

M M W R

MORBIDITY AND MORTALITY WEEKLY REPORT

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Current Trends

Cigarette Advertising – United States, 1988

Cigarette smoking is the most important preventable cause of death in the United States (1), yet cigarettes are one of the most heavily advertised products. Cigarette advertising themes typically associate smoking with high-style living; healthy activities; and economic, social, and professional success (2). Cigarette advertising campaigns are increasingly targeting women, minorities, and blue-collar workers (3,4), groups that account for an increasing percentage of the smoking population (1). This report provides data on cigarette advertising expenditures for 1988, comparison data from earlier years, and rankings of cigarettes among all products and services by advertising expenditures.

Cigarette Advertising Expenditures

Data collected by the U.S. Federal Trade Commission (FTC) from the six major U.S. cigarette manufacturers indicate that in 1988 cigarette advertising and promotional expenditures in the United States reached an all-time high of \$3.27 billion—a 26.9% increase over 1987 expenditures of \$2.58 billion (5). During the same period, the consumer price index (all items) increased 4.1%. From 1975 to 1988, total cigarette advertising and promotional expenditures increased more than sixfold; when adjusted by the consumer price index to constant 1975 dollars, expenditures increased threefold (Figure 1).

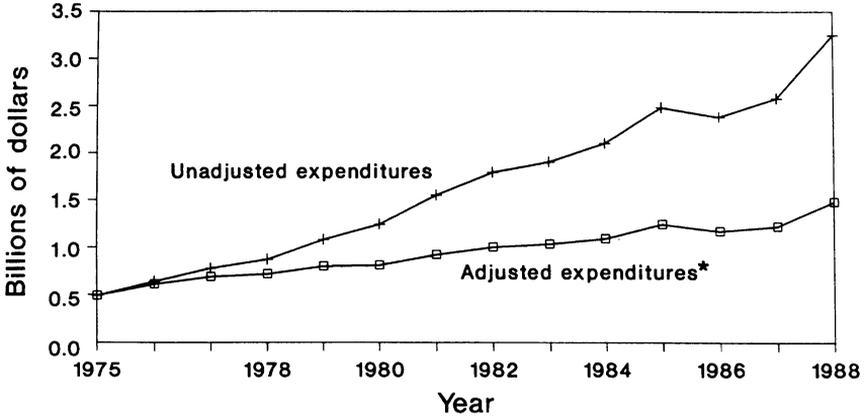
In 1988, cigarette advertising and promotional expenditures related to the sponsorship of sporting events were \$84.0 million (2.6% of total cigarette advertising and promotional expenditures) and included sponsorship, newspaper advertising, and other expenditures.

From 1975 to 1988, the proportion of advertising expenditures for cigarettes yielding ≤ 15 mg of "tar" has consistently exceeded their domestic market share (Figure 2) by an average of 14.1 percentage points. In 1988, 60.7% of advertising and promotional expenditures were for lower-yield cigarettes; these cigarettes accounted for 54.2% of the domestic market in 1988 (5; FTC, unpublished data).

Cigarette Advertising – Continued

The FTC classifies cigarette advertising and promotional expenditures into 14 categories that are consolidated into 10 categories here (Table 1). Five categories are traditional forms of print advertising; the remaining five represent promotional activities. From 1975 to 1988, the proportion of total expenditures for each of the five print advertising categories decreased, while the proportion of total expenditures for each of the promotion categories except free-sample distribution increased. The

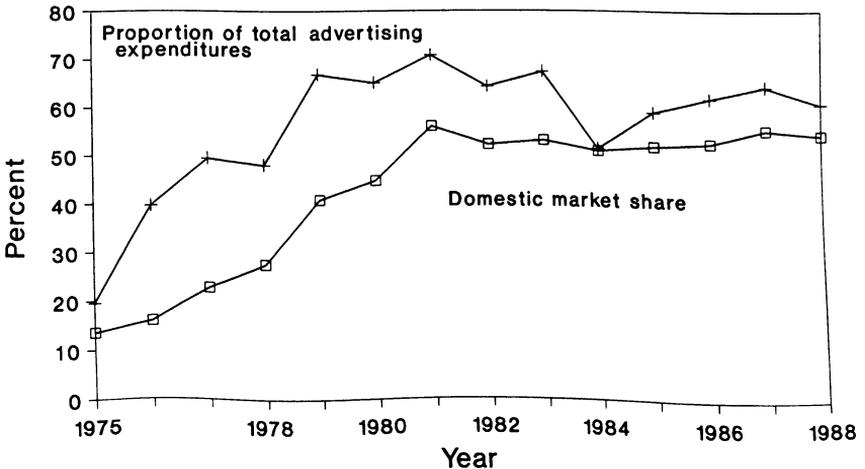
FIGURE 1. Cigarette advertising and promotional expenditures, by year – United States, 1975–1988



Source: reference 5; Federal Trade Commission, unpublished data.

**"Adjusted" expenditures are adjusted by the consumer price index (all items) to constant 1975 dollars.

FIGURE 2. Domestic market share and proportion of total advertising and promotional expenditures related to cigarettes yielding ≤ 15 mg of "tar," by year – United States, 1975–1988



Source: reference 5; Federal Trade Commission, unpublished data.

Cigarette Advertising – Continued

largest proportional increase occurred in the category "all other"; 88% of the 1988 expenditures in this category were for coupons and "retail value added" promotions (e.g., a "free" pack of cigarettes with the purchase of one or more packs). The proportion of total advertising and promotional expenditures dedicated to promotional activities has increased steadily from 1975 (25.5%) to 1988 (68.0%).

Rankings among All Products and Services

Cigarettes remain one of the most heavily advertised products in the print media. In 1988, cigarettes were the most heavily advertised product* in outdoor media, the second most heavily advertised product in magazines (after passenger cars), and the sixth most heavily advertised product in newspapers (Newspaper Advertising Bureau,

*According to the Media Records classification system, national advertising expenditures for products and services are classified into major categories (e.g., alcoholic beverages, automotive products, foods, tobacco, and transportation) and subcategories (e.g., beer, passenger cars, nonalcoholic beverages, cigarettes, and airlines). The rankings here compare cigarettes to all other subcategories.

TABLE 1. Cigarette advertising and promotional expenditures* – United States, 1975, 1981, and 1988

Expenditure category	1975		1981		1988	
	Millions of dollars	% of total	Millions of dollars	% of total	Millions of dollars	% of total
Advertising						
Newspapers	104.5	21.3	358.1	23.1	105.8	3.2
Magazines	131.2	26.6	291.2	18.8	355.1	10.8
Outdoor	84.3	17.2	228.1	14.7	319.3	9.7
Transit [†]	10.9	2.2	21.9	1.4	44.4	1.4
Point of sale	35.3	7.2	99.0	6.4	222.3	6.8
Total advertising	366.2	74.5	998.3	64.5	1046.8	32.0
Promotion						
Promotional allowances [§]	72.0	14.7	229.1	14.8	879.7	26.9
Free-sample distribution	24.2	4.9	81.5	5.3	74.5	2.3
Distribution expenses [¶]	10.1	2.1	115.1	7.4	190.0	5.8
Public entertainment ^{**}	8.5	1.7	37.4	2.4	88.1	2.7
All others	10.3	2.1	86.2	5.6	995.8	30.4
Total promotion	125.1	25.5	549.4	35.5	2228.1	68.0
TOTAL	491.3	100.0	1547.7	100.0	3274.9	100.0

Source: U.S. Federal Trade Commission (FTC) (5; FTC, unpublished data).

*Expenditure data have been rounded; percentages were calculated before rounding. Because of rounding, percentages may not total 100%.

[†]Advertising in or on public transportation facilities.

[§]Paid to retailers and any other persons (other than full-time company employees involved in cigarette distribution and sales) to facilitate the sale of cigarettes.

[¶]Net costs of distributing noncigarette products either bearing or not bearing cigarette brand names to consumers by sale, redemption of coupons, or otherwise.

**Promotion and sponsorship of sporting, musical, and other public entertainment events bearing or otherwise displaying the name of the company or any of its cigarettes.

Cigarette Advertising – Continued

unpublished data, 1989). When advertising expenditures for these three media are combined, cigarettes were the second most heavily advertised product overall (after passenger cars).

