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Effectiveness in Disease and Injury Prevention

HIV-Risk Behaviors of Sterilized and Nonsterilized Women in Drug-Treatment Programs – Philadelphia, 1989–1991

From June 1981 through December 1991, 34% of all reported cases of acquired immunodeficiency syndrome (AIDS) among women in the United States were attributed to heterosexual transmission, and that proportion has been increasing steadily (*1*). Factors associated with an increased risk for heterosexual transmission include unprotected sexual intercourse (*2*), multiple sex partners, and the presence of other sexually transmitted diseases (STDs) (*1*). Women who have been surgically sterilized and who are sexually active and/or use injecting drugs may need the same prevention services for human immunodeficiency virus (HIV) and other STDs as similar nonsterilized women; however, the specific needs of sterilized women have not been well characterized. This report compares findings from surveys of surgically sterilized and nonsterilized women in drug-treatment programs in Philadelphia on their drug use and HIV/STD-risk behaviors and assesses changes in risk behaviors among these women after a 9-month period during which family-planning counseling and/or gynecologic services were offered.

The Family Planning Council of Southeastern Pennsylvania, in collaboration with CDC, developed two HIV/STD-prevention and family-planning services; the programs provided either counseling and referral or counseling and gynecologic services to women in 13 drug-treatment programs in Philadelphia. The counseling/referral service offered women in nine drug-treatment centers HIV/STD-prevention messages, family-planning counseling and education, distribution of condoms and nonprescription contraceptives (e.g., contraceptive sponge), and referrals for medical services. In addition to the services listed, the counseling/gynecologic service offered women in the remaining four centers on-site medical examinations, prescription contraceptives, and laboratory tests (e.g., Papanicolaou [Pap] smears, serologic tests for syphilis, cultures for gonorrhea and *Chlamydia trachomatis*, and wet-mount preparations for vaginitis and cervicitis). In 13 drug-treatment programs, investigators used survey instruments to measure AIDS-related knowledge, attitudes, and behaviors of 492 women who were not pregnant, not menopausal, and agreed to participate in the

HIV-Risk Behaviors — Continued

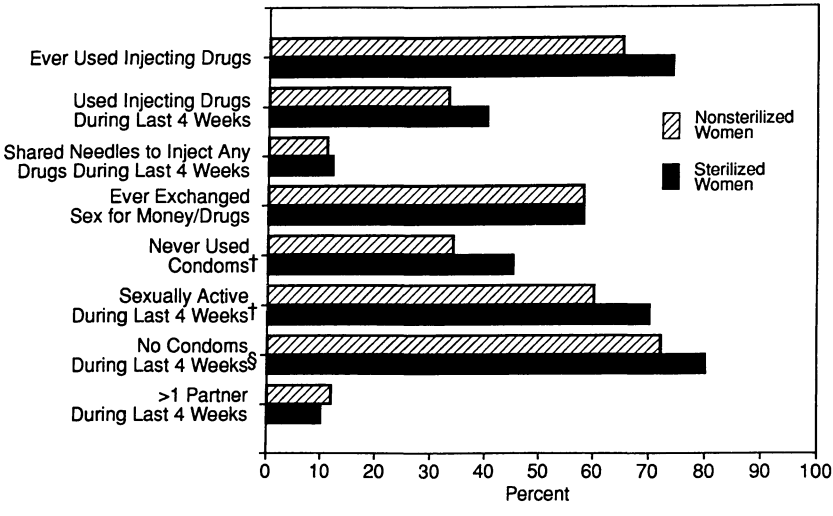
surveys. Baseline and 9-month follow-up interviews were conducted from April 1989 through January 1991. Trends were determined and statistical differences calculated using chi-square and differences-of-means t tests.

Of the 492 participants, 137 (28%) reported having had "an operation that would keep you from getting pregnant, like having your tubes tied, sterilization, or hysterectomy." Sterilized women in the drug-treatment programs were more likely than nonsterilized women to be older (average age: 37 years [standard deviation (SD) = ±6.8 years] versus 33 years [SD = ±6.0 years]) and to have fewer years of education (51% and 40%, respectively, had not completed high school). Sterilized women reported ever having had pelvic inflammatory disease more often than nonsterilized women (34% versus 23%). Sterilized and nonsterilized women in this study were not significantly different with regard to ethnicity.

Of the 248 (50%) women who had been tested for HIV antibody, three (5%) of the sterilized, and seven (5%) of the nonsterilized women were HIV-antibody–positive. Sterilized women were slightly more likely than nonsterilized women to have ever been injecting-drug users (IDUs) (74% versus 65%; $p = 0.08$) (Figure 1). A substantial proportion of women had used injecting drugs during the 4 weeks before their baseline interviews (40% of the sterilized versus 33% of the nonsterilized women [$p = 0.16$]). Approximately one third (55) of those who were IDUs reported using their partners' or others' needles.

Most women were sexually active during the 4 weeks before the baseline interview (70% of the sterilized versus 60% of the nonsterilized). Fewer sterilized women than nonsterilized women had ever used condoms (55% versus 66%; $p = 0.02$), and fewer

FIGURE 1. Percentage of women* in 13 drug-treatment programs reporting drug- and sex-related risk behaviors for HIV infection — Philadelphia, baseline data, 1989–1991



*Sample size = 137 sterilized women and 355 nonsterilized women.
†$p < 0.05$.
§$p < 0.001$.

HIV-Risk Behaviors — Continued

sexually active sterilized women reported any condom use during the 4 weeks before the baseline interview (12% versus 28%; $p=0.001$).* HIV risks related to multiple partners or to exchanging sex for drugs or money did not differ statistically between the two groups. Risk status of their primary sex partners† was similar for both groups of women; 190 (49%) had partners who had been in prison, and partners of 226 (58%) were IDUs.

At their baseline interview, fewer sterilized than nonsterilized women reported ever attending a family-planning clinic for birth control (38% versus 58%) and most sterilized women (65%) did not report perceiving a need to visit a family-planning clinic. However, in the 9-month interval between their baseline and follow-up interviews, 69% of the sterilized women and 73% of the nonsterilized women used the on- or off-site HIV/STD-prevention and family-planning services offered.

Results at the 9-month follow-up interview indicated that both sterilized and nonsterilized women had made slight changes in their HIV-risk behaviors, including condom use. The difference in condom use between sterilized and nonsterilized women remained substantial (13% versus 34%; $p<0.001$).

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Editorial Note: Although pregnancy and perinatal transmission of HIV are not concerns for sterilized women in drug-treatment programs, their personal risks for HIV/STD infection are substantial. Most sterilized women in this study perceived no need for family-planning services, yet when on-site family-planning counseling and gynecologic services were provided at drug-treatment programs, both sterilized and nonsterilized women used the services. Family-planning providers offer screening for STDs, Pap smears, HIV education, and contraceptive services (e.g., condom distribution)—services that are needed by both sterilized and nonsterilized women. Publicly funded family-planning programs are experienced in providing a wide range of services to women and should be encouraged to 1) extend services to settings where women who are at increased risk for HIV infection may be reached and 2) inform women that these services provide a number of disease-prevention, educational, and gynecologic services that are important and available even to women who have been sterilized.

Although the sample findings from the survey in Philadelphia provided new information on the risks and behavioral changes of sterilized and nonsterilized women in drug-treatment centers, these results may not be readily generalized to all sterilized women or women at risk for HIV infection not in drug-treatment centers. Despite this limitation, the results of this demonstration project show that it is possible to provide family-planning counseling and HIV-prevention and gynecologic services in drug-treatment programs to women at increased risk for HIV/STD infection. In addition, although reductions in HIV-related risk behaviors, including condom use, were small for both groups of women at the 9-month assessment,

*Sterilized women were five times less likely to use condoms than were nonsterilized women when controlled for age, education, ethnicity, main partner, attempts to become pregnant, sex for money during last 4 weeks, ever having had an STD, and belief that condoms are the best way to prevent STDs (adjusted odds ratio = 5.24; standard error = 0.44).

