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Condoms for Prevention of Sexually Transmitted Diseases*

Introduction

Prevention is the most effective strategy for controlling the spread of infectious diseases. Prevention through avoiding exposure is the best strategy for controlling the spread of sexually transmitted disease (STD). Behavior that eliminates or reduces the risk of one STD will likely reduce the risk of all STDs. Prevention of one case of STD can result in the prevention of many subsequent cases. Abstinence and sexual intercourse with one mutually faithful uninfected partner are the only totally effective prevention strategies. Proper use of condoms with each act of sexual intercourse can reduce, but not eliminate, risk of STD. Individuals likely to become infected or known to be infected with human immunodeficiency virus (HIV) should be aware that condom use cannot completely eliminate the risk of transmission to themselves or to others.

Efficacy

For the wearer, condoms provide a mechanical barrier that should reduce the risk of infections acquired through penile exposure to infectious cervical, vaginal, vulvar, or rectal secretions or lesions. For the wearer's partner, proper use of condoms should prevent semen deposition, contact with urethral discharge, and exposure to lesions on the head or shaft of the penis. For infectious agents spread from lesions rather than fluids, condoms may offer less protection because areas of skin not covered by the condom may be infectious or vulnerable to infection.

*This summary includes data presented at a conference entitled "Condoms in the Prevention of Sexually Transmitted Diseases" sponsored by the American Social Health Association, Family Health International, and the Centers for Disease Control and held in Atlanta, Georgia, February 20-21, 1987. The following consultants assisted in the formulation of these data and strategies: J Cohen, PhD, M Conant, MD, University of California; L Pappas, San Francisco AIDS Foundation, San Francisco, California. F Judson, MD, Disease Control Service and University of Colorado, Denver, Colorado. J Graves, M Rosenberg, MD, American Social Health Association; M Potts, MD, Family Health International, Research Triangle Park, North Carolina. P Harvey, Population Services International, Washington, DC. L Liskin, Johns Hopkins University, Baltimore, Maryland. M Solomon, Solomon Associates, Sudbury, Maine.

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Laboratory and epidemiologic studies have provided information about the effectiveness of condoms in preventing STD. Laboratory tests have shown latex condoms to be effective mechanical barriers to HIV (*1*), herpes simplex virus (HSV) (*2-4*), cytomegalovirus (CMV) (*5*), hepatitis B virus (HBV) (*6*), *Chlamydia trachomatis* (*2*), and *Neisseria gonorrhoeae* (*4*). Latex condoms blocked passage of HBV and HIV in laboratory studies, but natural membrane condoms (made from lamb cecum), which contain small pores, did not (*6-8*). The experimental conditions employed in these studies may be more extreme than those encountered in actual use; however, they suggest that latex condoms afford greater protection against viral STD than do natural membrane condoms.

The actual effectiveness of condom use in STD prevention is more difficult to assess. It is difficult to determine if a user has been exposed to an infected partner or whether the condom was correctly used. However, several cross-sectional and case-control studies have shown that condom users and/or their partners have a lower frequency of gonorrhea, ureaplasma infection, pelvic inflammatory disease, and cervical cancer than persons who do not use condoms (*9*). Consistent previous condom use was associated with seronegativity during the 1- to 3-year follow-up period in a recent study of HIV antibody-negative heterosexual spouses of patients with acquired immunodeficiency syndrome (AIDS) (*10*). Another recent investigation of prostitutes in Zaire has also suggested a protective association between a history of condom use and HIV seronegativity (*11*).

Condoms are not always effective in preventing STD. Failure of condoms to protect against STD is probably explained by user failure more often than by product failure. User failure includes failure to: 1) use a condom with each act of sexual intercourse, 2) put the condom on before any genital contact occurs, and 3) completely unroll the condom. Other user behaviors that may contribute to condom breakage include: inadequate lubrication, use of oil-based lubricants that weaken latex, and inadequate space at the tip of the condom. Product failure refers to condom breakage or leakage due to deterioration or poor manufacturing quality. Deterioration may result from age or improper postmanufacturing storage conditions. No scientific data on the frequency or causes of condom breakage are available. Likewise, no data are available comparing the susceptibility to breakage of condoms of various sizes, thicknesses, or types, i.e., natural versus latex, lubricated versus nonlubricated, or ribbed versus smooth. Experimental methods need to be developed to test the factors associated with breakage. Such information is necessary to provide users with accurate instructions on proper condom use.

Quality Assurance

Since 1976, condoms have been regulated under the Medical Device Amendments to the Federal Food, Drug, and Cosmetic Act. Within the Food and Drug Administration (FDA), the Center for Devices and Radiological Health is responsible for assuring the safety and effectiveness of condoms as medical devices. Beginning in the spring of 1987, FDA undertook an expanded program to inspect latex condom manufacturers, repackagers, and importers to evaluate their quality control and testing procedures. In its testing of condoms, FDA uses a water-leak test in which a condom is filled with 300 mL of water and checked for leaks. The FDA has also adapted its inspection sampling criteria to conform with the American Society for Testing and Materials Standard D3492-83 for latex condoms. FDA criteria and the industry acceptable quality level (AQL) for condoms specify that, in any given batch, the failure rate due

Condoms — Continued

to water leakage cannot exceed four condoms per thousand. Batches exceeding the specified rejection criteria are recalled or barred from sale. Among batches of condoms that have met the AQL, the average failure rate observed was 2.3/1,000.

As of February 1988, FDA had examined samples from 430 batches of domestically produced and foreign-made condoms. These examinations have resulted in the testing of over 102,000 condoms. In FDA's sampling methodology, the sample size is determined by the size of the batch of condoms introduced into the market, the inspection level, and the AQL. Approximately 38,000 domestically produced condoms from 165 different batches of condoms were tested. Nineteen of those batches (approximately 12%) had leakage rates of over 4/1,000 and failed the test. By contrast, approximately 21% of the 265 foreign-manufactured batches failed to meet AQL standards. Thus far, as a result of both FDA's sampling program and the manufacturers' quality assurance programs, four domestic manufacturers have conducted 16 condom recalls.

FDA samples foreign-made condoms before they are passed through U.S. customs. If two or more of a given foreign manufacturer's batches offered for import are found to have leakage rates of more than 4/1,000, future shipments from that manufacturer are automatically detained at the port of entry. Seven foreign firms are presently on this automatic detention list. FDA also has the authority to seize any lot that is found to be violative if the manufacturer or importer does not take appropriate action.

Use of Spermicides with Condoms

The active ingredients (surfactants) in commercially available spermicides have been shown in the laboratory to inactivate sexually transmitted agents, including HIV (*9,12,13*). Vaginal use of spermicides is associated with a lower risk of gonorrhea and chlamydial infection in epidemiologic studies of women (*9,14*). The use of spermicide-containing condoms may provide additional protection against STD in the event of condom leakage or seepage. However, the spermicidal barrier would no longer be in place if the condom breaks. If extra protection is desired, vaginal application of spermicide is likely to afford greater protection than the use of spermicide in the condom because a larger volume of spermicide would already be in place in the event of condom breakage. Neither the safety nor the efficacy of spermicides in preventing sexually transmitted infections of the anal canal or oropharynx has been studied.