In 1988, cigarette advertising expenditures accounted for 16.9%, 5.7%, and 0.4% of total advertising expenditures (national, retail, and classified advertising) in outdoor media, magazines, and newspapers, respectively (Newspaper Advertising Bureau, unpublished data, 1989). These percentages represent a decline from 1985 (22.3%, 7.1%, and 0.8%, respectively) (3) and are consistent with the shift in emphasis from print advertising to promotional activities.

Reported by: US Federal Trade Commission, Washington, DC. Office on Smoking and Health, Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The mass media are used to communicate messages designed to promote health and prevent disease and injury. For example, public service announcements and paid advertisements have been used to encourage exercise; immunization; proper dietary habits; screening for cancer, high blood pressure, and high blood cholesterol; use of safety belts and car restraints for infants; avoidance of tobacco, alcohol, and illicit drugs; and avoidance of high-risk sexual practices (6). However, advertising and promotions also have been used to encourage unhealthy activities; cigarette smoking is one such activity.

Cigarette advertising and promotion may increase cigarette consumption by 1) encouraging children and adolescents to experiment with and initiate regular use of cigarettes; 2) deterring current smokers from quitting; 3) prompting former smokers to begin smoking again; and 4) increasing smokers' daily cigarette consumption by serving as an external cue to smoke. Cigarette advertising may also increase consumption through indirect means such as the inhibiting effect of cigarette advertising revenues on media coverage of issues related to smoking and disease (7). Furthermore, the ubiquity of cigarette advertising may contribute to the perception that smoking is less hazardous, more prevalent, and more socially acceptable than it is (1,8).

The proportion of cigarette advertising expenditures for cigarettes yielding ≤ 15 mg of "tar" has increased since 1975 and has consistently exceeded the domestic market share of these cigarettes (Figure 2). These findings suggest that cigarette manufacturers are seeking to expand the market for these cigarettes (3). Persons who smoke lower-yield cigarettes may believe these products to be less hazardous and thus may be less motivated to quit. According to the 1986 Adult Use of Tobacco Survey, about one fifth of smokers believe that the kind of cigarettes they smoke are less hazardous than others (1). However, any benefits of smoking lower-yield cigarettes are minimal in comparison with the benefits of quitting smoking entirely (9,10).

Promotional activities differ in important ways from traditional advertising. Whereas print advertising may provide information or shape attitudes about a product, certain promotional activities (e.g., free samples and coupons) are designed to result in the trial and/or purchase of the product (11). Free samples may encourage initiation of tobacco use among children and adolescents, especially when distributed at youth-oriented events (e.g., concerts) (12). Cigarette sponsorship of sporting events allows cigarette brand names to be shown or mentioned on television, even though cigarette commercials are prohibited in the broadcast media, and cigarette sponsorship of televised sporting events is reported to increase cigarette brand

Cigarette Advertising – Continued

recognition among children (13). Sponsorship of cultural events may facilitate the targeting of certain ethnic and racial groups.

Numerous policy options for stemming the promotion of tobacco products are being considered within the public health community. Options that have been suggested include: 1) funding a substantial antismoking "counteradvertising" campaign; 2) enforcing an advertising and promotion code that defines permissible imagery in tobacco ads and methods of enforcement; 3) eliminating all imagery (e.g., pictures of persons and objects) in tobacco ads, allowing only words and pictures of the product ("tombstone advertising"); 4) prohibiting tobacco advertising in media that reach a substantial audience of young people; 5) repealing the federal prohibition of state and local regulation of cigarette advertising; 6) eliminating the tax deductibility of tobacco advertising expenditures as a business expense; and 7) banning all tobacco advertising and promotion (1,8,14,15). Further discussion of these and other ideas will continue at federal, state, and local levels of government.

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Update: Filovirus Infections Among Persons with Occupational Exposure to Nonhuman Primates

Since November 1989, evidence of active filovirus infection has been detected in cynomolgus (*Macaca fascicularis*) monkeys imported from the Philippines to quarantine facilities in Virginia, Pennsylvania, and Texas (1-3). CDC has used an indirect immunofluorescent antibody assay (IFA) to examine approximately 2200 serum specimens from nonhuman primates (cynomolgus, rhesus, and African green monkeys) obtained from a variety of settings (including the quarantine facilities in which filovirus transmission has been documented). Approximately 10% of these specimens have been positive for antibody to at least one of four filovirus test antigens (Ebola-Zaire, Ebola-Sudan, Filovirus-Reston, and Marburg).

Filovirus-related illness has not been observed in any human who has been in contact with infected monkeys or their blood or tissues since November 1989. However, antibody to one or more filovirus antigens has been detected in six of the 178 persons tested as of April 23 (Table 1). Of the six persons, four—all animal handlers at one quarantine facility—had serologic evidence of recent infection (4). It is likely that one of the four was infected when he lacerated a finger while performing a necropsy on an infected animal (4); the mode of transmission for the other three is unknown. The other two persons were seropositive at low titer and had evidence of past infection; one of these persons, a worker at a facility that temporarily houses nonhuman primates before delivery to U.S. quarantine facilities, has had regular contact with quarantined monkeys for 3 years. The other person is employed as an animal handler at a second quarantine facility.

Reported by: RK Miller, MD, Fairfax Health District; JY Baumgardner, MAS, CW Armstrong, MD, SR Jenkins, VMD, CD Woolard, MPH, GB Miller, Jr, MD, State Epidemiologist, Virginia State Dept of Health. LD Polk, MD, Bucks County Health Dept; DR Tavris, MD, State Epidemiologist, Pennsylvania State Dept of Health. KA Hendricks, MD, JP Taylor, MPH, DM Simpson, MD, State Epidemiologist, Texas Dept of Health. S Schultz, MD, City Epidemiologist, New York City Dept of Health; L Sturman, MD, JG Debbie, DVM, DL Morse, MD, State Epidemiologist, New York State Dept of Health. PE Rollin, MD, PB Jahrling, PhD, TG Ksiazek, DVM, CJ Peters, MD, US Army Medical Research Institute of Infectious Diseases, Frederick, Maryland. Office of the Director, National Institute for Occupational Safety and Health; Div of Quarantine, Center for Prevention Svcs; Scientific Resources Program, Div of Viral and Rickettsial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Epidemiologic and laboratory studies suggest that there is a risk of transmission of filoviruses to humans that is associated with routine handling and management of quarantined nonhuman primates. Studies are in progress to quantify and better define the risk for infection among persons working with nonhuman primates in U.S. quarantine facilities and among their household and sexual contacts. In addition, studies are under way to better define the frequency and duration of importation of these agents into the United States.

Serious health consequences, including hemorrhagic disease and death, have resulted from human filovirus infections in Europe (Marburg virus) (5), and in Africa (Ebola and Marburg viruses) (6-9). To minimize the health hazard from these agents and any potential hazard from the newly recognized filovirus strains, on April 17, 1990, CDC implemented a procedure (10), effective immediately, requiring the issuance of a special permit from the Director, CDC, before importation of individual shipments of cynomolgus, rhesus (*M. mulatta*), and African green (*Cercopithecus aethiops*) monkeys into the United States. Registered importers of nonhuman

Filovirus Infections — Continued

primates have been notified of the requirement to submit a detailed written plan that specifies steps that will be taken to prevent exposure of persons and animals to filoviruses during the entire importation and quarantine process for imported non-human primates. This plan, together with a request for a special permit, must be submitted to the CDC Director for consideration at least 30 days before the proposed importation of any of the three nonhuman primate species into the United States.

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(Continued on page 273)

TABLE 1. Characteristics of animal handlers* with serologic evidence of filovirus infection — United States, December 1989–April 1990

Worker	No. years working with nonhuman primates	Date of blood specimen	Filovirus IFA result†
1 [§]	>3	Dec. 15	Positive
		Dec. 22	Positive
2 [¶]	>10	Mar. 20	Positive
		Apr. 4	Positive
3	>10	Dec. 1	Negative
		Mar. 21	Positive
		Apr. 4	Positive
4	<1	Dec. 1	Negative
		Mar. 20	Positive
		Apr. 4	Positive
5 ^{**}	>10	Dec. 1	Negative
		Mar. 1	Negative
		Mar. 22	Positive
6 [§]	1	Mar. 12	Positive
		Mar. 31	Positive

*All six persons reported direct contact with nonhuman primates as animal-care workers. Activities of such persons may include, but are not necessarily limited to, uncrating newly arrived animals, feeding and watering animals, cleaning cages or crates, medicating and performing other procedures on animals (injections or gavage feeding), removing dead animals from crates, assisting with necropsies (not performed at the temporary holding facility), and routinely cleaning animal-care areas.

