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Current Trends

Sexual Risk Behaviors of STD Clinic Patients Before and After Earvin "Magic" Johnson's HIV-Infection Announcement — Maryland, 1991–1992

During the human immunodeficiency virus (HIV) epidemic, media and public interest have been captured periodically by accounts of persons infected with HIV. However, the effect of these stories on HIV/acquired immunodeficiency syndrome (AIDS) awareness and sexual behaviors is largely unknown. On November 7, 1991, Earvin "Magic" Johnson announced at a press conference he was infected with HIV and would be retiring from professional basketball. This report summarizes findings on the self-reported sexually transmitted disease (STD)/HIV sexual risk behaviors of patients of an STD clinic in a Maryland suburb of Washington, D.C., during the 14 weeks before and the 14 weeks after Johnson announced he was infected with HIV.

The announcement occurred during the 15th week of a 29-week cross-sectional study comparing STD/HIV risk factors reported by STD clinic patients on self-administered questionnaires to those reported in face-to-face interviews. All patients eligible for the study attended a public STD clinic in suburban Maryland for STD-diagnostic and STD-treatment services. A random sample of patients was asked to participate in the study. To examine the effect of the announcement on reported sexual behavior, face-to-face interview data were analyzed because they were available for all study participants.

Of the 283 study participants, 186 (66%) were interviewed during the 14-week preannouncement period (July 29–November 1, 1991), and 97 (34%) during the 14-week postannouncement period (November 11, 1991–February 14, 1992). Overall, participants were predominantly male (170 [60%]) and black (206 [73%]) and had at least a high school diploma (240 [85%]); the mean age was 25.1 years. Overall, 87 (31%) had had one or more STDs during the previous 12 months; 220 (78%), two or more sex partners during the previous 12 months; and 157 (55%), 10 or more sex partners during the previous 10 years. STD clinic patients interviewed before and after the

Sexual Risk Behaviors — Continued

announcement showed no substantial differences in the demographic characteristics, self-reported STD histories, or sexual behaviors measured over longer periods.

To compare reported STD/HIV sexual risk behaviors during the preannouncement and postannouncement periods, self-reports of four sexual behaviors were analyzed (Table 1). No significant differences occurred in patients' reports of condom use during vaginal sex either with their steady or with nonsteady sex partners during the previous 3 months. However, significantly fewer patients in the postannouncement period than in the preannouncement period reported having had either "one-night stands" (20% versus 31% [chi-square=4.1; p=0.04]) or three or more sex partners of the opposite sex (21% versus 32% [chi-square=4.2; p=0.04]) during the previous 3 months. For both of these behaviors, the percentages of patients reporting them was lower during the last 2 weeks of the postannouncement period (i.e., a full 3 months or more after the announcement) than during the first 12 weeks of the postannouncement period.

The trend toward fewer sex partners in the postannouncement period occurred for both sex and race groups (Figure 1). However, the difference in the number of sex partners between the postannouncement and preannouncement periods occurred only for the older patients (i.e., aged 25–48 years) (8% versus 31%, respectively [chi-square=9.7; p=0.002]). For younger patients (i.e., aged 16–24 years), no significant behavioral difference occurred between the two periods (35% versus 33%). The trend toward fewer "one-night stands" in the postannouncement period was present for all race, sex, and age groups.

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Editorial Note: Johnson intended that his announcement would alert the U.S. public, particularly young persons, about the dangers of unsafe sex (*1*). If differences in re-

TABLE 1. Sexual risk behaviors* for sexually transmitted disease (STD)/HIV infection reported by STD clinic patients during the 14-week periods before and after Earvin "Magic" Johnson's HIV-infection announcement on November 7, 1991 — Maryland, July 29, 1991–February 14, 1992

	Preannouncement period†			Postannouncement period§				
		Reporting behavior			Reporting behavior			
Behavior	No. surveyed	No.	(%)	No. surveyed	No.	(%)	Chi-square	p value
Never used a condom during vaginal sex								
With steady sex partner(s)	144	60	(42)	73	39	(53)	2.7	0.10
With nonsteady sex partner(s)	102	24	(24)	48	11	(23)	0.0	0.93
Had "one-night stand(s)"	185	57	(31)	97	19	(20)	4.1	0.04
Had ≥3 sex partners of the opposite sex	186	60	(32)	97	20	(21)	4.2	0.04

*During the 3 months preceding the interview.
†From July 29, 1991, through November 1, 1991.
§From November 11, 1991, through February 14, 1992.

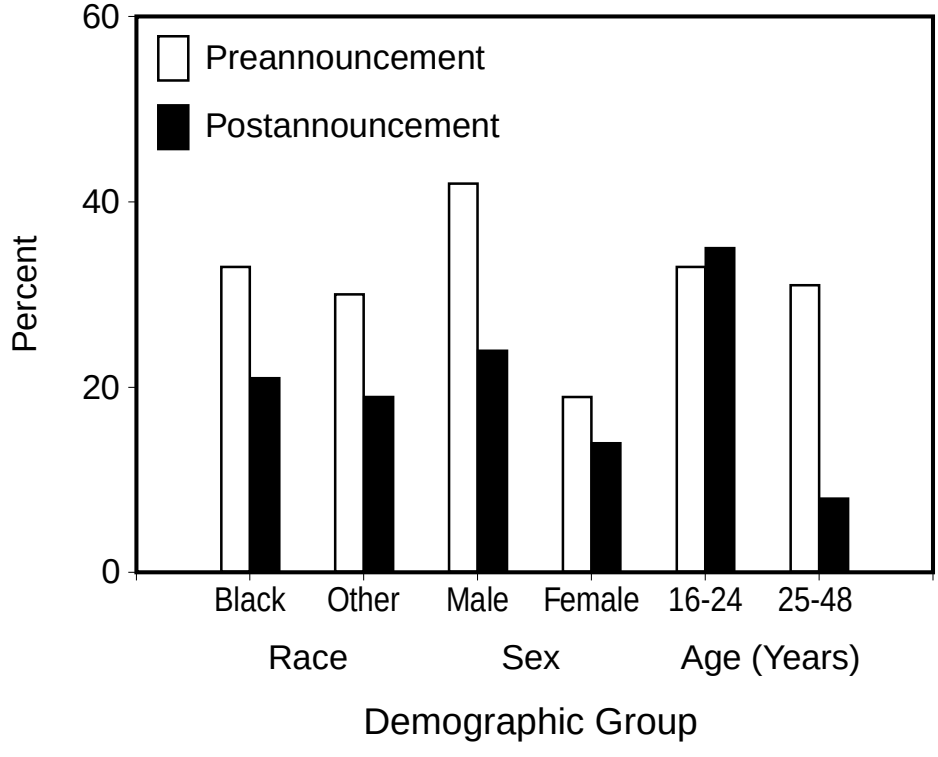
Sexual Risk Behaviors — Continued

ported sexual behaviors between the preannouncement and postannouncement periods resulted from the announcement, the greatest impact seems to have been on the number and type of sex partners rather than on condom use.

This survey is subject to several limitations. First, the patients were asked questions about sexual behaviors they had practiced "during the last 3 months." Only 24 of the 97 patients in the 14-week postannouncement group actually were asked the questions a full 3 months or more after the announcement. However, these 24 patients had a lower frequency of having "one-night stands" or having three or more sex partners than the 73 patients interviewed during the first 3 months after the announcement. Second, findings are based on self-reported sexual behaviors; the patients may have reported, but not actually practiced, safer sexual behaviors. However, the lack of substantial differences in self-reported condom use suggest that this limitation was minimal. Third, the study population comprised STD clinic patients who likely engaged in sexual risk behaviors. As a result, any difference in risk behaviors between the preannouncement and postannouncement periods would be expected to be minimal. However, these data show significant differences in two of four sexual risk behaviors.

Other studies suggest Johnson's announcement increased HIV/AIDS awareness (*2*), HIV/AIDS concerns (*3*), intentions to adopt or maintain safer sexual behaviors (*4*), demand for HIV-antibody testing (*5*), and telephone calls to CDC's National AIDS Hotline (*6*). However, this is the first published report showing the potential effect of

FIGURE 1. Percentage of sexually transmitted disease clinic patients who reported having had sex with three or more partners of the opposite sex during the 3 months preceding the interview, by race, sex, and age group and by response during the 14-week period before and after Earvin "Magic" Johnson's HIV-infection announcement on November 7, 1991 — Maryland, July 29, 1991–February 14, 1992



Sexual Risk Behaviors — Continued

an HIV/AIDS media story on reported sexual behavior. These data suggest that messages about HIV risks stemming from the HIV-infection announcement of a highly visible person were associated with reductions in certain sexual risk behaviors in this STD clinic population.

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Epidemiologic Notes and Reports

Probable Transmission of Multidrug-Resistant Tuberculosis in a Correctional Facility — California

During 1990–1991, an inmate in a California prison spent a total of 6 months in the prison infirmary with multidrug-resistant tuberculosis (MDR-TB). As a result, from November 1990 through March 1991, 11 of the 21 prison infirmary physicians and nurses underwent tuberculin skin testing; two persons could be documented as newly positive. In addition, two correctional officers (from an unknown number tested) also had newly positive tuberculin skin tests. State and local departments of health, industrial relations, and corrections investigated the possibility of nosocomial TB transmission from inmates to staff. This report presents the findings from their investigation.

Case-Patient

In September 1986, on incarceration, an inmate underwent a chest radiograph that was normal and received a multiple-puncture tuberculin skin test that was recorded as "ok." In August 1987, he presented with fever, weight loss, and night sweats. Although a chest radiograph indicated a left upper-lobe infiltrate at that time, records do not indicate that TB treatment was given. In September 1987, he developed hemoptysis, and a sputum culture was positive for *Mycobacterium tuberculosis* susceptible to all drugs. He was returned to his two-man cell and was treated with (but not directly observed to take) isoniazid (INH) and rifampin (RIF).

