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National Melanoma/Skin Cancer Detection and Prevention Month — May 1997

MORBIDITY AND MORTALITY WEEKLY REPORT

May has been designated National Melanoma/Skin Cancer Detection and Prevention Month by the American Academy of Dermatology. Although skin cancer is the most common form of cancer in the United States, the likelihood of cure is high if lesions are detected and treated at an early stage. Skin cancer is more common among persons with lightly pigmented skin (1). Basal cell and squamous cell carcinomas affect men more often than women (2). Among persons aged <40 years, women are more likely than men to develop melanoma, and among those aged \geq 40 years, men are more likely to develop melanoma (3). Exposure to sunlight and excessive ultraviolet radiation increases the risk for skin cancer. The risk for melanoma later in life is substantially increased following one or more blistering sunburns during childhood or the teenage years.

CDC's National Skin Cancer Prevention Education Program is designed to help achieve the national health objectives for the year 2000 for skin cancer prevention. One objective is to increase to \geq 60% the proportion of persons of all ages who limit sun exposure, use sunscreens and protective clothing when exposed to sunlight, and avoid exposure to artificial sources of ultraviolet light (e.g., sun lamps and tanning booths) (objective 16.9).

Parents, health-care providers, schools, and community organizations can develop and provide strategies that reinforce sun-protection behaviors (e.g., staying out of direct sunlight or timing outdoor activities for hours when ultraviolet light is less intense) and change attitudes about exposure to the sun (e.g., the opinion that a person looks more attractive with a tan).

Information about skin cancer is available from the National Cancer Institute, telephone (800) 422-6237, and from the American Cancer Society, telephone (800] 227-2345. Information about CDC's cancer prevention and control program is available from the World-Wide Web at http://www.cdc.gov/nccdphp/dcpc.

References

- 1. Harras A, Edwards BK, Blot WJ, Ries LAG, eds. Cancer rates and risks. 4th ed. Bethesda, Maryland: US Department of Health and Human Services, Public Health Service, National Institutes of Health, 1996; DHHS publication no. (NIH)96-691.
- 2. American Academy of Dermatology. Burning issues: press conference report. Schaumburg, Illinois: American Academy of Dermatology, May 2, 1994.
- 3. Kosary CL, Ries LAG, Miller BA, Hankey BF, Harras A, Edwards BK, eds. SEER cancer statistics review, 1973–1992: tables and graphs. Bethesda, Maryland: US Department of Health and Human Services, Public Health Service, National Institutes of Health, 1995; DHHS publication no. (NIH)96-2789.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / Public Health Service

Media Dissemination of and Public Response to the Ultraviolet Index — United States, 1994–1995

Exposure to the ultraviolet component of sunlight may be associated with an increased risk for some skin cancers. The Ultraviolet Index (UVI) links a rating by the National Weather Service (NWS) of solar ultraviolet intensity (on a scale of 0 [minimal] to 10+ [very high]) to recommendations for appropriate sun-protection behaviors*. During the summers of 1994 and 1995, the NWS, in collaboration with the Environmental Protection Agency (EPA), the American Academy of Dermatology, the National Association of Physicians for the Environment, and CDC, disseminated UVI forecasts to selected major television stations and newspapers in the United States. In 1995, the Boston University School of Medicine conducted three surveys to evaluate how widely the UVI was televised, printed in newspapers, and used by adults (aged \geq 18 years) to modify their behaviors to reduce exposure to ultraviolet light. This report summarizes the findings of the evaluation, which indicate generally high rates of television broadcast and public awareness of the UVI.

UVI forecasts were transmitted by radio daily from local weather offices to all 221 television stations and more than 100 newspapers in 58 selected U.S. cities (comprising one city in each state [most of these were the most populated city in each state] and Puerto Rico, Washington, D.C., and six other cities frequented by tourists). To determine how often the UVI was televised, in July 1995 guestionnaires were mailed to weather forecasters at the 221 television stations; the questionnaire asked forecasters whether their station broadcast the UVI during the summers of 1994 and 1995 daily, only on weekends, only once a week, only on particularly hot or sunny days, or not at all. Open-ended questions were asked to obtain opinions about the UVI, how it was used, and suggestions for improvement of the information distributed with the UVI. To determine how often the UVI was published in newspapers, in 54 of the 58 cities the weather page of the newspaper with the highest circulation in each city was reviewed for one randomly chosen day during July 21-August 25, 1995 (newspapers from four cities were unavailable). To characterize use of the UVI by adults, in September 1995, random-digit-dialing was used to select a population-based probability sample of 700 white non-Hispanic and white Hispanic persons (who are at higher risk for melanoma) aged \geq 18 years living in households in the 58 cities and surrounding metropolitan areas. Responses were stratified according to demographic and socioeconomic variables of the 58 cities. Logistic regression was used to select the best set of statistically significant predictors of UVI awareness and change in habits.

All 221 television stations reported whether they had access to UVI information and used it in their weathercasts. Eighteen stations did not provide regularly scheduled weathercasts (n=14) or had inadequate access to NWS data (n=four). Of the remaining 203 stations, weather broadcasters at 185 (91%) stations provided follow-up interviews. Of these 185 television stations, 129 (70%) reported broadcasting the UVI daily; at least weekly reports were broadcast in 53 (91%) of the 58 cities. The 129 stations broadcasting the UVI daily potentially reached an estimated 13 million adults. In response to open-ended questions, more than half (95 [51%]) of the weather forecasters

^{*}Reduce unprotected sun exposure during 10 a.m.–4 p.m., when the sun's rays are the strongest; thoroughly apply sunscreen with a sun-protection factor of at least 15; and wear protective clothing, such as long-sleeve shirts and wide-brimmed hats.

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reported that they believed the UVI to be an important public health service and that it provides valuable information about sun protection. A total of 37 (20%) television stations reported impediments to incorporating the UVI into their forecasts (e.g., lack of time); 35 of these reported resistance to regularly reporting an index that may not change throughout the summer. Forecasters also suggested providing additional information with the UVI, including sun-protection information with easily understood messages for the public; improving graphics and mapping programs that depict UVI warnings; and simplifying recommendations, possibly by including a "minutes to burn" index for at-risk persons.

The weather page for newspapers in 54 of the 58 cities were reviewed; of the 54 newspapers, 33 (61%) included the UVI. The UVI generally was presented with the pollen count, heat index, and wind chill factors on the weather page. Information on interpreting the UVI and sun-protection information also were included.

The mean age of the 700 persons who participated in the telephone survey was 46 years (95% confidence interval [Cl]=45.1-46.9 years); among the 688 persons for whom sex was known, 414 (60% [95% Cl=56%-64%]) were women, and among the 676 persons for whom education level was known, 258 (38% [95% CI=34%-42%]) had at least a college degree. A total of 445 (64%) participants indicated that they either had "ever heard of" or read anything about the UVI; of those, 400 (90%) accurately explained the UVI in response to an open-ended question about the UVI. Respondents reported that television (40%) and newspapers (30%) were the most common sources of information about the UVI. Among those who knew about the UVI, 240 (54%) had heard or read about it at least five times; 15% of respondents reported that the UVI was "hard to understand." Male and female respondents were equally aware of the UVI. Awareness of the UVI was greater among persons aged <60 years (68.1% among persons aged <40 years [reference group] and 72.4% among persons aged 40-59 years [prevalence ratio (PR)=1.06 (95% CI=0.95-1.19)], compared with 45.1% among persons aged ≥ 60 years [PR=0.66 (95% CI=0.55-0.80)]); those with at least some college education (65.8% [PR=1.27 (95% CI=1.08-1.50)], compared with 51.7% among persons with up to a high school degree [reference group]); those who had actively sought a tan at least once (70.6% among those who actively sought a tan more than five times [PR=1.18 (95% CI=1.02-1.37)] and 76.2% among those who actively sought a tan one to five times [PR=1.27 (95% CI=1.13-1.44)], compared with 59.7% among those who never actively sought a tan [reference group]); and those who always or often used sunscreen (71.4% [PR=1.17 (95% CI=1.05-1.31)], compared with 60.8% among those who sometimes, rarely, or never used sunscreen [reference group]).