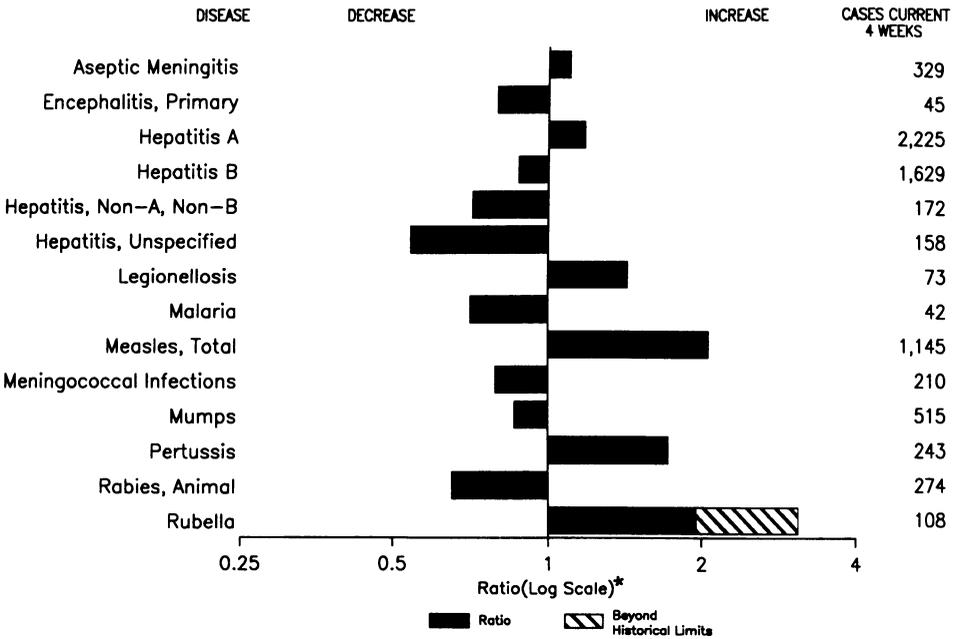
†A positive immunofluorescent antibody assay (IFA) has a titer ≥ 16 ; a negative IFA has a titer < 16 . Results were confirmed by Western blot test.

§Stable IFA titer.

¶Rise in IFA titer between the two specimens.

**On February 28, this person lacerated a finger while assisting in a necropsy on a nonhuman primate that was later shown to have an active filovirus infection. Specific exposures that may have led to the filovirus infection in the other workers are unknown.

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending April 21, 1990, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from comparable, previous, and subsequent 4-week periods for past 5 years).

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending April 21, 1990 (16th Week)

	Cum. 1990		Cum. 1990
AIDS	13,635	Plague	-
Anthrax	-	Poliomyelitis, Paralytic*	-
Botulism: Foodborne	1	Psittacosis	49
Infant	14	Rabies, human	-
Other	2	Syphilis: civilian	14,656
Brucellosis	9	military	88
Cholera	1	Syphilis, congenital, age < 1 year	-
Congenital rubella syndrome	1	Tetanus	15
Diphtheria	2	Toxic shock syndrome	113
Encephalitis, post-infectious	32	Trichinosis	12
Gonorrhoea: civilian	202,940	Tuberculosis	5,867
military	2,921	Tularemia	8
Leprosy	52	Typhoid fever	115
Leptospirosis	12	Typhus fever, tickborne (RMSF)	30
Measles: imported	452		
indigenous	4,721		

*One case of suspected poliomyelitis has been reported in 1990; none of 13 suspected cases in 1989 have been confirmed to date. Nine of 14 suspected cases in 1988 were confirmed and all were vaccine-associated.

TABLE II. Cases of specified notifiable diseases, United States, weeks ending April 21, 1990, and April 22, 1989 (16th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leptosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
			Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990		
UNITED STATES	13,635	1,351	196	32	202,940	205,065	8,915	6,373	616	544	345	52
NEW ENGLAND	527	67	6	-	5,856	5,746	193	340	19	28	14	-
Maine	21	2	1	-	80	86	2	16	3	1	1	-
N.H.	35	6	-	-	58	63	4	18	1	2	2	-
Vt.	3	7	-	-	24	24	2	18	2	-	3	-
Mass.	293	21	1	-	2,252	2,284	140	221	8	24	5	-
R.I.	24	19	-	-	308	474	22	20	-	1	3	-
Conn.	151	12	4	-	3,134	2,815	23	47	5	-	-	-
MID. ATLANTIC	4,277	193	13	1	28,239	34,401	1,396	1,095	72	42	87	11
Upstate N.Y.	740	83	12	-	4,004	5,038	313	231	12	14	36	1
N.Y. City	2,280	35	1	-	12,336	14,869	164	359	12	15	8	7
N.J.	862	-	-	-	4,304	4,385	160	244	22	-	9	2
Pa.	395	75	-	1	7,595	10,109	759	261	26	13	34	1
E.N. CENTRAL	838	213	44	6	39,605	35,272	593	830	30	44	97	-
Ohio	198	63	11	2	12,385	9,238	79	171	10	6	37	-
Ind.	70	32	2	2	3,307	2,265	59	210	3	17	18	-
Ill.	371	37	15	2	12,087	10,723	223	99	7	10	4	-
Mich.	155	72	14	-	9,742	9,974	149	216	8	11	26	-
Wis.	44	9	2	-	2,084	3,072	83	134	2	-	12	-
W.N. CENTRAL	324	58	14	1	10,799	8,841	481	282	33	9	19	-
Minn.	57	4	7	1	1,284	894	67	31	11	-	-	-
Iowa	18	7	1	-	847	748	99	29	1	2	2	-
Mo.	196	26	1	-	6,319	5,333	197	166	9	5	14	-
N. Dak.	-	2	-	-	24	41	3	3	2	1	-	-
S. Dak.	1	2	2	-	61	84	15	4	1	-	-	-
Nebr.	19	8	3	-	505	499	32	15	2	-	1	-
Kans.	33	9	-	-	1,759	1,242	68	34	7	1	2	-
S. ATLANTIC	3,123	324	52	10	56,867	55,838	945	1,146	93	75	51	2
Del.	34	9	1	-	864	932	43	27	2	-	3	-
Md.	360	52	6	-	5,815	6,464	436	158	12	3	14	1
D.C.	201	1	-	-	3,148	3,527	7	12	4	-	-	-
Va.	289	61	21	2	5,443	4,684	66	71	11	59	6	-
W. Va.	24	4	4	-	420	431	8	30	2	-	-	-
N.C.	221	31	14	-	9,362	8,068	194	339	46	-	9	-
S.C.	116	3	-	-	4,779	5,048	15	194	8	6	6	-
Ga.	401	29	3	1	12,700	10,885	81	142	3	3	10	-
Fla.	1,477	134	3	7	14,336	15,799	95	173	5	4	3	1
E.S. CENTRAL	290	108	17	-	17,031	16,561	107	474	40	3	25	-
Ky.	64	33	5	-	1,831	1,527	30	141	14	2	9	-
Tenn.	83	23	9	-	5,709	5,288	43	264	16	-	9	-
Ala.	61	40	3	-	5,538	5,469	33	65	8	-	7	-
Miss.	82	12	-	-	3,953	4,277	1	4	2	1	-	-
W.S. CENTRAL	1,328	75	6	4	19,389	21,204	840	464	62	71	22	14
Ark.	45	4	-	-	2,606	1,966	160	26	3	8	4	-
La.	224	10	3	-	4,072	4,452	43	91	-	2	7	-
Okla.	55	8	-	4	1,849	1,955	184	44	9	9	9	-
Tex.	1,004	53	3	-	10,862	12,831	453	303	50	52	2	14
MOUNTAIN	375	59	5	-	4,077	4,119	1,510	491	43	53	20	-
Mont.	3	1	-	-	49	59	34	31	2	3	-	-
Idaho	13	-	-	-	32	71	25	26	7	-	1	-
Wyo.	-	1	1	-	51	40	21	6	1	-	-	-
Colo.	106	17	1	-	966	918	91	62	13	18	3	-
N. Mex.	32	3	-	-	352	425	195	52	1	-	2	-
Ariz.	139	16	3	-	1,742	1,530	925	156	14	25	8	-
Utah	30	13	-	-	139	148	84	26	3	2	1	-
Nev.	52	8	-	-	746	928	135	132	2	5	5	-
PACIFIC	2,553	254	39	10	21,077	23,083	2,850	1,251	224	219	10	25
Wash.	177	-	1	1	1,820	1,986	483	193	45	9	2	1
Oreg.	92	-	-	-	814	868	319	141	12	5	-	-
Calif.	2,223	231	35	8	18,009	19,806	1,955	873	163	201	7	20
Alaska	13	2	2	-	329	278	56	22	3	1	-	-
Hawaii	48	21	1	1	105	145	37	22	1	3	1	4
Guam	1	-	-	-	48	40	2	1	-	4	-	-
P.R.	639	30	4	-	347	319	49	55	-	18	-	-
V.I.	6	-	-	-	148	177	-	4	-	-	-	-
Amer. Samoa	-	-	-	-	24	11	12	-	-	-	-	5
C.N.M.I.	-	-	-	-	52	23	3	1	-	-	-	1

