-resistant closures. Tests proved that 200 (65%) of the 306 child-resistant containers received were ineffective.

Two types of child-resistant containers were commonly used. Two hundred and twenty-nine containers used for liquid medications had continuous-thread closures. Sixty-nine percent of these were ineffective; 87% of these failures were associated with a buildup of liquid residue on the threads. Wear of the closure mechanism had caused failure in 52% of the 73 lug-type containers†.

In 65% of the cases, the medication was in the original container when the ingestion occurred. Problems not related to failure of the child-resistant closure included 1) not resecuring the closure in a child-resistant manner (18% of the incidents), 2) not keeping medicines in any container (i.e., loose), and 3) keeping medicine in some container other than the original

†The majority of the containers received by CPSC were screw-type closures operated by "push and turn" or similar action.

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

Disease	9th Week Ending			Cumulative, 9th Week Ending		
	Mar. 7, 1987	Mar. 1, 1986	Median 1982-1986	Mar. 7, 1987	Mar. 1, 1986	Median 1982-1986
Acquired Immunodeficiency Syndrome (AIDS)	136	131	N	3,229	1,889	N
Aseptic meningitis	79	74	74	746	734	734
Encephalitis: Primary (arthropod-borne & unspec.)	12	16	16	119	149	145
Post-infectious	-	2	2	4	11	11
Gonorrhea: Civilian	15,332	17,018	17,018	142,631	144,048	144,048
Military	271	221	583	2,885	2,612	3,798
Hepatitis: Type A	399	541	486	3,910	3,929	3,929
Type B	506	584	438	3,923	3,982	3,918
Non A, Non B	53	74	N	444	517	N
Unspecified	56	134	134	579	897	897
Legionellosis	12	11	N	99	99	N
Leprosy	3	7	7	40	39	39
Malaria	21	11	11	116	106	111
Measles: Total*	59	59	60	275	541	172
Indigenous	52	55	N	213	523	N
Imported	7	3	N	62	17	N
Meningococcal infections: Total	84	85	77	620	550	550
Civilian	84	84	77	619	549	549
Military	-	1	-	1	1	1
Mumps	254	74	93	2,567	480	607
Pertussis	33	41	41	299	366	277
Rubella (German measles)	4	20	20	35	76	85
Syphilis (Primary & Secondary): Civilian	820	606	568	5,709	4,439	4,942
Military	-	7	5	43	39	57
Toxic Shock syndrome	4	7	N	47	44	N
Tuberculosis	427	462	462	2,931	2,941	3,100
Tularemia	2	-	3	14	10	16
Typhoid fever	1	2	4	28	35	56
Typhus fever, tick-borne (RMSF)	-	1	-	7	8	8
Rabies, animal	53	121	91	554	728	728

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1987		Cum 1987
Anthrax	-	Leptospirosis (La. 1; Hawaii 1)	6
Botulism: Foodborne (Ky. 1)	1	Plague	1
Infant (Tenn. 1; Calif. 1)	9	Poliomyelitis, Paralytic	-
Other	-	Psittacosis	9
Brucellosis (Tex. 1)	11	Rabies, human	-
Cholera	-	Tetanus (Ohio 1)	4
Congenital rubella syndrome (Utah 1)	1	Trichinosis	10
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine) (Pa. 2; S.C. 1)	4
Diphtheria (Calif. 1)	2		

*Seven of the 59 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending March 7, 1987 and March 1, 1986 (9th Week)