†Participants indicated whether they considered any particular sex partner a primary sex partner.

HIV-Risk Behaviors — Continued

follow-up assessments at 15 months are needed. Special efforts may be needed to reach sterilized women with appropriate prevention services; however, with better characterization of HIV/STD behavioral risks for diverse groups of women, targeted prevention efforts can be developed to reduce risks among these groups.

Providing preventive services, including on-site medical services as well as counseling and referral to appropriate off-site service providers (e.g., drug-treatment programs) may be an important step in meeting the national health objectives for the year 2000 for HIV-infection prevention (objective 18.2) (*3*). Therefore, continuing assessment of women participating in this program and further application and evaluation of similar services in other geographic areas are needed.

References

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Current Trends

Medicare Influenza Vaccine Demonstration — Selected States, 1988–1992

Influenza and its complications remain a major cause of premature death and debilitating illness in the United States, particularly among older persons and those with chronic medical conditions. However, only 30% of persons ≥65 years of age responding to the 1989 National Health Interview Survey reported having received influenza vaccine during the previous year (CDC, unpublished data, 1991). In 1988, the Health Care Financing Administration (HCFA) and CDC began a congressionally mandated 4-year demonstration project to evaluate the cost-effectiveness of providing influenza vaccine under Medicare. This report reviews preliminary results of the Medicare Influenza Vaccine Demonstration during 1988–1992.

Using intervention and control areas in Arizona, Illinois, Massachusetts, Michigan, New York, North Carolina, Ohio, Pennsylvania, and Texas and the entire state of Oklahoma* (total Medicare population: approximately 2 million), the demonstration seeks to 1) increase the provision of annual influenza vaccination among Medicare beneficiaries and 2) measure accrued benefits in terms of reduced morbidity, mortality, and health-services use. Special efforts have been undertaken in intervention areas to enhance vaccine delivery and to promote vaccine use. Levels of vaccination coverage were assessed at baseline and have been assessed annually at all sites. Analysis of the cost-effectiveness of influenza vaccination in this population has not been completed.

*For nine states, matched intervention and control areas were within the same state; the entire state of Kansas was the control area for Oklahoma.

Vaccine Demonstration — Continued

Vaccine Delivery and Promotion

In intervention areas, influenza vaccine is supplied without cost to providers by local health departments through computerized monitoring and distribution systems. Providers are reimbursed for administration of vaccine.

Before the 1990–91 and 1991–92 influenza seasons, HCFA sent a letter directly to Medicare beneficiaries in the intervention sites urging them to receive influenza vaccine. The letter contained specific program information and a local phone number for questions.

Project staff in intervention areas developed motivational techniques to make influenza vaccination a routine practice in provider offices and to enhance consumer demand for influenza vaccination. These techniques included providing continuing education credits to nurses who were taught how to identify high-risk patients in physician office settings, using physician prompts and chart flags to help providers identify patients for vaccination during routine office visits, and inserting vaccination messages in telephone company mailers.

In addition, project staff in Maricopa County, Arizona, used an existing 24-hour, bilingual community information and referral agency to answer patients' inquiries and refer patients to participating medical providers. From October through December 1991, more than 24,000 influenza-related calls were handled by the agency. Vaccination services in Arizona were also improved by allowing private physicians to advertise and run large-scale public clinics in shopping malls and supermarkets, one of which accounted for more than 18,000 vaccinations (*1*).

During 1989–90, in Rochester, New York, a sample of private physicians was able to achieve an approximately 30% increase over a control group in coverage rates (66% versus 50%) by reviewing their office records to identify patients in need of vaccine and graphing on a wall poster progress toward achieving full vaccination (*2*). During 1990–91 and 1991–92, this target-based system was expanded countywide and included an incentive of bonuses above the usual vaccine-administration fees for practices that vaccinated 70% or more of their target population. Preliminary data indicate that during the 1991–92 influenza season physicians participating in the system vaccinated 72% of their eligible Medicare patients.

Vaccination Coverage

Substantial improvements in vaccination coverage occurred in the intervention areas during the 4-year period. The number of doses of vaccine administered during the demonstration and the percentage of the Medicare population vaccinated in the intervention areas increased from 477,316 (26%) during 1989–90 (the first full year of the project) to 784,132 (40%) during 1990–91. Through February 20, 1992, an estimated 935,000 (48%) doses have been administered during 1991–92.

Vaccination coverage levels, based only on demonstration-provided vaccine, were 22%–42% among the sites in 1989–90 and 39%–57% in 1991–92 (as of February 20, 1992). Because some Medicare beneficiaries may receive influenza vaccine from sources other than the demonstration, surveys of a sample of Medicare beneficiaries have been performed each season since 1988–89 to permit accurate estimation of vaccine coverage in each intervention and control site. Survey coverage estimates have increased since 1989–90. For 1990–91, survey estimates indicated that coverage levels at six of the 10 intervention sites exceeded 50%, and two intervention sites

Vaccine Demonstration — Continued

exceeded 60%. In contrast, in control sites with no enhanced vaccine-delivery or promotion activities, approximately 40% of Medicare beneficiaries surveyed every year had been vaccinated.

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Editorial Note: Vaccination programs have substantially reduced the incidence of vaccine-preventable diseases among children, but many older adults remain at risk each year for influenza and its complications because they are inadequately immunized. Adult vaccination has been difficult to implement, in part because 1) no comprehensive vaccine-delivery systems exist in the public and private sectors; 2) although statutory requirements exist for vaccination of children, no such requirements exist for adults; 3) reimbursement mechanisms and coverage by third-party payors are limited in the public and private sectors; and 4) vaccination programs have not been established in most settings where adults congregate (e.g., the workplace). However, some public programs have overcome these barriers and achieved substantial success (e.g., the Hawaii Pneumococcal Disease Initiative [CDC, unpublished data, 1990] and influenza and pneumococcal vaccine programs in California [*1*]).

Previous studies have documented effective strategies to enhance influenza-vaccination rates and reduce influenza-related morbidity and health-service use (*3,4*). In addition, influenza vaccination of older persons has been cost-effective (*5,6*). The Medicare Influenza Vaccine Demonstration has achieved one of its objectives by demonstrating that provision of influenza vaccine can be increased among Medicare beneficiaries. The primary reason for success of the demonstration in vaccine delivery is use of focused intervention techniques to overcome the absence of a comprehensive delivery system, limited reimbursement mechanisms, and lack of vaccination programs where adults congregate. No statutory requirements were necessary to implement this program.

Analyses of the cost-effectiveness of influenza vaccination have not yet been completed. The final report will summarize several cost-effectiveness estimates (e.g., vaccination costs compared to costs saved for inpatient, outpatient, and convalescent care, including analysis of all costs incurred regardless of payor and those costs exclusive to the Medicare program). Unless the demonstration shows that influenza vaccination is not cost effective, it will become a covered Medicare benefit for approximately 32 million beneficiaries, beginning 30 days after the final report is submitted to Congress.

In 1990–91 two of 10 demonstration sites reached the year 2000 national health objective of 60% vaccination coverage among noninstitutionalized persons ≥65 years of age (objective 20.11) (*7*). For the 1991–92 influenza season, combined coverage for the 10 intervention sites (including vaccine administered outside of the program) might exceed 60%. Increasing vaccine use among adults and reaching the year 2000 national health objectives for vaccination will continue to require multifaceted strategies such as those employed in this demonstration.