N: Not notifiable

U: Unavailable

C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE II. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending April 22, 1990, and April 21, 1989 (16th Week)

Reporting Area	Malaria		Measles (Rubeola)				Menin- gococcal Infections	Mumps		Pertussis			* Rubella		
	Cum. 1990	1990	Indigenous		Imported*	Total Cum. 1989		Cum. 1990	1990	Cum. 1990	1990	Cum. 1990	Cum. 1989	1990	Cum. 1990
			1990	Cum. 1990	1990		Cum. 1990								
UNITED STATES	280	256	4,721	10	452	3,412	946	118	1,802	94	855	585	22	239	95
NEW ENGLAND	32	3	93	1	13	133	57	-	16	3	100	15	-	3	1
Maine	-	-	27	-	-	-	7	-	-	3	4	4	-	-	-
N.H.	3	-	-	-	8	1	2	-	6	-	10	5	-	-	-
Vt.	3	-	-	-	1	1	5	-	1	-	3	2	-	-	1
Mass.	18	-	4	-	1	24	26	-	4	-	75	-	-	-	-
R.I.	3	3	23	1†	3	20	4	-	3	-	-	2	-	1	-
Conn.	5	-	39	-	-	87	13	-	2	-	8	2	-	2	-
MID. ATLANTIC	67	21	429	2	123	358	151	4	103	62	254	43	-	2	3
Upstate N.Y.	14	-	137	-	101	80	53	3	50	51	211	21	-	1	2
N.Y. City	24	2	43	2†	15	34	15	-	-	-	-	1	-	-	1
N.J.	15	-	8	-	-	222	33	-	19	-	7	17	-	-	-
Pa.	14	19	241	-	7	22	50	1	34	11	36	4	-	1	-
E.N. CENTRAL	15	48	1,756	-	132	579	128	12	198	12	191	79	-	13	7
Ohio	3	-	213	-	2	322	42	10	47	11	53	1	-	-	2
Ind.	-	43	153	-	-	-	13	-	5	-	31	8	-	-	-
Ill.	5	-	691	-	4	248	32	-	59	-	51	30	-	13	4
Mich.	4	5	212	-	125	1	28	2	61	1	32	8	-	-	-
Wis.	3	-	487	-	1	8	13	-	26	-	24	32	-	-	1
W.N. CENTRAL	3	23	153	2	11	300	34	5	60	1	18	19	-	-	2
Minn.	-	-	37	-	3	2	6	-	-	-	-	-	-	-	-
Iowa	-	-	21	-	-	1	1	-	7	-	3	6	-	-	-
Mo.	3	-	39	-	-	259	12	2	33	-	10	11	-	-	2
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	-	2‡	7	-	2	-	-	-	1	1	-	-	-
Nebr.	-	-	26	-	1	2	5	-	1	-	1	1	-	-	-
Kans.	-	23	30	-	-	36	8	3	19	1	3	1	-	-	-
S. ATLANTIC	62	30	316	-	39	176	179	49	653	6	70	55	-	11	2
Del.	1	-	4	-	1	1	1	-	-	-	1	-	-	-	-
Md.	15	4	35	-	11	11	16	33	375	-	19	5	-	-	1
D.C.	5	-	2	-	1	2	3	1	14	3	5	-	-	1	-
Va.	15	3	21	-	2	1	21	-	28	-	7	3	-	-	-
W. Va.	1	-	6	-	-	-	6	1	36	-	7	9	-	-	-
N.C.	5	-	3	-	-	142	30	4	51	2	13	13	-	-	-
S.C.	-	-	1	-	-	-	13	-	14	-	3	-	-	-	-
Ga.	5	-	2	-	4	-	38	-	42	1	11	4	-	-	-
Fla.	15	23	242	-	20	19	51	10	93	-	4	21	-	10	1
E.S. CENTRAL	6	1	44	-	-	4	48	1	39	2	34	30	-	1	1
Ky.	2	1	3	-	-	2	15	-	-	-	-	1	-	-	-
Tenn.	3	-	20	-	-	1	14	-	18	-	12	14	-	1	1
Ala.	1	-	6	-	-	1	17	-	3	2	20	12	-	-	-
Miss.	-	-	15	-	-	-	2	N	N	-	2	3	-	-	-
W.S. CENTRAL	2	55	575	-	38	1,439	63	26	384	-	14	20	1	1	11
Ark.	-	-	-	-	8	-	6	7	99	-	1	8	1	1	-
La.	-	-	-	-	-	6	13	3	59	-	1	4	-	-	5
Okla.	2	6	122	-	-	7	9	1	88	-	12	8	-	-	1
Tex.	-	49	453	-	30	1,426	35	15	138	-	-	-	-	-	5
MOUNTAIN	5	57	261	5	37	31	24	10	124	5	79	247	-	11	2
Mont.	-	-	-	-	1	13	6	-	-	-	-	-	-	5	1
Idaho	2	-	14	-	2	1	-	1	58	3	9	28	-	3	-
Wyo.	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Colo.	-	2	18	5†	12	5	10	1	10	-	47	17	-	2	-
N. Mex.	-	1	56	-	8	11	1	N	N	1	4	4	-	-	-
Ariz.	3	18	90	-	11	1	2	8	41	-	10	190	-	-	-
Utah	-	-	-	-	-	-	1	-	3	1	5	7	-	-	-
Nev.	-	36	83	-	3	-	4	-	10	-	4	1	-	1	1
PACIFIC	88	18	1,094	-	59	392	262	11	225	3	95	77	21	197	66
Wash.	6	-	7	-	38	8	29	-	19	2	31	16	-	-	-
Oreg.	4	-	-	-	-	-	31	N	N	-	3	4	-	-	-
Calif.	77	12	1,023	-	20	377	195	10	202	1	51	55	21	193	50
Alaska	-	6	63	-	-	-	6	-	-	-	-	-	-	-	-
Hawaii	1	-	1	-	1	7	1	1	4	-	10	2	-	4	16
Guam	1	U	-	U	-	1	-	U	-	U	-	1	U	-	-
P.R.	-	-	472	-	-	240	6	-	3	-	4	2	-	-	4
V.I.	-	U	-	U	-	2	-	U	4	U	-	U	-	U	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	U	-	U	-
C.N.M.I.	-	U	-	U	-	-	-	U	4	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 specified notifiable diseases, United States, weeks ending April 21, 1990, and April 22, 1989 (16th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990
UNITED STATES	14,656	12,417	113	5,867	5,778	8	115	30	1,031
NEW ENGLAND	587	479	8	130	124	-	7	-	1
Maine	5	3	1	-	3	-	-	-	-
N.H.	28	2	1	3	4	-	-	-	1
Vt.	1	-	-	2	1	-	-	-	-
Mass.	209	150	5	60	64	-	6	-	-
R.I.	1	11	-	25	18	-	-	-	-
Conn.	343	313	1	40	34	-	1	-	-
MID. ATLANTIC	3,227	2,639	11	1,471	1,209	1	34	3	259
Upstate N.Y.	217	240	4	24	107	-	8	-	7
N.Y. City	1,592	1,067	4	956	709	-	17	-	-
N.J.	485	409	-	269	181	1	8	3	83
Pa.	933	923	3	222	212	-	1	-	169
E.N. CENTRAL	930	465	32	624	624	-	18	3	16
Ohio	145	30	14	78	111	-	4	1	2
Ind.	9	17	2	34	52	-	-	-	-
Ill.	360	212	3	300	284	-	10	-	5
Mich.	306	183	13	184	148	-	3	2	-
Wis.	110	23	-	28	29	-	1	-	9
W.N. CENTRAL	124	95	14	159	165	4	-	3	136
Minn.	32	7	-	26	39	-	-	-	59
Iowa	10	13	2	20	25	-	-	-	10
Mo.	60	45	9	74	60	3	-	2	5
N. Dak.	1	1	-	7	6	-	-	-	12
S. Dak.	1	-	-	4	9	-	-	-	31
Nebr.	4	15	2	9	6	1	-	-	1
Kans.	16	14	1	19	20	-	-	1	18
S. ATLANTIC	4,524	4,478	3	1,133	1,212	2	8	7	310
Del.	61	52	-	12	13	-	-	-	3
Md.	367	237	-	102	91	-	4	-	105
D.C.	274	274	-	37	53	-	-	-	-
Va.	216	170	-	98	117	-	-	-	57
W. Va.	5	4	-	21	29	-	-	-	9
N.C.	540	275	2	147	114	1	-	5	2
S.C.	260	224	-	139	123	1	-	2	37
Ga.	1,071	964	-	160	177	-	1	-	71
Fla.	1,730	2,278	1	417	495	-	3	-	26
E.S. CENTRAL	1,334	758	5	475	501	-	-	5	48
Ky.	24	18	-	132	129	-	-	-	20
Tenn.	552	264	3	132	114	-	-	5	6
Ala.	409	289	2	144	157	-	-	-	22
Miss.	349	187	-	67	101	-	-	-	-
W.S. CENTRAL	2,368	1,576	6	689	621	-	2	8	130
Ark.	128	103	-	73	80	-	-	1	7
La.	728	354	1	62	61	-	-	-	-
Okla.	68	25	5	65	57	-	-	7	27
Tex.	1,444	1,094	-	489	423	-	2	-	96
MOUNTAIN	259	219	15	124	152	1	7	-	41
Mont.	-	-	-	4	4	-	-	-	15
Idaho	4	-	1	3	4	-	-	-	-
Wyo.	-	-	1	-	-	-	-	-	22
Colo.	16	41	5	6	3	-	-	-	-
N. Mex.	16	7	4	29	27	1	-	-	2
Ariz.	157	65	4	61	66	-	5	-	-
Utah	2	8	-	3	29	-	-	-	-
Nev.	64	98	-	18	19	-	2	-	2
PACIFIC	1,303	1,708	19	1,062	1,170	-	39	1	90
Wash.	100	123	3	92	61	-	-	-	-
Oreg.	37	95	-	36	39	-	-	-	-
Calif.	1,157	1,483	15	883	999	-	37	1	74
Alaska	3	2	-	16	19	-	-	-	16
Hawaii	6	5	1	35	52	-	2	-	-
Guam	-	3	-	11	29	-	-	-	-
P.R.	263	159	-	29	78	-	-	-	12
V.I.	1	1	-	2	3	-	-	-	-
Amer. Samoa	-	-	-	3	2	-	-	-	-
C.N.M.I.	-	1	-	10	6	-	4	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending April 21, 1990 (16th Week)