In May 1988, *M. tuberculosis* resistant to INH and RIF was isolated from the first follow-up sputum specimen; the inmate was admitted to the infirmary and treated with INH, RIF, and ethambutol (EMB). In July 1988, pyrazinamide (PZA) and ethionamide (ETA) were added to his treatment regimen. In August 1988, two sputum

TB Transmission — Continued

smears were negative for acid-fast bacilli (AFB); he was discharged from the infirmary and was to continue unobserved anti-TB therapy.

His next recurrence of TB was detected in March 1990 when a chest radiograph, obtained to evaluate a stab wound, showed a new left upper-lobe cavity. A sputum smear was positive for AFB, and he was treated in the infirmary with INH, RIF, PZA, EMB, ETA, and streptomycin (SM) after *M. tuberculosis* resistant to INH and ETA was isolated. In July 1990, INH was discontinued because of elevated liver function test results. In 1990, while being treated for TB, he was housed in the prison infirmary near patients with human immunodeficiency virus (HIV) infection; the case-patient's evaluation for underlying causes of immunosuppression was negative.

From July 1990 through August 1991, the inmate was transferred between three different state prisons, and sputum specimens obtained during that time were predominately smear- and/or culture-positive. In February 1991, a specimen isolate from the inmate showed resistance to INH, RIF, SM, EMB, ETA, and amikacin. The patient improved clinically on PZA, EMB, amikacin, capreomycin, and ciprofloxacin. By February 1992, three sputum specimens were smear- and culture-negative.

TB Exposure Among Selected Employees

From March 1990 through February 1991, during the care of the case-patient, the prison infirmary did not contain a respiratory isolation cell; employees recalled air blowing out of TB patients' cells when food slots were opened. Infirmary air was recirculated after passing through high-efficiency particulate air filters. In January 1991, the infirmary ventilation was changed to 100% fresh air; however, in March 1991, two cells tested were documented to still be under positive pressure. Employees reported occasionally wearing surgical masks when entering the rooms of TB patients.

During the period March 1987–March 1991, 10 of the 21 currently employed infirmary physicians and nurses were tested twice (31.3 person years of observation); two were newly positive, and the risk of acquiring TB infection was 6.4 per 100 person years. Of the 11 other infirmary employees, six were known to be tuberculin skin-test positive in 1987, and five had not been tested twice. The number of additional infirmary physicians and nurses employed during this period was unknown. One health-care provider had a documented 0 mm Mantoux tuberculin skin test in April 1990 that increased to 10 mm in March 1991. For 5 months in the intervening year, this health-care provider had provided care for the case-patient in the infirmary. Another health-care provider and a correctional officer (who worked in the infirmary) who both had newly positive tuberculin skin tests had not had yearly screenings; therefore, their tuberculin skin-test conversions could have occurred any time after their last tests in 1987 through March 1991, a period in which pulmonary TB was diagnosed in 13 other inmates in this prison.

In May 1991, an additional employee (a correctional officer who did not work in the infirmary) also had a newly positive tuberculin skin test. His reported TB exposure consisted of one 8-hour shift in December 1990 in a community hospital where he was assigned without respiratory protection to the bedside of an inmate with sputum-culture positive (AFB-negative) TB who was coughing. Identification and testing of other correctional officers assigned to the community hospital or the prison infirmary have not been completed.

TB Transmission — Continued

The California Department of Corrections (CDOC), with consultation from the California Department of Health Services, is planning and implementing TB-control procedures in its facilities. CDOC staff members are participating on the California Tuberculosis Elimination Task Force and the Interagency Working Group on Tuberculosis.

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Editorial Note: The findings from this investigation indicate several situations that increased the risk for possible transmission of TB among inmates and employees and emphasize the need to improve infection-control practices in correctional settings. Specifically, the MDR-TB case-patient's initial infection appears to have occurred while he was incarcerated, and had his treatment included directly observed therapy, the emergence of his MDR-TB might have been prevented. The documented airflow from the infirmary cells into the hall (rather than the negative pressure recommended for AFB isolation) provided the potential for release of *M. tuberculosis*. The full extent of transmission from this patient is unknown in the absence of contact tracing or routine annual screening of staff or inmates. However, findings in this investigation suggest that delays in the diagnosis of the inmate's initial drug-susceptible TB and his two recurrences with MDR organisms, as well as delayed and inadequate respiratory isolation, made possible transmission to his cell mates, other inmates, and staff.

This investigation did not evaluate for transmission of MDR-TB to HIV-infected persons collocated in the infirmary with the case-patient. However, recent MDR-TB outbreaks in hospital settings have demonstrated rapid progression to clinical TB after infection with *M. tuberculosis* in HIV-infected persons, and high mortality and the potential for rapid spread of TB when immunocompromised persons are exposed to persons with infectious TB (*1*). Prison inmates have a higher prevalence of HIV infection than the general population (*2,3*), and in some correctional facilities HIV-infected inmates are housed together. Delayed TB diagnosis, delayed and inadequate isolation precautions, and frequent transfers of inmates among prison facilities and community hospitals have resulted in outbreaks of MDR-TB in correctional settings and in communities (*4*).

The findings in this report underscore the need for 1) regular and systematic TB screening of inmates and staff; 2) TB preventive therapy for those who test positive for TB and are eligible for preventive therapy; 3) rapid diagnosis of TB and isolation and treatment (including directly observed therapy) of persons with suspected TB; and 4) follow-up to assure continuity of care both inside and outside correctional facilities. In addition, education of correctional staff is necessary so that appropriate anti-TB regimens are prescribed and guidelines are followed for TB surveillance, containment and infection control, and program evaluation in correctional institutions (*5,6*).

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TB Transmission — Continued

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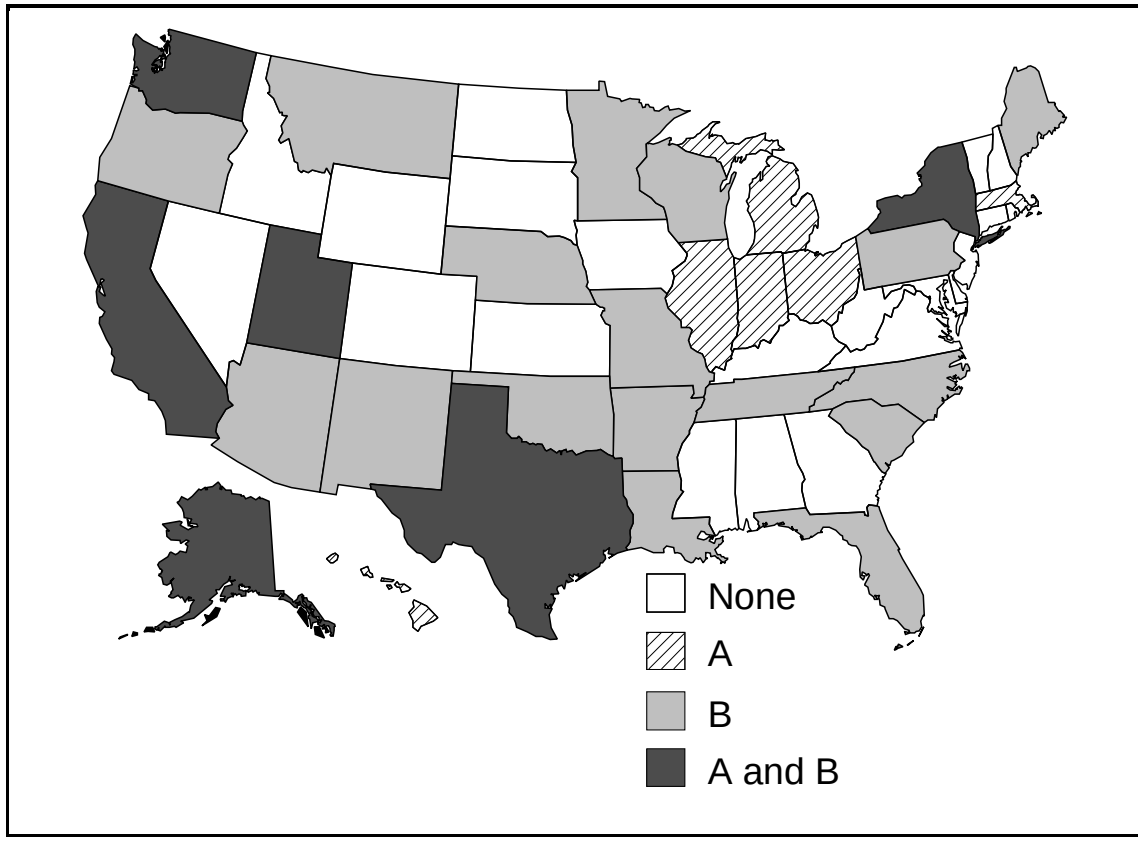
Current Trends

Update: Influenza Activity — United States, 1992–93 Season

From September 27, 1992, through January 19, 1993, 344 influenza virus isolates were reported in 29 states (Figure 1). The number of reported isolates began to increase in early December and continued to increase during the first 2 weeks of January.

For the week ending January 16, five states (Alaska, Arkansas, California, Missouri, and Texas) reported regional activity, and three (New Mexico, New York, and Washing-

FIGURE 1. Reported influenza virus isolates, by type of virus — United States, September 27, 1992–January 19, 1993



Influenza Activity — Continued

ton) reported widespread activity.* The number of states reporting sporadic influenza-like illness (ILI) increased from five states for the week ending October 3 to 23 states for the week ending January 16. Based on CDC's 121-city mortality reporting system, deaths associated with pneumonia and influenza have not exceeded baseline levels.

World Health Organization collaborating laboratories in the United States identified 98% of all isolates as influenza type B. Although influenza type A has circulated at low levels, both influenza type A(H1N1) and type A(H3N2) viruses have been isolated.