Of those aware of the UVI, 170 (38%) reported that awareness of the UVI prompted them or a family member to change behavior with respect to sun exposure. The most frequently reported change was "staying out of direct sunlight as much as possible" (70%). In all age groups, women reported changing sun-protection behavior more frequently than did men. Based on logistic regression analyses, among men, protective behaviors were predicted most strongly by being aged <40 years and being exposed frequently to the UVI; for women, there were no independent predictive factors for sun-protection behaviors.

Reported by: School of Medicine, Boston Univ, Massachusetts. American Academy of Dermatology, Schaumburg, Illinois. National Association of Physicians for the Environment, Bethesda,

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Maryland. National Weather Svc, National Oceanic and Atmospheric Administration, US Dept of Commerce. US Environmental Protection Agency. Div of Cancer Prevention and Control, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The data described in this report are the first to provide national assessments of the effects of television and newspaper dissemination of the UVI and to characterize public understanding of and response to the index. These findings indicate that the UVI had been broadcast daily by 70% of the television stations and at least weekly in 91% of the selected cities. Because the UVI can be broadcast in a few seconds, this information can be readily incorporated into segments such as the weather forecast.

The telephone survey indicated that messages about measures to reduce exposure to ultraviolet light should be directed especially toward persons with a high school education or less and men. Respondents with a high school education or less were least aware of the UVI, a finding consistent with a previous report documenting a relation between low education level and reduced awareness of sun-protection behaviors (1). Although the prevalences of awareness of the UVI were similar among men and women, men were less likely to report changes in sun-protection behavior in response to the index; previous reports also indicated that men were less likely than women to use sunscreen (2-6). An important limitation of this survey approach is that it did not provide information about health outcomes associated with UVI-related behaviors.

Because most of a person's lifetime sun exposure occurs during childhood and adolescence, CDC programs targeting parents, caregivers, and children are encouraging "early" safe sun-protection behaviors. Reducing sunburns, a key preventable risk factor for melanoma, is one important risk strategy.

This assessment of the UVI is being used to assist the NWS and EPA in improving prevention messages, increasing outreach to at-risk groups, and coordinating programs to increase awareness of sun-protection measures. Monitoring of reporting and public awareness of the UVI also can assist in these efforts, and dissemination of the UVI may be expanded to 110 new cities. CDC's National Skin Cancer Prevention Education Program aims to reduce behaviors associated with increased risk for skin cancer. In collaboration with other organizations, this program develops and disseminates educational messages to the public about the dangers of unprotected exposure to the sun and how to modify sun-protection behavior. Information about CDC's cancer prevention and control program is available from the World-Wide Web at http://www.cdc.gov/nccdphp/dcpc.

References

- 1. Miller DR, Geller AC, Wyatt SW, et al. Melanoma awareness and self-examination practices: results of a United States survey. J Am Acad Dermatol 1996;34:962–70.
- Koh HK, Bak SM, Geller AC, et al. Sunbathing habits and sunscreen use in Caucasian adults: results of a national survey. Am J Public Health (in press).
- 3. Berwick M, Fine JA, Bolognia JL. Sun exposure and sunscreen use following a community skin cancer screening. Prev Med 1992;21:302–10.
- 4. King PH, Murfin G, Hanagiasko K. Skin cancer/melanoma knowledge and behavior in Hawaii: changes during a community-based cancer control program. In: Progress in cancer control IV: research in the cancer center. New York, New York: Alan R. Liss, Inc., 1983:135–44.
- Keesling B, Friedman HS. Psychosocial factors in sunbathing and sunscreen use. Health Psychol 1987;6:477–93.

6. Hill D, Rassaby J, Gardner G. Determinants of intentions to take precautions against skin cancer. Community Health Stud 1984;8:33–44.

Contraceptive Practices Before and After an Intervention Promoting Condom Use to Prevent HIV Infection and Other Sexually Transmitted Diseases Among Women — Selected U.S. Sites, 1993–1995

Because heterosexual contact is the most common mode of human immunodeficiency virus (HIV) transmission among women (1), development of effective strategies to reduce sexually transmitted HIV infection is critical. In addition, because most women at risk for HIV infection are reproductive aged (14-44 years), effective use of contraceptives is important to prevent unintended pregnancies (2,3). Latex condoms used by males, when used consistently and correctly, are highly effective at reducing the risk for HIV infection and other sexually transmitted diseases (STDs) (4); however, hormonal contraceptive methods or surgical sterilization are more effective for preventing pregnancy (5). One possible effect of encouraging women to use condoms for HIV/STD prevention with their male partners is that women may discontinue use of hormonal contraceptive methods. To assess whether encouraging women to use condoms for HIV/STD prevention affects their contraceptive practices, CDC analyzed longitudinal data on contraceptive methods and condom use for HIV/STD prevention that were collected as part of a randomized trial evaluating HIV-counseling methods during August 1993–June 1995 (6). This report summarizes the findings of the analysis, which indicate that, among reproductive-aged women who were encouraged to use condoms for HIV/STD prevention, consistent condom use for HIV/STD prevention increased among women using each contraceptive method studied. In addition, most women using hormonal contraceptive methods continued to use them after the intervention, and the overall proportion of women protected against pregnancy increased.*

Women included in this analysis (1793 [55%] of eligible women) were HIV-negative, heterosexual, and reproductive-aged STD patients of inner-city clinics in Long Beach and San Francisco, California; Denver, Colorado; Baltimore, Maryland; and Newark, New Jersey, who agreed to participate in the HIV-prevention counseling trial. To participate in the study, women had to have reported having had vaginal sex during the preceding 30 days and had to have come to the STD clinic for a full diagnostic examination. As part of the study, participants completed an interview at enrollment, received HIV-prevention counseling or education encouraging consistent condom use with all male sex partners, and completed a follow-up interview 3 months after enrollment. Both interviews included questions about condom use during vaginal sex during the preceding 3 months. Women also were asked about their pregnancy intentions and methods they were using to prevent pregnancy. Contraceptive methods reported at enrollment and at follow-up, in descending order of contraceptive effectiveness, were 1) sterilization (i.e., tubal ligation, vasectomy, or medical infertility by self-report); 2) hormonal contraceptives (i.e., oral, injected, or implanted); 3) latex con-

^{*}Single copies of this report will be available until May 1, 1998, from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003; telephone (800) 458-5231 or (301) 217-0023.

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doms used by men; 4) other barrier methods (i.e., diaphragm or spermicides of all forms; 5) minimally effective methods (i.e., rhythm or withdrawal); and 6) no method. Women reporting more than one contraceptive method were classified based on the most effective contraceptive method reported (5). Because condoms can be used for both HIV/STD prevention and contraception, questions about frequency of condom use for HIV/STD prevention were asked separately from those about contraceptive methods. Consistent condom use was defined as use of condoms during every episode of vaginal intercourse during the preceding 3 months.

Of the 1793 women who participated in the trial, longitudinal data about contraceptive use and condom use for HIV/STD prevention were available at both the enrollment and follow-up interviews for 1303 (73%) women; of these, 1173 (90%) reported having had vaginal sex at least once during the 3-month study interval. Study participants were predominantly young (median age: 24 years) and racial/ethnic minorities (51% non-Hispanic black, 19% Hispanic, and 7% races other than non-Hispanic white), and most (60%) were unemployed. The characteristics of these women were similar to those of all women attending these inner-city STD clinics (*6*). The median age at first sexual intercourse was 15 years. During the 3 months preceding the enrollment interview, the median number of male partners was one, the median number of vaginal sex episodes was 12, and 973 (83%) women reported having a male partner they considered their primary ("main") sex partner. At the enrollment visit, 32% of participants had at least one STD (syphilis, gonorrhea, chlamydia, trichomonas, pelvic inflammatory disease, or herpes simplex virus) diagnosed.