Reporting Area	AIDS	Aseptic Menin-gitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel-losis	Leprosy
			Primary	Post-in-fectious			A	B	NA,NB	Unspeci-fied		
	Cum 1987	1987	Cum 1987	Cum 1987	Cum 1987	Cum 1986	1987	1987	1987	1987	1987	Cum 1987
UNITED STATES	3,229	79	119	4	142,631	144,048	399	506	53	56	12	40
NEW ENGLAND	131	3	8	1	5,183	3,259	6	54	2	2	-	1
Maine	7	-	-	-	173	149	-	2	-	-	-	-
N H	4	-	-	-	76	103	-	-	-	-	-	-
Vt	2	2	2	-	32	53	1	-	1	-	-	-
Mass	66	1	3	-	1,927	1,417	5	35	1	2	-	1
R I	14	-	2	1	417	283	-	2	-	-	-	-
Conn	38	-	1	-	2,558	1,254	-	15	-	-	-	-
MID ATLANTIC	1,192	9	16	-	23,605	23,819	8	50	2	3	-	-
Upstate N Y	360	2	7	-	2,767	2,742	3	13	-	-	-	-
N Y City	600	7	3	-	13,348	14,322	1	16	-	3	-	-
N J	173	-	1	-	2,656	2,520	4	21	2	-	-	-
Pa	59	-	5	-	4,834	4,235	-	-	-	-	-	-
E N CENTRAL	158	6	33	-	15,761	20,621	32	69	4	4	7	1
Ohio	24	3	20	-	4,330	5,015	7	19	1	-	4	1
Ind	23	-	1	-	1,526	2,110	1	9	-	1	-	-
Ill	56	-	2	-	2,098	4,993	3	6	1	1	-	-
Mich	34	3	10	-	6,357	6,167	21	35	2	2	3	-
Wis	21	-	-	-	1,450	2,336	-	-	-	-	-	-
W N CENTRAL	83	10	3	-	5,976	6,444	13	21	3	1	-	-
Minn	18	4	1	-	972	935	6	6	1	-	-	-
Iowa	2	1	-	-	580	666	1	-	1	-	-	-
Mo	49	3	-	-	3,034	3,111	4	14	1	1	-	-
N Dak	-	-	-	-	69	68	-	-	-	-	-	-
S Dak	-	2	-	-	126	105	-	-	-	-	-	-
Nebr	4	-	2	-	364	396	2	1	-	-	-	-
Kans	10	-	-	-	831	1,163	-	-	-	-	-	-
S ATLANTIC	506	20	22	1	37,555	35,603	37	90	10	9	3	1
Del	6	-	1	-	548	596	-	1	-	-	-	-
Md	92	1	1	-	4,012	4,098	11	14	-	2	-	1
D C	70	1	-	-	2,325	2,699	2	1	-	-	-	-
Va	28	3	10	1	3,083	3,097	11	5	3	-	-	-
W Va	2	2	4	-	278	385	1	3	-	-	-	-
N C	27	2	5	-	5,625	4,963	1	17	4	2	2	-
S C	8	-	-	-	3,664	3,346	-	8	1	1	-	-
Ga	70	1	-	-	6,485	6,682	4	22	-	1	1	-
Fla	203	10	1	-	11,535	9,737	7	19	2	3	-	-
E S CENTRAL	11	1	6	2	10,643	12,120	10	29	3	-	-	-
Ky	4	1	2	1	1,076	1,447	2	4	1	-	-	-
Tenn	-	-	2	-	3,665	4,822	2	12	1	-	-	-
Ala	3	-	2	-	3,484	3,255	5	9	1	-	-	-
Miss	4	-	-	1	2,418	2,596	1	4	-	-	-	-
W S CENTRAL	342	7	10	-	16,660	17,781	35	28	7	7	-	4
Ark	8	-	-	-	1,636	1,576	2	1	-	-	-	-
La	53	-	2	-	3,659	3,062	-	8	1	-	-	-
Okla	11	2	3	-	1,755	2,068	5	1	1	-	-	-
Tex	270	5	5	-	9,610	11,075	28	18	5	7	-	4
MOUNTAIN	86	1	5	-	3,799	3,991	20	14	-	4	1	-
Mont	1	-	-	-	85	112	1	-	-	-	-	-
Idaho	1	-	-	-	136	122	1	3	-	1	-	-
Wyo	2	-	-	-	61	93	1	2	-	-	-	-
Colo	43	1	1	-	788	1,122	4	1	-	3	-	-
N Mex	10	-	1	-	424	480	9	4	-	-	1	-
Ariz	13	-	3	-	1,363	1,015	-	-	-	-	-	-
Utah	6	-	-	-	161	194	1	1	-	-	-	-
Nev	10	-	-	-	781	853	3	3	-	-	-	-
PACIFIC	720	22	16	-	23,449	20,410	238	151	22	26	1	33
Wash	30	-	3	-	1,454	1,714	7	6	6	4	-	2
Oreg	12	-	-	-	797	774	19	22	1	-	-	-
Calif	661	19	13	-	20,577	17,095	210	115	14	22	1	29
Alaska	3	-	-	-	409	620	2	6	1	-	-	-
Hawaii	14	3	-	-	212	207	-	2	-	-	-	2
Guam	-	-	-	-	43	5	-	-	-	-	-	-
P R	-	2	-	-	439	380	1	3	-	1	-	-
V I	-	-	-	-	38	38	-	-	-	-	-	-
Pac Trust Terr	-	-	-	-	66	3	3	-	-	-	-	5
Amer Samoa	-	-	-	-	23	5	3	-	-	-	-	-