School outbreaks of ILI were reported from Arizona, Arkansas, Missouri, and Washington. All of these states reported isolation of influenza type B viruses from various sources. In Washington, influenza type B was isolated from specimens obtained from ill students attending schools with outbreaks.

The first outbreak this season of influenza in a nursing home was reported from Washington. Nineteen (20%) of 97 residents became ill during December 28, 1992–January 5, 1993; influenza type B was isolated from three of six specimens obtained from ill residents. As with virtually all influenza type B viruses isolated in the United States this season, these isolates were antigenically similar to the B/Panama/45/90-like virus included in the 1992–93 influenza vaccine. Ninety-four (97%) of the residents had received influenza vaccine in October 1992. Two residents, both with severe underlying diseases, died within 2 weeks of developing ILI. Most residents, however, had relatively mild illnesses compared with those observed in the same facility when an outbreak caused by influenza A(H3N2) occurred during the winter of 1991–92 (CDC, unpublished data, 1992).

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Editorial Note: Although most influenza viruses detected this season have been influenza type B, health-care providers should continue to test specimens from persons with ILI throughout the influenza season. The proportions of different influenza virus types or subtypes can change substantially during the season.

It is particularly important to differentiate between influenza A or B as the cause of outbreaks of ILI in institutions housing high-risk persons because amantadine can be used to treat ill persons and prevent further spread of infection during outbreaks caused by influenza type A (*1*). Rapid antigen-detection testing can be performed at the site of an outbreak, and, if present, influenza type A can be identified within 15 minutes from a nasopharyngeal swab specimen (*2*). If any person in an outbreak setting tests positive for influenza type A, it should be assumed that influenza type A is the cause of the outbreak. Results of rapid antigen-detection tests should be con-

*Levels of activity are: 1) *sporadic*—sporadically occurring influenza-like illness (ILI) or culture-confirmed influenza, with no outbreaks detected; 2) *regional*—outbreaks of ILI or culture-confirmed influenza in counties having a combined population of less than 50% of the state's total population; and 3) *widespread*—outbreaks of ILI or culture-confirmed influenza in counties having a combined population of 50% or more of the state's total population.

Influenza Activity — Continued

firmed by virus isolation. However, when a decision has been made to use amantadine, initiation of amantadine prophylaxis or treatment should not be delayed pending confirmation of virus type. Guidelines for the use of amantadine to control influenza type A in chronic-care facilities have been published (*1*).

With the increase in influenza activity, it is important that children and teenagers avoid the use of aspirin and aspirin-containing products because of the increased risk of developing Reye syndrome when aspirin is taken during an ILI (*3*).

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Differences Between Anonymous and Confidential Registrants for HIV Testing — Seattle, 1986–1992

Human immunodeficiency virus (HIV) counseling and testing is a major component of the public health effort to contain the HIV/acquired immunodeficiency syndrome (AIDS) epidemic. However, persons may avoid HIV testing in part because they fear discrimination and legal sanctions if their drug use, sexual behavior, or test results became public (*1,2*). Anonymous testing has been offered to address these fears, but it is not clear whether anonymous testing, compared with confidential testing, actually results in testing more persons at risk for or infected with HIV. This report, using registration data from a freestanding HIV-testing clinic in Seattle, compares demographic, behavioral, and serologic characteristics of anonymous and confidential registrants during 1986–1992.

The AIDS Prevention Project (APP), part of the Seattle-King County Department of Public Health, offers HIV counseling and testing targeted to high-risk populations (especially homosexual and bisexual men and injecting-drug users). Since 1986, APP clients have been offered a choice in how they register—confidentially (using names) or anonymously (using an identifier code generated from birthplace, year of birth, and mother's maiden name).

From June 1986 through March 1992, the APP collected demographic, behavioral, and clinical data on 9993 persons seeking HIV testing. Overall, 4883 (66%) of the 7382 men and 1673 (64%) of the 2611 women registered anonymously. Of all persons seeking testing, 9446 (95.3%) were actually tested; the percentage tested did not differ by sex or registration status. Of 9310 persons who were tested and for whom follow-up information was available, the percentage who returned for results (8724 [93.7%] overall) did not differ by sex. Among 6841 men who were tested and for whom follow-up information was available, there were no differences in the proportions of anonymous or confidential registrants who did not return for results (427 [6.2%]) However, among women who were tested and for whom follow-up information was available, 73 (7.8%) of 930 confidential registrants and 86 (5.6%) of 1530 anonymous registrants did not return for results ($p=0.03$).

HIV Testing — Continued

Compared with persons who registered confidentially, both men and women who registered anonymously were older, better educated, and more likely to report middle- or upper-income levels*, and were less likely to test HIV-positive (Tables 1 and 2). Men

*Income defined using federal standards based on family size. In 1991, low income was defined as a monthly income less than $523 and $702 for households of one and two persons, respectively.

TABLE 1. Selected characteristics of 7382 men registering for HIV testing at a freestanding clinic, by registration status — Seattle, 1986–1992

	Confidential (N=2499)		Anonymous (N=4883)			
Characteristic	**No.***	**(%)**	**No.***	**(%)**	**Odds ratio**	**(95% CI†)**
Age (yrs)						
<30	1008	(41)	1789	(37)		
≥30	1471	(59)	3079	(63)	1.2	(1.1–1.3)
Race						
White	2083	(84)	4193	(86)		
All other races	394	(16)	675	(14)	0.9	(0.7–1.0)
Education level§						
High school diploma or less	300	(29)	355	(17)		
Some college or more	749	(71)	1742	(83)	2.0	(1.6–2.4)
Marital status						
Single/Divorced/ Widowed	2211	(90)	4273	(89)		
Married	243	(10)	536	(11)	1.1	(1.0–1.3)
Income¶						
Low	1139	(46)	1771	(37)		
Middle and upper	1308	(54)	3046	(63)	1.5	(1.4–1.7)
Risk**						
Men who have sex with men	1540	(62)	3385	(69)		
Injecting-drug use	265	(11)	439	(9)		
Men who have sex with men and use injecting drugs	295	(12)	480	(10)		
Heterosexual contact	199	(8)	300	(6)		
Other	127	(7)	152	(3)		
Unknown	73	(3)	127	(3)		
Sexual orientation						
Homosexual/Bisexual	1639	(67)	3445	(72)		
Heterosexual	800	(33)	1336	(28)	0.8	(0.7–0.9)
Unprotected receptive anal sex during 6 months before test††						
Yes	513	(21)	913	(19)		
No	1956	(79)	3931	(81)	1.1	(1.0–1.3)
Serostatus						
Positive	489	(21)	638	(14)		
Negative	1867	(79)	4006	(86)	1.6	(1.4–1.9)

*Because of missing data, numbers for each characteristic may not total N.
†Confidence interval.
§Education level data available since June 1990.
¶Income defined using federal standards based on family size. In 1991, low income was defined as a monthly income less than $523 and $702 for households of one and two persons, respectively.
**For this risk distribution, p<0.001 for persons tested confidentially versus persons tested anonymously.
††Unprotected receptive anal sex data available since November 1987.

HIV Testing — Continued

tested anonymously were somewhat more likely to report having had sex with other men; women tested anonymously were more likely to report heterosexual contact as the primary risk factor. Among all persons tested who were seropositive, 638 (57%) of 1127 men and 28 (49%) of 57 women had registered anonymously.

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TABLE 2. Selected characteristics of 2611 women registered for HIV testing at a freestanding clinic, by registration status — Seattle, 1986–1992

	Confidential (N=938)		Anonymous (N=1673)			
Characteristic	**No.***	**(%)**	**No.***	**(%)**	**Odds ratio**	**(95% CI†)**
Age						
<30	421	(46)	621	(38)		
≥30	498	(54)	1026	(62)	1.4	(1.2–1.6)
Race						
White	761	(83)	1383	(84)		
All other races	158	(17)	262	(16)	0.9	(0.7–1.1)
Education level§						
High school diploma or less	108	(29)	124	(16)		
Some college or more	268	(71)	669	(84)	2.2	(1.6–3.0)
Martial status						
Single/Divorced/ Widowed	758	(84)	1335	(82)		
Married	148	(16)	288	(18)	1.1	(0.9–1.4)
Income¶						
Low	518	(57)	767	(47)		
Middle and upper	391	(43)	852	(53)	1.5	(1.2–1.7)
Risk**						
Injecting-drug use	251	(27)	339	(20)		
Heterosexual contact	420	(45)	820	(49)		
Other	159	(17)	296	(18)		
Unknown	108	(11)	218	(13)		
Sexual orientation						
Homosexual/Bisexual	190	(21)	417	(26)		
Heterosexual	716	(79)	1200	(74)	0.8	(0.6–0.9)
Unprotected vaginal sex during 6 months before test††						
Yes	505	(55)	879	(54)		
No	414	(45)	762	(46)	1.1	(0.9–1.3)
Serostatus						
Positive	29	(3)	28	(2)		
Negative	852	(97)	1537	(98)	1.9	(1.1–3.3)

*Because of missing data, numbers for each characteristic may not total N.
†Confidence interval.
§Education level data available since June 1990.
¶Income defined using federal standards based on family size. In 1991, low income was defined as a monthly income less than $523 and $702 for households of one and two persons, respectively.
**For this risk distribution, p=0.002 for persons tested confidentially versus persons tested anonymously.
††Unprotected vaginal sex data available since November 1987.

HIV Testing — Continued

Editorial Note: Because no HIV vaccine exists, primary HIV-prevention strategies have emphasized education to change behaviors and thereby reduce HIV transmission (*3*). Counseling accompanying HIV testing can reach high-risk persons when they may be responsive to behavior-change messages. Because there is no cure for HIV infection, secondary prevention strategies have emphasized early diagnosis (to minimize transmission to uninfected partners) and early intervention (to delay the onset of AIDS). Widespread availability of testing is essential to identify asymptomatically infected persons.