Prevalence of Use

Recent studies suggest that condom use for STD prevention is increasing in selected populations but is still infrequent. In 1985, a sample of New York City male homosexuals reported a significant increase in condom use with both insertive and receptive anal intercourse after the respondents became aware of AIDS (*15*). In the year before learning of AIDS, the men used condoms an average of 1% of the time when engaging in insertive anal intercourse; in the ensuing year, 20% of respondents reported consistent condom use. In 1984, 39% of the men in a prospective study in San Francisco reported having anal intercourse; 26% of these men used condoms (*16*). In April 1987, 19% of the San Francisco respondents reported anal intercourse; 79% used condoms. The trends in condom use for STD prevention among heterosexual men and women are unknown. In a 1986-87 survey of female prostitutes in the United States, 4% reported condom use with each vaginal exposure (*17*).

Condoms — Continued

Proper Selection and Use

The Public Health Service has previously made recommendations on reducing the risk of HIV infection through consistent use of condoms (*18*). Additional recommendations include a guideline for manufacturers published by FDA that recommends proper labeling of condoms to include adequate instructions for use (Center for Devices and Radiological Health, FDA; letter to all U.S. condom manufacturers, importers, and repackagers, April 7, 1987). Users can increase the efficacy of condoms in preventing infection by using a condom properly from start to finish during every sexual exposure. It is unknown whether brands of condoms with increased thickness offer any more protection for anal or vaginal intercourse than thinner brands. Even with a condom, anal intercourse between an infected individual and an uninfected partner poses a risk of transmitting HIV and other sexually transmitted infections because condoms may break.

The following recommendations for proper use of condoms to reduce the transmission of STD are based on current information:

1. Latex condoms should be used because they offer greater protection against viral STD than natural membrane condoms (*7*).
2. Condoms should be stored in a cool, dry place out of direct sunlight.
3. Condoms in damaged packages or those that show obvious signs of age (e.g., those that are brittle, sticky, or discolored) should not be used. They cannot be relied upon to prevent infection.
4. Condoms should be handled with care to prevent puncture.
5. The condom should be put on before any genital contact to prevent exposure to fluids that may contain infectious agents. Hold the tip of the condom and unroll it onto the erect penis, leaving space at the tip to collect semen, yet assuring that no air is trapped in the tip of the condom.
6. Adequate lubrication should be used. If exogenous lubrication is needed, only water-based lubricants should be used. Petroleum- or oil-based lubricants (such as petroleum jelly, cooking oils, shortening, and lotions) should not be used since they weaken the latex.
7. Use of condoms containing spermicides may provide some additional protection against STD. However, vaginal use of spermicides along with condoms is likely to provide greater protection.
8. If a condom breaks, it should be replaced immediately. If ejaculation occurs after condom breakage, the immediate use of spermicide has been suggested (*19*). However, the protective value of postejaculation application of spermicide in reducing the risk of STD transmission is unknown.
9. After ejaculation, care should be taken so that the condom does not slip off the penis before withdrawal; the base of the condom should be held while withdrawing. The penis should be withdrawn while still erect.
10. Condoms should never be reused.

Condoms should be made more widely available through health-care providers who offer services to sexually active men and women, particularly in STD clinics, family planning clinics, and drug-treatment centers. These same facilities should become more assertive in counseling patients on STD prevention. Recommendations for prevention of STD, including HIV infection, should emphasize that risk of infection is most effectively reduced through abstinence or sexual intercourse with a mutually

Condoms — Continued

faithful uninfected partner. Condoms do not provide absolute protection from any infection, but if properly used, they should reduce the risk of infection.

Reported by: Center for Devices and Radiological Health, Food and Drug Administration. Div of Sexually Transmitted Diseases, Center for Prevention Svcs; AIDS Program, Center for Infectious Diseases, CDC.

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Perspectives in Disease Prevention and Health Promotion

Progress Toward Achieving the National 1990 Objectives for Injury Prevention and Control

The nation's health objectives, established in 1979 (*1*), include goals for preventing and controlling injuries. Nine of these objectives address intentional and unintentional injuries and have helped to set the priorities for injury control. Work-related injuries and some aspects of intentional injury prevention are addressed in other reviews of the 1990 objectives. The nine injury control objectives are presented below along with a status report and a discussion of pertinent risk factors and indicators as well as strategies for progress.

By 1990, the motor vehicle fatality rate should be reduced to no greater than 18.0/100,000 population (baseline rate in 1978: 23.6/100,000).

Status: The 1984 rate was 19.6/100,000. This objective is projected to be met, despite increases of 9% in the population, 13% in licensed drivers, 19% in registered motor vehicles, and 21% in the total vehicle miles traveled (*2*). According to data from the National Highway Traffic Safety Administration (NHTSA), the mortality rate per miles driven decreased from 3.26 deaths per 100 million miles traveled in 1978 to 2.48 deaths per 100 million miles traveled in 1986 (*2*). Motor vehicle crashes in 1986 resulted in 46,056 deaths (*2*).

The reduction in alcohol-related fatalities from 1982 through 1986 was a major contributor to the decreases in motor fatalities and fatality rates. The proportion of driver fatalities that involved a blood alcohol concentration (BAC) $\geq$0.10 mg/dL decreased from 44% in 1982 to 39% in 1986. Among youthful drivers (20-24 years of age), the proportion of fatalities involving a BAC $\geq$0.10 mg/dL dropped from 40% in 1982 to 34% in 1986. Arrests for alcohol-impaired driving increased from about 0.5 million in 1978 to 1.7 million in 1986. The legal age for the purchase or public possession of alcoholic beverages is now 21 years in all but one state.

The increasing use of seat belts was another major contributor to declines in motor vehicle fatality rates (*3*). From 1978 to 1986, overall use of seat belts increased from under 13% to over 39% (*4*). Twenty-nine states and the District of Columbia have now adopted laws making the use of seat belts mandatory.

By 1990, the motor vehicle fatality rate for children under 15 should be reduced to no greater than 5.5/100,000 children (baseline rate in 1978: 9.0/100,000).

Status: The 1984 rate was 6.6/100,000. If the current rate of decline continues, this objective will be met by 1990. According to data from NHTSA, the 1986 fatality rate was 25% below the 1978 rate, and the number of deaths decreased from 4,209 in 1978 to 3,160 in 1986 (*2*). Use of child restraints increased 413%, from approximately 15% in 1979 to 77% in 1986 (*3*). In 1978, one state had a law mandating the use of safety belts for children, but, by 1986, all 50 states and the District of Columbia had child-restraint laws.

By 1990, the death rate from falls should be reduced to no more than 2.0/100,000 population (baseline rate in 1978: 6.2/100,000).

Status: The 1984 rate was 5.1/100,000. This objective is not expected to be met by 1990, although the trend in the number of fatalities due to falls has been and continues to be decreasing. However, this objective has been met for persons under 65 years of age, whose mortality rate from falls was 1.5/100,000 in 1984. The overall

Injury Prevention — Continued

mortality rate from falls is affected by the disproportionately high rate among the elderly. In 1984, rates for the elderly ranged from 10.2/100,000 for 65- to 74-year-olds to 147.0/100,000 for persons 85 years of age and older. The downward trend of the overall crude fatality rate from falls may plateau or begin to rise as the proportion of the U.S. population aged 65 years or older increases. In addition, National Center for Health Statistics, CDC, mortality data may undercount fatalities from falls more than other fatalities. Because the fatal events that often follow hip fractures (e.g., pneumonia or pulmonary embolism) occur long after the fall, deaths may be misclassified (*5,6*).