Vaccine Demonstration — Continued

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Epidemiologic Notes and Reports

Hepatitis A Among Homosexual Men — United States, Canada, and Australia

Although male homosexual activity has been reported as a risk factor for hepatitis A, the frequency with which homosexual activity was reported by persons with hepatitis A was <10% during 1982–1989 (CDC unpublished data, 1990). However, in June of 1991, CDC received reports from several cities in the United States, Canada, and Australia of an increase in hepatitis A among homosexual men during the first 6 months of 1991. This report summarizes data from each of these cities.

UNITED STATES

Denver

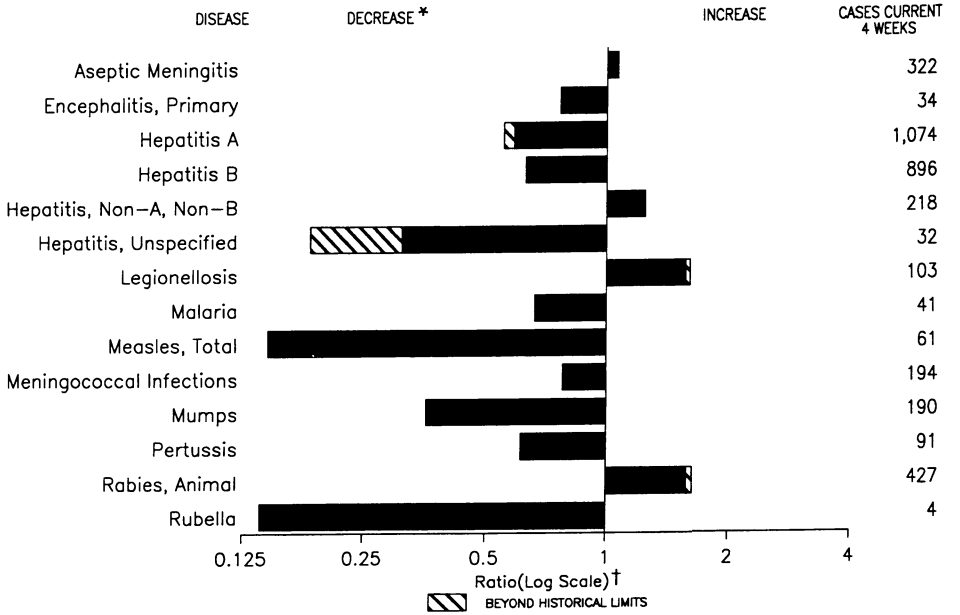
From January through June 1991, 24 cases of hepatitis A were reported among homosexual and bisexual men in Denver; in comparison, 0–3 cases were reported during the first 6 months each of 1986–1990. During the first 6 months of 1991, 59 cases of hepatitis A were reported among heterosexual adults and children; although this represents an increase in the number of reported cases for these groups for the same period over previous years (1990: 28 cases, 1989: 34 cases, 1988: 23 cases, 1987: 31 cases, and 1986: 14 cases), the rate of increase is less than that for homosexual/bisexual men. Of the 24 homosexual/bisexual men with hepatitis A, 16 lived in one central urban neighborhood. Four (17%) had commonly recognized risk factors for hepatitis A, compared with eight (57%) among 14 adult heterosexual men with hepatitis A.

New York City

From January through June 1991, 631 cases of hepatitis A were reported in New York City, a 42% increase over the number of cases reported during the same period in 1990. Most cases (80%) occurred in Brooklyn (254) and Manhattan (253). In Brooklyn, an ongoing outbreak of hepatitis A associated with person-to-person transmission within a traditional ethnic/religious community began in 1990, with the

(Continued on page 161)

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending February 29, 1992, with historical data — United States



*The decreases beyond historical limits in disease reports for the past 4 weeks reflect a backlog of data transmission for 1991 cases in many reporting areas and delayed transmission of cases for 1992.

†Ratio of current 4-week total to the mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending February 29, 1992 (9th Week)

	Cum. 1992		Cum. 1992
AIDS	8,119	Measles: imported	15
Anthrax	-	indigenous	107
Botulism: Foodborne	4	Plague	-
Infant	7	Poliomyelitis, Paralytic*	-
Other	-	Psittacosis	12
Brucellosis	2	Rabies, human	-
Cholera	2	Syphilis, primary & secondary	5,694
Congenital rubella syndrome	-	Syphilis, congenital, age < 1 year	-
Diphtheria	1	Tetanus	4
Encephalitis, post-infectious	11	Toxic shock syndrome	45
Gonorrhea	81,695	Trichinosis	2
Haemophilus influenzae (invasive disease)	288	Tuberculosis	2,427
Hansen Disease	16	Tularemia	13
Leptospirosis	3	Typhoid fever	33
Lyme disease	449	Typhus fever	17

*Nine suspected cases of poliomyelitis were reported in 1991; 4 of the 8 suspected cases in 1990 were confirmed, and all were vaccine associated.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending February 29, 1992, and March 2, 1991 (9th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	8,119	747	75	11	81,695	98,335	2,407	1,972	489	73	196	449
NEW ENGLAND	338	74	5	-	1,870	3,150	102	124	14	12	15	38
Maine	13	6	-	-	19	18	14	8	1	-	2	-
N.H.	12	3	-	-	-	45	9	9	2	-	3	4
Vt.	-	2	1	-	1	12	-	1	1	-	1	1
Mass.	202	22	4	-	697	1,147	49	81	7	12	7	2
R.I.	14	41	-	-	155	191	20	12	3	-	2	22
Conn.	97	-	-	-	998	1,737	10	13	-	-	-	9
MID. ATLANTIC	1,738	98	6	1	5,074	11,853	238	291	80	2	66	322
Upstate N.Y.	283	33	-	-	201	1,647	64	51	50	1	31	199
N.Y. City	854	13	-	-	1,867	4,242	56	20	1	-	4	-
N.J.	383	4	-	-	572	1,983	33	76	23	-	7	21
Pa.	218	48	6	1	2,434	3,981	85	144	6	1	24	102
E.N. CENTRAL	800	119	21	2	14,851	18,508	359	317	33	2	42	28
Ohio	161	40	11	-	5,031	5,456	91	52	26	-	24	18
Ind.	63	17	-	-	1,613	2,060	137	106	-	1	5	5
Ill.	394	6	1	-	5,067	5,911	25	3	-	-	1	-
Mich.	133	56	9	2	2,745	3,857	27	109	2	1	12	5
Wis.	49	-	-	-	395	1,224	79	47	5	-	-	-
W.N. CENTRAL	266	42	2	3	4,395	4,982	246	98	32	1	9	6
Minn.	35	1	-	-	531	504	51	4	-	-	-	-
Iowa	19	13	-	2	327	341	4	7	-	-	2	6
Mo.	131	10	-	-	2,493	3,091	43	77	32	1	-	-
N. Dak.	-	1	-	-	-	13	10	1	-	-	-	-
S. Dak.	2	2	-	1	39	70	93	-	-	-	-	-
Nebr.	9	4	-	-	33	365	17	3	-	-	7	-
Kans.	70	11	2	-	972	598	28	6	-	-	-	-
S. ATLANTIC	1,988	155	20	3	30,224	29,529	154	346	41	8	29	22
Del.	11	6	2	-	296	377	1	16	-	-	-	7
Md.	274	26	5	-	2,920	3,245	32	68	5	3	4	1
D.C.	105	2	-	-	1,428	1,968	4	17	-	-	5	-
Va.	114	41	3	1	3,840	2,401	19	38	6	4	2	10
W. Va.	14	-	1	-	163	224	2	13	-	1	-	1
N.C.	133	25	8	-	3,752	5,680	16	66	18	-	6	1
S.C.	78	4	-	-	1,799	2,344	8	8	-	-	9	-
Ga.	170	12	-	-	11,299	7,502	19	43	5	-	-	-
Fla.	1,089	39	1	2	4,727	5,788	53	77	7	-	3	2
E.S. CENTRAL	296	61	1	-	7,956	8,550	50	167	180	-	12	10
Ky.	35	32	-	-	881	948	18	21	-	-	7	6
Tenn.	86	11	-	-	2,075	3,194	18	117	175	-	4	4
Ala.	125	14	-	-	2,995	2,213	5	29	5	-	1	-
Miss.	50	4	1	-	2,005	2,195	9	-	-	-	-	-
W.S. CENTRAL	741	8	-	1	8,539	10,476	74	64	8	2	-	4
Ark.	43	7	-	-	1,655	1,322	17	14	-	-	-	1
La.	158	1	-	-	1,289	2,065	14	10	-	1	-	-
Okla.	43	-	-	1	890	1,083	43	40	8	1	-	3
Tex.	497	-	-	-	4,705	6,006	-	-	-	-	-	-
MOUNTAIN	212	16	3	-	1,660	1,964	307	89	18	12	12	-
Mont.	2	-	1	-	15	14	22	9	-	-	1	-
Idaho	2	-	-	-	22	23	13	14	-	-	-	-
Wyo.	1	-	-	-	6	20	-	1	3	-	-	-
Colo.	97	4	1	-	578	575	95	22	10	9	-	-
N. Mex.	16	4	1	-	143	191	10	6	-	-	1	-
Ariz.	42	7	-	-	544	742	129	11	4	-	6	-
Utah	24	-	-	-	30	58	21	1	1	3	-	-
Nev.	28	1	-	-	322	341	17	25	-	-	4	-
PACIFIC	1,740	174	17	1	7,126	9,323	877	476	83	34	11	19
Wash.	103	-	-	-	719	831	72	44	14	-	3	-
Oreg.	71	-	-	-	285	343	58	48	10	1	-	-
Calif.	1,521	144	15	1	5,944	7,859	721	381	59	32	7	19
Alaska	6	2	2	-	123	138	1	2	-	1	-	-
Hawaii	39	28	-	-	55	152	25	1	-	-	1	-
Guam	-	-	-	-	12	-	1	-	-	2	-	-
P.R.	107	22	-	-	15	84	2	26	-	1	-	-
V.I.	1	-	-	-	16	101	5	1	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	13	2	-	-	-	-	-	-