After receipt of counseling to encourage consistent condom use, most (75%) women who reported using hormonal contraception at enrollment also reported hormonal contraceptive use at follow-up. In addition, 56% of women who reported using no method or minimally effective contraceptive methods at enrollment subsequently were sterilized (3%) or began using condoms (43%) or hormonal methods (10%) as contraception (Table 1). Of the 249 women who reported using hormonal methods at enrollment, four (2%) were sterile, and 188 (75%) reported still using hormonal methods at follow-up. The other 57 (23%) women were either using condoms (12%), other barrier methods (1%), minimally effective contraceptive methods (3%), or no method (1%); were pregnant (3%); or wanted to become pregnant (3%). Of the 345 women who reported using condoms for contraception at enrollment, 236 (68%) were still using condoms for contraception at follow-up, and 42 (12%) reported using hormonal methods or being sterilized. Of the 223 women using minimally effective contraceptive methods or no method at enrollment, 96 (43%) reported using condoms for contraception at follow-up, and 29 (13%) reported using hormonal methods or being sterilized.

From enrollment to follow-up, consistent condom use among all 1173 women increased from 13% at enrollment to 36% at follow-up (p<0.001, McNemar's chi-square) (Figure 1). Consistent condom use increased among women regardless of contraceptive method reported at enrollment: for the 208 women who were sterile, from 8% to 34%; for the 249 women who used hormonal methods, from 10% to 31%; for the 345 women who used condoms, from 28% to 47%; for the 15 women who used other barriers, from zero to 33%; and for the 223 women who reported using minimally effective methods or no method at enrollment, from 1% to 30%.

				Preg	gnancy	intentio	on/Con	tracepti	ive met	hod at	3-mont	h follov	v-up					
Pregnancy				Do	not inte	end to b	ecome	pregna	nt						Inte	Intend to		
intention/ Contraceptive method at enrollment	Sterilization Hormon		nonal	Condom		Other barriers		Minimally effective n		N met	No method		Pregnant		become pregnant			
	No.	(%)§	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	Total	
Do not intend to become pregnant																		
Sterilization	207	(100)	0	—	0	—	0	—	0	—	0	—	1	(<1)	0	_	208	
Hormonal	4	(2)	188	(75)	31	(12)	2	(1)	7	(3)	3	(1)	7	(3)	7	(3)	249	
Condom Other	4	(1)	38	(11)	236	(68)	2	(1)	10	(3)	14	(4)	27	(8)	14	(4)	345	
barriers Minimally	0	—	0	—	8	(53)	2	(13)	1	(7)	1	(7)	3	(20)	0	—	15	
effective	1	(3)	7	(18)	12	(32)	1	(3)	8	(21)	4	(11)	4	(11)	1	(3)	38	
No method	6	(3)	15	(8)	83	(45)	0	—	8	(4)	37	(20)	24	(13)	12	(6)	185	
Pregnant	2	(3)	8	(14)	15	(26)	0	_	6	(10)	2	(3)	24	(41)	1	(2)	58	
Intend to become	0		2	(2)	10	(25)	0		2		0	(12)	11	(15)	21	(11)	75	
pregnant	U	_	2	(3)	19	(25)	U	_	3	(4)	Э	(12)	11	(15)	31	(41)	/5	
Total	224		258		404		7		43		70		101		66		1173	

*Contraceptive methods in descending order of contraceptive effectiveness were 1) sterilization (i.e., tubal ligation, vasectomy, or medical infertility by self-report); 2) hormonal contraceptives (i.e., oral, injected, or implanted); 3) latex condoms used by men; 4) other barrier methods (i.e., diaphragm or spermicides of all forms); 5) minimally effective methods (i.e., rhythm or withdrawal); and 6) no method. [†]n=1173. Because of rounding, percentages may not total 100%.

[§]All percentages are row percentages.

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FIGURE 1. Percentage of condom use for HIV infection and other sexually transmitted disease (HIV/STD) prevention reported at enrollment and follow-up by women participating in a condom-promotion intervention, by contraceptive method* at enrollment — selected sites,[†] 1993–1995[§]



- *Contraceptive methods in descending order of contraceptive effectiveness were
 1) sterilization (i.e., tubal ligation, vasectomy, or medical infertility by self-report);
 2) hormonal contraceptives (i.e., oral, injected, or implanted);
 3) latex condoms used by men;
 4) other barrier methods (i.e., diaphragm or spermicides of all forms);
 5) minimally effective methods (i.e., rhythm or withdrawal); and
 6) no method.
- [†] Long Beach and San Francisco, California; Denver, Colorado; Baltimore, Maryland; and Newark, New Jersey.
- § n=1173.
- ¶E=enrollment.
- **F=follow-up.

^{††} Some women reported condom use for HIV/STD prevention but did not report use as a contraceptive method.

^{§§} Includes data for pregnant women and women who wanted to become pregnant.

Reported by: JM Douglas, MD, Denver Dept of Health; T Hoxworth, PhD, Colorado Dept of Public Health and Environment. J Rogers, MS, M latesta, MPA, New Jersey Dept of Health and Senior Svcs. F Rhodes, PhD, CK Malotte, DrPH, Long Beach Dept of Health and Human Svcs, California State Univ, Long Beach; GA Bolan, MD, C Kent, MPH, San Francisco Health Dept. J Zenilman, MD, A Lenz, MPA, Baltimore City Health Dept, Maryland. Project RESPECT Study Group. Behavioral Interventions and Research Br, Div of Sexually Transmitted Diseases Prevention, and Prevention Svcs Research Br, Div of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, CDC.

Editorial Note: The findings in this report indicate that, among the reproductive-aged women who were encouraged to use condoms for HIV/STD prevention, consistent condom use for HIV/STD prevention increased among women using each contraceptive method studied. In addition, although some women who are encouraged to use condoms for HIV/STD prevention may discontinue use of hormonal contraceptives, 75% of participants in this study who were using hormonal contraceptives at enrollment continued to use them after the condom-promotion intervention. From enrollment to follow-up, only 12% of women changed from using hormonal contraceptives

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to using condoms for contraception. Furthermore, approximately half of the women who were using minimally effective or no contraceptive methods at enrollment changed to using more effective contraceptive methods after the condom-promotion intervention, and of women using condoms for contraception, the proportion using them consistently nearly doubled from enrollment to follow-up. Thus, for women who were neither sterilized nor using hormonal contraceptive methods at enrollment, the risk for unintended pregnancy at follow-up was reduced because of the increase in consistent condom use for HIV/STD prevention or the use of other effective contraceptive methods.

The findings in this report are subject to at least two limitations. First, because the study sample was not representative of all women in the United States at risk for HIV infection or other STDs, these findings may not be generalizable to all U.S. women at risk for HIV infection or other STDs. Second, because the study is based on self-reported data, the results cannot be validated and may be subject to bias; furthermore, condom use may have been overreported.

Overall, most (75%) women reported that their sex partners used latex condoms, and many (36%) used them consistently after the intervention. Many sexually active women are at risk for HIV and other STDs, and use of latex condoms by their sex partners is an effective strategy for preventing HIV/STDs among women. For the women described in this report, condom promotion increased condom use but did not adversely influence effective contraception strategies. Counselors, clinicians, and other public health providers should continue to educate women about the benefits of consistent, correct use of latex condoms for HIV/STD prevention. In addition, effective contraceptive strategies should be promoted to women who do not want to become pregnant.