HIV counseling and testing programs work only if at-risk clients are willing to be tested for HIV. One determinant of client willingness to be tested appears to be trust that the results of testing will remain confidential (*1,2*). In one study, offering anonymous testing increased registration rates and decreased the length of time clients waited between deciding to test and going to the testing site (*4*). Whether the availability of anonymous testing in Seattle increased the number of persons seeking testing cannot be addressed by the study reported here.

Although anonymous and confidential registrants in this study reported similar risk factors and sexual behaviors, confidential registrants were more likely than anonymous registrants to test positive for HIV. However, more persons seeking HIV testing registered anonymously than confidentially. Thus, compared with confidential testing, anonymous testing identified more seropositive men and nearly as many seropositive women.

Because this study was limited to clients at a single HIV-counseling/testing site serving a specific population in one U.S. city, the results may not be generalizable to other clinic types, locations, or patient populations. For example, 83% of those who were tested at this clinic were white; findings may differ for clinics with more racially and ethnically diverse clientele. In addition, the percentage of clients returning for test results at this clinic was much higher than has been found for other sexually transmitted disease (STD) clinics in the United States (possibly because all APP clients requested HIV testing; at other clinics, clients may request other STD services and are advised to have HIV testing). Nonetheless, this study suggests that anonymous testing may be a useful public health strategy that complements confidential testing in identifying persons infected or at increased risk for HIV infection.

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Effectiveness in Disease and Injury Prevention

Public Health Focus: Effectiveness of Rollover Protective Structures for Preventing Injuries Associated with Agricultural Tractors

Agriculture ranks fourth among U.S. industries for work-related fatalities (*1*). Fatalities associated with agricultural machinery commonly involve farm tractors, and rollover incidents (i.e., the tractor tips sideways or backward and overturns, crushing the operator) account for 46% (Minnesota) to 76% (Georgia) of all farm tractor-related fatalities (*2*). Annually, agricultural tractor rollovers result in approximately 132 work-related deaths among persons aged ≥16 years* (*3*). This report summarizes information regarding the efficacy, effectiveness, and cost-effectiveness of rollover protective structures (ROPS) on agricultural tractors.

Background

ROPS are structural components attached to vehicles and are designed to protect the operator if the vehicle overturns during operation; they can either be enclosed in a tractor cab or unenclosed (resembling one or more exposed rollover bars). Safety restraints should be used in conjunction with ROPS to confine the operator within the space protected by the ROPS. ROPS first became available as optional equipment on farm tractors in 1971; tractors manufactured before 1971 generally were not designed to accommodate the addition of ROPS. In 1976, the Occupational Safety and Health Administration (OSHA) required employers to provide ROPS and safety belts for all employee-operated tractors manufactured after October 25, 1976.† Since 1985, as a result of voluntary agreements by tractor manufacturers, virtually all new tractors sold in the United States have been equipped with ROPS and safety belts.

More than half of the approximately 4.6 million tractors in use in the United States lack ROPS; of these, 61% were manufactured before 1971 (NIOSH, unpublished data, 1992). In an eight-state (Delaware, Illinois, Indiana, Missouri, New York, Ohio, Oregon, and West Virginia) survey covering approximately 14,000 tractors, 65% of tractors had no rollover protection, 27% had enclosed ROPS, and 8% had unenclosed ROPS (NIOSH, unpublished data, 1992). When analyzed by time in use, 54% of total tractor hours of use was performed with no rollover protection, 36% with enclosed ROPS, and 10% with unenclosed ROPS.

Efficacy and Effectiveness

Since 1967, a series of tractor rollover incidents has been investigated in Nebraska (R. Schneider, University of Nebraska, personal communication, April 1992); 40% of approximately 250 persons involved in unprotected tractor rollover incidents died. One (2%) of 61 persons operating ROPS-equipped tractors that rolled over died; this person had not used a safety belt and was ejected from the ROPS protective zone during the rollover.

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* This is an undercount of tractor rollover-related fatalities because persons aged <16 years are not included in the database used to derive this figure; it is also likely thatadditional fatalities occur among persons aged ≥16 years but are not reported as work-related.

† This OSHA standard (CFR 29 § 1928.51) exempts tractors used in certain circumstances (e.g., where vertical clearances may be limited, such as in orchards or inside buildings) and does not apply to family farms. Moreover, the standard is not enforced on farms that employ fewer than 11 employees.

Rollover Protective Structures — Continued

Based on the calculation of a prevented fraction (*4*), NIOSH estimated that 43% of potential fatalities from rollovers are prevented by the enclosed and unenclosed ROPS now in use. Based on the attributable risk calculation (*4*), NIOSH estimated that a 71% reduction from the current number of rollover fatalities would be expected by increasing the use of unenclosed ROPS to cover all tractors that do not already have any form of ROPS.

Assumptions used to estimate values for these measures were that 1) no rollover-associated deaths occur in tractors with enclosed ROPS; 2) currently 10% of all tractor-hours are logged by unenclosed ROPS-equipped tractors; and 3) the fatality rate per hour of use in tractors with unenclosed ROPS is 75% less than the corresponding rate in tractors without any ROPS. There are no epidemiologic studies documenting the efficacy of unenclosed ROPS; based on current knowledge, 75% was selected for this analysis as a reasonable estimate (*5*). All estimates were made for retrofitting tractors with unenclosed ROPS because this approach would be less expensive and technically simpler than retrofitting tractors with enclosed ROPS.

Cost-Effectiveness

A cost-effectiveness analysis reported in 1991 assessed a hypothetical statewide policy to retrofit ROPS onto tractors in New York. The policy involved 1) monetary incentives to retrofit tractors for 5 years, 2) mandatory ROPS on all tractors after 10 years, and 3) enforcement of the proposed policy (*5*). With the assumptions that retrofitted ROPS would be 75% efficacious and that ROPS installation costs $700 per tractor, the minimum cost (based only on ROPS installation [i.e., hardware and labor]) for each life saved was estimated as $684,729. Enforcement (per million dollars of enforcement expenses) of such a program would cost an additional $337,672 per life saved.

Reported by: Div of Safety Research, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Rollover-associated fatalities and serious traumatic injuries to operators of tractors without ROPS can be substantially reduced through 1) retrofitting tractors manufactured from 1971 through 1985, for which ROPS equipment is available, and 2) refurbishing and retrofitting pre-1971 tractors, for which ROPS designs generally do not exist. If all tractors without ROPS are left unprotected, 2800 rollover-related deaths may occur during the approximately 31 years[§] until these tractors have been gradually retired from use (based on current fatality rates per 100,000 tractors in use [7] and the recognized underreporting of this type of fatality).

In the United States, the annual fatality rate related to farm tractor operation declined from 14.9 fatalities per 100,000 tractors in use in 1970 to 7.2 per 100,000 tractors in use in 1989 (*8*). This decline may have resulted from a combination of compliance with the OSHA standard and the voluntary use of ROPS on tractors (*8*).

The findings in this report suggest that the potential public health benefit of retrofitting ROPS on tractors could be substantial—ranging up to a 71% reduction from current fatality numbers. However, if the efficacy of unenclosed ROPS were higher than the 75% used in these analyses, these estimates of positive public health impact

[§]Estimated from total number of tractors in use divided by annual sales rate (*6*).

Rollover Protective Structures — Continued

would increase; the efficacy of ROPS would approach 100% if accompanied by universal use of safety belts or other driver restraints (e.g. restraint bars) on unenclosed ROPS-equipped tractors. Retrofitting tractors with enclosed ROPS, although substantially more costly, would also be expected to prevent more deaths because operators are more likely to remain within the cab during a rollover and, therefore, be at decreased risk for being crushed—even if they are not wearing a safety belt. From 1961 through 1983, Sweden implemented regulations requiring the installation of ROPS—initially on new tractors, then on all tractors; this intervention was followed by a 92% reduction in tractor rollover fatalities (*9*). Although other factors (e.g., improvements in tractor stability, operating techniques, safety precautions, and medical care of injuries) may have contributed to this decline, the ROPS regulations likely contributed substantially to this trend.

One of the national health objectives for the year 2000 is to reduce the fatality rate for persons who work on farms from 14.0 deaths per 100,000 workers (1983–1987 average) to 9.5 deaths per 100,000 workers (*10*). National and community-based injury-prevention programs should include plans for retrofitting or refurbishing farm tractors with ROPS to prevent fatalities associated with tractor rollovers. These programs may include 1) a buy-back of older, less safe tractors; 2) interventions tailored to the needs of specific farming regions (e.g., dairy, grain, and orchard); and 3) effectiveness studies of community- and demonstration-project intervention initiatives (*4*). In addition, guidelines should be developed for design of ROPS for tractors manufactured before 1971.