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

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending February 29, 1992, and March 2, 1991 (9th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1992	1992	Cum. 1992	1992	Cum. 1992	Cum. 1991	Cum. 1992	1992	Cum. 1992	1992	Cum. 1992	Cum. 1991	1992	Cum. 1992	Cum. 1991
UNITED STATES	99	5	107	-	15	905	462	51	415	33	172	382	1	27	106
NEW ENGLAND	1	-	1	-	1	3	30	-	-	6	13	25	-	4	-
Maine	-	-	-	-	-	-	3	-	-	1	1	-	-	-	-
N.H.	-	-	-	-	-	-	1	-	-	-	4	9	-	-	-
Vt.	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-
Mass.	1	-	1	-	1	-	14	-	-	5	8	15	-	-	-
R.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
Conn.	-	-	-	-	-	3	11	-	-	-	-	-	-	-	-
MID. ATLANTIC	25	-	22	-	3	486	40	5	29	1	25	51	-	2	55
Upstate N.Y.	2	-	-	-	1	14	17	5	15	1	11	25	-	1	52
N.Y. City	13	-	6	-	1	46	5	-	4	-	-	-	-	-	-
N.J.	7	-	15	-	1	214	8	-	1	-	6	3	-	1	-
Pa.	3	-	1	-	-	212	10	-	9	-	8	23	-	-	3
E.N. CENTRAL	4	-	2	-	1	25	87	8	62	2	18	85	-	5	5
Ohio	1	-	2	-	1	1	15	7	21	1	3	24	-	-	-
Ind.	1	-	-	-	-	-	20	-	5	-	9	16	-	-	1
Ill.	-	-	-	-	-	16	29	-	19	-	1	22	-	5	2
Mich.	1	-	-	-	-	7	19	1	15	-	2	14	-	-	2
Wis.	1	-	-	-	-	1	4	-	2	1	3	9	-	-	-
W.N. CENTRAL	8	1	1	-	-	-	25	2	10	8	14	38	-	1	2
Minn.	3	1	1	-	-	-	5	1	1	-	2	16	-	-	1
Iowa	2	-	-	-	-	-	3	-	3	-	1	4	-	-	-
Mo.	2	-	-	-	-	-	6	1	6	8	8	14	-	-	1
N. Dak.	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
Nebr.	-	-	-	-	-	-	3	-	-	-	1	2	-	-	-
Kans.	1	-	-	-	-	-	8	-	-	-	-	-	-	1	-
S. ATLANTIC	18	4	28	-	1	25	80	34	217	6	22	19	1	3	-
Del.	1	-	-	-	-	4	2	-	-	-	-	-	-	-	-
Md.	6	-	1	-	-	-	6	-	20	-	8	-	-	-	-
D.C.	2	-	-	-	-	-	-	-	2	-	-	-	-	1	-
Va.	3	-	3	-	1	-	13	4	14	-	2	2	-	-	-
W. Va.	-	-	-	-	-	-	5	1	10	-	-	6	-	-	-
N.C.	1	-	-	-	-	-	17	-	26	-	4	7	-	-	-
S.C.	-	-	-	-	-	12	9	2	38	6	6	-	-	-	-
Ga.	-	-	-	-	-	-	10	-	-	-	-	3	-	-	-
Fla.	5	4	24	-	-	9	18	27	107	-	2	1	1	2	-
E.S. CENTRAL	4	-	36	-	-	-	43	-	12	-	5	11	-	-	-
Ky.	-	-	36	-	-	-	19	-	-	-	-	-	-	-	-
Tenn.	1	-	-	-	-	-	11	-	6	-	-	7	-	-	-
Ala.	3	-	-	-	-	-	13	-	4	-	5	4	-	-	-
Miss.	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
W.S. CENTRAL	2	-	-	-	-	5	12	-	9	-	8	9	-	-	-
Ark.	-	-	-	-	-	5	5	-	4	-	3	-	-	-	-
La.	-	-	-	-	-	-	1	-	4	-	-	6	-	-	-
Okla.	2	-	-	-	-	-	6	-	1	-	5	3	-	-	-
Tex.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOUNTAIN	7	-	-	-	-	78	21	1	17	6	17	59	-	-	1
Mont.	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	1	5	-	1	-	4	9	-	-	-
Wyo.	-	-	-	-	-	-	1	-	-	-	-	3	-	-	-
Colo.	4	-	-	-	-	1	3	-	3	1	4	18	-	-	-
N. Mex.	2	-	-	-	-	66	1	N	N	3	7	12	-	-	-
Ariz.	1	-	-	-	-	3	3	-	9	-	-	7	-	-	-
Utah	-	-	-	-	-	-	-	-	1	2	2	10	-	-	-
Nev.	-	-	-	-	-	7	5	1	3	-	-	-	-	-	1
PACIFIC	30	-	17	-	9	283	124	1	59	4	50	85	-	12	43
Wash.	2	-	-	-	7	-	21	1	4	2	7	10	-	-	-
Oreg.	1	-	1	-	-	-	22	N	N	-	5	8	-	1	-
Calif.	24	-	11	-	1	283	74	-	53	1	34	48	-	9	42
Alaska	-	-	5	-	1	-	3	-	-	-	-	5	-	-	-
Hawaii	3	-	-	-	-	-	4	-	2	1	4	14	-	2	1
Guam	-	U	-	U	-	-	-	U	1	U	-	-	U	-	-
P.R.	-	-	-	-	-	1	2	-	-	-	2	6	-	-	-
V.I.	-	-	-	-	-	1	-	1	7	-	-	-	-	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
C.N.M.I.	-	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 II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending February 29, 1992, and March 2, 1991 (9th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	5,694	7,334	45	2,427	3,004	13	33	17	1,005
NEW ENGLAND	120	183	4	34	79	-	8	1	102
Maine	-	-	-	16	16	-	-	-	-
N.H.	-	1	3	-	-	-	-	-	-
Vt.	-	1	-	-	-	-	-	-	-
Mass.	52	93	1	18	23	-	6	1	-
R.I.	10	11	-	-	16	-	-	-	-
Conn.	58	77	-	-	24	-	2	-	102
MID. ATLANTIC	729	1,332	6	473	737	-	3	2	349
Upstate N.Y.	35	103	2	-	47	-	1	-	241
N.Y. City	391	624	-	347	512	-	-	2	-
N.J.	36	209	-	29	122	-	1	-	70
Pa.	267	396	4	97	56	-	1	-	38
E.N. CENTRAL	772	802	15	266	369	-	2	4	18
Ohio	100	101	4	58	65	-	1	3	1
Ind.	42	16	3	27	14	-	-	1	-
Ill.	365	384	1	138	206	-	-	-	3
Mich.	176	214	7	31	61	-	1	-	1
Wis.	89	87	-	12	23	-	-	-	13
W.N. CENTRAL	215	120	5	51	77	2	-	1	162
Minn.	16	13	2	13	7	-	-	-	46
Iowa	4	14	2	4	15	-	-	-	26
Mo.	164	77	-	25	28	2	-	1	2
N. Dak.	-	-	1	-	3	-	-	-	12
S. Dak.	-	1	-	4	6	-	-	-	11
Nebr.	1	1	-	-	3	-	-	-	1
Kans.	30	14	-	5	15	-	-	-	64
S. ATLANTIC	1,728	2,264	3	441	401	3	4	5	229
Del.	40	21	-	5	6	-	-	-	48
Md.	131	235	-	47	34	2	1	-	89
D.C.	100	125	-	23	33	-	1	-	4
Va.	103	174	-	22	38	1	1	-	30
W. Va.	3	4	-	14	14	-	1	-	8
N.C.	411	326	1	68	55	-	-	5	1
S.C.	231	287	1	48	52	-	-	-	19
Ga.	379	539	-	97	71	-	-	-	30
Fla.	330	553	1	117	98	-	-	-	-
E.S. CENTRAL	852	743	-	141	212	3	-	-	19
Ky.	25	13	-	53	51	2	-	-	9
Tenn.	169	338	-	-	39	1	-	-	-
Ala.	415	196	-	73	77	-	-	-	10
Miss.	243	196	-	15	45	-	-	-	-
W.S. CENTRAL	1,021	1,185	-	153	268	5	-	3	42
Ark.	161	69	-	13	30	2	-	2	5
La.	420	394	-	-	20	-	-	-	-
Okla.	50	30	-	18	11	3	-	1	37
Tex.	390	692	-	122	207	-	-	-	-
MOUNTAIN	99	112	3	65	73	-	-	1	14
Mont.	2	1	-	-	-	-	-	-	1
Idaho	1	3	-	5	-	-	-	-	-
Wyo.	-	1	-	-	1	-	-	-	8
Colo.	16	16	1	5	6	-	-	-	-
N. Mex.	11	6	-	14	-	-	-	-	-
Ariz.	40	83	1	29	44	-	-	-	5
Utah	1	2	1	-	13	-	-	1	-
Nev.	28	-	-	12	9	-	-	-	-
PACIFIC	158	593	9	803	788	-	16	-	70
Wash.	9	34	-	32	31	-	-	-	-
Oreg.	13	19	-	13	13	-	-	-	-
Calif.	124	538	9	732	699	-	15	-	65
Alaska	-	2	-	8	13	-	-	-	5
Hawaii	12	-	-	18	32	-	1	-	-
Guam	1	-	-	-	-	-	-	-	-
P.R.	26	60	-	24	15	-	-	-	7
V.I.	11	18	-	1	1	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	3	4	-	-	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending February 29, 1992 (9th Week)