Medical and behavioral factors that lead to falls include disorders of gait and balance and the use of certain prescription and nonprescription drugs (including alcohol). Environmental factors implicated as contributors to falls include items such as poor lighting and loose rugs. Survival after injury is greatly influenced by the immediate management of head trauma and hip fracture and by the subsequent prevention of venous thrombosis, pulmonary embolism, and pneumonia.

Advances in knowledge about these factors and their roles in fall-related mortality could highlight opportunities to prevent falls and fatalities from falls. Focused prevention efforts, based on clearly defined priorities, can help coordinate the activities of many governmental and nongovernmental entities in addressing this problem.

By 1990, the home injury fatality rate for children under 15 years of age should be no greater than 5.0/100,000 children (baseline rate in 1978: 6.0/100,000).

Status: The 1984 rate was 4.9/100,000. This objective has already been achieved. For nearly 50 years, home injury deaths and mortality rates for children under 15 years of age have steadily declined. In 1984, almost 40% of the injury deaths involving children under 5 years of age occurred in the home. The home injury fatality rate is highest for children under 1 year of age; however, the rate for this age group declined from 14.7/100,000 in 1979 to 11.9/100,000 in 1984.

The causes of home injury deaths include fires, drowning, suffocation, falls, firearms, and poisoning. Since 1978, home injury deaths have decreased in every category except poisoning. Deaths in that category increased from a rate of 0.12/100,000 population in 1978 to 0.15/100,000 in 1984. For children under 1 year of age, suffocation is now the most prevalent cause of death, whereas, for children 10 to 14 years of age, deaths are most often due to fires and unintentional firearm injuries.

By 1990, the death rate from drowning should be reduced to no more than 1.5/100,000 persons (baseline rate in 1978: 3.2/100,000).

Status: The 1984 rate was 2.3/100,000. This objective is not expected to be met by 1990. During the last decade, boating activities, which have increased greatly, have exposed more people to the risk of drowning. Nonetheless, boating-related drownings declined from 1,242 to 944 between 1978 and 1984, and the rate decreased from 0.6/100,000 to 0.4/100,000 population, nearly a 29% reduction in the rate of such fatalities. Alcohol use by boat operators is increasingly recognized as contributing to boating fatalities (*7*). From 1978 to 1984, nonboating drownings decreased from 5,784 to 4,444, and the rate of such drownings decreased nearly 27%, from 2.6/100,000 to 1.9/100,000. Despite improved safety in residential swimming pools and spas, approximately 300 children under 5 years of age drown each year in this setting (*8*).

Injury Prevention — Continued

By 1990, residential fire deaths should be reduced to no more than 4,500 per year (baseline deaths in 1978: 5,401).

Status: The number of deaths in 1984 was 4,466. This objective was reached in 1984. The overall annual mortality rate due to residential fires decreased 21%, from 2.4/100,000 persons in 1978 to 1.9 in 1984. For males, the mortality rate due to residential fires decreased 20%, from 3.0/100,000 in 1978 to 2.4/100,000 in 1984. For females, the rate decreased 26%, from 1.9/100,000 in 1978 to 1.4/100,000 in 1984.

Mortality rates due to residential fires differ markedly for blacks and whites. In 1984, the rate among blacks was 4.8/100,000; it was 1.5/100,000 among whites. By region, the mortality rate due to residential fires was highest in the South and lowest in the West. By age group, it was highest for persons 65 years of age or older (4.6/100,000) and second highest for children under 5 years of age (4.1/100,000).

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

Disease	9th Week Ending			Cumulative, 9th Week Ending		
	March 5, 1988	March 7, 1987	Median 1983-1987	March 5, 1988	March 7, 1987	Median 1983-1987
Acquired Immunodeficiency Syndrome (AIDS)	422	124	95	4,574	2,921	969
Aseptic meningitis	89	81	78	638	769	754
Encephalitis: Primary (arthropod-borne & unspec)	12	16	16	104	132	140
Post-infectious	2	1	1	10	10	12
Gonorrhea: Civilian	12,731	15,809	15,809	117,664	147,269	143,920
Military	194	279	290	2,149	2,937	3,418
Hepatitis: Type A	518	411	478	4,102	3,978	3,969
Type B	537	514	474	3,094	3,976	3,976
Non A, Non B	57	56	66	354	474	518
Unspecified	41	54	98	359	575	726
Legionellosis	8	15	12	99	118	100
Leprosy	5	3	7	17	39	40
Malaria	18	23	12	107	121	111
Measles: Total*	53	65	62	314	308	308
Indigenous	49	57	57	297	235	235
Imported	4	8	3	17	73	43
Meningococcal infections	98	94	85	596	679	555
Mumps	61	324	93	620	2,879	607
Pertussis	43	35	41	277	307	297
Rubella (German measles)	6	4	17	25	36	76
Syphilis (Primary & Secondary): Civilian	497	825	606	6,025	5,916	4,942
Military	3	-	5	32	43	43
Toxic Shock syndrome	6	4	8	43	49	68
Tuberculosis	377	434	449	2,776	3,023	3,023
Tularemia	2	2	2	16	13	13
Typhoid Fever	7	1	2	54	32	41
Typhus fever, tick-borne (RMSF)	2	-	-	13	7	9
Rabies, animal	55	73	84	448	636	689

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1988		Cum. 1988
Anthrax	-	Leptospirosis	4
Botulism: Foodborne	4	Plague	-
Infant	4	Poliomyelitis, Paralytic	-
Other	2	Psittacosis	15
Brucellosis (Wisc. 1, Calif. 1)	7	Rabies, human	-
Cholera	-	Tetanus	4
Congenital rubella syndrome	-	Trichinosis (Nebr. 1)	4
Congenital syphilis, ages < 1 year	-		
Diphtheria	-		