Reporting Area	All Causes, By Age (Years)						P&I**	Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1			Total	All Ages	≥65	45-64	25-44	1-24	
NEW ENGLAND	669	464	113	53	21	18	66	S. ATLANTIC	1,384	812	303	162	48	58	77
Boston, Mass.	176	113	34	16	8	5	24	Atlanta, Ga.	134	74	33	14	6	7	4
Bridgport, Conn.	40	34	2	4	-	-	3	Baltimore, Md.	247	146	56	30	9	6	18
Cambridge, Mass.	25	13	5	7	-	-	4	Charlotte, N.C.	101	60	20	13	3	5	5
Fall River, Mass.	22	19	1	1	-	1	1	Jacksonville, Fla.	100	60	24	9	3	4	7
Hartford, Conn.	79	47	17	6	6	3	10	Miami, Fla.	157	84	30	31	3	9	1
Lowell, Mass.	35	27	7	-	1	-	1	Norfolk, Va.	53	33	9	4	3	4	4
Lynn, Mass.	19	14	4	-	1	-	-	Richmond, Va.	72	38	23	5	2	4	6
New Bedford, Mass.	15	14	-	1	-	-	2	Savannah, Ga.	79	54	19	2	-	4	14
New Haven, Conn.	54	35	13	5	-	1	7	St. Petersburg, Fla.	84	70	8	2	3	1	5
Providence, R.I.	39	26	7	2	2	2	-	Tampa, Fla.	96	55	19	15	2	5	7
Somerville, Mass.	11	9	1	-	1	-	-	Washington, D.C.	236	120	56	36	14	9	6
Springfield, Mass.	46	29	10	4	1	2	3	Wilmington, Del.	25	18	6	1	-	-	-
Waterbury, Conn.	39	30	6	1	-	2	3	E.S. CENTRAL	771	535	147	50	16	23	60
Worcester, Mass.	69	54	6	6	1	2	7	Birmingham, Ala.	115	79	23	11	1	1	5
MID. ATLANTIC	2,733	1,824	519	265	63	62	178	Chattanooga, Tenn.	48	36	11	1	-	-	7
Albany, N.Y.	43	30	7	3	1	2	2	Knoxville, Tenn.	84	59	16	6	1	2	7
Allentown, Pa.	24	19	4	-	1	-	-	Louisville, Ky.	102	79	14	5	2	2	7
Buffalo, N.Y.	111	74	24	5	7	1	7	Memphis, Tenn.	135	85	29	7	5	9	10
Camden, N.J.	33	23	6	3	1	-	-	Mobile, Ala.	94	62	16	12	3	1	2
Elizabeth, N.J.	21	15	3	3	-	-	2	Montgomery, Ala.	59	38	16	2	1	2	4
Erie, Pa.†	34	26	7	-	1	4	4	Nashville, Tenn.	134	97	22	6	3	6	18
Jersey City, N.J.	71	51	14	4	1	1	2	W.S. CENTRAL	1,746	1,082	376	191	46	51	89
N.Y. City, N.Y.	1,384	881	275	167	29	32	80	Austin, Tex.	57	36	11	7	1	2	13
Newark, N.J.	90	45	17	16	6	6	11	Baton Rouge, La.	41	17	7	17	-	-	3
Paterson, N.J.	40	25	9	4	1	1	2	Corpus Christi, Tex.	51	30	9	9	2	1	1
Philadelphia, Pa.†	397	266	75	38	11	7	27	Dallas, Tex.	179	105	41	16	7	10	3
Pittsburgh, Pa.†	77	56	11	4	1	5	3	El Paso, Tex.	72	44	16	7	2	3	6
Reading, Pa.	46	35	9	2	-	-	6	Fort Worth, Tex	110	77	21	10	1	1	9
Rochester, N.Y.	119	93	18	2	2	4	12	Houston, Tex.‡	734	436	169	89	24	16	18
Schenectady, N.Y.	24	21	3	-	-	-	4	Little Rock, Ark.	76	48	15	7	2	4	6
Scranton, Pa.†	30	25	4	1	-	-	1	New Orleans, La.‡	98	58	23	11	3	3	-
Syracuse, N.Y.	101	76	20	3	1	1	9	San Antonio, Tex.	165	114	34	10	4	3	18
Trenton, N.J.	42	27	8	6	-	-	3	Shreveport, La.	40	30	9	-	-	1	5
Utica, N.Y.	20	14	3	3	-	-	3	Tulsa, Okla.	123	87	21	8	-	7	9
Yonkers, N.Y.	26	22	2	1	1	-	3	MOUNTAIN	752	468	166	65	26	27	41
E.N. CENTRAL	2,216	1,462	470	161	47	76	93	Albuquerque, N. Mex.	94	63	11	14	3	3	8
Akron, Ohio	62	47	9	2	3	1	-	Colo. Springs, Colo.	46	23	12	3	4	4	3
Canton, Ohio	40	31	8	1	-	-	3	Denver, Colo.	109	70	27	7	-	5	3
Chicago, Ill.‡	564	362	125	45	10	22	16	Las Vegas, Nev.	137	71	46	9	7	4	12
Cincinnati, Ohio	45	28	11	3	3	-	3	Ogden, Utah	30	22	5	2	1	-	3
Cleveland, Ohio	160	89	50	10	1	10	4	Phoenix, Ariz.	175	102	40	17	7	9	4
Columbus, Ohio	159	97	34	20	-	8	6	Pueblo, Colo.	21	17	2	1	1	-	1
Dayton, Ohio	130	95	25	5	3	2	5	Salt Lake City, Utah	32	24	4	2	1	1	-
Detroit, Mich.	214	125	47	25	11	6	8	Tucson, Ariz.	108	76	19	10	2	1	7
Evansville, Ind.	55	33	19	2	-	1	1	PACIFIC	1,996	1,301	356	208	59	56	153
Fort Wayne, Ind.	63	51	5	5	2	-	2	Berkeley, Calif.	18	11	5	1	-	1	2
Gary, Ind.	27	14	8	4	1	-	1	Fresno, Calif.	67	44	10	6	4	3	7
Grand Rapids, Mich.	46	33	7	2	2	2	5	Glendale, Calif.	34	25	7	2	-	-	2
Indianapolis, Ind.	161	101	33	17	3	7	6	Honolulu, Hawaii	91	60	18	9	2	2	17
Madison, Wis.	28	20	4	2	1	1	1	Long Beach, Calif.	105	65	22	10	3	5	18
Milwaukee, Wis.	146	97	34	7	-	8	9	Los Angeles Calif.	538	353	90	67	22	-	28
Peoria, Ill.	54	37	8	4	2	3	4	Oakland, Calif.	72	43	13	8	3	5	5
Rockford, Ill.	46	35	7	3	1	-	2	Pasadena, Calif.	40	27	4	6	1	2	3
South Bend, Ind.	51	36	11	-	2	2	3	Portland, Oreg.	103	81	15	5	1	1	5
Toledo, Ohio	101	76	17	4	2	2	6	Sacramento, Calif.	172	109	36	13	7	7	17
Youngstown, Ohio	64	55	8	-	-	1	9	San Diego, Calif.	160	100	24	16	6	11	16
W.N. CENTRAL	765	548	126	53	15	23	36	San Francisco, Calif.	181	107	32	34	2	6	8
Des Moines, Iowa	61	44	8	6	-	3	4	San Jose, Calif.	166	111	32	11	6	6	17
Duluth, Minn.	27	19	4	2	2	-	2	Seattle, Wash.	142	87	26	17	1	4	2
Kansas City, Kans.	17	14	1	-	-	2	-	Spokane, Wash.	58	43	12	1	1	1	4
Kansas City, Mo.	114	84	16	8	3	3	7	Tacoma, Wash.	49	35	10	2	-	2	2
Lincoln, Nebr.	31	24	5	2	-	-	3	TOTAL	13,032 ^{††}	8,496	2,576	1,208	341	394	793
Minneapolis, Minn.	207	140	42	17	2	6	8								
Omaha, Nebr.	84	62	17	2	2	1	8								
St. Louis, Mo.	102	74	8	9	5	6	-								
St. Paul, Minn.	61	40	15	4	-	2	2								
Wichita, Kans.	61	47	10	3	1	-	2								