Reporting Area	All Causes, By Age (Years)						P&I†
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	726	527	127	45	18	9	58
Boston, Mass.	182	125	37	13	5	2	15
Bridgeport, Conn.	41	28	9	2	1	1	4
Cambridge, Mass.	23	19	4	-	-	-	2
Fall River, Mass.	34	26	5	1	2	-	1
Hartford, Conn.	91	69	11	9	-	2	3
Lowell, Mass.	37	25	8	4	-	-	3
Lynn, Mass.	22	19	3	-	-	-	4
New Bedford, Mass.	37	33	2	2	-	-	1
New Haven, Conn.	61	38	13	7	1	2	6
Providence, R.I.	36	21	7	1	7	-	2
Somerville, Mass.	7	4	2	1	-	-	3
Springfield, Mass.	59	44	11	3	-	1	11
Waterbury, Conn.	31	25	4	2	-	-	-
Worcester, Mass.	65	51	11	-	2	1	3
MID. ATLANTIC	2,825	1,859	535	300	72	59	176
Albany, N.Y.	42	29	6	5	-	2	2
Allentown, Pa.	17	12	3	2	-	-	1
Buffalo, N.Y.	119	66	20	20	11	2	7
Camden, N.J.	39	27	5	3	-	4	3
Elizabeth, N.J.	29	22	7	-	-	-	-
Erie, Pa.§	57	46	9	1	1	-	1
Jersey City, N.J.	72	42	15	8	7	-	1
New York City, N.Y.	1,454	926	287	186	31	24	77
Newark, N.J.	69	31	24	8	5	1	7
Paterson, N.J.	33	18	8	4	1	2	1
Philadelphia, Pa.	486	319	101	43	8	15	39
Pittsburgh, Pa.§	55	44	6	1	-	4	3
Reading, Pa.	43	37	4	2	-	-	9
Rochester, N.Y.	89	70	12	3	2	2	8
Schenectady, N.Y.	31	25	3	2	-	1	3
Scranton, Pa.§	32	24	4	3	1	-	3
Syracuse, N.Y.	92	72	11	5	2	2	4
Trenton, N.J.	29	18	5	4	2	-	2
Utica, N.Y.	14	11	2	-	1	-	1
Yonkers, N.Y.	23	20	3	-	-	-	4
E.N. CENTRAL	2,203	1,337	391	214	116	145	123
Akron, Ohio	64	44	12	3	3	2	1
Canton, Ohio	28	19	6	1	-	2	2
Chicago, Ill.	523	193	88	95	64	83	21
Cincinnati, Ohio	170	100	37	14	7	12	15
Cleveland, Ohio	165	116	26	12	7	4	2
Columbus, Ohio	175	113	36	16	3	7	6
Dayton, Ohio	107	77	23	5	1	1	8
Detroit, Mich.	239	141	53	25	12	8	10
Evansville, Ind.	40	29	5	4	2	-	-
Fort Wayne, Ind.	46	31	7	3	2	3	4
Gary, Ind.	18	11	3	1	3	-	-
Grand Rapids, Mich.	56	46	4	3	-	3	6
Indianapolis, Ind.	107	60	27	10	5	5	11
Madison, Wis.	26	19	3	1	-	3	4
Milwaukee, Wis.	147	120	20	6	-	1	11
Peoria, Ill.	51	34	9	2	3	3	5
Rockford, Ill.	56	46	6	3	-	1	7
South Bend, Ind.	40	26	4	7	1	2	3
Toledo, Ohio	82	61	15	2	2	2	5
Youngstown, Ohio	63	51	7	1	1	3	2
W.N. CENTRAL	855	625	131	50	23	26	50
Des Moines, Iowa	48	39	7	1	1	-	4
Duluth, Minn.	26	21	3	1	1	-	3
Kansas City, Kans.	35	26	3	3	1	2	2
Kansas City, Mo.	112	80	18	9	4	1	4
Lincoln, Nebr.	29	16	9	2	1	1	2
Minneapolis, Minn.	179	140	22	7	4	6	23
Omaha, Nebr.	109	74	19	7	4	5	6
St. Louis, Mo.	176	131	24	11	5	5	-
St. Paul, Minn.	76	56	12	4	1	3	3
Wichita, Kans.	65	42	14	5	1	3	3