*Four of the 53 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending March 5, 1988 and March 7, 1987 (9th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	4,574	638	104	10	117,664	147,269	4,102	3,094	354	359	99	17
NEW ENGLAND	216	35	5	-	3,438	5,194	147	231	50	28	2	3
Maine	9	2	1	-	84	184	9	12	1	1	1	-
N.H.	4	7	-	-	63	76	10	6	3	1	-	-
Vt.	2	1	2	-	35	32	2	7	1	-	-	-
Mass.	106	16	2	-	1,143	1,927	95	171	39	25	1	3
R.I.	12	8	-	-	276	417	21	22	5	-	-	-
Conn.	83	1	-	-	1,837	2,558	10	13	1	1	-	-
MID. ATLANTIC	1,403	83	11	-	15,069	23,609	219	339	20	23	16	1
Upstate N.Y.	247	40	8	-	1,856	2,771	142	81	10	2	14	-
N.Y. City	649	12	2	-	5,700	13,348	24	158	-	15	-	1
N.J.	366	31	1	-	2,753	2,656	53	100	10	6	-	-
Pa.	141	-	-	-	4,760	4,834	-	-	-	-	2	-
E.N. CENTRAL	397	91	14	-	19,780	20,027	426	321	20	22	32	-
Ohio	66	42	7	-	4,764	4,330	295	108	7	2	12	-
Ind.	16	12	2	-	1,876	1,526	18	36	1	9	3	-
Ill.	206	-	-	-	5,645	6,043	13	14	-	1	-	-
Mich.	89	33	3	-	6,317	6,338	90	148	10	10	13	-
Wis.	20	4	2	-	1,178	1,790	10	15	2	-	4	-
W.N. CENTRAL	107	31	9	2	4,750	5,980	275	145	14	1	9	-
Minn.	28	10	1	-	664	972	7	16	1	1	-	-
Iowa	6	7	5	-	372	580	16	19	4	-	4	-
Mo.	40	5	-	-	2,627	3,034	116	76	4	-	1	-
N. Dak.	-	-	-	-	26	74	1	2	1	-	-	-
S. Dak.	3	4	-	1	102	125	-	1	-	-	2	-
Nebr.	9	1	1	1	263	364	26	14	1	-	2	-
Kans.	21	4	2	-	696	831	109	17	3	-	-	-
S. ATLANTIC	790	145	12	3	32,684	38,058	206	647	41	63	18	-
Del.	11	4	1	-	472	548	1	16	1	1	2	-
Md.	95	14	1	-	2,940	3,614	35	101	3	2	3	-
D.C.	73	4	-	-	2,106	2,325	2	3	2	-	-	-
Va.	58	13	6	1	2,486	3,118	24	35	8	42	1	-
W. Va.	3	4	1	-	286	278	1	11	1	3	-	-
N.C.	63	32	2	-	5,401	5,625	34	121	9	5	8	-
S.C.	28	3	-	-	2,537	3,664	5	117	2	1	2	-
Ga.	118	14	1	-	6,149	6,485	25	110	1	1	1	-
Fla.	341	57	-	2	10,307	12,401	79	133	14	8	1	-
E.S. CENTRAL	133	38	10	2	8,993	10,643	89	173	23	4	6	1
Ky.	4	19	3	1	799	1,076	74	23	8	2	3	-
Tenn.	72	4	3	-	2,744	3,665	9	76	10	-	1	-
Ala.	41	12	4	1	3,243	3,484	3	70	5	2	2	1
Miss.	16	3	-	-	2,207	2,418	3	4	-	-	-	-
W.S. CENTRAL	314	37	1	-	14,247	16,434	369	170	18	64	1	-
Ark.	19	2	1	-	1,171	1,636	42	11	-	2	-	-
La.	70	4	-	-	3,519	3,433	10	37	2	3	-	-
Okla.	12	4	-	-	1,165	1,755	137	29	3	8	1	-
Tex.	213	27	-	-	8,392	9,610	180	93	13	51	-	-
MOUNTAIN	193	27	10	1	2,538	3,800	600	272	36	44	8	-
Mont.	4	1	-	-	68	85	14	12	2	2	-	-
Idaho	1	-	-	-	62	136	24	17	1	-	-	-
Wyo.	1	-	-	-	35	62	1	2	2	-	1	-
Colo.	63	9	2	-	639	788	28	38	3	18	4	-
N. Mex.	11	-	-	-	258	424	118	28	1	-	-	-
Ariz.	72	7	3	-	843	1,363	314	121	15	16	1	-
Utah	14	6	3	1	118	161	69	20	9	7	2	-
Nev.	27	4	2	-	515	781	32	34	3	1	-	-
PACIFIC	1,021	151	32	2	16,165	23,524	1,771	796	132	110	7	12
Wash.	71	-	-	1	1,136	1,533	295	73	14	10	4	-
Oreg.	44	-	-	-	551	797	387	126	16	4	-	-
Calif.	878	128	31	1	14,105	20,577	1,018	578	99	94	1	12
Alaska	6	4	-	-	198	405	71	12	2	2	-	-
Hawaii	22	19	1	-	175	212	-	7	1	-	2	-
Guam	-	-	-	-	26	43	1	1	-	2	-	-
P.R.	99	6	1	-	268	439	3	48	4	9	-	-
V.I.	1	-	-	-	70	38	-	2	-	-	-	-
Amer. Samoa	-	-	-	-	-	77	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	9	23	-	1	-	-	-	-