N Not notifiable U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending March 7, 1987 and March 1, 1986 (9th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986
UNITED STATES	116	52	213	7	62	541	620	254	2,567	33	299	366	4	35	76
NEW ENGLAND	9	-	1	-	5	8	61	1	9	1	6	26	-	-	1
Maine	-	-	-	-	-	-	4	-	-	-	-	2	-	-	-
N.H.	-	-	-	-	-	-	7	-	6	-	1	9	-	-	1
Vt.	-	-	1	-	5	-	5	-	1	-	1	1	-	-	-
Mass.	4	-	-	-	-	8	30	1	1	1	3	8	-	-	-
R.I.	4	-	-	-	-	-	7	-	-	-	-	1	-	-	-
Conn.	1	-	-	-	-	-	8	-	1	-	1	5	-	-	-
MID. ATLANTIC	7	11	39	4	28	181	47	3	44	1	32	57	-	-	18
Upstate N.Y.	3	3	4	-	8	2	28	1	14	1	23	36	-	-	12
N.Y. City	1	8	35	4 †	4	16	3	-	-	-	-	3	-	-	5
N.J.	1	-	-	-	1	163	-	1	14	-	1	5	-	-	1
Pa.	2	-	-	-	15	-	16	1	16	-	8	13	-	-	-
E.N. CENTRAL	2	2	26	-	4	131	82	139	1,732	3	41	97	-	5	4
Ohio	2	-	-	-	4	-	34	-	32	-	19	38	-	-	-
Ind.	-	-	-	-	-	-	11	53	211	-	-	9	-	-	-
Ill.	-	2	4	-	-	72	4	76	1,002	2	3	16	-	4	1
Mich.	-	-	22	-	-	-	29	10	279	1	10	9	-	1	2
Wis.	-	-	-	-	-	58	4	-	208	-	9	25	-	-	1
W.N. CENTRAL	4	-	-	1	1	47	35	40	155	2	23	25	-	-	4
Minn.	3	-	-	-	-	-	10	18	68	1	3	12	-	-	-
Iowa	-	-	-	-	-	-	2	19	58	-	2	2	-	-	-
Mo.	1	-	-	1 †	1	-	10	1	4	1	10	2	-	-	1
N. Dak.	-	-	-	-	-	-	1	-	-	-	1	2	-	-	-
S. Dak.	-	-	-	-	-	-	1	2	10	-	1	-	-	-	-
Nebr.	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-
Kans.	-	-	-	-	-	47	10	-	15	-	6	6	-	-	3
S. ATLANTIC	17	-	-	-	-	55	119	5	25	10	76	69	-	2	1
Del.	1	-	-	-	-	-	3	-	-	-	-	2	-	-	-
Md.	3	-	-	-	-	1	13	1	6	-	-	17	-	-	-
D.C.	3	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Va.	3	-	-	-	-	-	25	1	1	7	27	6	-	-	-
W. Va.	-	-	-	-	-	-	-	-	6	-	19	-	-	-	-
N.C.	3	-	-	-	-	-	13	-	2	3	25	10	-	-	-
S.C.	-	-	-	-	-	43	8	1	1	-	-	2	-	-	-
Ga.	2	-	-	-	-	-	25	-	1	-	4	25	-	-	-
Fla.	2	-	-	-	-	11	30	2	8	-	1	7	-	2	1
E.S. CENTRAL	1	-	-	-	-	-	33	21	395	1	6	11	-	2	1
Ky.	-	-	-	-	-	-	5	-	101	-	1	1	-	2	1
Tenn.	-	-	-	-	-	-	14	21	293	-	-	2	-	-	-
Ala.	-	-	-	-	-	-	10	-	1	1	3	8	-	-	-
Miss.	1	-	-	-	-	-	4	-	-	-	2	-	-	-	-
W.S. CENTRAL	6	-	2	-	1	30	50	24	91	1	15	15	-	-	11
Ark.	1	-	-	-	-	21	-	5	7	-	1	-	-	-	-
La.	-	-	-	-	-	-	5	14	30	-	2	1	-	-	-
Okla.	1	-	-	-	1	-	9	N	N	1	12	14	-	-	-
Tex.	4	-	2	-	-	9	36	5	54	-	-	-	-	-	11
MOUNTAIN	4	3	17	1	2	34	20	3	47	2	24	31	-	1	-
Mont.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho	1	-	-	-	-	-	1	1	1	-	11	7	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
Colo.	-	-	-	-	-	2	6	2	7	2	9	7	-	-	-
N. Mex.	-	3	17	1 §	1	13	1	N	N	-	1	6	-	-	-
Ariz.	1	-	-	-	1	19	10	-	37	-	-	10	-	-	-
Utah	-	-	-	-	-	-	-	-	1	-	1	1	-	1	-
Nev.	2	-	-	-	-	-	2	-	1	-	-	-	-	-	-
PACIFIC	66	36	128	1	21	55	173	18	69	12	76	35	4	25	36
Wash.	2	-	-	-	-	18	29	-	8	4	13	14	-	-	-
Oreg.	1	-	1	-	20	1	10	N	N	-	9	2	-	1	-
Calif.	61	36	126	1 †	1	31	130	16	55	3	40	17	4	22	36
Alaska	2	-	-	-	-	-	2	1	1	-	2	1	-	-	-
Hawaii	-	-	1	-	-	5	2	1	5	5	12	1	-	2	-
Guam	-	-	1	-	-	-	2	1	3	-	-	-	-	-	-
P.R.	-	-	-	-	-	4	1	-	1	-	5	2	-	1	-
V.I.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*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 March 7, 1987 and March 1, 1986 (9th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1987	Cum 1986	1987	Cum 1987	Cum 1986	Cum 1987	Cum 1987	Cum 1987	Cum 1987
UNITED STATES	5,709	4,439	4	2,931	2,941	14	28	7	554
NEW ENGLAND	87	96	-	73	95	-	2	-	-
Maine	-	4	-	7	12	-	-	-	-