References

- 1. CDC. HIV/AIDS surveillance report, 1996. Atlanta, Georgia: US Department of Health and Human Services, Public Health Service, 1996:1–33. (Vol 8, no. 1).
- 2. Cates W Jr, Stone KM. Family planning, sexually transmitted diseases and contraceptive choices: a literature update—part I. Fam Plan Perspect 1992;24:75–84.
- 3. Forrest JD. Preventing unintended pregnancy: the role of hormonal contraceptives epidemiology of unintended pregnancy and contraceptive use. Am J Obstet Gynecol 1994;170:1485–9.
- 4. CDC. Update: barrier protection against HIV infection and other sexually transmitted diseases. MMWR 1993;42:589–91,597.
- 5. Hatcher RA, Trussell J, Stewart F, et al. Contraceptive technology. 16th ed. New York: Irvington Publishers Inc., 1994.
- Kamb ML, Dillon BA, Fishbein M, Willis KL. Quality assurance of HIV prevention counseling in a multi-centered randomized controlled trial: Project RESPECT Study Group. Public Health Rep 1996;111(suppl no. 1):S99–S107.

Program to Prevent Perinatal Hepatitis B Virus Transmission in a Health-Maintenance Organization — Northern California, 1990–1995

Each year, an estimated 20,000 infants are born to hepatitis B surface antigen (HBsAg)-positive women in the United States. These infants are at high risk for perinatal hepatitis B virus (HBV) infection, chronic HBV infection, and associated complications of chronic liver disease, including cirrhosis and hepatocellular carcinoma. All vaccine advisory groups recommend that all pregnant women be routinely tested for HBsAg during an early prenatal visit during each pregnancy to determine whether their newborns will require immunoprophylaxis for the prevention of perinatal HBV infection (1-4). Administration of appropriate immunoprophylaxis is approximately 90% effective in preventing HBV infection among children born to HBsAg-positive mothers (5). In 1985, the Kaiser Permanente Medical Care Program of Northern California (KP)—a health-maintenance organization (HMO) providing care to 2.5 million members and delivering 30,000 infants annually-implemented HBsAg screening of all pregnant women. After initiating the program, KP estimated that at least 25% of the infants born to HBsAg-positive women were not receiving appropriate post-exposure prophylaxis. In response, KP implemented a tracking and follow-up program in 1988. This report describes an assessment of the impact of this program, which indicates that a centralized case-management and tracking system can substantially improve levels of post-exposure prophylaxis.

The perinatal hepatitis B program is a component of the KP perinatal section that screens, tracks, and manages test results for HBsAg, syphilis, human immunodeficiency virus (HIV), and alphafetoprotein in pregnant women, as well as the statemandated screening tests for their newborns. A central database is linked to 32 prenatal clinics, 11 obstetric hospitals, 30 local laboratories, a central laboratory, and 32 pediatric clinics.

The perinatal hepatitis B program maintains a database of all HBsAg-positive pregnant women, including their estimated dates of confinement and designated prenatal clinic health-care providers. A list of the HBsAg-positive pregnant women expected to deliver during the next 3 months is produced weekly and reviewed daily at the central office for patient admission to obstetric hospitals. Staff from the perinatal hepatitis B program verify that appropriate prophylaxis is provided to at-risk infants at birth (hepatitis B immune globulin [HBIG] and first dose of hepatitis B vaccine) by direct communication with the medical staff at the obstetrics hospitals or by review of a faxed copy of the infant's medical record. They continue to track infants using an online vaccination tracking system to verify that follow-up doses of hepatitis B vaccine are administered at ages 1 and 6 months. Reminder letters are sent to pediatric providers before an infant's vaccination visit to ensure administration of the second and third doses of hepatitis B vaccine. The hepatitis B nurse coordinator consults with pediatric providers or designated staff members to schedule follow-up with patients who do not receive vaccines according to the recommended schedule.

Of the 188,498 infants delivered through the KP health-care system from 1990 through 1995, a total of 1712 (0.9%) were born to HBsAg-positive women. Almost all of these infants (1708 [99.8%]) received HBIG and hepatitis B vaccine before hospital discharge. Of the 1511 infants who remained in the KP health plan, 94% completed the three-dose hepatitis B vaccine series by age 6–8 months, and all infants except one

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were completely vaccinated by age 24 months. KP conducts postvaccination serologic testing to determine whether infants responded to the vaccine or became infected with HBV; however, these results are not tracked through the perinatal program.

Reported by: E Schoen, MD, D Cohen, MPH, S Black, MD, C Limata, MSN, Kaiser Permanente Medical Care Program of Northern California, Oakland. Hepatitis Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: Prevention of perinatal HBV infection requires the coordinated transfer of information between outpatient and hospital-based providers to ensure that 1) pregnant women are screened for HBsAg and the results are transmitted to the delivery hospital, 2) infants of HBsAg-positive women receive HBIG and the appropriate dose of vaccine at birth, 3) infant vaccination is completed by age 6–8 months, and 4) the infant is tested after vaccination at age 9–15 months. Prevention programs without intensive case management and tracking have been only moderately successful in ensuring that children of HBsAg-positive mothers are identified and complete the vaccine series by age 6–8 months.

Before the initiation of federal funding of perinatal hepatitis B prevention programs in 1990, only 45% of infants born to HBsAg-positive mothers received appropriate prophylaxis at birth, and few (35%) had completed the vaccine series by age 6–8 months (6,7). In 1990, perinatal hepatitis B prevention programs were implemented nationwide. Despite these programs, only an estimated 40% of the approximately 20,000 births to HBsAg-positive women are identified each year and entered into tracking systems. Of the infants who are tracked, approximately 90% receive appropriate prophylaxis at birth, and 60%–70% complete the vaccine series by age 6–8 months (8). Thus, only 5000–6000 of the 8000 infants who are tracked receive appropriate and timely follow-up; the number of infants who are not tracked and who receive appropriate and timely follow-up is probably even lower.

Because the risk for perinatal HBV infection is increased for infants born to HBsAgpositive women and who have not started the series at birth or who have not completed the vaccine series by age 6–8 months, the appropriate doses of HBIG and vaccine should be provided in a timely manner (9,10). In addition, because of the continuing risk for exposure among infants of HBsAg-positive mothers, postvaccination testing should be used to identify those infants who may not have responded to the initial three-dose series and who may require additional doses of vaccine.

The experience at KP emphasizes the importance of a centralized management and tracking system for perinatal hepatitis B programs; this approach can improve identification, follow-up, and vaccination completion rates of infants born to HBsAg-positive mothers. Centralization ensures that all health-care providers and institutions have access to screening and tracking information—a need especially important when different health-care providers and institutions provide the prenatal and perinatal care for the pregnant woman, delivery of the newborn, and follow-up care for the infant. In addition to this centralized approach, other important components include dedicated staff, computerized tracking systems, and provider-reminder and/or patient-recall systems (8). As with the prevention of perinatal HBV infection, intensive case management of mothers and their newborns, including centralized case management and tracking, may be useful in preventing other perinatal infectious diseases, including HIV infection, group B streptococcal disease, and congenital syphilis.