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

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending March 5, 1988 and March 7, 1987 (9th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	1988	Cum. 1988	Cum. 1987
UNITED STATES	107	49	297	4	17	308	596	61	620	43	277	307	6	25	36
NEW ENGLAND	12	-	1	-	-	6	53	-	3	8	49	6	-	-	-
Maine	1	-	-	-	-	-	-	-	-	-	10	-	-	-	-
N.H.	-	-	-	-	-	-	5	-	2	-	16	1	-	-	-
Vt.	-	-	-	-	-	6	2	-	-	-	-	1	-	-	-
Mass.	8	-	1	-	-	-	25	-	1	6	16	3	-	-	-
R.I.	2	-	-	-	-	-	10	-	-	-	-	-	-	-	-
Conn.	1	-	-	-	-	-	11	-	-	2	7	1	-	-	-
MID. ATLANTIC	13	12	67	-	-	67	45	3	37	1	11	32	1	1	-
Upstate N.Y.	8	-	-	-	-	12	24	1	13	-	5	23	-	-	-
N.Y. City	3	-	4	-	-	39	5	-	-	-	-	-	-	-	-
N.J.	2	-	-	-	-	1	16	1	11	-	1	1	1	1	-
Pa.	-	12	63	-	-	15	-	1	13	1	5	8	-	-	-
E.N. CENTRAL	3	-	10	-	-	36	63	19	173	4	20	52	2	3	6
Ohio	-	-	-	-	-	4	26	14	33	1	3	19	-	-	-
Ind.	-	-	-	-	-	-	5	-	14	3	8	-	-	-	-
Ill.	-	-	1	-	-	10	2	2	10	-	-	3	-	-	5
Mich.	3	-	9	-	-	22	22	3	80	-	7	10	2	3	1
Wis.	-	-	-	-	-	-	8	-	36	-	2	20	-	-	-
W.N. CENTRAL	3	-	-	-	-	1	26	2	47	5	22	23	-	-	-
Minn.	1	-	-	-	-	-	7	-	-	2	3	3	-	-	-
Iowa	-	-	-	-	-	-	-	1	20	3	9	2	-	-	-
Mo.	1	-	-	-	-	1	9	-	10	-	2	10	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	5	1	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-
Nebr.	-	-	-	-	-	-	2	1	2	-	-	-	-	-	-
Kans.	1	-	-	-	-	-	8	-	15	-	1	6	-	-	-
S. ATLANTIC	13	23	46	-	4	-	109	2	42	6	34	68	-	-	2
Del.	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
Md.	2	-	-	-	2	-	12	-	2	-	6	-	-	-	-
D.C.	3	-	-	-	-	-	4	-	13	-	-	-	-	-	-
Va.	3	-	-	-	-	-	12	-	4	-	2	27	-	-	-
W. Va.	-	-	-	-	-	-	-	-	2	-	-	11	-	-	-
N.C.	1	-	-	-	1	-	21	-	7	1	16	25	-	-	-
S.C.	3	-	-	-	-	-	11	-	3	-	-	-	-	-	-
Ga.	-	-	-	-	-	-	14	2	4	4	7	4	-	-	-
Fla.	1	23	46	-	1	-	35	-	7	1	1	1	-	-	2
E.S. CENTRAL	2	-	-	-	-	-	49	3	85	-	7	6	-	-	2
Ky.	-	-	-	-	-	-	6	-	10	-	-	1	-	-	2
Tenn.	-	-	-	-	-	-	29	3	73	-	6	-	-	-	-
Ala.	2	-	-	-	-	-	13	-	1	-	-	3	-	-	-
Miss.	-	-	-	-	-	-	1	N	N	-	1	2	-	-	-
W.S. CENTRAL	11	-	7	-	-	3	34	20	80	3	4	15	-	1	-
Ark.	-	-	-	-	-	-	5	-	1	2	2	1	-	1	-
La.	1	-	-	-	-	-	7	14	38	1	2	2	-	-	-
Okla.	4	-	7	-	-	1	2	-	9	-	-	12	-	-	-
Tex.	6	-	-	-	-	2	20	6	32	-	-	-	-	-	-
MOUNTAIN	4	1	108	-	-	46	27	5	39	11	68	28	-	1	1
Mont.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	2	-	-	6	56	15	-	-	-
Wyo.	-	-	-	-	-	-	-	-	1	-	1	2	-	-	-
Colo.	2	1	108	-	-	-	8	4	11	-	2	9	-	-	-
N. Mex.	-	-	-	-	-	45	6	N	N	-	-	1	-	-	-
Ariz.	-	-	-	-	-	1	4	1	23	-	1	-	-	-	-
Utah	1	-	-	-	-	-	6	-	1	5	7	1	-	-	1
Nev.	1	-	-	-	-	-	1	-	3	-	1	-	-	1	-
PACIFIC	46	13	58	4	13	149	190	7	114	5	62	77	3	19	25
Wash.	2	-	-	-	-	-	11	3	5	1	10	13	-	-	-
Oreg.	4	-	-	-	-	21	11	N	N	-	2	9	-	-	1
Calif.	39	13	58	4§	12	127	160	4	106	4	32	40	3	17	22
Alaska	1	-	-	-	-	-	1	-	3	-	1	3	-	-	-
Hawaii	-	-	-	-	1	1	7	-	-	-	17	12	-	2	2
Guam	-	-	-	-	1	1	-	-	1	-	-	-	-	1	-
P.R.	2	3	23	-	-	-	4	-	2	-	-	5	-	-	1
V.I.	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.
N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending March 5, 1988 and March 7, 1987 (9th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	6,025	5,916	43	2,776	3,023	16	54	13	448
NEW ENGLAND	160	87	4	48	73	-	6	-	2
Maine	2	-	1	2	7	-	-	-	-
N.H.	2	1	2	-	3	-	-	-	2
Vt.	-	1	-	-	1	-	-	-	-
Mass.	66	50	1	30	21	-	4	-	-
R.I.	6	-	-	7	4	-	-	-	-
Conn.	84	35	-	9	37	-	2	-	-
MID. ATLANTIC	1,183	822	8	539	563	-	8	-	48
Upstate N.Y.	62	29	4	109	113	-	1	-	-
N.Y. City	826	551	1	206	258	-	1	-	-
N.J.	134	101	2	109	92	-	6	-	-
Pa.	161	141	1	115	100	-	-	-	48
E.N. CENTRAL	202	181	4	358	381	1	3	1	9
Ohio	18	16	3	71	74	-	-	-	-
Ind.	17	12	-	27	22	-	1	-	-
Ill.	100	117	-	152	151	-	2	-	2
Mich.	64	23	1	89	123	1	-	1	2
Wis.	3	13	-	19	11	-	-	-	5
W.N. CENTRAL	32	28	9	75	89	7	1	-	68
Minn.	3	4	-	13	18	-	1	-	29
Iowa	3	5	2	6	8	-	-	-	13
Mo.	16	14	4	33	51	5	-	-	1
N. Dak.	1	-	-	1	1	-	-	-	4
S. Dak.	1	2	-	11	2	-	-	-	16
Nebr.	4	2	2	4	3	1	-	-	1
Kans.	4	1	1	7	6	1	-	-	4
S. ATLANTIC	2,092	1,983	5	612	589	2	9	9	147
Del.	28	17	-	3	9	1	-	-	-
Md.	110	101	1	46	51	-	-	-	41
D.C.	106	61	-	30	20	-	-	-	-
Va.	70	45	-	83	67	-	5	-	49
W. Va.	1	1	-	15	24	-	-	-	9
N.C.	135	121	3	40	60	-	1	9	-
S.C.	101	120	-	65	66	-	-	-	9
Ga.	335	307	-	90	56	1	2	-	32
Fla.	1,206	1,210	1	240	236	-	1	-	7
E.S. CENTRAL	362	397	5	224	284	3	-	2	26
Ky.	11	3	2	71	60	3	-	-	18
Tenn.	148	195	2	48	76	-	-	1	-
Ala.	117	85	1	77	95	-	-	1	8
Miss.	86	114	-	28	53	-	-	-	-
W.S. CENTRAL	639	840	2	285	275	1	1	-	62
Ark.	22	37	-	22	16	-	-	-	15
La.	114	130	-	50	63	-	1	-	-
Okla.	31	25	1	35	35	1	-	-	4
Tex.	472	648	1	178	161	-	-	-	43
MOUNTAIN	119	123	3	39	85	2	2	1	40
Mont.	2	7	-	-	6	-	1	-	30
Idaho	-	1	1	-	10	-	-	1	-
Wyo.	-	-	-	-	-	-	-	-	3
Colo.	17	20	1	5	13	2	1	-	-
N. Mex.	13	11	-	13	17	-	-	-	3
Ariz.	25	64	-	12	34	-	-	-	4
Utah	6	-	1	-	1	-	-	-	-
Nev.	56	20	-	9	4	-	-	-	-
PACIFIC	1,236	1,455	3	596	684	-	24	-	46
Wash.	14	25	-	27	26	-	2	-	-
Oreg.	45	30	-	23	19	-	3	-	-