N H	1	5	-	3	6	-	-	-	-
Vt	1	4	-	1	5	-	-	-	-
Mass	50	52	-	21	42	-	2	-	-
R I	-	5	-	4	4	-	-	-	-
Conn	35	26	-	37	26	-	-	-	-
MID ATLANTIC	821	607	-	552	572	-	4	-	75
Upstate N Y	28	29	-	104	91	-	1	-	8
N Y City	551	336	-	258	270	-	-	-	-
N J	101	124	-	90	104	-	3	-	1
Pa	141	118	-	100	107	-	-	-	66
E N CENTRAL	92	150	1	393	398	1	7	-	14
Ohio	16	17	-	74	57	1	3	-	-
Ind	12	24	-	22	41	-	1	-	-
Ill	35	73	-	154	189	-	-	-	9
Mich	23	23	1	132	87	-	2	-	-
Wis	6	13	-	11	24	-	1	-	5
W N CENTRAL	28	40	-	77	64	5	2	-	112
Minn	4	6	-	18	13	-	-	-	28
Iowa	5	4	-	8	9	2	-	-	36
Mo	14	20	-	39	31	3	2	-	4
N Dak	-	2	-	1	2	-	-	-	13
S Dak	2	-	-	2	2	-	-	-	22
Nebr	2	5	-	3	3	-	-	-	2
Kans	1	3	-	6	4	-	-	-	7
S ATLANTIC	1,874	1,298	2	584	557	2	4	1	143
Del	17	6	-	2	7	1	-	-	-
Md	103	78	1	52	35	-	-	-	22
D C	61	63	1	20	29	-	-	-	10
Va	45	82	-	68	38	1	-	-	58
W Va	1	3	-	24	23	-	1	-	9
N C	121	104	-	60	64	-	1	-	-
S C	120	141	-	66	77	-	-	1	5
Ga	307	256	-	56	59	-	-	-	30
Fla	1,099	565	-	236	225	-	2	-	9
E S CENTRAL	397	311	-	217	281	1	-	3	32
Ky	3	21	-	63	68	-	-	-	23
Tenn	195	150	-	-	80	-	-	2	-
Ala	85	96	-	95	107	-	-	-	9
Miss	114	44	-	59	26	1	-	1	-
W S CENTRAL	845	948	-	275	352	4	1	3	77
Ark	37	44	-	16	27	1	-	-	21
La	135	154	-	63	107	-	-	-	2
Okla	25	33	-	35	29	3	1	3	1
Tex	648	717	-	161	189	-	-	-	53
MOUNTAIN	123	123	-	72	63	1	1	-	34
Mont	7	1	-	6	2	-	-	-	16
Idaho	1	1	-	10	4	-	-	-	-
Wyo	-	-	-	-	-	-	-	-	11
Colo	20	32	-	-	1	-	-	-	-
N Mex	11	17	-	17	17	-	1	-	-
Ariz	64	54	-	34	29	1	-	-	7
Utah	-	3	-	1	-	-	-	-	-
Nev	20	15	-	4	10	-	-	-	-
PACIFIC	1,442	866	1	688	559	-	7	-	67
Wash	12	24	-	28	31	-	-	-	-
Oreg	30	22	-	19	25	-	-	-	-
Calif	1,397	812	1	585	461	-	6	-	66
Alaska	2	-	-	18	12	-	-	-	1
Hawaii	1	8	-	38	30	-	1	-	-
Guam	1	1	-	2	-	-	-	-	-
P R	182	146	-	41	48	-	-	-	10
V I	2	-	-	1	-	-	-	-	-
Pac Trust Terr	37	-	-	14	2	-	3	-	-
Amer Samoa	-	-	-	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending March 7, 1987 (9th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	694	517	120	31	14	12	57
Boston, Mass.	193	140	31	10	7	5	27
Bridgeport, Conn.	49	34	12	1	-	2	-
Cambridge, Mass.	32	26	4	1	1	-	4
Fall River, Mass.	45	37	4	2	2	-	3
Hartford, Conn.	50	36	8	4	1	1	2
Lowell, Mass.	25	19	5	1	-	-	-
Lynn, Mass.	22	14	7	-	-	1	-
New Bedford, Mass.	27	21	4	2	-	-	2
New Haven, Conn.	50	35	10	3	1	1	-
Providence, R.I.	30	23	5	2	-	-	5
Somerville, Mass.	15	10	5	-	-	-	1
Springfield, Mass.	62	43	13	4	1	1	8
Waterbury, Conn.	25	21	2	1	-	1	2
Worcester, Mass.	69	58	10	-	1	-	3
MID ATLANTIC	2,911	1,954	570	260	54	73	158
Albany, N.Y.	47	31	8	1	5	2	1
Allentown, Pa.	23	20	3	-	-	-	-
Buffalo, N.Y.	106	68	27	7	2	2	10
Camden, N.J.	46	34	10	2	-	-	1
Elizabeth, N.J.	24	16	4	4	-	-	3
Erie, Pa.†	49	32	14	2	1	-	5
Jersey City, N.J.	75	46	12	10	1	6	2
N.Y. City, N.Y.	1,456	955	288	154	22	37	58
Newark, N.J.	70	28	21	19	2	-	12
Paterson, N.J.	32	23	4	3	-	2	2
Philadelphia, Pa.	499	324	109	37	14	15	26
Pittsburgh, Pa.†	89	64	17	5	2	1	6
Reading, Pa.	35	27	5	3	-	-	1
Rochester, N.Y.	126	103	12	6	1	4	12
Schenectady, N.Y.	29	18	9	-	2	-	-
Scranton, Pa.†	26	23	2	1	-	-	3
Syracuse, N.Y.	84	67	11	3	1	2	7
Trenton, N.J.	42	28	8	3	1	2	-
Utica, N.Y.	23	21	2	-	-	-	3
Yonkers, N.Y.	30	26	4	-	-	-	6
E.N. CENTRAL	2,383	1,579	530	158	52	64	123
Akron, Ohio	54	37	11	5	-	1	-