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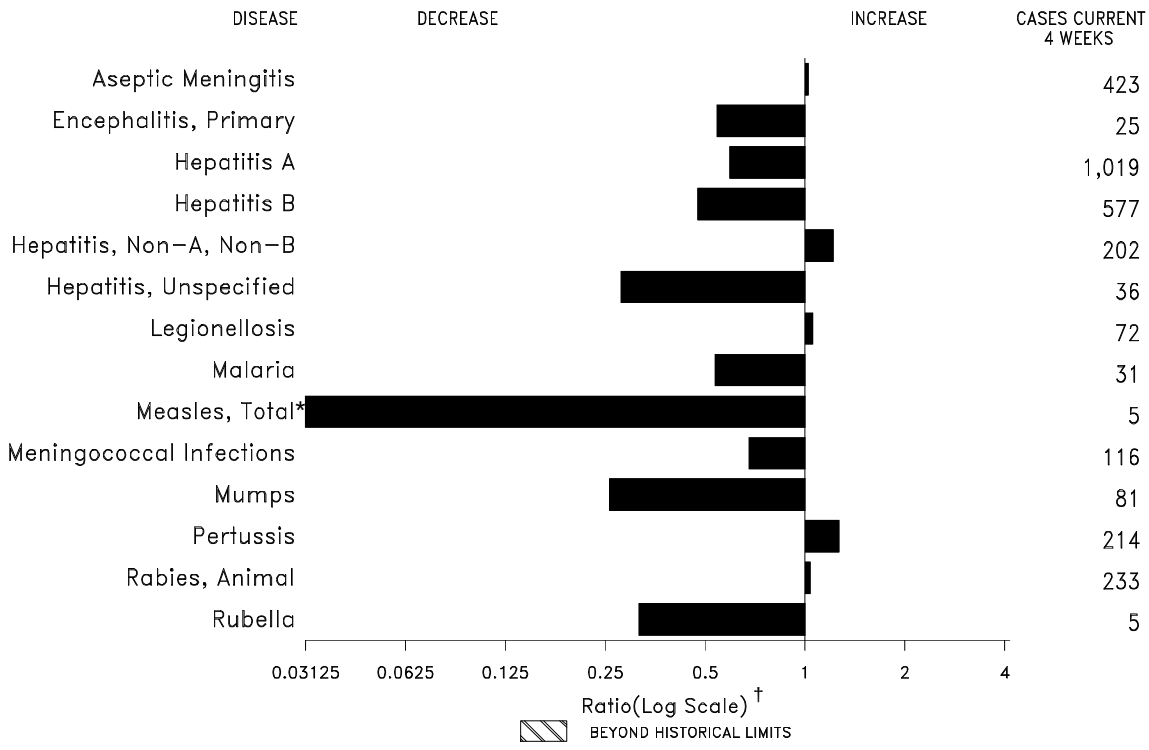
FIGURE I. Notifiable disease reports, comparison of 4-week totals ending January 23, 1993, with historical data — United States



*The large apparent decrease in reported cases of measles(total) reflects dramatic fluctuations in the historical baseline. (Ratio (log scale) for week three is 0.01671).

† Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where thehatched 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 January 23, 1993 (3rd Week)

	Cum. 1993		Cum. 1993
AIDS*	-	Measles: imported	-
Anthrax	-	indigenous	4
Botulism: Foodborne	-	Plague	-
Infant	1	Poliomyelitis, Paralytic§	-
Other	-	Psittacosis	3
Brucellosis	2	Rabies, human	-
Cholera	-	Syphilis, primary & secondary	1,410
Congenital rubella syndrome	1	Syphilis, congenital, age < 1 year	-
Diphtheria	-	Tetanus	1
Encephalitis, post-infectious	5	Toxic shock syndrome	11
Gonorrhea	19,491	Trichinosis	1
Haemophilus influenzae (invasive disease)†	34	Tuberculosis	684
Hansen Disease	9	Tularemia	4
Leptospirosis	-	Typhoid fever	27
Lyme Disease	66	Typhus fever, tickborne (RMSF)	6

*AIDS case reports are updated monthly rather than weekly (*MMWR* Vol. 41, No. 18, p. 325). Case reports for January 1993 will be added to this table during the first week of February.
†Of 27 cases of known age, 15 (56%) were reported among children less than 5 years of age.
§No cases of suspected poliomyelitis have been reported in 1993; 4 cases of suspected poliomyelitis were reported in 1992; 6 of the 9 suspected cases with onset in 1991 were confirmed; all were vaccine associated.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending January 23, 1993, and January 18, 1992 (3rd Week)

Reporting Area	AIDS*	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1992	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993
UNITED STATES	-	283	24	5	19,491	25,830	950	468	149	32	62	66
NEW ENGLAND	-	4	1	-	262	541	49	32	1	2	3	18
Maine	-	-	-	-	5	1	2	-	-	-	1	-
N.H.	-	1	-	-	5	-	2	8	-	-	-	3
Vt.	-	-	-	-	4	1	1	-	-	-	-	-
Mass.	-	3	1	-	248	237	28	19	1	2	2	8
R.I.	-	-	-	-	-	30	14	5	-	-	-	7
Conn.	-	-	-	-	-	272	2	-	-	-	-	-
MID. ATLANTIC	-	19	-	-	1,065	1,505	40	18	5	-	5	30
Upstate N.Y.	-	3	-	-	-	11	9	3	-	-	1	5
N.Y. City	-	3	-	-	-	851	3	1	-	-	-	-
N.J.	-	-	-	-	333	350	23	-	5	-	3	5
Pa.	-	13	-	-	732	293	5	14	-	-	1	20
E.N. CENTRAL	-	62	6	1	3,600	5,520	169	131	39	-	26	1
Ohio	-	34	3	-	1,227	2,060	7	3	1	-	11	1
Ind.	-	10	2	-	357	446	146	99	3	-	6	-
Ill.	-	2	-	-	1,424	2,094	4	-	-	-	-	-
Mich.	-	16	1	1	457	731	12	29	35	-	9	-
Wis.	-	-	-	-	135	189	-	-	-	-	-	-
W.N. CENTRAL	-	8	-	-	769	1,220	178	23	5	-	3	4
Minn.	-	-	-	-	79	140	3	-	-	-	-	-
Iowa	-	4	-	-	116	-	1	1	1	-	-	-
Mo.	-	-	-	-	443	768	162	20	4	-	-	-
N. Dak.	-	-	-	-	-	2	1	-	-	-	-	-
S. Dak.	-	-	-	-	11	6	2	-	-	-	-	-
Nebr.	-	1	-	-	-	3	7	-	-	-	3	-
Kans.	-	3	-	-	120	301	2	2	-	-	-	4
S. ATLANTIC	-	49	3	2	5,621	9,584	26	29	14	6	9	4
Del.	-	-	-	-	81	82	-	2	11	-	2	3
Md.	-	9	3	-	712	805	-	2	-	-	3	-
D.C.	-	1	-	-	289	443	-	2	-	-	2	-
Va.	-	1	-	-	349	1,138	-	-	-	1	-	-
W. Va.	-	2	-	-	43	56	-	1	-	3	-	1
N.C.	-	1	-	-	1,585	491	-	5	-	-	-	-
S.C.	-	-	-	-	762	841	2	5	-	-	-	-
Ga.	-	5	-	-	817	4,189	8	2	1	-	2	-
Fla.	-	30	-	2	983	1,539	16	10	2	2	-	-
E.S. CENTRAL	-	24	-	-	2,654	1,831	5	48	15	-	2	-
Ky.	-	14	-	-	246	241	2	5	-	-	1	-
Tenn.	-	2	-	-	832	657	3	37	15	-	1	-
Ala.	-	7	-	-	1,043	502	-	4	-	-	-	-
Miss.	-	1	-	-	533	431	-	2	-	-	-	-
W.S. CENTRAL	-	3	-	-	3,118	1,862	30	4	3	2	3	1
Ark.	-	-	-	-	380	-	6	2	-	-	-	-
La.	-	-	-	-	939	474	2	2	-	-	-	-
Okla.	-	-	-	-	189	208	8	-	3	1	3	1
Tex.	-	3	-	-	1,610	1,180	14	-	-	1	-	-
MOUNTAIN	-	9	3	1	475	765	135	23	11	3	5	-
Mont.	-	-	-	-	10	4	7	-	-	-	-	-
Idaho	-	1	-	-	5	4	6	2	-	-	-	-
Wyo.	-	-	-	-	3	2	-	-	1	-	2	-
Colo.	-	2	1	-	200	213	68	1	4	3	-	-
N. Mex.	-	5	1	1	47	60	18	12	5	-	-	-
Ariz.	-	-	1	-	120	340	21	3	-	-	-	-
Utah	-	-	-	-	-	5	12	-	-	-	-	-
Nev.	-	1	-	-	90	137	3	5	1	-	3	-
PACIFIC	-	105	11	1	1,927	3,002	318	160	56	19	6	8
Wash.	-	-	-	-	262	221	10	-	3	-	-	-
Oreg.	-	-	-	-	93	49	28	8	1	-	-	-
Calif.	-	100	10	1	1,517	2,639	243	152	50	19	6	8
Alaska	-	-	1	-	28	57	30	-	-	-	-	-
Hawaii	-	5	-	-	27	36	7	-	2	-	-	-
Guam	-	-	-	-	-	8	-	-	-	-	-	-
P.R.	-	2	-	-	28	1	-	14	1	-	-	-
V.I.	-	-	-	-	8	-	-	1	-	-	-	-
Amer. Samoa	-	-	-	-	2	5	-	-	-	-	-	-
C.N.M.I.	-	2	-	-	6	-	-	-	-	-	-	-