Calif.	1,171	1,397	3	512	585	-	17	-	44
Alaska	-	2	-	7	16	-	-	-	2
Hawaii	6	1	-	27	38	-	2	-	-
Guam	-	1	-	-	2	-	-	-	-
P.R.	103	182	-	33	41	-	1	-	14
V.I.	1	2	-	1	1	-	-	-	-
Amer. Samoa	-	51	-	-	20	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending March 5, 1988 (9th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	650	475	120	32	14	9	65
Boston, Mass.	204	133	46	14	6	5	26
Bridgeport, Conn.	39	28	6	5	-	-	1
Cambridge, Mass.	23	20	3	-	-	-	4
Fall River, Mass.	33	26	7	-	-	-	1
Hartford, Conn.	47	38	6	2	1	-	2
Lowell, Mass.	27	19	7	1	-	-	3
Lynn, Mass.	15	12	2	-	1	-	2
New Bedford, Mass.	28	25	2	1	-	-	1
New Haven, Conn.	53	36	7	6	2	2	5
Providence, R.I.	43	32	8	-	2	1	3
Somerville, Mass.	7	6	1	-	-	-	-
Springfield, Mass.	38	28	7	1	1	1	8
Waterbury, Conn.	45	33	9	2	1	-	8
Worcester, Mass.	48	39	9	-	-	-	1
MID. ATLANTIC	2,979	2,009	585	263	58	64	185
Albany, N.Y.	54	42	8	-	3	1	1
Allentown, Pa.	15	12	2	1	-	-	-
Buffalo, N.Y.	123	89	22	7	3	2	17
Camden, N.J.	39	23	9	5	-	2	2
Elizabeth, N.J.	26	19	4	3	-	-	4
Erie, Pa.†	48	37	8	2	1	-	4
Jersey City, N.J.	50	31	9	7	1	2	1
N.Y. City, N.Y.	1,578	1,009	332	181	31	25	82
Newark, N.J.	70	32	16	7	6	9	6
Paterson, N.J.	34	18	8	3	-	5	2
Philadelphia, Pa.	395	287	71	20	7	10	25
Pittsburgh, Pa.†	82	60	17	2	1	2	-
Reading, Pa.	36	27	6	2	-	1	4
Rochester, N.Y.	119	92	23	4	-	-	15
Schenectady, N.Y.	32	29	2	1	-	-	3
Scranton, Pa.†	36	33	3	-	-	-	2
Syracuse, N.Y.	141	96	26	12	3	4	12
Trenton, N.J.	40	26	11	2	-	1	2
Utica, N.Y.	35	27	5	2	1	-	2
Yonkers, N.Y.	26	20	3	2	1	-	1
E.N. CENTRAL	2,479	1,654	531	165	52	77	136
Akron, Ohio	64	46	8	7	-	3	3
Canton, Ohio	32	25	5	1	-	1	8
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	159	106	39	8	4	2	26
Cleveland, Ohio	199	121	50	15	5	8	4
Columbus, Ohio	125	82	34	9	-	-	2
Dayton, Ohio	127	85	30	8	3	1	-
Detroit, Mich.	293	165	77	29	7	15	7
Evansville, Ind.	49	41	4	3	1	-	4
Fort Wayne, Ind.	64	44	8	5	4	3	4
Gary, Ind.	22	12	5	2	1	2	-
Grand Rapids, Mich.	71	54	8	6	-	3	12
Indianapolis, Ind.	194	125	43	10	5	11	6
Madison, Wis.	41	26	9	3	3	-	5
Milwaukee, Wis.	158	105	33	12	4	4	7
Peoria, Ill.	51	40	7	1	1	2	8
Rockford, Ill.	47	37	9	-	1	-	8
South Bend, Ind.	47	41	6	-	-	-	5
Toledo, Ohio	91	74	14	-	3	-	9
Youngstown, Ohio	81	63	17	1	-	-	2
W.N. CENTRAL	865	621	163	44	19	18	54
Des Moines, Iowa	86	65	14	3	4	-	8
Duluth, Minn.	20	16	4	-	-	-	1
Kansas City, Kans.	46	31	7	7	1	-	1
Kansas City, Mo.	149	96	36	10	2	5	8
Lincoln, Nebr.	40	32	6	2	-	-	1
Minneapolis, Minn.	147	112	21	7	3	4	10
Omaha, Nebr.	106	79	20	3	2	2	9
St. Louis, Mo.	159	108	35	10	3	3	6
St. Paul, Minn.	52	34	11	2	2	3	-
Wichita, Kans.	60	48	9	-	2	1	10
S. ATLANTIC	1,511	957	310	154	35	54	91
Atlanta, Ga.	214	126	52	21	6	9	12
Baltimore, Md.	262	170	44	33	7	8	18
Charlotte, N.C.	82	54	19	5	1	2	4
Jacksonville, Fla.	119	77	27	11	1	3	9
Miami, Fla.	140	80	34	20	1	5	1
Norfolk, Va.	59	42	10	3	3	1	3
Richmond, Va.	87	56	18	7	1	5	8
Savannah, Ga.	46	29	10	5	2	-	6
St. Petersburg, Fla.	108	90	9	1	2	6	7
Tampa, Fla.	84	46	23	8	2	5	8
Washington, D.C.	279	163	58	39	9	10	15
Wilmington, Del.	31	24	6	1	-	-	-
E.S. CENTRAL	915	619	193	47	26	30	91
Birmingham, Ala.	127	85	29	4	3	6	10
Chattanooga, Tenn.	84	64	12	4	1	3	10
Knoxville, Tenn.	88	59	19	3	5	2	11
Louisville, Ky.	141	83	39	12	4	3	4
Memphis, Tenn.	182	118	37	9	8	10	17
Mobile, Ala.	97	72	18	2	3	2	14
Montgomery, Ala.	53	38	11	3	-	1	9
Nashville, Tenn.	143	100	28	10	2	3	16
W.S. CENTRAL	1,555	1,044	305	122	44	40	100
Austin, Tex.	90	65	14	6	4	1	6
Baton Rouge, La.	70	53	14	1	-	2	3
Corpus Christi, Tex.§	44	35	4	2	3	-	3
Dallas, Tex.	267	179	47	25	10	6	13
El Paso, Tex.	67	46	11	4	4	2	5
Fort Worth, Tex	103	73	16	9	3	2	5
Houston, Tex.§	308	176	74	34	13	11	7
Little Rock, Ark.	93	60	26	3	2	2	17
New Orleans, La.	93	60	19	12	-	2	-
San Antonio, Tex.	254	169	48	21	4	12	20
Shreveport, La.	51	39	10	1	1	-	7
Tulsa, Okla.	115	89	22	4	-	-	14
MOUNTAIN	716	461	145	64	27	19	43
Albuquerque, N. Mex.	88	65	11	8	4	-	5
Colo. Springs, Colo.	40	25	10	3	2	-	9
Denver, Colo.	125	83	20	12	6	4	5
Las Vegas, Nev.	138	92	27	14	3	2	7
Ogden, Utah	11	7	4	-	-	-	2
Phoenix, Ariz.	116	64	29	11	5	7	4
Pueblo, Colo.	22	12	7	2	1	-	3
Salt Lake City, Utah	43	22	7	7	2	5	2
Tucson, Ariz.	133	91	30	7	4	1	6
PACIFIC	2,391	1,642	430	185	63	62	226
Berkeley, Calif.	23	15	4	3	-	1	2
Fresno, Calif.	93	59	25	4	2	3	14
Glendale, Calif.	30	21	6	3	-	-	3
Honolulu, Hawaii	65	45	14	2	1	3	9
Long Beach, Calif.	131	97	19	10	-	5	25
Los Angeles Calif.	615	406	104	62	27	8	41
Oakland, Calif.	87	57	17	5	2	6	4
Pasadena, Calif.	39	25	6	-	3	5	6
Portland, Oreg.	189	138	30	13	6	2	15
Sacramento, Calif.	190	136	35	9	3	7	28
San Diego, Calif.	235	163	44	16	6	5	26
San Francisco, Calif.	195	121	47	20	1	6	6
San Jose, Calif.	221	159	37	15	7	3	24
Seattle, Wash.	165	112	28	15	2	8	6
Spokane, Wash.	67	54	9	2	2	-	8
Tacoma, Wash.	46	34	5	6	1	-	9
TOTAL	14,061††	9,482	2,782	1,076	338	373	991