Canton, Ohio	51	33	15	2	1	-	5
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	158	108	39	6	2	3	26
Cleveland, Ohio	168	104	44	9	2	9	2
Columbus, Ohio	130	74	30	16	8	2	5
Dayton, Ohio	119	79	32	3	5	-	1
Detroit, Mich.	290	168	71	34	8	9	5
Evansville, Ind.	60	43	14	2	-	1	3
Fort Wayne, Ind.	53	36	13	4	-	-	2
Gary, Ind.	16	10	4	1	-	1	1
Grand Rapids, Mich.	61	40	15	4	2	-	5
Indianapolis, Ind.	184	126	40	11	3	4	5
Madison, Wis.	31	21	8	2	-	-	3
Milwaukee, Wis.	143	115	20	4	3	1	10
Peoria, Ill.	44	32	6	2	1	3	9
Rockford, Ill.	40	32	5	-	1	2	6
South Bend, Ind.	40	27	8	1	2	2	5
Toledo, Ohio	109	78	20	5	3	3	10
Youngstown, Ohio	68	54	10	2	1	1	4
W.N. CENTRAL	976	690	195	45	21	25	64
Des Moines, Iowa	78	54	15	6	1	2	9
Duluth, Minn.	27	21	4	1	-	1	-
Kansas City, Kans.	26	19	4	1	-	2	1
Kansas City, Mo.	152	104	36	7	4	1	11
Lincoln, Nebr.	28	20	4	2	1	1	2
Minneapolis, Minn.	240	161	54	11	7	7	21
Omaha, Nebr.	114	95	11	3	2	3	4
St. Louis, Mo.	118	84	22	8	2	2	9
St. Paul, Minn.	102	71	21	4	2	4	1
Wichita, Kans.	91	61	24	2	2	2	6
S. ATLANTIC	1,385	852	310	123	40	52	52
Atlanta, Ga.	180	113	37	20	5	5	3
Baltimore, Md.	217	132	53	20	6	6	6
Charlotte, N.C.	97	53	21	6	2	15	1
Jacksonville, Fla.	113	75	19	12	4	3	8
Miami, Fla.	121	73	29	12	5	2	1
Norfolk, Va.	67	46	15	2	3	1	7
Richmond, Va.	102	62	27	8	5	-	8
Savannah, Ga.	37	26	7	3	1	-	1
St. Petersburg, Fla.	99	82	12	-	1	4	8
Tampa, Fla.	70	43	15	5	2	2	5
Washington, D.C.	242	120	65	32	6	14	2
Wilmington, Del.	40	27	10	3	-	-	2
E.S. CENTRAL	828	551	185	50	25	17	59
Birmingham, Ala.	144	89	33	10	7	5	3
Chattanooga, Tenn.	60	39	15	2	3	1	5
Knoxville, Tenn.	90	72	12	5	1	-	13
Louisville, Ky.	121	77	25	12	4	3	10
Memphis, Tenn.	227	152	52	14	8	1	21
Mobile, Ala.	39	25	13	-	-	1	2
Montgomery, Ala.	28	19	6	-	1	2	2
Nashville, Tenn.	119	78	29	7	1	4	3
W.S. CENTRAL	1,365	850	303	111	44	56	79
Austin, Tex.§	59	40	10	6	1	2	7
Baton Rouge, La.	37	25	6	4	2	-	2
Corpus Christi, Tex.	41	29	9	3	-	-	4
Dallas, Tex.	205	115	44	23	10	13	2
El Paso, Tex.	66	44	11	6	2	3	5
Fort Worth, Tex.	86	55	18	5	3	5	1
Houston, Tex.§	308	175	75	34	13	11	7
Little Rock, Ark.	87	51	20	8	2	5	13
New Orleans, La.	111	76	18	7	5	5	-
San Antonio, Tex.	219	143	57	8	4	7	26
Shreveport, La.	54	32	18	3	-	1	3
Tulsa, Okla.	92	65	17	4	2	4	9
MOUNTAIN	723	465	157	48	23	28	38
Albuquerque, N.Mex.	83	55	13	12	1	2	5
Colo. Springs, Colo.	40	24	10	3	1	2	8
Denver, Colo.	109	74	24	5	4	2	4
Las Vegas, Nev.	132	79	39	7	4	1	6
Ogden, Utah	24	15	5	-	3	1	1
Phoenix, Ariz.	139	85	27	11	4	12	4
Pueblo, Colo.	20	15	5	-	-	-	4
Salt Lake City, Utah	46	26	12	2	2	4	1
Tucson, Ariz.	130	92	22	8	4	4	5
PACIFIC	1,984	1,313	380	169	57	55	146
Berkeley, Calif.	16	11	3	2	-	-	1
Fresno, Calif.	87	59	13	9	2	4	10
Glendale, Calif.	32	27	5	-	-	-	3
Honolulu, Hawaii	86	55	25	2	2	2	8
Long Beach, Calif.	98	62	17	10	7	2	14
Los Angeles, Calif.	463	294	98	40	17	5	19
Oakland, Calif.	78	57	12	6	1	2	7
Pasadena, Calif.	34	23	9	2	-	-	2
Portland, Oreg.§	134	100	24	9	-	1	6
Sacramento, Calif.	155	100	34	15	1	5	18
San Diego, Calif.	184	114	32	20	10	7	17
San Francisco, Calif.	155	93	27	24	5	6	3
San Jose, Calif.	178	117	33	17	4	7	23
Seattle, Wash.	167	115	27	11	7	7	6
Spokane, Wash.	76	54	15	1	-	6	6
Tacoma, Wash.	41	32	6	1	1	1	3
TOTAL	13,249††	8,771	2,750	995	330	382	776