Reporting Area	All Causes, By Age (Years)						P&I†
	All Ages	≥65	45-64	25-44	1-24	<1	Total
S. ATLANTIC	1,387	845	294	173	41	34	96
Atlanta, Ga.	145	81	37	17	4	6	6
Baltimore, Md.	283	169	58	44	11	1	29
Charlotte, N.C.	114	72	21	15	2	4	7
Jacksonville, Fla.	116	65	26	19	6	-	13
Miami, Fla.	114	72	26	9	4	3	-
Norfolk, Va.	80	48	14	10	4	4	4
Richmond, Va.	109	67	25	14	-	3	9
Savannah, Ga.	61	38	14	6	1	2	6
St. Petersburg, Fla.	75	62	7	3	-	3	1
Tampa, Fla.	139	89	36	9	2	3	17
Washington, D.C.	135	73	26	25	7	4	4
Wilmington, Del.	16	9	4	2	-	1	-
E.S. CENTRAL	791	518	158	66	16	33	70
Birmingham, Ala.	124	76	19	16	4	9	2
Chattanooga, Tenn.	94	59	20	9	2	4	8
Knoxville, Tenn.	54	33	15	5	1	-	9
Louisville, Ky.	108	78	13	10	3	4	8
Memphis, Tenn.	191	127	45	11	4	4	18
Mobile, Ala.	89	61	16	6	1	5	10
Montgomery, Ala.	24	17	3	2	-	2	-
Nashville, Tenn.	107	67	27	7	1	5	15
W.S. CENTRAL	1,409	934	239	156	45	35	108
Austin, Tex.	67	45	15	7	-	-	5
Baton Rouge, La.	45	32	7	4	1	1	-
Corpus Christi, Tex.	50	38	7	2	1	2	5
Dallas, Tex.	203	132	34	26	5	6	9
El Paso, Tex.	92	68	12	9	2	1	8
Ft. Worth, Tex.	129	86	23	9	6	5	10
Houston, Tex.	387	215	79	63	17	13	41
Little Rock, Ark.	54	35	6	8	3	2	1
New Orleans, La.	U	U	U	U	U	U	U
San Antonio, Tex.	243	174	36	20	8	5	19
Shreveport, La.	24	18	4	1	1	-	3
Tulsa, Okla.	115	91	16	7	1	-	7
MOUNTAIN	877	571	162	86	25	33	56
Albuquerque, N.M.	93	64	16	5	5	3	6
Colo. Springs, Colo.	44	30	8	5	1	-	3
Denver, Colo.	116	80	19	9	5	3	11
Las Vegas, Nev.	164	95	45	16	6	2	7
Ogden, Utah	18	15	2	1	-	-	1
Phoenix, Ariz.	217	126	42	29	5	15	15
Pueblo, Colo.	29	25	3	1	-	-	2
Salt Lake City, Utah	94	62	12	12	1	7	6
Tucson, Ariz.	102	74	15	8	2	3	5
PACIFIC	1,514	1,021	251	152	44	46	122
Berkeley, Calif.	16	12	-	3	1	-	1
Fresno, Calif.	80	46	16	6	3	9	9
Glendale, Calif.	U	U	U	U	U	U	U
Honolulu, Hawaii	70	42	13	7	6	2	4
Long Beach, Calif.	87	52	15	13	3	4	9
Los Angeles, Calif.	U	U	U	U	U	U	U
Pasadena, Calif.	46	35	6	3	1	1	7
Portland, Oreg.	129	89	23	10	5	2	8
Sacramento, Calif.	206	143	37	18	1	7	22
San Diego, Calif.	186	114	36	20	8	8	22
San Francisco, Calif.	200	127	34	32	4	3	9
San Jose, Calif.	152	108	25	11	2	6	11
Santa Cruz, Calif.	35	27	4	2	2	-	2
Seattle, Wash.	169	123	22	17	5	2	5
Spokane, Wash.	42	36	3	2	1	-	5
Tacoma, Wash.	96	67	17	8	2	2	8
TOTAL	12,587¶	8,237	2,288	1,242	400	420	859

*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.

U: Unavailable

Hepatitis A — Continued

number of reported cases remaining relatively stable during the past 18 months. In contrast, hepatitis A increased more than fourfold in Manhattan during January–June 1991 over the same period in 1990 (58).

Of the 253 cases in Manhattan, 221 (87%) occurred among men. Analysis of the total number of cases by ZIP code of residents indicated that 115 (45%) patients resided in six ZIP code areas corresponding to two Manhattan neighborhoods with large homosexual populations, compared with 17 cases reported from these ZIP code areas in the first half of 1990. Of 189 persons for whom both age and sex were known, 154 (81%) were men aged 20–49 years; this is a 5.5-fold increase over the number of cases reported among this group during the same period in 1990. Race/ethnicity information was available for 102 (40%) of the 253 cases; 85 (83%) occurred among white non-Hispanics.

In May 1991, the New York City Department of Health surveyed 50 persons with hepatitis A. Hepatitis A was diagnosed in each person during January 1–April 15; these persons resided in a Manhattan neighborhood with a large homosexual male population. Telephone interviews were completed for 32 (64%) persons. Twenty-seven (84%) were men; 26 (96%) of these were aged 20–49 years (median: 30 years; range: 22–55 years). Twenty-one (78%) of the 27 men identified themselves as homosexual or bisexual, three (11%) as heterosexual, and three (11%) did not state sexual preference. Male respondents reported a median of one sex partner (range: 0–7) during the 2–6 weeks before onset of illness. Eleven (41%) had no risk factors for hepatitis A other than being homosexual or bisexual. Seven (26%) of the 27 men reported contact with a person with hepatitis A during their incubation periods; two of the seven reported sexual contact with a person with hepatitis A.

These trends continued through the second half of 1991. As of mid-December, 1116 cases of hepatitis A were reported in New York City, with 79% occurring in Manhattan (429) and Brooklyn (452). Of the cases reported from Manhattan, 370 (86%) occurred among men. Of 339 cases for which both age and sex were known, 270 (80%) occurred among men aged 20–49 years.

San Francisco

From January through November 1991, 350 cases of hepatitis A were reported to the San Francisco City Department of Public Health, compared with 254 for the same period in 1990. Of the 350 persons with hepatitis A, 293 (84%) were male, and 186 (78%) of 237 men interviewed identified themselves as homosexual or bisexual. Of the 254 hepatitis A cases reported in 1990, 189 (74%) occurred among men, and 64 (68%) of 94 men interviewed identified themselves as homosexual or bisexual.

CANADA

Toronto

From January through September 1991, 274 cases of hepatitis A were reported to the City of Toronto Department of Public Health, representing a fourfold increase over the number of cases reported during the same period in 1990, when 68 cases were reported (Figure 1). The number of hepatitis A cases reported in Toronto have increased annually, from 36 in 1985 to 86 in 1990. Of the 274 cases in 1991, 234 (85%) were among men aged 20–49 years. Risk-factor information collected on 169 male hepatitis A patients aged 20–49 years in 1991 identified homosexual behavior in 94 (56%) persons, compared with eight of 37 (22%) for the same period in 1990.