Perinatal Hepatitis — Continued

References

- Committee on Obstetrics, Maternal and Fetal Medicine. Guidelines for hepatitis B virus screening and vaccination during pregnancy. Washington, DC: American College of Obstetrics and Gynecology, 1990.
- CDC. Protection against viral hepatitis: recommendations of the Immunization Practices Advisory Committee. MMWR 1990;39(no. RR-2).
- Committee on Infectious Diseases. Report of the Committee on Infectious Diseases. 22nd ed. Elk Grove Village, Illinois: American Academy of Pediatrics, 1991:238–55.
- American Academy of Family Physicians. Recommendations for hepatitis B preexposure vaccination and postexposure prophylaxis. Kansas City, Missouri: American Academy of Family Physicians, August 1992; order no. 966.
- 5. Stevens CE, Taylor PE, Tong MJ, et al. Yeast-recombinant hepatitis B vaccine: efficacy with hepatitis B immune globulin in prevention of perinatal hepatitis B virus transmission. JAMA 1987;257:2612–6.
- 6. Birnbaum JM, Bromberg K. Evaluation of prophylaxis against hepatitis B in a large municipal hospital. Am J Infect Control 1992;20:172–6.
- 7. Klontz K. A program to provide hepatitis B immunoprophylaxis to infants born to HBsAgpositive Asian and Pacific Island women. West J Med 1987;146:195–9.
- 8. CDC. Prevention of perinatal hepatitis B through enhanced case-management—Connecticut, 1994–95, and United States, 1994. MMWR 1996;45:584–7.
- Kohn MA, Farley TA, Scott C. The need for more aggressive follow-up of children born to hepatitis B surface antigen positive mothers: lessons learned from the Louisiana Perinatal Hepatitis B Immunization Program. Pediatr Infect Dis J 1996;15:535–40.
- 10. Marion SA, Pastore MT, Pi DW, Mathias RG. Long term follow-up of hepatitis B vaccine in infants of carrier mothers. Am J Epidemiol 1994;140:734–46.

Notice to Readers

Availability of Diphtheria Antitoxin Through an Investigational New Drug Protocol

Although diphtheria is a rare disease in the United States, access to diphtheria antitoxin (DAT) is essential to ensure effective treatment of a case. The previously available supply of U.S.-licensed DAT (Diphtheria Antitoxin, Equine, Connaught Laboratories, Inc., Swiftwater, Pennsylvania) had an expiration date of January 6, 1997, and should no longer be used. No manufacturer has announced an intention to license a DAT product in the United States.

A DAT product (i.e., Diphtheria Antitoxin, Pasteur Merieux, Lyon, France), licensed in Europe and similar to the previously licensed U.S. product, is now available in the United States through an Investigational New Drug (IND) protocol through CDC. This protocol is designed to enable the emergency treatment of patients with suspected diphtheria. Decisions to dispense DAT from U.S. Public Health Service quarantine stations will be made by medical epidemiology staff of CDC's Child Vaccine Preventable Disease Branch, Epidemiology and Surveillance Division, National Immunization Program, in discussion with the treating physician. Physicians treating a case of suspected diphtheria can contact the diphtheria duty officer, telephone (404) 639-8255, 8 a.m. to 4:30 p.m. eastern time, or (404) 639-2889, all other times. All suspected diphtheria cases should also be reported to local and state health departments.



FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending April 26, 1997, with historical data — United States

*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 the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending April 26, 1997 (17th Week)

	Cum. 1997		Cum. 1997
Anthrax Brucellosis Cholera Congenital rubella syndrome Cryptosporidiosis* Diphtheria Encephalitis: California* eastern equine* St. Louis* western equine* Hansen Disease Hantavirus pulmonary syndrome*1 Hemolytic uremic syndrome, post-diarrheal* HIV infection, pediatric* [§]	12 2 347 4 4 - 35 1 12 53	Plague Poliomyelitis, paralytic Psittacosis Rabies, human Rocky Mountain spotted fever (RMSF) Streptococcal disease, invasive Group A Streptococcal toxic-shock syndrome* Syphilis, congenital [¶] Tetanus Toxic-shock syndrome Trichinosis Typhoid fever Yellow fever	- 14 2 34 457 10 27 10 32 5 84

-:no reported cases

*Not notifiable in all states. [†]Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID). ³Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update March 25, 1997. ¹Updated from reports to the Division of STD Prevention, NCHSTP.

					Esche coli O	erichia 157:H7			Hepatitis		
	All	DS	Chla	mydia	NETSS [†]	PHLIS [§]	Gono	rrhea	C/N/	A,NB	
Reporting Area	Cum. 1997*	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1997	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	
UNITED STATES	15,582	19,904	112,078	127,477	303	135	73,995	95,061	895	987	
NEW ENGLAND	465	841	4,892	6,122	28	10	1,576	2,474	14	26	
Maine N.H.	18 4	10 25	316 214	222	1	-	14 43	15 39	- 2	- 3	
Vt.	10	8	131	162	2	1	15	22	-	11	
Mass. R I	220 43	486 38	2,328 688	2,154 703	21 1	9	757 173	710 182	10	9	
Conn.	170	274	1,215	2,881	3	-	574	1,506	-	-	
MID. ATLANTIC	5,146	5,591	7,229	17,030	19	4	5,493	8,420	91	81	
Upstate N.Y. N.Y. City	833 2.649	571 3.283	NU	N 7.743	11 5	3	1,557 U	38 4.200	70	68 1	
N.J.	1,098	1,023	2,265	3,053	3	-	1,359	865	-	-	
Pa.	566	714	4,964	6,234	N	1	2,577	3,317	21	12	
E.N. CENTRAL	1,088 216	1,538 401	19,563 4 559	29,464 6 775	55 17	19 9	11,883 2 927	19,301 4 879	179 5	174 4	
Ind.	286	264	2,700	2,998	13	2	1,849	2,151	4	6	
III. Mich	372 158	527 254	3,688 6 275	8,524	10 15	- 2	1,857 4 207	5,602 5,072	16 154	36 128	
Wis.	56	92	2,341	3,675	N	6	1,043	1,597	-	-	
W.N. CENTRAL	313	424	7,116	10,746	41	27	3,258	4,100	53	19	
Minn. Iowa	55 52	84 31	U 1 550	1,806 1 107	23 10	17 4	U 401	- 312	- 20	-7	
Mo.	135	173	3,496	4,746	3	3	2,219	2,784	22	, 7	
N. Dak.	4	1	300	317	3	2	22	9 70	2	-	
Nebr.	28	32	259	766	1	-	89	156	-	2	
Kans.	37	96	1,172	1,552	1	1	489	769	9	3	
S. ATLANTIC	3,895	5,141	26,694	18,305	45	10	26,722	33,191	84	56	
Md.	425	645	2,245	1,935	2	1	4,143	472	5	-	
D.C.	182	243	N	Ň	-	-	1,367	1,416	-	-	
va. W. Va.	323	266	3,732	3,984 720	N N	- 3	2,824 549	3,018	3	4	
N.C.	217	277	5,631	Ŭ	12	5	5,175	6,489	20	16	
S.C. Ga	213 528	276 682	3,964 2 527	U 4 177	- 15	-	3,465 3,586	3,716 7 548	16 U	12	
Fla.	1,935	2,607	7,469	7,489	15	-	5,282	5,747	33	20	
E.S. CENTRAL	473	723	10,449	9,310	26	7	10,557	10,004	128	188	
Ky. Tenn	48 203	118 244	2,147 4 024	2,313	8 13	- 7	1,447 3 425	1,316 3 425	6 67	12 154	
Ala.	127	235	2,469	2,874	2	-	3,385	4,414	5	1	
Miss.	95	126	1,809	194	3	-	2,300	849	50	21	
W.S. CENTRAL	1,459	2,030	11,299	7,567	3	1	7,939	7,239	78	100	
La.	219	494	2,002	2,247	1	1	1,928	2,602	56	45	
Okla.	86 1.095	66 1 274	2,441	2,390	-	-	1,568	1,513	4	26 27	
ΜΟΙ ΙΝΤΔΙΝ	441	632	6 775	2,433	- 30	- 21	3,023 2 341	2 554	10	27	
Mont.	12	8	300	438	2	-	14	2,554	4	8	
Idaho	8	10	505	529	4	-	34	30	15	41	
Colo.	9 114	177	100	237	13	- 8	20 512	591	44 16	20	
N. Mex.	34	43	1,227	1,317	4	3	453	306	18	29	
Ariz. Utah	122 30	191 73	3,070 473	595 498	N 2	8	989 54	1,228 101	10 2	26 7	
Nev.	112	128	932	930	3	2	265	278	3	7	
PACIFIC	2,302	2,984	18,061	24,382	56	34	4,226	7,778	156	136	
Wash. Oreg	176 97	217 188	2,959	3,105 1 721	9 14	4 10	661 166	784 143	8	25	
Calif.	2,002	2,523	13,074	18,685	30	17	3,101	6,506	95	47	
Alaska Hawaii	12 15	3	458 531	263	3 N	- 2	153 175	170 175	- /0	2 50	
Guam	-	33 2	- 55	112	N	-	- 140	26	43	1	
P.R.	420	418	N	N	22	U	199	91	27	13	
V.I. Amer Samon	17	6	Ν	Ν	N	U	-	-	-	-	
C.N.M.I.	-	-	Ň	N	Ň	Ŭ	11	11	2	-	

TABLE II. Provisional cases of selected notifiable diseases, United States,
weeks ending April 26, 1997, and April 27, 1996 (17th Week)

N: Not notifiable U: Unavailable -: no reported cases C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, Iast update March 25, 1997.
 [†]National Electronic Telecommunications System for Surveillance.
 [§]Public Health Laboratory Information System.