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

**Pneumonia and influenza.

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

††Total includes unknown ages.

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

Filovirus Infections – Continued

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Risk Behaviors for HIV Transmission among Intravenous-Drug Users Not in Drug Treatment – United States, 1987–1989

A major limitation to preventing transmission of human immunodeficiency virus (HIV) among intravenous-drug users (IVDUs) has been that most information about IVDUs' drug use and sexual behavior has been derived from studies of the most accessible subgroup (i.e., persons in drug-treatment programs) and therefore may not be representative of all IVDUs (1,2). Such data have been particularly limited for IVDUs not in drug treatment. This report provides preliminary data from September 1987 through December 1989 about IVDUs not in drug-treatment programs. The data are derived from the National AIDS Outreach Demonstration Research Project, which was initiated in 1987 by the National Institute on Drug Abuse (NIDA) and directed at IVDUs not in drug-treatment programs and their sex partners.

Objectives of the NIDA project included 1) collection of information on drug use and sexual behaviors of IVDUs not in treatment, 2) assessment of knowledge about HIV transmission and acquired immunodeficiency syndrome (AIDS) among IVDUs and their sex partners, and 3) communication of information regarding HIV transmission and AIDS to IVDUs and their sex partners.

From September 1987 to October 1988, outreach demonstration programs were established in 63 sites in 45 cities in the United States and Puerto Rico. IVDUs were recruited from hospital emergency rooms and inpatient settings, jails and prisons, public housing projects, community-based organizations, sexually transmitted disease clinics, and neighborhoods frequented by IVDUs.

Persons recruited for the program must have injected drugs during the 6 months before recruitment and not have been enrolled in a formal drug-treatment program during the 30 days before the intake interview. At recruitment and at 6-month follow-up intervals, trained interviewers used a standardized questionnaire to collect detailed information from participants about knowledge and behaviors related to drug use and sexual activity.

For 16,998 IVDUs not in treatment, preliminary data were obtained on their geographic distribution, demographics, employment status, drug use, and sexual activity. Of these, 5091 (30%) were recruited in the Northeast, 5028 (30%) in the Southeast, 4017 (24%) in the West, 2135 (13%) in the Midwest, and 727 (4%) in Puerto Rico.

Of the 16,998 IVDUs for whom data were obtained, 13,595 (80%) were between the ages of 25 and 44 years; 12,678 (75%) were male; 8585 (51%) were black, and 4498 (26%) were Hispanic; 9077 (53%) were unemployed, and 2620 (15%) worked

HIV Transmission – Continued

occasionally; and 6722 (40%) had never been in drug treatment. In addition, 14,067 (83%) reported having been in jail or prison at some time; of these, 11,392 (81%) had never participated in formal drug treatment while incarcerated.

During the 6 months before the intake interview, 16,712 (98%) of IVDUs had injected cocaine or heroin either alone, sequentially, or mixed; 5824 (34%) predominantly injected heroin, 5310 (31%) predominantly injected cocaine, and 5578 (33%) predominantly injected combinations of heroin and cocaine. Two hundred eighty-six (2%) reported injecting amphetamines or other drugs but not heroin or cocaine. Ten thousand seventy-seven (59%) reported injecting drugs daily. In addition, 13,249 (78%) IVDUs reported sharing drug-injection equipment with another IVDU, and 3454 (20%) reported sharing with strangers (Table 1).

Twenty percent of IVDUs reported always using new injection equipment (Table 2). Of those sharing injection equipment, 14% always cleaned the equipment with bleach before injecting. Sixty percent of IVDUs who reused drug-injection equipment cleaned the equipment with bleach at least some of the time.

In general, IVDUs reported "never using" a condom during sexual activity, although the prevalence of condom use varied by type of sexual activity (Table 3). Almost half of both male and female IVDUs reported having two or more sex partners during the 6 months before recruitment.

Reported by: WW Weddington, MD, R Nemeth-Coslett, PhD, Community Research Br, Div of Applied Res, National Institute on Drug Abuse, Alcohol, Drug Abuse, and Mental Health Administration. M Anderson, PhD, R Baxter, MEd, S Baxter, P Biernacki, PhD, BS Brown, PhD, L DeNeal, PhD, S Deren, PhD, H Feldman, PhD, D Fleming, MD, S Friedman, PhD, S Gates, P Glider, T Hammett, PhD, D Hunt, L Kotransky, PhD, W McAuliffe, PhD, C McCoy, PhD, S Margolis, J Mondanaro, MD, H Musikoff, PhD, R Needle, PhD, F Rhodes, PhD, R Robles, PhD, R Ross, B Rounsaville, MD, R Rucker, PhD, J Schensul, PhD, H Siegal, PhD, M Singer, PhD, F Snyder, PhD, K South, R Stephens, PhD, S Stevens, PhD, K Vogtsberger, MD, D Watson, MA, W Wiebel, PhD, M Williams, PhD, R Wood, MD, The National AIDS Research Consortium. Office of the Director, Center for Prevention Svcs, CDC.