Hepatitis A — Continued

Montreal

From January through mid-November 1991, 389 cases of hepatitis A were reported in metropolitan Montreal, an incidence rate of 20.7 per 100,000 population; this represents a fourfold increase in the incidence rate for 1984–1989 of <5.0 per 100,000 population. The rate for men was 36.4 per 100,000 compared with 6.3 per 100,000 for women. Two hundred thirty-four (60%) of the cases were among men aged 20–39 years, and the highest attack rate was among men aged 25–29 years (82.9 per 100,000).

Among 107 persons with hepatitis A interviewed by telephone and for whom a risk factor could be identified, 45 (42%) were homosexual, compared with six (8%) of 72 persons in 1990. No increases were observed for other possible risk factors.

AUSTRALIA

From January through July 1991, 134 cases of hepatitis A were reported to the Health Department of Victoria (which includes the city of Melbourne), compared with 41 cases of hepatitis A reported for all of 1990, 14 for 1989, 31 for 1988, and 72 for 1987. Of the cases in 1991, 102 (76%) occurred among men, and 35 (34%) of those were homosexual.

From January through June 1991, 342 cases of hepatitis A were reported to the New South Wales Health Department (which includes the city of Sydney), compared with 34 cases for all of 1990. Of the 326 persons for whom age and sex information were available, 133 (41%) were aged 20–29 years, and 115 (86%) of these were men. Of the total cases, 131 (38%) were clustered in the eastern suburbs of Sydney, and 60% of these were identified by telephone interview of the attending physician as occurring in homosexual men.

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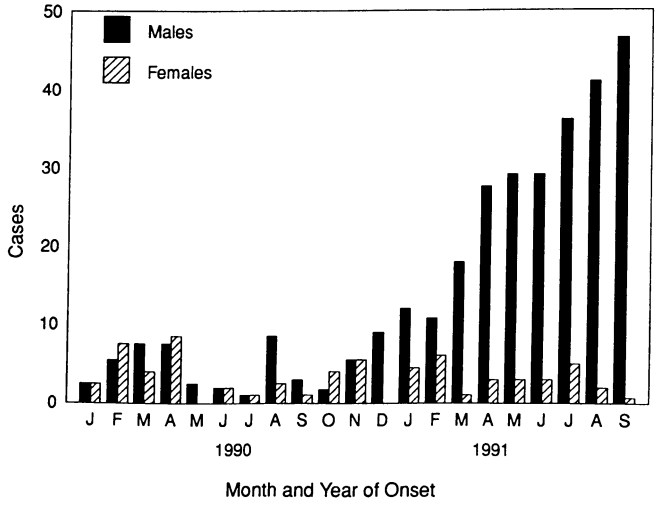
FIGURE 1. Hepatitis A cases — Toronto, January 1990–September 1991



Hepatitis A — Continued

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Editorial Note: Hepatitis A virus (HAV) is transmitted by the fecal-oral route and has traditionally been associated with crowding, poor personal hygiene, improper sanitation, and contamination of food or water. The prominent risk factors for HAV infection include close contact with a hepatitis A patient, travel to developing countries, contact with children in day care centers, and intravenous-drug use.

Although studies consistently have found an increased prevalence of hepatitis B virus infection among homosexual men (*1*), studies of the prevalence of HAV infection among homosexual men have shown conflicting results. Studies in New York and Copenhagen in the late 1970s did not indicate a prevalence of HAV infection among homosexual men higher than that among matched controls (*2,3*). However, a study in Seattle during the same period found a 30% prevalence of HAV infection among homosexual men, compared with 12% ($p<0.01$) among heterosexual men (*4*). A second study conducted in Copenhagen found a prevalence of HAV infection of 36% among homosexual men, compared with 20% in heterosexual men ($p<0.01$) (*5*). HAV infection among homosexual men was correlated with an increased number of sex partners, an increased frequency of oral-anal contact, and multiple episodes of syphilis (*4,5*).

The age and sex distribution of persons with hepatitis A reported to CDC's Viral Hepatitis Surveillance Program indicates that approximately 50% of cases occur among persons 20–39 years of age, and 15% occur among children aged <10 years. The male-female ratio is generally 1:1. Data presented in this report indicate a substantial shift in the sex distribution of and risk factors for hepatitis A in several cities throughout the world. This is in contrast to recent trends showing a decline in the incidence of gonorrhea and hepatitis B among homosexual men as a result of educational efforts targeted at reducing high-risk sexual behavior (*6,7*). The increase in hepatitis A among homosexual men may be a reflection of 1) a population of susceptible homosexual men who have recently become sexually active with an increase in the number of sex partners; 2) a return to unsafe sexual practices that might promote fecal contamination (e.g., oral-anal contact); and/or 3) misperceptions among the homosexual community regarding the relative safety of certain sexual behaviors in the transmission of sexually transmitted diseases (STDs) other than human immunodeficiency virus.

Early recognition of increases in hepatitis A among homosexual men should prompt public health officials to collect detailed information concerning behaviors that would place homosexual men at increased risk for acquiring hepatitis A and to promote behavior that prevents further spread of the virus. A public education campaign in Denver to disseminate information about routes of transmission of HAV, with emphasis on those associated with sexual activity, was initiated in May 1991. Written material was posted in areas frequented by homosexuals, and information was communicated through area media outlets. Although the effectiveness of the Denver campaign is difficult to assess, hepatitis A patients stated during subsequent interviews that, as a result of the information campaign, they recognized early symptoms and sought medical attention.

Hepatitis A — Continued

In addition to disseminating information on hepatitis A prevention, educational efforts should continue to be directed toward changing behaviors that would place homosexual men at risk of acquiring any STD.

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Notices to Readers

Publication of *NEG and NIOSH Basis for an Occupational Health Standard: Propylene Glycol Ethers and Their Acetates*

CDC's National Institute for Occupational Safety and Health (NIOSH) has recently released *NEG and NIOSH Basis for an Occupational Health Standard: Propylene Glycol Ethers and Their Acetates* * (*1*). This document was developed as the result of an agreement between NIOSH and the Nordic Expert Group for Documentation of Occupational Exposure Limits (NEG) to exchange occupational safety and health information and expertise.

The document provides background information on occupational exposure limits. It includes results of a literature survey for five propylene glycol monoalkyl ethers: propylene glycol monomethyl ether (PGME), propylene glycol monomethyl ether acetate (PGMEA), their beta isomers, and dipropylene glycol monomethyl ether (DPGME).

Propylene glycol ethers are used industrially as solvents for paints, lacquers, resins, oils, and fats. DPGME is often used in cosmetics. Approximately 329,000 workers are potentially exposed to PGME in the United States. Approximately 306,000 workers are potentially exposed to PGMEA, and 184,000 to DPGME (CDC, National Occupational Exposure Survey, 1981–1983). The use of propylene glycol ethers appears to have increased considerably from 1985 to 1989. One reason for the increase is probably the replacement of ethylene glycol ethers by propylene glycol ethers because of the reproductive toxicity associated with the former group of solvents (*2*).

*Single copies of this document are available without charge from the Information Dissemination Section, Division of Standards Development and Technology Transfer, NIOSH, 4676 Columbia Parkway, Cincinnati, OH 45226, telephone: (513) 533-8287.

Notices to Readers — Continued

References
1. NIOSH. NEG and NIOSH basis for an occupational health standard: propylene glycol ethers and their acetates. Cincinnati: US Department of Health and Human Services, Public Health Service, CDC, 1991;DHHS publication no. (NIOSH)91-103.
2. NIOSH. Criteria for a recommended standard: occupational exposure to ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, and their acetates. Cincinnati: US Department of Health and Human Services, Public Health Service, CDC, 1991;DHHS publication no. (NIOSH)91-119.