	Lyme Legionellosis Disease			ne ease	Ма	laria	Syp (Primary &	hilis Secondary)	Tubero	Rabies, Animal	
Reporting Area	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997
UNITED STATES	262	244	783	1,426	358	322	2,481	3,921	4,153	5,296	2,164
NEW ENGLAND	19	10	146	117	8	9	47	62	104	176	328
Naine N.H.	3	-	3 4	2	- 1	3 1	-	- 1	- 1	/ 3	16
Vt. Mass.	3 7	- 4	2 39	- 10	1 5	1 3	26	26	63	- 50	53 64
R.I. Conn.	1 4	5 N	32 66	21 84	1	1	- 21	- 35	7 33	18 98	6 112
MID. ATLANTIC	42	53	507	1,153	77	83	81	96	890	899	478
Upstate N.Y. N.Y. Citv	9	9 1	57 4	450 233	13 39	16 38	12	12 49	100 502	101 451	338
N.J. Pa	5 28	7 36	122 324	105 365	17 8	23 6	39 30	- 35	190 98	201 146	46 94
E.N. CENTRAL	105	94	15	10	26	42	229	638	479	591	23
Ohio Ind.	58 14	32 23	11 4	7 3	3 3	6 3	82 53	261 84	108 41	87 52	18 2
III. Mich	- 28	13 16	-	-	5 13	18	19 35	173	220 76	362 71	1
Wis.	5	10	U	U	2	7	40	70	34	19	-
W.N. CENTRAL Minn.	21 1	14	10 7	29 1	9 4	4 1	47 U	176 39	136 34	143 35	133 16
lowa Mo	3	1	1	3	2	1 1	3	6 116	15 56	15 54	51 7
N. Dak.	1	-	-	-	-	-	-	-	2	1	16
Nebr.	5	6	2	-	- 1	-	-	6	2	8	-
Kans.	4 38	2	-	17 69	- 94	1	16 1 075	9 1 337	23 871	19 871	26 977
Del.	3	1	- 40	24	2	2	8	13	7	14	12
D.C.	14	5	48	- 29	24 5	2	42	53	24	84 39	1
Va. W. Va.	4	9 1	-	- 3	19	7	104 1	164 3	86 17	82 20	198 24
N.C. S.C.	5 2	3 1	2 1	8 2	5 5	7 3	253 128	349 159	112 122	111 115	304 57
Ga.	-	- 5	1	- 3	11	7	171	268 126	147	186	94 107
E.S. CENTRAL	8	17	20	20	10	8	599	951	314	438	93
Ky. Tenn.	- 3	2 7	2 5	6 6	1 3	3	59 253	50 309	67 63	75 134	10 60
Ala. Miss	1	1	2	1	3	1	148	189	125	150	23
W.S. CENTRAL	-	2	4	6	4	10	281	403	100	548	53
Ark. La	-	-	- 1	4	1 3	-	27 126	95 184	63	52	16
Okla. Tex	-	2	2	2	-	- 10	42	55 74	37	54 442	37
MOUNTAIN	15	11	1	-	23	10	49	46	140	188	16
Mont. Idaho	1 1	-	-	-	2	1	-	- 1	2 4	7 3	5
Wyo.	1	1	-	-	1 10	2	- 1	1	1	1	-
N. Mex.	-	-	-	-	4	1	-	-	8	28	1
Utah	4		-	-	-	2	40	25	65 4	80 10	9
Nev.	1	3	-	- 22	3 107	1	6 72	4 207	28 1 1 1 0	27	1
Wash.	3	1	-	-	5	5	/3 5	207	74	84	-
Oreg. Calif.	10	16	7	6 15	93	8 75	3 64	3 201	44 907	55 1,222	1 54
Alaska Hawaii	- 1	-	-	- 1	2	1 3	- 1	- 1	32 62	27 54	8
Guam	-	-	-	-	-	-	-	3	-	35	-
г.н. V.I.	-	-	-	-	3	-	/1	3/	-	47	15 -
Amer. Samoa C.N.M.I.	-	-	-	-	-	-	- 4	- 1	-	-	-

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending April 26, 1997, and April 27, 1996 (17th Week)

N: Not notifiable U: Unavailable -: no reported cases

	H. influ	uenzae,	Н	epatitis (V	iral), by ty	pe	Measles (Rubeola)								
	inva	sive		4		В	Indi	genous	Imp	orted [†]	То	tal			
Reporting Area	Cum. 1997*	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	1997	Cum. 1997	1997	Cum. 1997	Cum. 1997	Cum. 1996			
UNITED STATES	382	396	8,033	8,664	2,559	2,934	-	17	1	13	30	102			
NEW ENGLAND	20	9	177	97	65	69	-	-	-	-	-	6			
Maine	2	-	22	9	4	2	-	-	-	-	-	-			
Vt.	-	-	5	2	5	4 3	-	-	-	-	-	- 1			
Mass.	14	3	80	46	38	13	-	-	-	-	-	4			
Conn.	1	-	45	3 34	11	43	Ū	-	Ū	-	-	- 1			
MID. ATLANTIC	44	60	560	661	350	498	-	6	-	4	10	9			
Upstate N.Y.	2	5	65	119	67	100	-	1	-	3	4	2			
N.J.	17	9 25	125	129	85	100	-	4	-	-	-	-			
Pa.	8	21	166	127	88	86	-	1	-	-	1	1			
E.N. CENTRAL	55	72	731	799	284	363	-	4	-	2	6	7			
Ind.	32	41	154 99	330 113	33 27	43 42	-	-	-	-	-	2			
III.	11	20	173	177	54	109	-	4	-	1	5	-			
Wich. Wis.	6 1	4 5	258 47	69	167	33	-	-	-	-	-	2			
W.N. CENTRAL	20	15	607	669	196	139	-	2	-	1	3	6			
Minn.	12	7	47	25	9	3	-	-	-	1	1	5			
lowa Mo.	3	3	84 324	157 324	40 125	20 93	-	- 2	-	-	- 2	- 1			
N. Dak.	-	-	6	13	1	-	-	-	-	-	-	-			
S. Dak. Nebr.	2	1	6 42	29 76	-7	- 8	-	-	-	-	-	-			
Kans.	1	-	98	45	14	15	-	-	-	-	-	-			
S. ATLANTIC	92	76	493	280	387	411	-	1	1	2	3	2			
Del. Md	- 29	1 25	10 109	5 67	1 58	1 101	-	-	-	- 1	- 1	1			
D.C.	2	1	13	11	18	11	-	-	1	1	1	-			
Va. W. Va	5	3	58 5	48	37	51 10	-	-	-	-	-	-			
N.C.	12	12	65	36	73	129	-	-	-	-	-	-			
S.C.	4 16	3 24	37 43	29 2	36 38	30	-	-	-	-	-	-			
Fla.	22	4	153	74	120	73	-	1	-	-	1	1			
E.S. CENTRAL	27	13	263	620	245	280	-	-	-	-	-	-			
Ky. Tenn	5 15	3	24 169	9 455	10 147	27 188	-	-	-	-	-	-			
Ala.	7	5	37	81	27	20	-	-	-	-	-	-			
Miss.	-	1	33	75	61	U	-	-	-	-	-	-			
W.S. CENTRAL	19 1	13	1,335	1,338	175	233	-	1	-	1	2	2			
La.	1	-	69	30	39	19	-	-	-	-	-	-			
Okla. Tex	13	12	572 588	618 527	8 109	18 165	-	- 1	-	- 1	- 2	- 2			
MOUNTAIN	35	24	1 394	1 301	309	361		-	-	-	-	6			
Mont.	-	-	39	41	4	4	-	-	-	-	-	-			
ldaho Wyo	-	1	61 15	110 12	10 13	46 10	-	-	-	-	-	-			
Colo.	2	5	162	136	60	46	-	-	-	-	-	1			
N. Mex. Ariz	2 12	7	97 644	175 416	108	131	-	-	-	-	-	- 1			
Utah	3	4	271	303	37	42	-	-	-	-	-	-			
Nev.	16	-	105	108	17	18	-	-	-	-	-	4			
PACIFIC Wash	70 1	114 1	2,473	2,899	548 19	580 34	-	3	-	3	6	64			
Oreg.	16	15	125	435	44	42	-	-	-	-	-	-			
Calif.	50	96	2,098	2,230	472	501	-	-	-	3	3	-			
Hawaii	2	2	50	23	4	2	-	3	-	-	3	1			
Guam	-	-	-	2	-	-	U	-	U	-	-	-			
P.R.	-	-	106	21	384	57	-	-	-	-	-	1			
v.i. Amer. Samoa	-	-	-	-	-	-	U	-	U	-	-	-			
C.N.M.I.	4	10	1	1	19	5	U	1	U	-	1	-			