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

**Pneumonia and influenza.

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

††Total includes unknown ages.

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

Injury Prevention — Continued

Cigarette smoking and alcohol use are important contributors to residential fires (*9*). Cigarettes are involved in half of all deaths caused by residential fires. Typically, these fires occur late at night when people fall asleep while smoking in bed. About 40% of the victims of residential fires who have been studied have had blood alcohol concentrations ≥0.1 mg/dL. Alcohol use probably contributes to the occurrence of fires and also impairs the escape of intoxicated individuals.

Smoke detectors halve the risk of death in residential fires (*10*). Thus, the increased ownership of smoke detectors (from 5% in 1970 to 75% in 1985) has probably helped reduce the rate of residential fire deaths. Public education efforts have heightened awareness of the safety value of detectors; the cost of detectors has substantially decreased; and there are more laws requiring smoke detectors in homes. Blacks and the elderly are less likely than other groups to own smoke detectors (*11*).

By 1990, the number of unintentional deaths from firearms should be held to no more than 1,700 (baseline cases in 1978: 1,806).

Status: The number of deaths in 1984 was 1,668. This objective has already been met. Despite this success, 287 (17%) of these 1,668 unintentional deaths from firearms occurred among children under 15 years of age; 34 occurred among children under 5; and 253, among children 5-14. Unintentional firearm injuries have the greatest impact on young males, minorities, and rural residents. About half of these fatalities occur at home.

Firearms rank second, behind motor vehicles, as the most important cause of injury mortality (*12*). In 1984, firearms accounted for 31,361 deaths (1,688 unintentional injuries, 17,113 suicides, 11,825 homicides, 253 legal interventions, and 482 of undetermined intent). Each year, there are about 15 firearm-related deaths for every 100,000 individuals. By comparison, there are 20 motor vehicle fatalities per 100,000.

By 1990, the rate of suicide among people 15 to 24 years of age should be below 11.0/100,000 population (baseline rate in 1978: 12.1/100,000).

Status: The 1984 rate was 12.2/100,000. This is the only injury control objective for which the rate is not declining. Although the youth suicide rate did not change significantly between 1978 and 1984, the 1978 rate was nearly 200% above the 1950 rate (*13*). This increase had been steady and consistent from the mid-1950s until 1977, when it reached a peak of 13.6/100,000. The rate leveled out at 12.1 in 1978. The rates for persons 15-19 years of age increased from 7.9 to 9.0 between 1978 and 1984. During that period, the rate for persons 20-24 years of age decreased slightly, from 16.5 to 15.6.

White males 20-24 years of age have the highest youth suicide rate. The rate for this age group is almost twice the rate for white males aged 15-19. The male-to-female ratio of youth suicide rates is approximately 5:1. Firearms are the most common method of suicide for both males and females 15-24 years of age; the increase in firearm suicides accounted for most of the increase in the youth suicide rate over the past 30 years.

A number of risk factors have been suggested to be associated with youth suicide (*14*), including serious psychiatric problems; a previous suicide attempt; a family history of suicide; abnormally low levels of 5-hydroxyindoleacetic acid, an important neurotransmitter; widowed or divorced marital status; substance abuse; exposure to suicide directly, through knowing the victim, or indirectly, through the media; and the presence of firearms in the home.

Injury Prevention — Continued

Various preventive approaches have been advocated, but their effectiveness is not known (*14*). These approaches include 1) teaching youths to identify and understand feelings to help them cope with the types of problems that can lead to suicide, 2) early identification of youths at high risk of committing suicide and their referral for treatment, 3) school-based screening programs, 4) crisis centers and hotlines, 5) improved training of health-care professionals in treating conditions that can lead to suicide; and 6) restriction of access to the lethal means of suicide.

By 1990, the death rate from homicide among black males ages 15 to 24 should be reduced to below 60.0/100,000 (baseline rate in 1978: 70.7/100,000).

Status: The 1984 rate was 61.5/100,000. Among black males 15-24 years of age, more lives are lost from homicide than from any other cause. During the period 1970-1984, 31,920 homicide victims were black males 15-24 years of age. In general, both the numbers and rates of homicide for this group were highest during the early 1970s and gradually declined to a 15-year low in 1984. The 1984 rate of 61.5/100,000 represents a 13% decrease from the 1978 index year rate of 70.7.

Most (61%) homicides among black males 15-24 years of age occurred in the context of an argument or other nonfelony circumstance. More than half of the victims (53%) were killed by persons they knew; 20% were killed by strangers; and, for the remainder, the victim-assailant relationship was undetermined. More than 75% of the young black victims were killed with firearms; 19% were killed with cutting or piercing instruments; 3%, with a bludgeoning instrument; and 2%, with other weapons. The homicide rate for black males 15-24 years of age is twice as high in metropolitan counties as in nonmetropolitan counties.

Promising local community efforts to develop and implement homicide prevention programs have involved the collaboration of health, criminal justice, social service agencies, and many other entities. Other approaches to intervention include decreasing the acceptance of behaviors that promote violence; developing strategies to reduce firearm-associated injuries; teaching nonviolent conflict-resolution skills; and improving the recognition, management, and treatment of victims of violence. These interventions must be evaluated for their ability to decrease injuries and deaths, their benefits and costs, and their social acceptability.

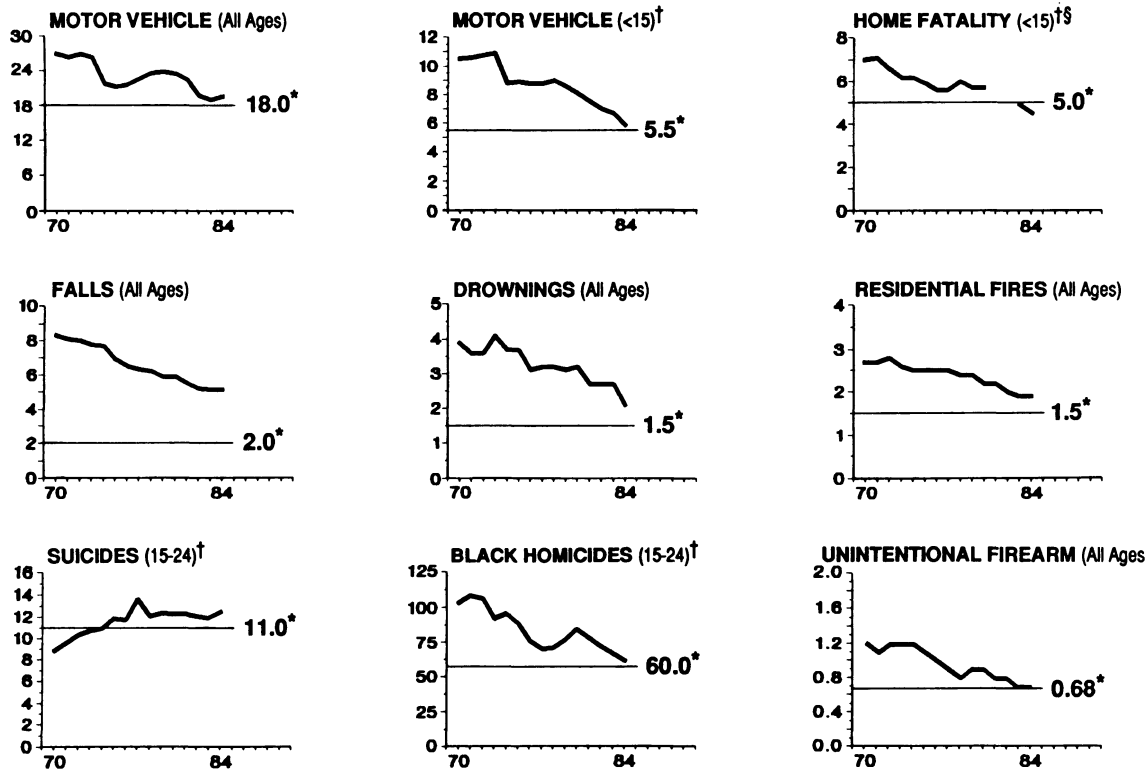
Young black males should continue to be a focus for prevention efforts, but the problem of homicide among other blacks and other minorities should also be addressed (*15*). In addition, future efforts should address the tremendous morbidity associated with nonfatal interpersonal violence.