Editorial Note: In 1989, IVDU-associated AIDS cases represented 33% of all reported AIDS cases (3). Sharing of drug-using paraphernalia among IVDUs is a recognized mode of transmitting HIV (4–7). Sexual and perinatal transmission also occurs among this population (8).

Most (about 80%) of IVDUs are not in drug treatment (National Association of State Alcohol and Drug Abuse Directors, unpublished data). This study describes a relatively large population at high risk for transmission of HIV. The findings may not be representative of all IVDUs not in drug treatment in the United States because the study is limited to volunteer participants in selected cities.

The reduction or elimination of HIV transmission among IVDUs and their sex partners will require substantial changes in their drug use and sexual behaviors. Street and community outreach educational programs for IVDUs not in drug treat-

TABLE 1. Relationship of partners with whom 16,998 intravenous-drug users not in drug treatment shared drug-injection equipment during the 6 months before interview – selected sites, 1987–1989

Relationship of partner	Frequency of sharing					Never	Unknown
	Always	>50% time	50% time	<50% time			
Friend/Spouse/Acquaintance	17%	22%	16%	24%	21%	1%	
Stranger	1%	1%	2%	16%	79%	1%	

HIV Transmission – Continued

ment can recruit IVDUs for both HIV prevention activities and drug-treatment programs. In this study, 83% of IVDUs had been incarcerated at some time; thus, HIV prevention programs for IVDUs who are incarcerated could reach a substantial proportion of IVDUs who otherwise are not in drug treatment. HIV prevention efforts targeting IVDUs (including those in drug-treatment centers) should be coordinated at the community level (9).

To reduce drug use and associated high-risk behavior (e.g., sharing of injection equipment) drug treatment should be 1) made accessible to those who have never entered drug treatment (e.g., by increasing public funding); 2) made more accessible within the criminal justice system (including prisons, jails, and probation and/or parole systems); and/or 3) used as an alternative to incarceration (10). Additionally, because HIV seroprevalence can be as high as 14% among non-IVDUs who are sex partners of IVDUs (CDC, unpublished data), this group should be targeted for educational and risk-reduction programs.

TABLE 2. Percentage of 16,998 intravenous-drug users not in drug treatment who reported using new drug-injection equipment or cleaning used equipment during the 6 months before interview – selected sites, 1987–1989

Behavior	No. respondents	Frequency					Unknown
		Always	>50% time	50% time	<50% time	Never	
Used new needle	16,998	20%	38%	20%	18%	3%	1%
Cleaned needle*	13,528 [†]	63%	14%	8%	8%	6%	1%
Used bleach [‡]	12,679 [¶]	14%	16%	11%	20%	38%	2%

*Respondents could report cleaning needles by any of several methods and still be consistent with an “always” response.

[†]Excludes those who reported always using a new needle.

[‡]A subset of those who cleaned needles.

[¶]Excludes those who reported never cleaning their drug-injection equipment.

TABLE 3. Reported use of latex condoms during the 6 months before interview by 16,998 intravenous-drug users not in drug treatment – selected sites, 1987–1989

Gender/Sexual behavior	No. respondents*	Use of condoms		
		Always	Sometimes	Never
Men				
Vaginal insertive	10,270	10%	20%	70%
Oral insertive	7,128	8%	7%	85%
Oral receptive	283	18%	19%	63%
Anal insertive	2,469	13%	14%	73%
Homosexual/Bisexual	404	20%	28%	53%
Heterosexual	2,065	11%	11%	78%
Anal receptive	234	29%	23%	48%
Women				
Vaginal receptive	3,635	14%	29%	57%
Oral receptive	2,403	15%	19%	66%
Anal receptive	566	16%	16%	68%

*Respondents may practice more than one type of sexual behavior and are thus counted in each appropriate sexual-behavior category.

*HIV Transmission – Continued**References*

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*Health Objectives for the Nation***Laboratory Services and Training
in Support of the Year 2000 National Health Objectives**

In October 1989, the Association of State and Territorial Public Health Laboratory Directors (ASTPHLD) conducted a survey regarding laboratory services training needs required to support the Year 2000 Health Objectives for the Nation (1). ASTPHLD distributed questionnaires through the seven regional offices of the National Laboratory Training Network (NLTN), a cooperative program jointly sponsored by ASTPHLD and CDC, to 54 state and territorial laboratory directors and 48 state laboratory training coordinators. Thirty-eight (70%) of the laboratory directors and 44 (92%) of the training coordinators responded.

For eight health objective areas that will require substantial laboratory support, CDC identified 83 specific laboratory tests and procedures that are considered critical for achieving these objectives (Table 1). Survey participants were asked to rate the training needs of both public and private sector laboratorians in their states in the 83 specific test areas as "high priority," "moderate priority," "low priority," "training not needed," or "don't know." High-priority laboratory training needs were identified for tests associated with each of the eight objective areas (Table 2). The greatest perceived need was for laboratory training related to the Papanicolaou test.

In addition to rating the priority of training needs, respondents were asked to identify potential sources for training within their states for each of the listed laboratory procedures. For high-priority training items, 18%–72% of the respondents indicated either that training was not available or that they were uncertain whether training was available.

Reported by: Association of State and Territorial Public Health Laboratory Directors. Div of Laboratory Systems, Public Health Practice Program Office, CDC.

Laboratory Services and Training – Continued

Editorial Note: Accessible, high-quality laboratory services are critical to public health program efforts because they provide support for disease surveillance activities, assessment of the adequacy of treatment for infectious and chronic diseases, and development of more sensitive methods for the detection of preventable illnesses. For example, the 1990 health objective that recommended that all newborns be provided neonatal screening for treatable metabolic disorders could not have been achieved without adequate laboratory support to diagnose these disorders. There-

TABLE 1. Priority areas of the year 2000 national health objectives that need substantial laboratory support

1. Reduce environmental health hazards*
2. Prevent and control human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS)[†]
3. Prevent and control sexually transmitted diseases[‡]
4. Immunize against and control infectious diseases[‡]
5. Improve maternal and child health**
6. Prevent, detect, and control high blood cholesterol and high blood pressure^{††}
7. Prevent, detect, and control cancer^{§§}
8. Prevent, detect, and control other chronic diseases and disorders^{¶¶}

*Test needs: Blood lead; protoporphyrin; iron, serum; total iron-binding capacity (TIBC); ferritin.

[†]Test needs: HIV-1 antibody by enzyme-linked immunosorbent assay (ELISA); HIV-1 antibody by Western blot; HIV-1 antibody by latex agglutination; HIV-1 antibody by indirect immunofluorescence (IIF); HIV-1 antigen tests; HIV-1 culture; polymerase chain reaction (PCR).

[‡]Test needs: 1) *Chlamydia trachomatis* infections: antigen detection by direct immunofluorescence; antigen detection by enzyme immunoassay (EIA); culture; deoxyribonucleic acid (DNA) detection by labeled probe; DNA detection by PCR. 2) Gonorrhea: presumptive identification; confirmed identification; disk diffusion susceptibility testing. 3) Syphilis (*Treponema pallidum*): antigen detection by ELISA; darkfield microscopy examination of lesion material; direct fluorescent antibody (FA) on tissue or lesion material; nontreponemal antibody tests; treponemal antibody—standard techniques; treponemal antibody—ELISA tests; IgM antibody by fluorescent treponemal antibody-absorbed test (FTA-ABS) 19s IgM.