* 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.

Prescription Drugs — Continued

(25%). Eighty-two of the ingestions took place in the child's home, and 14%, in a relative's home. The four categories of drugs most frequently ingested were antimicrobials (23.4%), birth control pills and hormones (14.9%), analgesics (9.6%), and cardiovascular drugs (9.2%). The four areas in the home where the ingested medicines were most frequently stored were kitchens (48%), bedrooms (24%), living rooms (10%), and bathrooms (8%).

Reported by American Assn of Poison Control Centers; Div of Poison Prevention and Scientific Coordination, Directorate of Health Sciences, U.S. Consumer Product Safety Commission; Div of Injury Epidemiology and Control, Center for Environmental Health, CDC.

Editorial Note: The week of March 15-21, 1987, is designated National Poison Prevention Week (NPPW) by the Poison Prevention Week Council. NPPW was established by federal legislation and has been observed since 1962 (*1*). The death rate from poisoning in children under five has steadily declined since the enactment of the Poison Prevention Packaging Act (PPPA) of 1970. Since then, deaths from poisoning by solids and liquids (E850-E866[§]), the group of substances most affected by the PPPA, have declined by 70%. An 8-year analysis of the impact of the PPPA estimated that 86,000 ingestions of poisons were prevented between 1974 and 1981 (*2*). The potential for poisoning remains significant, however; in 1985, AAPCC centers received more than 500,000 reports of exposures of children under 5 years old to potential poisons (CPSC, unpublished data). In 1983, there were 55 deaths from ingested poisons, 39 of which were from poisoning by drugs, medicinals, and biologicals (E850-E858) (National Center for Health Statistics, unpublished data) (*1*). The age-specific death rate for external causes (E850-E858) in this age group was 0.22/100,000 in 1983 (National Center for Health Statistics, unpublished data) (*3*).

The results of the AAPCC study should be interpreted cautiously since the data were taken from a sample that may not be representative of the entire population under 5 years of age and at risk for poisoning. Furthermore, the purpose of the study was only to determine factors associated with unintended ingestion of oral prescription drugs. In addition, seasonal variation could introduce bias since the data were collected only from February to May.

The findings show that multiple factors contribute to the risk of unintentional ingestion of prescription medications. These include the inability of young children to recognize potential hazards, their tendency to explore the world and to put things in their mouths, and the availability of medicine in the kitchen and bedrooms. Other factors include ineffective child-resistant closures, closures that do not continue to function as designed, and the misuse of these closures.

Public education and awareness efforts should be targeted at persons who have frequent contact with children, including those who may not live in a household where children reside (e.g., grandparents). Unless there are specific reasons to avoid child-resistant containers, consumers who have contact with children should insist on child-resistant packaging regardless of whether they have small children in their own household. Child-resistant containers should always be capped tightly and should never be either modified to eliminate the safety feature or substituted with a non-child-resistant container. Medications should never be kept where children have ready access to them and especially should never be kept in the kitchen or bedrooms.

This study demonstrates the need to use National Poison Prevention Week to make pharmacists, physicians, manufacturers, and the public aware of the importance of the PPPA requirements. While the present technology for child-resistant packaging may provide incomplete protection from prescription drug poisoning, the use of child-resistant packaging should

[§]Ninth revision, International Classification of Diseases. The group of external causes E850-E866 excludes gases distributed by pipeline, other utility gases and carbon monoxide, and other gases and vapors since it is not likely that poisoning by these substances would be prevented by the PPPA.

Prescription Drugs — Continued

be strongly encouraged whenever possible. Development of improved child-resistant closures with increased reliability should be a priority for the safety-packaging industry. CPSC has made poison prevention a priority project for 1987.

References

1. CDC. National poison prevention week: 25th anniversary observance. MMWR 1986:35;149-52.
2. National Safety Council. Accidental deaths from poisoning. Accident Facts 1982:82-3.
3. Bureau of the Census. Resident population in thousands by age, sex, and race. Washington, DC: U.S. Department of Commerce, Bureau of the Census, 1984. (Table 2; series P-25; no. 949).

Outbreak of Hepatitis B Associated with an Oral Surgeon — New Hampshire

During the first 6 months of 1986, four clinical cases of hepatitis B were reported in a city in New Hampshire. Each case was serologically confirmed, and the patients had all been seen by the same oral surgeon. All patients had undergone tooth extractions 3 to 5 months before becoming ill; three had had multiple extractions during single office visits. All four patients denied other risk factors for hepatitis B virus infection. One patient developed periarteritis nodosa with severe complications, including mesenteric arteritis with colonic perforation, mononeuritis multiplex with paraplegia, and ulceration into the joint space of one ankle.

Of the four patients, one remained seropositive for hepatitis B surface antigen (HBsAg) for more than 6 months and became a chronic hepatitis B carrier. He was tested and found to have HBsAg subtype ad, the same subtype as the oral surgeon. Ten other cases of hepatitis B were reported in the city during the first 6 months of 1986. Two of the patients were intravenous drug users; two were contacts of patients with unreported cases of hepatitis; and six had no identified risk factors. None of these ten patients had been treated by a dental professional or had undergone surgery.