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

*AIDS case reports are updated monthly rather than weekly (*MMWR* Vol. 41, No. 18, p. 325). Case reports for January 1993 will be added to this table during the first week of February.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending January 23, 1993, and January 18, 1992 (3rd Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1993	1993	Cum. 1993	1993	Cum. 1993	Cum. 1992	Cum. 1993	1993	Cum. 1993	1993	Cum. 1993	Cum. 1992	1993	Cum. 1993	Cum. 1992
UNITED STATES	28	3	4	-	-	7	87	24	58	31	81	26	1	4	9
NEW ENGLAND	6	-	-	-	-	1	13	-	1	20	37	-	-	-	4
Maine	-	-	-	-	-	-	2	-	-	1	3	-	-	-	-
N.H.	1	-	-	-	-	-	4	-	-	19	33	-	-	-	-
Vt.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Mass.	4	-	-	-	-	-	2	-	-	-	-	-	-	-	-
R.I.	1	-	-	-	-	-	2	-	1	-	1	-	-	-	4
Conn.	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
MID. ATLANTIC	2	-	-	-	-	-	10	2	3	2	10	-	-	-	-
Upstate N.Y.	1	-	-	-	-	-	1	1	1	1	2	-	-	-	-
N.Y. City	1	-	-	-	-	-	2	-	-	-	-	-	-	-	-
N.J.	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-
Pa.	-	-	-	-	-	-	3	1	2	1	8	-	-	-	-
E.N. CENTRAL	3	-	-	-	-	1	6	2	15	3	12	8	-	-	1
Ohio	1	-	-	-	-	-	-	-	10	-	7	-	-	-	-
Ind.	1	-	-	-	-	-	3	-	-	-	1	5	-	-	-
Ill.	1	-	-	-	-	-	2	-	-	-	-	-	-	-	1
Mich.	-	-	-	-	-	-	1	2	5	3	4	1	-	-	-
Wis.	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-
W.N. CENTRAL	-	-	-	-	-	-	3	2	4	1	2	4	-	-	-
Minn.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iowa	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-
Mo.	-	-	-	-	-	-	-	2	2	-	1	3	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
Nebr.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Kans.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
S. ATLANTIC	1	2	2	-	-	-	21	5	8	2	2	5	-	-	-
Del.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Md.	-	1	1	-	-	-	1	2	2	2	2	5	-	-	-
D.C.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Va.	-	-	-	-	-	-	2	1	1	-	-	-	-	-	-
W. Va.	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-
N.C.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
S.C.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Ga.	1	-	-	-	-	-	12	-	-	-	-	-	-	-	-
Fla.	-	1	1	-	-	-	3	1	2	-	-	-	-	-	-
E.S. CENTRAL	-	-	-	-	-	5	6	1	4	-	3	1	-	-	-
Ky.	-	-	-	-	-	5	2	-	-	-	1	-	-	-	-
Tenn.	-	-	-	-	-	-	3	1	3	-	1	-	-	-	-
Ala.	-	-	-	-	-	-	1	-	1	-	1	1	-	-	-
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W.S. CENTRAL	-	-	-	-	-	-	1	7	10	-	2	-	-	-	-
Ark.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
La.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Okla.	-	-	-	-	-	-	-	-	2	-	2	-	-	-	-
Tex.	-	-	-	-	-	-	-	7	8	-	-	-	-	-	-
MOUNTAIN	-	-	-	-	-	-	4	3	5	1	3	4	-	-	-
Mont.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-	-	1	-	-	2	-	-	-
Wyo.	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-
Colo.	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
N. Mex.	-	-	-	-	-	-	-	N	N	1	1	-	-	-	-
Ariz.	-	-	-	-	-	-	3	1	2	-	1	-	-	-	-
Utah	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-
Nev.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC	16	1	2	-	-	-	23	2	8	2	10	4	1	4	4
Wash.	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
Oreg.	-	-	-	-	-	-	5	N	N	-	-	-	1	1	-
Calif.	16	-	1	-	-	-	18	1	6	1	7	4	-	2	4
Alaska	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Hawaii	-	1	1	-	-	-	-	-	-	1	3	-	-	1	-
Guam	-	U	-	U	-	3	-	U	-	U	-	-	U	-	-
P.R.	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-
V.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases include 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 January 23, 1993, and January 18, 1992 (3rd Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-Shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1993	Cum. 1992	Cum. 1993	Cum. 1993	Cum. 1992	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993
UNITED STATES	1,410	1,199	11	684	825	4	27	6	213
NEW ENGLAND	36	39	-	6	4	-	1	2	57
Maine	-	-	-	2	-	-	-	-	-
N.H.	-	4	-	-	-	-	-	-	1
Vt.	-	-	-	-	-	-	-	-	2
Mass.	25	19	-	1	1	-	1	2	11
R.I.	-	1	-	-	-	-	-	-	-
Conn.	11	15	-	3	3	-	-	-	43
MID. ATLANTIC	105	159	2	78	160	-	11	1	76
Upstate N.Y.	5	-	1	-	18	-	-	-	43
N.Y. City	84	92	-	52	126	-	2	-	-
N.J.	14	19	-	15	4	-	-	1	33
Pa.	2	48	1	11	12	-	9	-	-
E.N. CENTRAL	215	270	5	63	46	1	-	-	2
Ohio	66	44	3	12	11	-	-	-	-
Ind.	9	13	1	2	5	-	-	-	-
Ill.	111	148	-	49	14	-	-	-	-
Mich.	21	26	1	-	15	1	-	-	-
Wis.	8	39	-	-	1	-	-	-	2
W.N. CENTRAL	105	40	1	7	27	-	-	-	6
Minn.	2	-	-	-	21	-	-	-	2
Iowa	4	-	-	-	1	-	-	-	-
Mo.	99	39	-	5	4	-	-	-	-
N. Dak.	-	-	-	-	1	-	-	-	1
S. Dak.	-	-	-	-	-	-	-	-	-
Nebr.	-	1	-	-	-	-	-	-	-
Kans.	-	-	1	2	-	-	-	-	3
S. ATLANTIC	357	412	1	82	108	-	1	-	61
Del.	7	6	-	-	1	-	-	-	5
Md.	15	24	-	29	28	-	-	-	-
D.C.	7	55	-	4	5	-	-	-	-
Va.	33	46	-	-	-	-	-	-	23
W. Va.	1	1	-	4	5	-	-	-	3
N.C.	71	67	-	-	6	-	-	-	1
S.C.	72	44	-	5	13	-	-	-	6
Ga.	70	103	-	40	-	-	-	-	23
Fla.	81	66	1	-	50	-	1	-	-
E.S. CENTRAL	246	126	-	25	45	1	-	-	2
Ky.	25	6	-	9	9	-	-	-	-
Tenn.	68	25	-	-	-	-	-	-	-
Ala.	77	46	-	13	14	1	-	-	2
Miss.	76	49	-	3	22	-	-	-	-
W.S. CENTRAL	338	105	-	-	-	-	-	3	3
Ark.	36	-	-	-	-	-	-	-	2
La.	126	79	-	-	-	-	-	-	-
Okla.	37	8	-	-	-	-	-	3	1
Tex.	139	18	-	-	-	-	-	-	-
MOUNTAIN	3	40	-	10	1	-	-	-	5
Mont.	-	-	-	-	-	-	-	-	-
Idaho	-	1	-	-	1	-	-	-	-
Wyo.	-	-	-	-	-	-	-	-	2
Colo.	1	9	-	-	-	-	-	-	-
N. Mex.	-	2	-	-	-	-	-	-	1
Ariz.	2	7	-	7	-	-	-	-	2
Utah	-	-	-	-	-	-	-	-	-
Nev.	-	21	-	3	-	-	-	-	-
PACIFIC	5	8	2	413	434	2	14	-	1
Wash.	-	6	-	9	14	-	-	-	-
Oreg.	4	2	-	3	-	-	-	-	-
Calif.	-	-	2	385	407	2	14	-	-
Alaska	-	-	-	-	6	-	-	-	1
Hawaii	1	-	-	16	7	-	-	-	-
Guam	-	1	-	-	-	-	-	-	-
P.R.	36	-	-	-	-	-	-	-	2
V.I.	3	1	-	-	1	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	3	-	-	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending January 23, 1993 (3rd Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	673	489	109	54	11	10	63
Boston, Mass.	188	131	30	16	4	7	22
Bridgeport, Conn.	60	43	9	6	2	-	7
Cambridge, Mass.	23	19	2	1	-	1	3
Fall River, Mass.	31	26	-	5	-	-	2
Hartford, Conn.	49	31	14	4	-	-	2
Lowell, Mass.	24	20	4	-	-	-	2
Lynn, Mass.	11	11	-	-	-	-	-
New Bedford, Mass.	31	20	5	5	1	-	2
New Haven, Conn.	38	28	4	3	2	1	1
Providence, R.I.	45	33	10	1	1	-	3
Somerville, Mass.	10	8	1	1	-	-	1
Springfield, Mass.	56	39	14	3	-	-	1
Waterbury, Conn.	36	26	6	3	1	-	5
Worcester, Mass.	71	54	10	6	-	1	12
MID. ATLANTIC	2,637	1,728	489	290	75	55	138
Albany, N.Y.	74	52	14	5	1	2	4
Allentown, Pa.	18	11	4	3	-	-	-
Buffalo, N.Y.	113	74	32	3	2	2	4
Camden, N.J.	43	31	7	2	2	1	2
Elizabeth, N.J.	19	10	7	2	-	-	1
Erie, Pa.§	33	26	7	-	-	-	4
Jersey City, N.J.	44	28	6	8	1	1	1
New York City, N.Y.	1,372	867	255	181	42	27	57
Newark, N.J.	84	38	20	16	5	5	4
Paterson, N.J.	29	18	3	7	-	1	-
Philadelphia, Pa.	393	263	68	40	15	7	30
Pittsburgh, Pa.§	79	62	10	5	1	1	4
Reading, Pa.	14	12	-	2	-	-	1
Rochester, N.Y.	115	89	15	5	2	4	12
Schenectady, N.Y.	20	14	6	-	-	-	1
Scranton, Pa.§	33	28	5	-	-	-	2
Syracuse, N.Y.	72	48	18	3	2	1	5
Trenton, N.J.	40	28	6	4	-	2	5
Utica, N.Y.	20	16	2	1	1	-	1
Yonkers, N.Y.	22	13	4	3	1	1	-
E.N. CENTRAL	2,249	1,442	421	211	115	60	122
Akron, Ohio	83	64	14	3	-	2	-
Canton, Ohio	29	25	2	1	-	1	3
Chicago, Ill.	462	185	104	92	69	12	19
Cincinnati, Ohio	139	94	27	9	6	3	15
Cleveland, Ohio	137	91	27	10	6	3	-
Columbus, Ohio	164	124	31	6	2	1	9
Dayton, Ohio	108	73	21	7	3	4	8
Detroit, Mich.	245	155	37	30	15	8	7
Evansville, Ind.	45	35	8	1	-	1	2
Fort Wayne, Ind.	67	50	10	6	1	-	8
Gary, Ind.	18	7	6	2	3	-	1
Grand Rapids, Mich.	81	57	13	7	1	3	8
Indianapolis, Ind.	173	110	43	14	1	5	13
Madison, Wis.	38	24	7	5	-	2	3
Milwaukee, Wis.	132	94	21	8	4	5	12
Peoria, Ill.	49	35	8	1	1	4	2
Rockford, Ill.	47	38	9	-	-	-	3
South Bend, Ind.	35	30	1	2	1	1	3
Toledo, Ohio	126	90	24	6	1	5	4
Youngstown, Ohio	71	61	8	1	1	-	2
W.N. CENTRAL	697	485	128	47	16	20	46
Des Moines, Iowa	U	U	U	U	U	U	U
Duluth, Minn.	28	21	6	1	-	-	1
Kansas City, Kans.	29	21	6	2	-	-	5
Kansas City, Mo.	103	77	20	5	1	-	3
Lincoln, Nebr.	38	30	5	3	-	-	4
Minneapolis, Minn.	137	94	27	11	2	3	8
Omaha, Nebr.	87	51	15	11	5	5	5
St. Louis, Mo.	139	95	23	6	8	7	8
St. Paul, Minn.	60	44	12	1	-	3	10
Wichita, Kans.	76	52	14	7	-	2	2
S. ATLANTIC	1,167	734	231	137	37	28	59
Atlanta, Ga.	189	107	50	27	2	3	8
Baltimore, Md.	164	92	38	27	5	2	16
Charlotte, N.C.	94	51	23	10	4	6	4
Jacksonville, Fla.	113	79	20	7	4	3	8
Miami, Fla.	93	63	15	11	3	1	-
Norfolk, Va.	45	30	5	4	2	4	1
Richmond, Va.	76	46	17	11	-	2	4
Savannah, Ga.	53	36	10	5	-	2	4
St. Petersburg, Fla.	52	47	2	3	-	-	1
Tampa, Fla.	147	102	20	14	11	-	9
Washington, D.C.	116	62	26	17	6	5	4
Wilmington, Del.	25	19	5	1	-	-	-
E.S. CENTRAL	936	616	190	59	31	40	54
Birmingham, Ala.	124	81	24	9	5	5	2
Chattanooga, Tenn.	48	32	12	1	2	1	5
Knoxville, Tenn.	142	95	36	5	6	-	12
Lexington, Ky.	86	66	16	3	1	-	7
Memphis, Tenn.	257	155	50	18	11	23	14
Mobile, Ala.	80	53	12	11	2	2	4
Montgomery, Ala.	56	40	10	3	1	2	1
Nashville, Tenn.	143	94	30	9	3	7	9
W.S. CENTRAL	1,554	962	290	151	98	51	90
Austin, Tex.	62	40	14	5	1	2	5
Baton Rouge, La.	31	22	5	4	-	-	-
Corpus Christi, Tex.	66	46	17	2	-	1	6
Dallas, Tex.	231	138	55	27	9	2	8
El Paso, Tex.	73	44	14	6	5	4	12
Ft. Worth, Tex.	106	77	16	9	1	3	5
Houston, Tex.	382	204	78	61	31	8	30
Little Rock, Ark.	69	43	13	6	4	3	6
New Orleans, La.	171	64	30	13	40	22	-
San Antonio, Tex.	217	166	33	9	4	5	10
Shreveport, La.	56	44	3	6	3	-	4
Tulsa, Okla.	90	74	12	3	-	1	4
MOUNTAIN	940	649	167	81	21	22	82
Albuquerque, N.M.	79	53	15	7	-	4	5
Colo. Springs, Colo.	44	32	6	4	1	1	4
Denver, Colo.	121	76	21	17	4	3	8
Las Vegas, Nev.	222	152	42	21	2	5	17
Ogden, Utah	30	25	2	1	1	1	3
Phoenix, Ariz.	194	124	41	15	10	4	20
Pueblo, Colo.	26	19	5	2	-	-	2
Salt Lake City, Utah	99	70	15	7	3	4	5
Tucson, Ariz.	125	98	20	7	-	-	18
PACIFIC	1,777	1,227	278	189	41	35	115
Berkeley, Calif.	26	19	2	4	-	1	4
Fresno, Calif.	69	47	11	9	-	2	9
Glendale, Calif.	17	15	1	-	1	-	-
Honolulu, Hawaii	94	69	15	8	1	1	6
Long Beach, Calif.	78	56	11	8	1	2	15
Los Angeles, Calif.	354	215	57	54	17	5	5
Pasadena, Calif.	31	24	2	3	1	1	7
Portland, Oreg.	155	117	25	7	4	2	6
Sacramento, Calif.	143	103	16	13	6	5	11
San Diego, Calif.	140	97	18	18	1	6	13
San Francisco, Calif.	177	109	32	33	1	1	1
San Jose, Calif.	155	109	31	8	4	3	15
Santa Cruz, Calif.	23	17	2	3	1	-	3
Seattle, Wash.	139	101	26	11	1	-	4
Spokane, Wash.	72	53	11	5	-	3	12
Tacoma, Wash.	104	76	18	5	2	3	4
TOTAL	12,630¶	8,332	2,303	1,219	445	321	769