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination,
United States, weeks ending April 26, 1997,
and April 27, 1996 (17th Week)

N: Not notifiable U: Unavailable -: no reported cases

 * Of 77 cases among children aged <5 years, serotype was reported for 35 and of those, 16 were type b.

[†]For imported measles, cases include only those resulting from importation from other countries.

	Mening Dis	jococcal ease	Mumps				Pertussis		Rubella			
Benorting Area	Cum.	Cum.	1007	Cum.	Cum.	1007	Cum.	Cum.	1007	Cum.	Cum.	
	1 344	1 281	6	1997	212	173	1 616	989	1997	1357	67	
NEW ENGLAND	84	54	-	6	- 212	8	374	187	_	-	7	
Maine	9	7	-	-	-	-	6	8	-	-	-	
N.H. Vt.	9	1	-	-	-	3	49 137	16	-	-	- 1	
Mass.	47	20	-	1	-	2	165	153	-	-	4	
K.I. Conn.	4 13	5 19	Ū	4	-	U	12	- 3	Ū	-	2	
MID. ATLANTIC	110	121	1	21	28	1	108	79	-	2	5	
Upstate N.Y.	27	29	-	3	7	-	42	41	-	1	3	
N.Y. City N.J.	26	27	-	-	5	-	- 19	4	-	-	1	
Pa.	38	46	1	18	14	-	47	21	-	-	-	
E.N. CENTRAL	178	183	-	23	57	8	135	163	-	2	3	
Ind.	19	22	-	4	5	6	19	10	-	-	-	
III. Mich	50	59	-	7	10	1	19	48	-	-	1	
Wis.	10	22	-	-	20	-	18	41	-	2	-	
W.N. CENTRAL	109	100	-	8	2	2	98	45	-	-	-	
Minn.	12 24	9 18	-	3	-	- 2	59 16	28	-	-	-	
Mo.	55	46	-	-	-	-	13	9	-	-	-	
N. Dak. S. Dak	- 3	2	-	-	2	-	2	- 1	-	-	-	
Nebr.	5	10	-	2	-	-	2	1	-	-	-	
Kans.	10	12	-	-	-	-	5	4	-	-	-	
S. ATLANTIC Del.	255 4	192 2	3	29	21	15	157	80 9	-	2	10	
Md.	26	21	-	4	9	3	56	40	-	-	-	
D.C. Va.	1 22	4 20	-	- 2	- 3	-	2 17	- 3	-	- 1	-	
W. Va.	9	6	-	-	-	-	3	2	-	-	-	
S.C.	40 34	30 27	3	6 4	3	6 1	34 7	9 1	-	- 1	-	
Ga.	49	63	-	2	1	-	2	2	-	-	-	
FIA. ES CENTRAI	10/	19	-	11	5 Q	5 3	30	14	-	-	10	
Ky.	23	13	-	-	-	-	2	109	-	-	-	
Tenn.	40	34	-	4	1	3	16	6	-	-	-	
Miss.	15	29	-	4	5	-	8	3	-	-	Ň	
W.S. CENTRAL	121	144	-	22	19	1	23	33	-	1	7	
Ark. La	23 27	18 29	-	- 6	-7	-	3	2	-	-	- 1	
Okla.	13	11	-	-	-	-	1	4	-	-	-	
IEX.	58	86	-	16	12	110	12	25	-	1	6	
Mont.	79 4	78 1	-	9	-	-	460	4	-	-	4	
Idaho	5	11	-	2	-	109	354	33	-	-	2	
Colo.	23	12	-	2	-	3	78	23	-	-	-	
N. Mex.	14	16	Ν	Ν	N	-	11	25	-	-	-	
Utah	10	23	-	2	1	-	9 1	5	-	-	-	
Nev.	6	7	-	2	9	-	2	21	-	-	1	
PACIFIC	304	301	1	58	65 7	23	227	169	-	5	31	
Oreg.	65	57	-	-	-	-	7	21	-	-	-	
Calif.	202	200	-	43	47	10	98 1	71	-	1	28	
Hawaii	- 1	2	-	9	29	-	4	8	-	4	2	
Guam	-	1	U	-	3	U	-	-	U	-	-	
P.R. VI	6	2	-	4	1	-	-	-	-	-	-	
Amer. Samoa	-	-	Ŭ	-	-	Ŭ	-	-	Ŭ	-	-	
C.N.M.I.	-	-	U	-	-	U	-	-	U	-	-	

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending April 26, 1997, and April 27, 1996 (17th Week)