Publication of *NIOH and NIOSH Basis for an Occupational Health Standard. Acrylamide: A Review of the Literature*

As part of an agreement with the National Institute of Occupational Health (NIOH) in Solna, Sweden, CDC's National Institute for Occupational Safety and Health (NIOSH) develops documents to provide the scientific basis for establishing recommended occupational exposure limits. One such document, *NIOH and NIOSH Basis for an Occupational Health Standard. Acrylamide: A Review of the Literature* (*1*), was recently released.*

Acrylamide is an odorless, white, crystalline solid used as a monomer or as a raw material in the production of polyacrylamides. Workers potentially exposed to acrylamide monomer are employed in acrylamide manufacturing and processing, grouting operations, and research and analytical laboratories.

More than 10,000 U.S. workers were potentially exposed to acrylamide monomer during 1981–1983, either in acrylamide manufacturing and processing or in grouting operations (particularly in sewer grouting) (CDC, National Occupational Exposure Survey, 1981–1983). An additional 100,000–200,000 U.S. workers are researchers and technicians involved in the preparation of polyacrylamide gels (*2*).

Only the acrylamide monomer is toxic; polyacrylamide products are generally considered nontoxic. Acrylamide monomer may be neurotoxic, carcinogenic, genotoxic, and hazardous to reproduction. Acrylamide exposures cause cancer and reproductive effects in animals, but epidemiologic studies have not demonstrated these effects in humans.

The Occupational Safety and Health Administration's current occupational exposure limit for acrylamide is 0.03 mg/m^3. Standards for other countries are included in the document's appendix.

References
1. NIOSH. NIOH and NIOSH basis for an occupational health standard. Acrylamide: a review of the literature. Cincinnati: US Department of Health and Human Services, Public Health Service, CDC, 1991;DHHS publication no. (NIOSH)91-115.
2. Environmental Protection Agency. Preliminary assessment of health risks from exposure to acrylamide. Washington, DC: US Environmental Protection Agency, Office of Toxic Substances, 1988.

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*Single copies of this document are available without charge from the Information Dissemination Section, Division of Standards Development and Technology Transfer, NIOSH, 4676 Columbia Parkway, Cincinnati, OH 45226; telephone (513) 533-8287.

Notices to Readers — Continued

Publication of *Current Intelligence Bulletin 55: Carcinogenicity of Acetaldehyde and Malonaldehyde, and Mutagenicity of Related Low-Molecular-Weight Aldehydes*

CDC's National Institute for Occupational Safety and Health (NIOSH) has recently released *Current Intelligence Bulletin 55: Carcinogenicity of Acetaldehyde and Malonaldehyde, and Mutagenicity of Related Low-Molecular-Weight Aldehydes* (*1*). This publication is one of a series of current intelligence bulletins (CIBs) that provide new information or update existing data on chemical substances, physical agents, or safety hazards found in the workplace. The document is available to the public.*

CIB 55 includes recent information about the potential carcinogenicity of acetaldehyde and malonaldehyde, as well as the mutagenicity and toxicity of nine related aldehydes (acrolein, butyraldehyde, crotonaldehyde, glutyraldehyde, glyoxal, paraformaldehyde, propiolaldehyde, propionaldehyde, and valeraldehyde).

In 1982, 280,000 tons of acetaldehyde were produced in the United States. This compound is used primarily as a chemical substrate in the manufacture of acetic acid; it is also used in the synthesis of pyridine and pyridine bases, peracetic acid, pentaerythritol, 1,3-butylene glycol, and chloral. In addition, acetaldehyde has been used in the silvering of mirrors; in leather tanning; in glue and casein products; in the paper industry; as a denaturant for alcohol; in fuel compositions; as a hardener for gelatin fibers; as a preservative for fish; and in the manufacture of cosmetics, aniline dyes, plastics, and synthetic rubber. Acetaldehyde is also a probable metabolite of malonaldehyde.

An estimated 14,000 U.S. workers are exposed to acetaldehyde from direct handling (CDC, National Occupational Exposure Survey, 1981–1983). Additional workers are potentially exposed where it is used in tradenamed or proprietary products (*1*).

Malonaldehyde is primarily used in research laboratories. Annual production rates vary from year to year, and no figures are available for the number of workers exposed to this chemical in the United States (*1*).

Long-term inhalation studies of acetaldehyde produced nasal cancers in rats and laryngeal cancers in hamsters (*1*). A long-term gavage study of malonaldehyde produced adenomas and carcinomas of the thyroid gland and adenomas of the pancreatic islet cells in rats. Acetaldehyde and malonaldehyde were also mutagenic in a variety of assays. Adequate epidemiologic data are not available from workers exposed to acetaldehyde or malonaldehyde. However, both chemicals meet the criteria of the Occupational Safety and Health Administration for potential carcinogens. NIOSH therefore considers acetaldehyde and malonaldehyde to be potential occupational carcinogens and recommends that worker exposure to acetaldehyde and malonaldehyde be reduced to the lowest feasible concentration.

The nine related aldehydes, because of their chemical reactivity and mutagenicity, are similar to those of acetaldehyde and malonaldehyde. Even though their carcinogenic potential has not been adequately evaluated by studies in experimental animals, CIB 55 recommends that consideration be given to reducing occupational exposures to these nine aldehydes.

*Single copies of this document are available without charge from the Information Dissemination Section, Division of Standards Development and Technology Transfer, NIOSH, 4676 Columbia Parkway, Cincinnati, OH 45226; telephone (513) 533-8287.

Notices to Readers — Continued

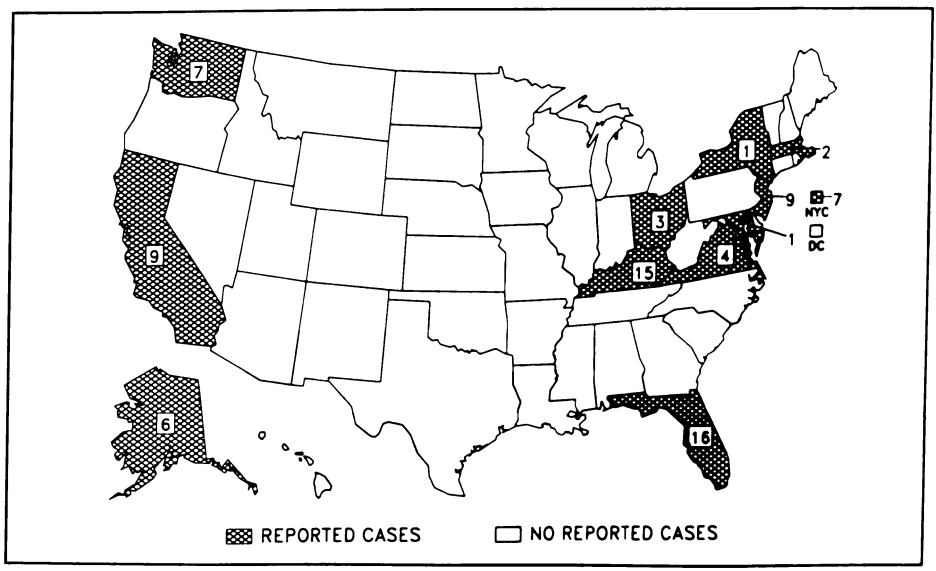
Reference

1. NIOSH. Current Intelligence Bulletin 55: carcinogenicity of acetaldehyde and malonaldehyde, and mutagenicity of related low-molecular–weight aldehydes. Cincinnati: US Department of Health and Human Services, Public Health Service, CDC, NIOSH, 1991;DHHS publication no. (NIOSH)91-112.

Erratum: Vol. 41, No. RR-2

In the *MMWR Recommendations and Reports* (no. RR-2) dated February 28, 1992, entitled, "Regulations for Implementing the Clinical Laboratory Improvement Amendments of 1988: A Summary," the stock number provided under "Additional Information" on page 17 is incorrect. The correct stock number is 069-001-00042-4.

Reported cases of measles, by state — United States, weeks 5–8, 1992



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

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