*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.

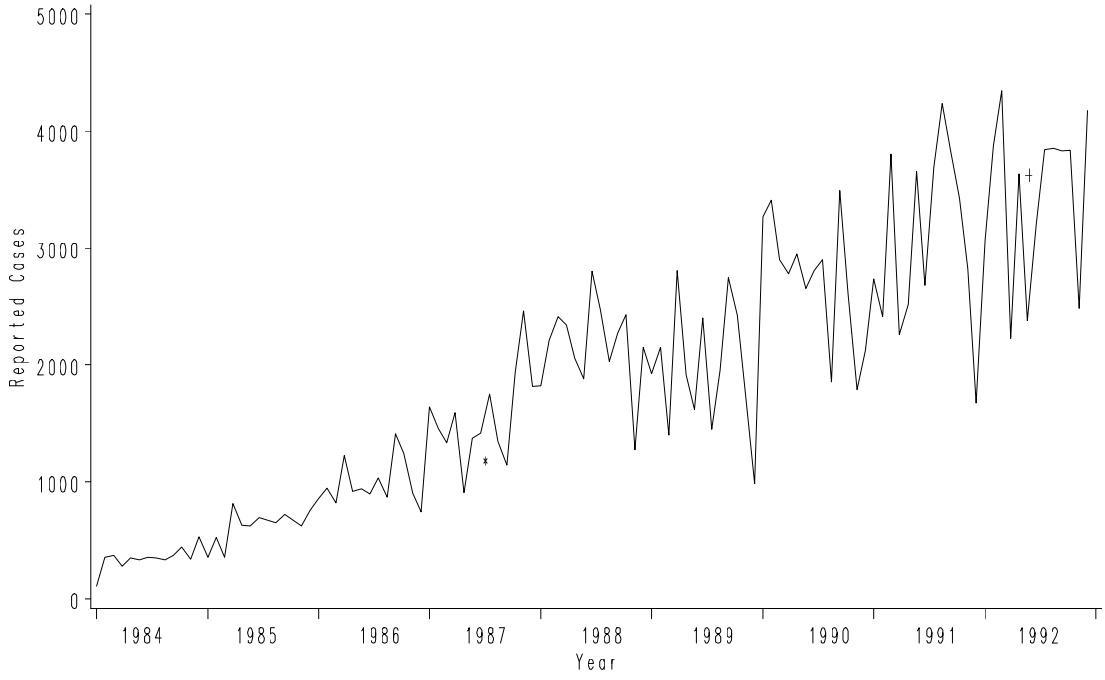
†Pneumonia and influenza.

§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.

FIGURE II. Acquired immunodeficiency syndrome cases, by 4-week period of report — United States, 1984–1992



*Change in case definition
†Change to reflect Notice to Readers Vol. 41, No. 18, p. 325.

FIGURE III. Tuberculosis cases, by 4-week period of report — United States, 1984–1992

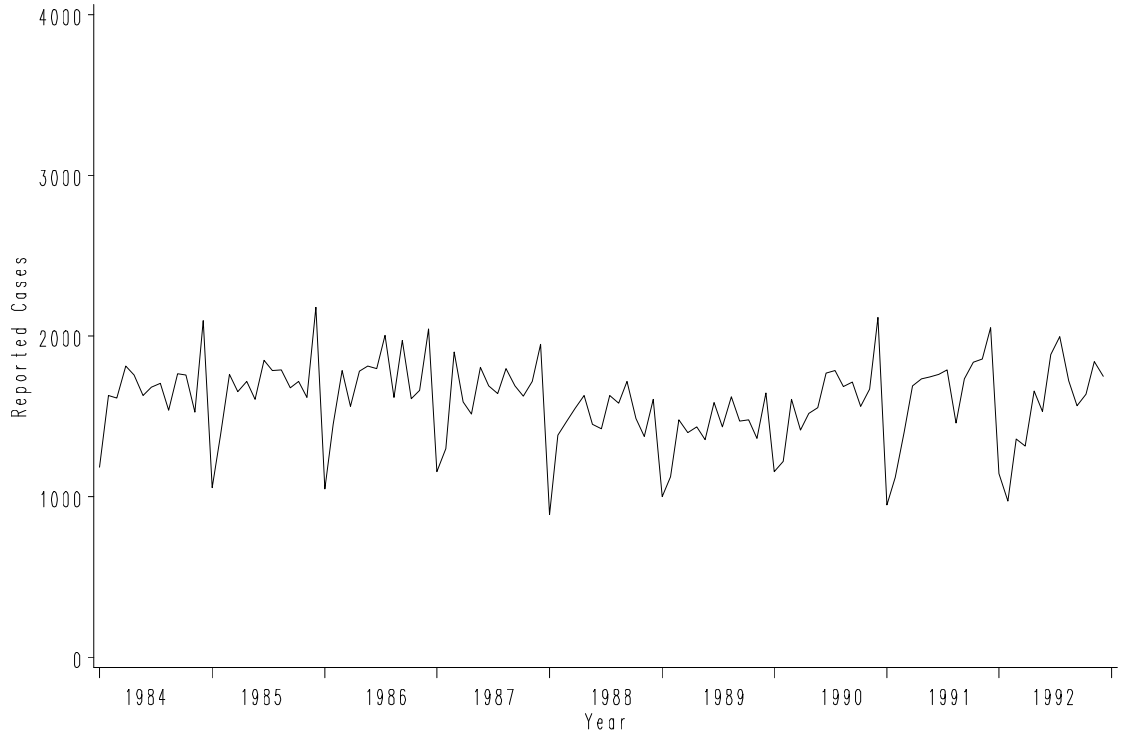


FIGURE IV. Gonorrhea cases, by 4-week period of report — United States, 1984-1992