Reported by: Office of Disease Prevention and Health Promotion, Public Health Svc, Dept of Health and Human Svcs. Div of Injury Epidemiology and Control, Center for Environmental Health and Injury Control, CDC.

Editorial Note: Since 1979, when the health status objectives for nonoccupational injuries were selected, injury fatality rates have declined (Figure 1) (*16*). A broad range of federal agencies* participated in the 1987 injury progress review to identify areas of success and failure and to highlight areas for future efforts. Each federal agency represented many different constituencies within and outside government, including state and local agencies and private entities.

*Participants represented the National Highway Traffic Safety Administration, National Institute on Aging, U.S. Consumer Product Safety Commission, U.S. Fire Administration, Health Resources and Services Administration, National Institute for Mental Health, and the Centers for Disease Control.

FIGURE 1. Progress toward meeting the 1990 objectives on injury control, by rates per 100,000 population — United States, 1970-1984



Injury Prevention — Continued

In 1985, the National Academy of Sciences (NAS) provided a major impetus to expand injury control activities by reviewing the nation's injury control needs (*17*), as requested by Congress. Responding to the NAS recommendations, Congress appropriated $10 million in 1986 and again in 1987 for a pilot program to create a center for injury control at CDC and to expand support for injury prevention research. CDC created the Center for Environmental Health and Injury Control (CEHIC) by bringing together its units that work on both intentional and unintentional injuries (*18*). CEHIC is charged with 1) establishing surveillance systems and conducting and fostering prevention programs, 2) improving and expanding professional education and training, 3) collecting and analyzing data, and 4) serving as the lead federal agency in injury research and prevention.

The 1990 objectives for injury control originally addressed only unintentional injuries, but this more comprehensive review addresses homicide and suicide and reflects the philosophy behind CDC's reorganization and the mandate from NAS and Congress. Thus, this review covers aspects of both intentional and unintentional injuries. Other 1990 objectives related to intentional injury will be addressed in a future report on the control of stress and violent behavior.

Achieving the 1990 objectives in injury control and developing new objectives for the year 2000 will require the coordinated efforts of federal, state, and local agencies from health and other sectors; academic institutions; professional associations; and private entities. Injury control for the balance of the 1980s and into the next decade will focus on:

1. Establishing and improving injury surveillance systems to permit accurate, timely characterization of injury problems at national, state, and local levels.
2. Expanding injury control research focused on the 1990 objectives and other priorities and applying the findings to injury control programs.
3. Developing rigorous approaches to the evaluation of injury control methods, implementing and evaluating selected demonstration programs for injury control, and disseminating the findings.
4. Implementing effective injury control programs focused on priority problems of the locale; mobilizing the assistance of public, industrial, and private institutions; and coordinating the efforts of public agencies.

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Injury Prevention — Continued

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Erratum: Vol. 37, No. 8

p. 122 The last sentence in the second paragraph should have read, "Approximately two-thirds of the children in three large series of HSP reported symptoms of an upper respiratory infection during the month before onset (*1,2,4*)."

Epidemiologic Notes and Reports

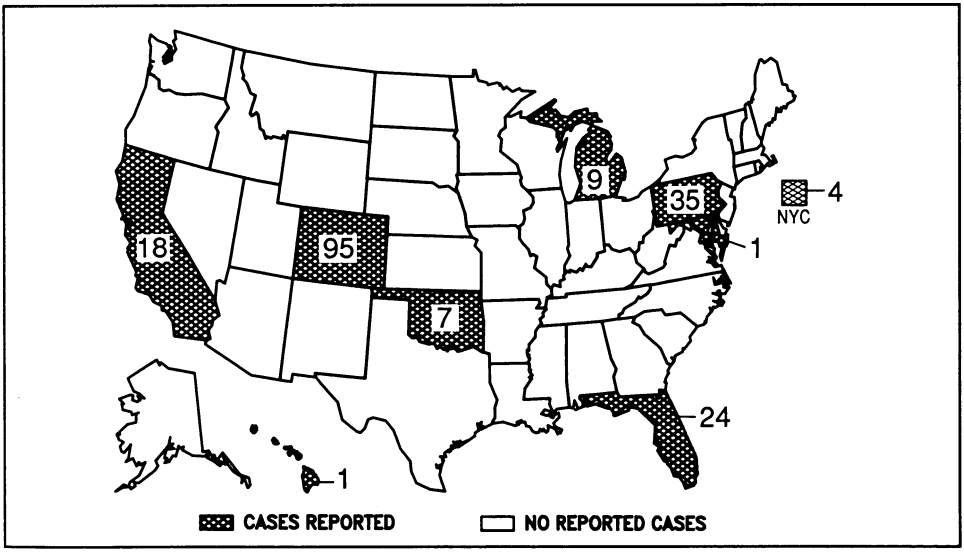
Influenza Update — United States

The following are indicators of influenza activity in the United States for the weeks ending February 13, 20, 27, and March 5. Numbers and percentages are provisional and may change as additional reports are received.

	Report Week Ending			
	Feb 13 1988	Feb 20 1988	Feb 27 1988	Mar 5 1988
Influenza-associated morbidity levels reported by state and territorial epidemiologists				
Number of states reporting sporadic activity*	21	20	22	20
Number of states reporting regional activity†	21	20	20	21
Number of states reporting widespread activity§	5	9	8	8
Reports from sentinel physicians¶				
Patients seen with influenza-like illness, expressed as percentage of total patient visits	6.2	8.1	7.4	7.6
Sentinel physicians reporting outbreaks, expressed as percentage of total number of reports received for week	48	49	51	60
Pneumonia and influenza (P&I) mortality from 121 U.S. cities				
Percentage P&I deaths, upper limit of epidemic threshold	6.1	6.1	6.1	6.1
Percentage P&I deaths, observed value	6.0	6.3	6.4	7.0
Isolates reported by WHO Collaborating Laboratories and other laboratories				
Cumulative number of states reporting isolates of influenza A(H3N2)**	38	40	45	46
Cumulative number of states reporting isolates of influenza A(H1N1)††	3	5	8	12
Cumulative number of states reporting isolates of influenza B§§	12	13	13	15

*Sporadically occurring cases, no known outbreaks.
†Outbreaks in counties in which total population comprises <50% of total state population.
§Outbreaks in counties in which total population comprises 50% or more of total state population.
¶Members of the American Academy of Family Physicians who submit weekly influenza surveillance reports based on their patient population.
**States without confirmed influenza A(H3N2) to date: Massachusetts, Nevada, New Hampshire, and Rhode Island.
††States reporting isolates of influenza A(H1N1) to date: Arkansas, Connecticut, Georgia, Maine, Maryland, Nebraska, New York, North Carolina, South Carolina, Texas, Virginia, and Vermont. Isolates from New York and Texas resemble influenza A/Taiwan/1/86(H1N1).
§§States reporting isolates of influenza B to date: Alabama, Arizona, California, Connecticut, Hawaii, Illinois, Maine, Montana, Nevada, New York, Ohio, Tennessee, Virginia, Washington, and Wisconsin.

FIGURE I. Reported measles cases – United States, Weeks 5-8, 1988



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

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