N: Not notifiable U: Unavailable -: no reported cases

	All Causes, By Age (Years)								All Causes, By Age (Years)						P&I [†]
Reporting Area	All Ages	>65	45-64	25-44	1-24	<1	Total	Reporting Area	All Ages	>65	45-64	25-44	1-24	<1	Total
NEW ENGLAND Boston, Mass. Bridgeport, Conn. Cambridge, Mass. Fall River, Mass. Hartford, Conn. Lowell, Mass. Lynn, Mass. New Bedford, Mass. New Haven, Conn. Providence, R.I. Somerville, Mass. Springfield, Mass.	476 121 34 20 23 37 27 14 18 39 47 7 7 9	332 73 24 13 21 26 21 9 13 24 36 7 27	92 32 7 4 1 6 3 3 4 6 8 -	34 10 2 1 5 2 1 - 6 1 -	10 3 - 1 1 2 2 -	83 1 - - 1 - - 1 -	47 14 5 1 3 1 2 5 1 6	S. ATLANTIC Atlanta, Ga. Baltimore, Md. Charlotte, N.C. Jacksonville, Fla. Miami, Fla. Norfolk, Va. Richmond, Va. Savannah, Ga. St. Petersburg, Fla. Tampa, Fla. Washington, D.C. Wilmington, Del.	1,299 167 278 68 126 102 45 77 53 60 165 144 14	819 87 169 46 89 61 34 50 34 53 112 74 10	287 43 61 16 26 22 4 16 12 3 41 43	129 27 37 1 7 11 3 9 4 1 8 18 3	40 6 9 3 4 5 2 2 2 2 4 1	24 4 2 2 3 2 2 1 1 2 5 -	72 5 28 4 3 - 4 3 1 14 6
Worcester, Mass. MID. ATLANTIC Albany, N.Y. Allentown, Pa. Buffalo, N.Y. Camden, N.J. Elizabeth, N.J. Erie, Pa.	50 2,334 51 25 58 40 24 45	38 1,624 39 24 41 26 17 34	8 437 5 1 11 7 5 6	2 186 4 - 2 5 - 2	46 3 1 1	2 41 - 3 1 2 3	7 115 2 2 3 3 3 3 3	E.S. CENTRAL Birmingham, Ala. Chattanooga, Tenn. Knoxville, Tenn. Lexington, Ky. Memphis, Tenn. Mobile, Ala. Montgomery, Ala. Nashville, Tenn.	697 U 55 106 73 227 60 43 133	446 U 37 73 50 140 37 29 80	160 U 14 23 20 52 15 3 33	57 U 2 8 1 25 5 9 7	15 U 1 3 1 9	19 U 1 2 7 2 4	48 U 6 7 8 15 - 3 9
Jersey City, N.J. New York City, N.Y. Newark, N.J. Philadelphia, Pa. Pittsburgh, Pa.§ Reading, Pa. Rochester, N.Y. Schenectady, N.Y. Scranton, Pa. Syracuse, N.Y. Trenton, N.J. Utica, N.Y. Yonkers, N.Y.	49 1,234 63 19 300 75 11 136 15 31 91 24 24 19	34 829 28 13 208 56 8 107 13 22 72 72 16 21 16	8 249 20 4 53 12 2 24 1 6 16 2 3 2	6 111 9 1 28 5 1 3 - 2 2 4 - 1	28 3 - - 1 1 - -	1 17 3 1 3 2 - 2 - 1 2 - 1 2 -	- 45 3 2 15 6 - 6 1 1 1 3 2 3	W.S. CENTRAL Austin, Tex. Baton Rouge, La. Corpus Christi, Tex. Dallas, Tex. El Paso, Tex. Houston, Tex. Houston, Tex. Little Rock, Ark. New Orleans, La. San Antonio, Tex. Shreveport, La. Tulsa, Okla.	1,288 74 56 191 87 112 284 86 U 173 70 101	863 50 36 37 126 56 79 171 63 U 121 54 70	259 12 18 11 38 15 71 13 U 35 10 18	90 11 2 4 13 6 24 4 U 10 4 6	43 1 9 3 7 10 1 U 3 2 6	33 - 15 45 85 U 4 - 1	91 5 3 10 4 7 22 2 U 14 10 11
E.N. CENTRAL Akron, Ohio Canton, Ohio Chicago, III. Cincinnati, Ohio Cleveland, Ohio Columbus, Ohio Dayton, Ohio Detroit, Mich. Evansville, Ind. Fort Wayne, Ind.	2,103 54 50 405 131 149 158 113 208 41 61	1,466 41 36 261 98 98 111 87 138 32 35	389 9 7 84 22 37 31 21 34 6 11	155 3 42 7 6 8 3 24 2 8	45 1 9 3 4 1 6 1 5	48 2 9 1 5 4 1 6 - 2	167 1 40 22 5 16 2 11 1 6	MOUNTAIN Albuquerque, N.M. Boise, Idaho Colo. Springs, Colo Denver, Colo. Las Vegas, Nev. Ogden, Utah Phoenix, Ariz. Pueblo, Colo. Salt Lake City, Utah Tucson, Ariz.	1,014 102 32 48 112 235 26 165 33 108 153	714 70 25 38 70 159 22 101 27 81 121	177 18 6 5 22 50 37 2 14 20	72 6 1 3 9 18 - 16 4 6 9	28 5 5 6 1 6 2 3	22 3 2 6 1 5 5	75 3 6 10 19 3 10 3 10 8
Gary, Ind. Grand Rapids, Mich Indianapolis, Ind. Lansing, Mich. Milwaukee, Wis. Peoria, III. Rockford, III. South Bend, Ind. Toledo, Ohio Youngstown, Ohio	7 61 180 55 117 37 57 56 103 60	46 125 38 87 29 39 42 72 47	2 11 31 11 21 4 13 9 17 8	- 19 3 7 1 3 8 5	1 - 1 3 1 2 1 - 2	- 34 - 1 32 4 -	7 15 7 3 1 11 13 1	PACIFIC Berkeley, Calif. Fresno, Calif. Glendale, Calif. Honolulu, Hawaii Long Beach, Calif. Los Angeles, Calif. Pasadena, Calif. Portland, Oreg. Sacramento, Calif.	1,521 19 102 7 72 74 170 23 132 172	1,071 15 71 56 55 93 19 85 137	256 2 18 1 13 9 39 2 27 19	135 2 5 2 1 9 33 1 11 11	22 1 - 1 4 - 4 1	36 6 2 1 5 4	147 1 7 1 9 10 6 2 8 28
W.N. CENTRAL Des Moines, Iowa Duluth, Minn. Kansas City, Kans. Kansas City, Mo. Lincoln, Nebr. Minneapolis, Minn. Omaha, Nebr. St. Louis, Mo. St. Paul, Minn. Wichita, Kans.	858 131 30 36 107 29 178 85 116 56 90	604 104 26 64 21 123 65 77 39 61	141 18 4 5 24 32 10 19 10	63 7 - 8 2 11 8 13 4 10	28 2 3 6 2 5 - 4 3 1	17 2 7 2 3 3	36 7 3 6 5 12 1 2	San Diego, Calif. San Francisco, Calif San Jose, Calif. Santa Cruz, Calif. Seattle, Wash. Spokane, Wash. Tacoma, Wash. TOTAL	136 106 185 32 154 55 82 11,590 [¶]	86 72 136 26 109 45 62 7,939	31 24 28 4 23 6 10 2,198	15 7 15 2 14 3 4 921	2 - 4 - 1 277	2 3 2 4 1 5 248	19 14 23 6 10 3 798

TABLE IV. Deaths in 122 U.S. cities,* week ending April 26, 1997 (17th Week)

U: Unavailable -: no reported cases *Mortality data in this table are voluntarily reported from 122 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 this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks. Total includes unknown ages.

Contributors to the Production of the MMWR (Weekly)

Weekly Notifiable Disease Morbidity Data and 122 Cities Mortality Data

Denise Koo, M.D., M.P.H.

State Support Team

Robert Fagan Jill Andrews Karl A. Brendel Siobhan Gilchrist, M.P.H. Harry Holden Gerald Jones Felicia Perry Svati Shah, M.P.H.

CDC Operations Team

Carol M. Knowles Deborah A. Adams Willie J. Anderson Christine R. Burgess Timothy M. Copeland Patsy A. Hall Myra A. Montalbano Angela Trosclair, M.S.

Desktop Publishing and Graphics Support

Morie M. Higgins Peter M. Jenkins

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 Director, Centers for Disease Control and Prevention David Satcher, M.D., Ph.D. Deputy Director, Centers for Disease Control and Prevention Claire V. Broome, M.D. Director, Epidemiology Program Office Stephen B. Thacker, M.D., M.Sc. 	Editor, <i>MMWR</i> Series Richard A. Goodman, M.D., M.P.H. Managing Editor, <i>MMWR</i> (weekly) Karen L. Foster, M.A. Writers-Editors, <i>MMWR</i> (weekly) David C. Johnson Darlene D. Rumph Person Teresa F. Rutledge Caran R. Wilbanks								
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