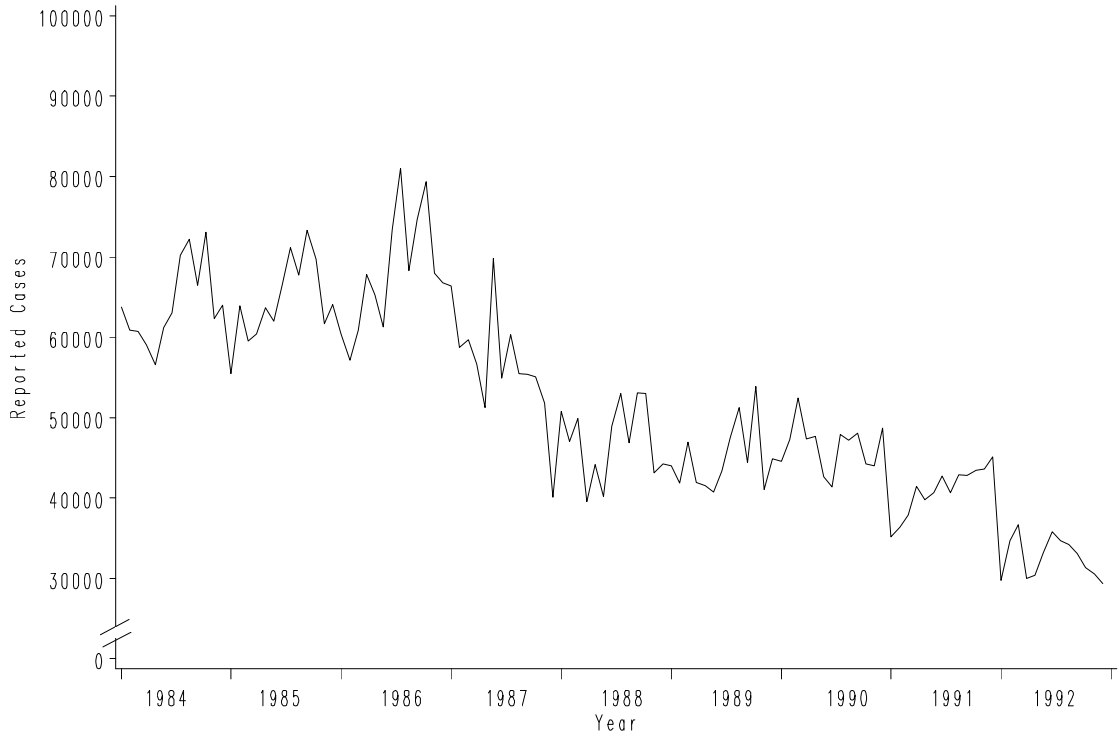
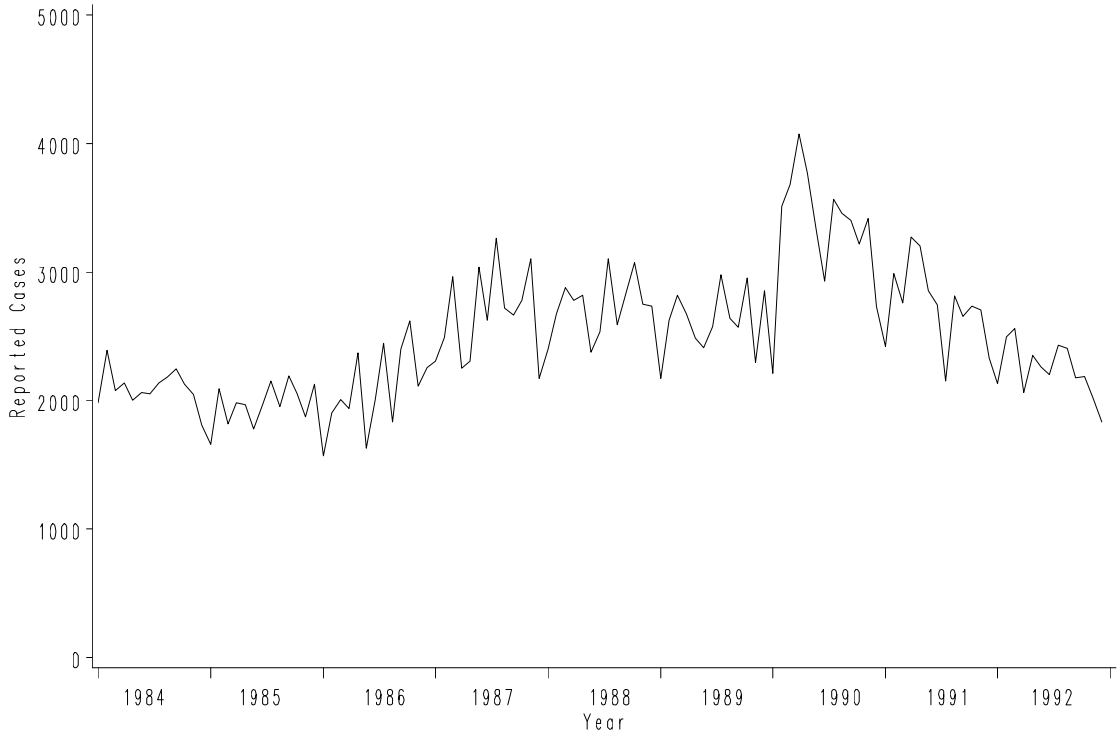


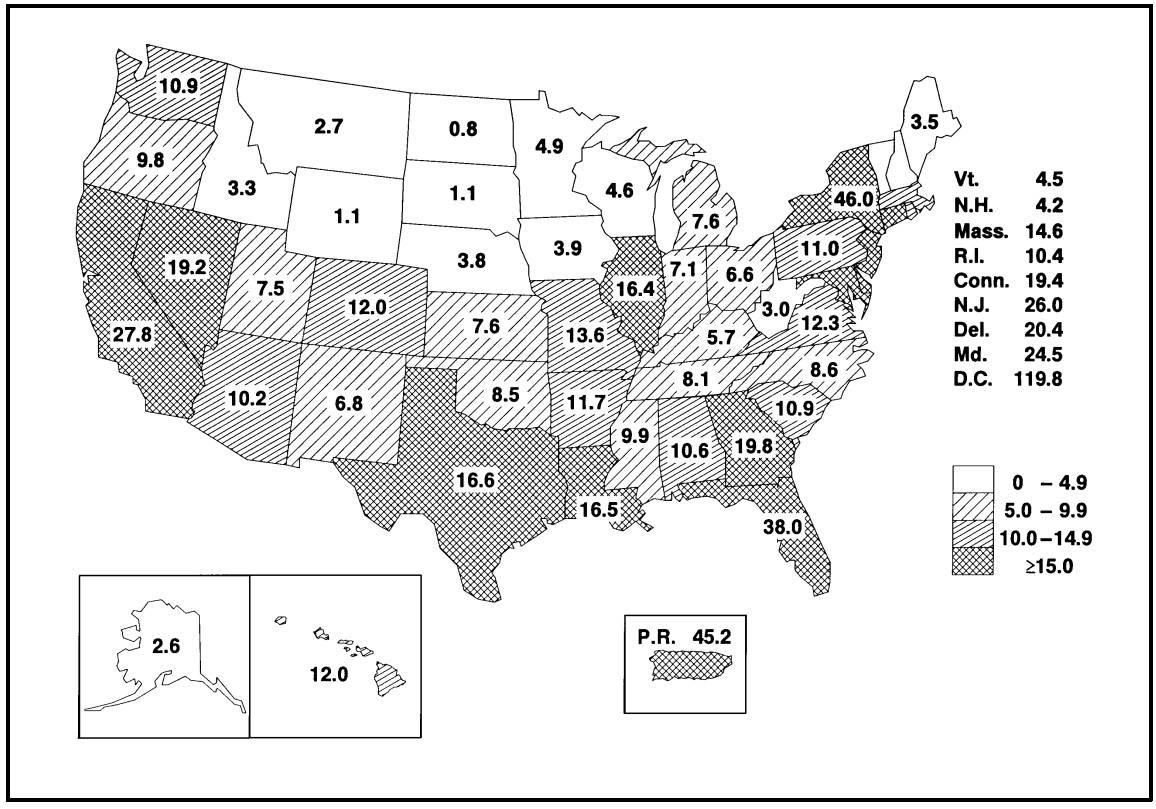
FIGURE V. Syphilis cases, by 4-week period of report — United States, 1984–1992



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 January 1992 through December 1992. The map appears quarterly in *MMWR.* More detailed information on AIDS cases is provided in the quarterly *HIV/AIDS Surveillance Report,* single copies of which are available free from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003; telephone (800) 458-5231.

AIDS cases per 100,000 population — United States, January 1992–December 1992



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