^{††}Test needs: 1) Culture for bacteria in contaminated foods: *Campylobacter*; *Escherichia coli*; *Listeria*; and *Salmonella*. 2) Serologic tests for bacteria in contaminated foods: *Campylobacter*; *E. coli*; *Listeria*; and *Salmonella*. 3) Viral test techniques: cytomegalovirus antigen detection; cytomegalovirus culture; hepatitis A—antigen detection; hepatitis A—culture; hepatitis B—antigen detection; hepatitis non-A, non-B tests; influenza—tests for antiviral resistance; influenza—rapid diagnostic tests; influenza—serologic tests; measles—antigen detection; measles— isolation and characterization; measles—rapid diagnostic tests; poliovirus isolation techniques; poliovirus serologic tests; 4) Tests for parasitic infections; *Cryptosporidium*—antigen detection; *Cryptosporidium*—microscopic detection; *Giardia*—antigen detection (rapid methods); *Giardia lamblia*—microscopic detection; malaria—antibody detection; malaria—antimalarial drugs and metabolites detection; malaria—microscopic detection; malaria—*Plasmodium* antigen; high-volume water sampling for enteric pathogens. 5) Tuberculosis tests: *Mycobacterium tuberculosis*—level II; *M. tuberculosis*—level III; *M. tuberculosis*—rapid diagnostic tests; *M. tuberculosis*—rapid procedures for drug susceptibility testing. 6) Miscellaneous bacterial tests: anaerobic bacteria—culture techniques; pertussis—culture techniques; pertussis—rapid diagnostic tests.

**Drugs of abuse—plasma or serum tests; drugs of abuse—urine screen; herpes virus—culture of uterine cervix; urinary infection—urine culture; urinary infection—rapid tests.

^{††}Serum cholesterol (total); serum cholesterol high-density lipoprotein (HDL); serum cholesterol low-density lipoprotein (LDL).

^{§§}Cervical cytology—Papanicolaou smear; human papilloma viruses (HPV) (nonculture).

^{¶¶}Blood urea nitrogen (BUN); creatinine; glucose—blood; glycosylated hemoglobin assay; serum electrolytes; serum triglycerides; serum and urinary ketones; urinary albumin.

Laboratory Services and Training – Continued

fore, success in achieving the year 2000 health objectives will require that public and private health laboratories be prepared to support new, ongoing, and expanded programs to prevent, detect, and control disease. This is especially important for the year 2000 objectives, which, when compared to the 1990 objectives, include more screening interventions to detect asymptomatic diseases (1).

The results of this survey suggest that laboratorians may require ongoing training for a variety of test procedures critical to achieving the objectives. Although some training may be available through existing public and private sources, this survey suggests that there may be gaps in the availability of, or in the access to, training for certain laboratory procedures.

The role of training as an essential component of laboratory quality assurance is critical when planning for new or expanded programs. Moreover, training should not be restricted to laboratorians in the public sector, since private sector laboratories also perform testing that supports public health objectives.

Many states and professional organizations have already developed excellent laboratory training programs. In addition, the NLTN will continue to support laboratory training based on regional needs. A major objective of NLTN is to improve access to existing laboratory training opportunities by acting as an information clearing-house. Laboratorians who request information about specific training opportunities* will be placed in touch with state, federal, and private sector organizations providing

*From the Association of State and Territorial Public Health Laboratory Directors, 1220 L Street, NW, Suite 350, Washington, DC 20005, telephone (202) 842-4321.

TABLE 2. Priority ranking of laboratory training needed to support year 2000 national health objectives – survey of state and territorial laboratory directors and state laboratory training coordinators, 1989

% Respondents rating training as high priority	Subject areas for training
45%–47%	Cervical cytology (Papanicolaou test)
40%–44%	Human immunodeficiency virus (HIV), enzyme immunosorbent assay (EIA); HIV, polymerase chain reaction (PCR); hepatitis A antigen; <i>Mycobacterium tuberculosis</i> , rapid tests.
35%–39%	<i>M. tuberculosis</i> , drug susceptibility; human papilloma viruses (HPV), nonculture techniques; HIV, Western blot; <i>Chlamydia</i> , deoxyribonucleic acid (DNA) probe; influenza, rapid tests; <i>Cryptosporidium</i> microscopy.
30%–34%	Plasma/serum tests for drugs of abuse; rapid tests for urinary tract infections; serum cholesterol testing; <i>Neisseria gonorrhoea</i> presumptive identification; rapid tests for measles; <i>Giardia</i> antigen test.
25%–29%	<i>Cryptosporidium</i> antigen tests; <i>Giardia</i> microscopy; high-volume water sampling for enteric pathogens; HIV, indirect immunofluorescence (IIF); <i>Chlamydia</i> antigen EIA; <i>Chlamydia</i> DNA PCR; gonorrhea disk diffusion; <i>Listeria</i> culture; hepatitis B antigen; tests for hepatitis C virus.

Laboratory Services and Training – Continued

this training. When regional assessments indicate training needs, NLTN will work with laboratorians from the public and private sectors to address these needs in a timely and cost-effective manner.

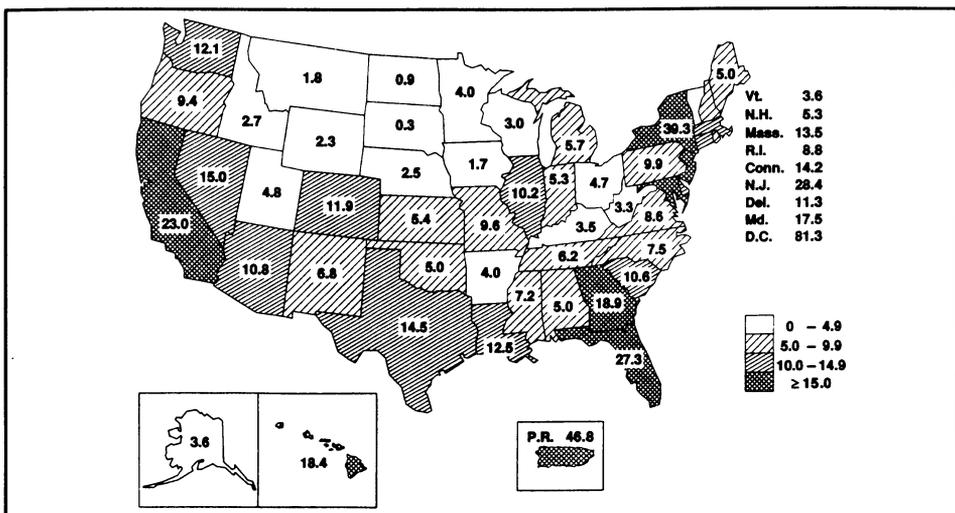
The participation of public and private organizations was essential for developing the draft year 2000 national health objectives. Similarly, laboratorians in both the public and private sectors will need to collaborate in identifying and addressing the training essential to ensure the quality of laboratory services needed to support the year 2000 objectives.

Reference

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Notice to Readers**Implementation of Quarterly AIDS Map**

The following map provides information on the reported number of acquired immunodeficiency syndrome (AIDS) cases per 100,000 population by state of residence for April 1989 through March 1990. The map will appear quarterly in *MMWR*. More detailed information on AIDS cases is provided in the monthly *HIV/AIDS Surveillance Report*, single copies of which are available free from the National AIDS Information Clearinghouse, P.O. Box 6003, Rockville, MD 20850; telephone (800) 458-5231.

AIDS cases per 100,000 population – United States, cases reported April 1989–March 1990

Erratum: Vol. 39, No. 14

In "Statewide Prevalence of Illicit Drug Use by Pregnant Women—Rhode Island," the toxicology screen cutoff measurements were incorrectly listed in the third paragraph of the article (page 225). The second and third sentences of that paragraph should read: Toxicology screen cutoffs were: cocaine, 300 ng/mL; amphetamines, 1000 ng/mL; opiates, 300 ng/mL; and cannabinoids, 100 ng/mL.* Positive results were confirmed with thin-layer chromatography for cocaine (150 ng/mL), opiates (300 ng/mL), and cannabinoids (50 ng/mL); gas chromatography was used to confirm positive results for amphetamines (300 ng/mL).

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The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333; telephone (404) 332-4555.

Director, Centers for Disease Control
William L. Roper, M.D., M.P.H.
Director, Epidemiology Program Office
Stephen B. Thacker, M.D., M.Sc.

Editor, *MMWR* Series
Richard A. Goodman, M.D., M.P.H.
Managing Editor
Karen L. Foster, M.A.

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