The oral surgeon had been practicing in the city (population 75,000) for 25 years. His practice was limited to dental extractions, usually performed with a combination of intravenous sedation and local anesthesia. He had never had any symptoms suggestive of hepatitis B and had never received hepatitis B vaccine. He had never been tested for hepatitis B serologic markers prior to the outbreak. In July 1986, he was seropositive for HBsAg and hepatitis e antigen (HBeAg) and negative for IgM antibody to hepatitis B core antigen, indicating that he was probably a hepatitis B carrier. He was not aware of having had any skin lesions on his hands in the past year. Although he was careful to scrub his hands between surgical procedures, he did not wear gloves.

The oral surgeon discontinued his practice when the outbreak was discovered on June 30, 1986, and has not reopened his office. Letters were sent to all patients whom he had treated after January 1, 1985, informing them of their possible exposure to hepatitis B virus and offering free testing for hepatitis B serologic markers.

Reported by JJ Cournoyer, K Brandenburg, E Schwartz, MD, State Epidemiologist, Bur of Disease Control, C Zumbrunnen, DDS, Bur of Dental Health, Div of Public Health Svcs, Public Health Laboratory, New Hampshire Dept of Health and Welfare; Div of Field Svcs, Epidemiology Program Office, Hepatitis Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Eight other outbreaks of hepatitis B traceable to dentists or oral surgeons have been reported since 1974 (*1,2*). The number of clinically infected patients in each outbreak has ranged from three to 55. Two of the nine clinically ill patients in one outbreak died of fulminant hepatitis B (*2*); no other deaths have been reported. In each outbreak, the im-

Hepatitis — Continued

ed dentist or oral surgeon was seropositive for HBsAg and (if tested) HBeAg and did not use gloves during dental or surgical procedures. None of the dentists who were hepatitis B carriers were aware of their chronic infections. Traumatic procedures (surgery, extractions) have been associated with a higher infection risk than non-traumatic procedures (fillings, denture fittings, etc.). Transmission has been thought to occur through apparent or inapparent lesions on the dentist's hands.

The repeated occurrence of outbreaks associated with dentists or oral surgeons is especially disturbing because there are easily available and widely recommended measures to prevent them. A safe, effective vaccine against hepatitis B became available in 1982, and, since the late 1970s, national dental authorities have urged dental practitioners to wear gloves during all procedures involving hand contact with patients' mouths (*3-5*). In March 1986, a national random telephone survey revealed that 44% of non-federal, practicing dentists and oral surgeons in the United States had been vaccinated against hepatitis B (CDC, unpublished data). Only 15% of respondents used gloves routinely for all procedures.

Recurrent, avoidable outbreaks such as this one should prompt dentists and oral surgeons to seek hepatitis B vaccination and to use gloves routinely when treating patients.

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Tuberculosis and AIDS — Connecticut

Until 1983, the incidence of tuberculosis in Connecticut had steadily declined for several decades. In 1982, it reached its lowest point, 5.0 cases per 100,000 population. Since then, tuberculosis incidence in Connecticut has fluctuated above that level, with a rate of 6.2 in 1983, 5.6 in 1984, and 5.1 in 1985. A rate of 6.0 is projected for 1986. This would be an 18% increase over 1985. Concern about a possible association between human immunodeficiency virus (HIV) infection and the rise in tuberculosis morbidity led to an evaluation of data on acquired immuno-deficiency syndrome (AIDS) and tuberculosis in Connecticut.

The entire AIDS register was confidentially linked to the tuberculosis case register dating back to 1970 to determine the proportion of tuberculosis patients with a diagnosis of AIDS, the proportion of AIDS patients with tuberculosis, and the interval between the diagnosis of tuberculosis and AIDS. The following selected characteristics of those with both diagnoses were also studied: age, sex, race and ethnicity, geographic location by city size, and risk factors for a diagnosis of AIDS. Patients were placed in subgroups by each of these characteristics, and the incidence rate of tuberculosis in individuals with and without AIDS in each subgroup was calculated and compared. A 3-year incidence rate of tuberculosis was used for

Tuberculosis — Continued

these comparisons because most diagnoses of tuberculosis in AIDS patients occurred in the 3-year period beginning 30 months before and ending 6 months after the diagnosis of AIDS.

As of September 1, 1986, 18 cases of tuberculosis had been diagnosed among the 299 cumulatively reported AIDS cases in Connecticut. The 18 tuberculosis patients with AIDS (TB/AIDS) ranged from 24 to 53 years of age, with a median of 33 years. Fourteen (78%) were male; 11 (61%) were black; 13 (72%) came from the six cities in Connecticut with a population of 100,000 or greater; and seven (39%) were intravenous drug abusers. One of the 18 cases of tuberculosis was diagnosed in 1973 and another in 1980. The remaining 16 cases were diagnosed after January 1, 1982, and represent 5.4% of all AIDS cases reported to date and 2.0% of all 816 tuberculosis cases diagnosed and reported from 1982 through 1986. When these 16 cases are analyzed by year of diagnosis, there appears to be no significant rise or fall in the frequency of tuberculosis patients with AIDS (TB/AIDS) for the years 1982 through 1986.

Compared with tuberculosis patients without AIDS in Connecticut, TB/AIDS patients were younger and more likely to be male, black, and from a large city. Compared with AIDS patients without tuberculosis, TB/AIDS patients were more likely to be black and from a large city and to have intravenous drug abuse as an AIDS risk factor. Age and sex distribution were similar in both groups.

Among the 18 TB/AIDS patients, the diagnosis of tuberculosis occurred from 10 years before to 19 months after the diagnosis of AIDS, with a median of 4 months before the diagnosis of AIDS. Fourteen (78%) of TB/AIDS patients were diagnosed as having tuberculosis within 3 years of their diagnosis of AIDS (2.5 years before to 0.5 years after).

Table 4 shows the crude 3-year incidence rate of tuberculosis in AIDS patients and in the general population without AIDS according to sex, race, and city size as well as the incidence

TABLE 4. Three-year incidence of tuberculosis in 20- to 49-year-olds with and without AIDS, by selected demographic characteristics — Connecticut, 1986

Characteristics	AIDS patients* TB rate	(cases)	General population† TB rate	(cases)	Risk ratio§
Sex					
Male	6,250	(10)	18.8	(119)	333
Female	7,692	(2)	12.7	(84)	605
Race					
Black	12,121	(8)	102.8	(95)	118
White	3,670	(4)	5.4	(63)	677
Other	—	(0)	112.4	(45)	—
City Size					
≥100,000	9,677	(9)	44.7	(111)	216
<100,000	3,226	(3)	8.8	(92)	367
Adjusted¶	2,671	(12)	15.7	(203)	170.3

*Incidence of tuberculosis 2.5 years before to 0.5 years after diagnosis of AIDS per 100,000 AIDS patients as of 4/1/86.

†3-year incidence of tuberculosis per 100,000 individuals without AIDS, 1982-1984.

§Ratio of 3-year incidence of TB/AIDS to TB/non-AIDS.

¶Adjusted for age (5-year intervals), race, sex, and city size according to 1980 census.

Tuberculosis — Continued

rate adjusted for these three factors and age. In all groups, the rate of tuberculosis (risk ratio) in AIDS patients was more than 100 times the incidence in the general population.

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Editorial Note: The demographic characteristics of TB/AIDS patients in Connecticut are similar to those found elsewhere; individuals are most likely to come from groups that have a higher incidence of tuberculosis and are at risk for AIDS (*1-3*).

The following factors suggest an association between tuberculosis and AIDS in Connecticut: the 5.4% incidence of tuberculosis in AIDS cases, the clustering of the development of tuberculosis and AIDS within a distinct time period (within 3 years of diagnosis of AIDS), and the 100-fold or greater risk of tuberculosis among AIDS patients than among the general population. The risk that persons with latent tuberculous infection who develop AIDS will develop clinically active tuberculosis cannot be determined from these data. However, to the extent that individuals with AIDS are representative of the general population in prevalence and incidence of tuberculous infection, this risk could be as much as 100- to 200-fold greater than that of their non-HIV-infected counterparts.

The total number of AIDS patients in the United States meeting the CDC surveillance case definition represents only a fraction of the number of persons with HIV infection. It has been estimated that, in 1985, for every diagnosed case of AIDS, there were 50 to 100 persons with HIV infection (*4*). The number of tuberculosis patients with HIV infection but without AIDS in Connecticut may also exceed the number who have overt AIDS.

These data further support recently published guidelines that risk factors for HIV should be identified as part of the evaluation of persons with tuberculous infection (*5*). HIV antibody testing should be offered, and, where there is both tuberculous infection and HIV infection, isoniazid preventive therapy should be offered. Conversely, persons who are positive for HIV antibody should be offered tuberculin skin testing, and isoniazid preventive therapy should be offered to reactors (*5*).

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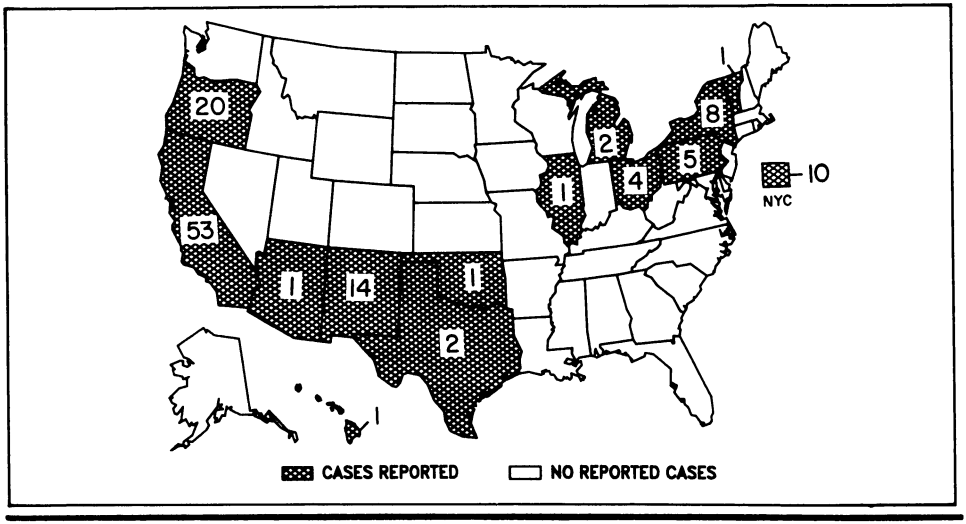
FIGURE I. Reported measles cases — United States, weeks 05-08, 1987



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

☆U.S. Government Printing Office:1987-730-145/40050 Region IV

HHS Publication No. (CDC) 87-8017