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MORBIDITY AND MORTALITY WEEKLY REPORT

- 169 Comparison of the Cigarette Brand Preferences of Adult and Teenaged Smokers – United States, 1989, and 10 U.S. Communities, 1988 and 1990
- 181 Tornado Disaster – Kansas, 1991
- 183 Publication of 1992 Surgeon General's Report on Smoking and Health

Current Trends

Comparison of the Cigarette Brand Preferences of Adult and Teenaged Smokers – United States, 1989, and 10 U.S. Communities, 1988 and 1990

Tobacco use is the single most preventable cause of death in the United States (1). Approximately three fourths of adult regular smokers tried their first cigarette before the age of 18 years (National Institute on Drug Abuse [NIDA], 1988 NIDA Household Survey, unpublished data); about half had become regular smokers before their 18th birthday (2). Knowing what brands young smokers prefer may suggest what encourages them to smoke and may suggest smoking-prevention or smoking-cessation strategies (3–5). To determine brand preferences of smokers, data were reviewed from CDC's National Center for Health Statistics' 1989 Teenage Attitudes and Practices Survey (TAPS) and the National Cancer Institute surveys of adults in 1988 and 9th-grade students in 1990 in 10 U.S. communities* participating in the Community Intervention Trial for Smoking Cessation (COMMIT) evaluation (6). This report examines the findings of these surveys on the cigarette brand preferences of adult and teenaged smokers.

TAPS

For the TAPS survey, data on knowledge, attitudes, and practices regarding tobacco use were collected from a national household sample of adolescents aged 12–18 years (7) by a computer-assisted telephone interviewing (CATI) system; those who could not be reached by telephone were mailed a questionnaire. During September–December 1989, the CATI interviews were conducted; because only persons reached by telephone were asked what brand they usually purchased, the data for this report were obtained from 9135 CATI respondents (79% of 11,609

*Four of the 10 communities surveyed are located in the Northeast (Fitchburg/Leominster, Massachusetts; Paterson, New Jersey; and Utica and Yonkers, New York); three in the West (Vallejo, California; Medford/Ashland, Oregon; and Bellingham, Washington); and one each in the South (Raleigh, North Carolina), Southwest (Santa Fe, New Mexico), and Midwest (Cedar Rapids, Iowa).

Cigarette Brand Preferences — Continued

adolescents with known telephone numbers and 76% of 12,097 adolescents in the total sample). These data were weighted to provide national estimates. Confidence intervals (CIs) were calculated by using the standard errors estimated by the Software for Survey Data Analysis (SUDAAN) (8). Adolescent current smokers[†] were asked if they usually bought their own cigarettes and, if so, which brand they usually bought.

Of the 1396 current smokers, 865 (62%) reported that they usually bought their own cigarettes. Smokers aged 16–18 years were more likely to buy their own cigarettes (71% [95% CI = ± 2.9%]) than were smokers aged 12–15 years (45% [95% CI = ± 4.9%]). Marlboro was the most commonly purchased brand for both male (69%) and female (68%) adolescents (Table 1). Camel was preferred more often by males (11%) than by females (5%). Although Marlboro was the most popular brand among white (71%) and Hispanic (61%) adolescents, black adolescents preferred the mentholated brands of Newport (61%), Kool (11%), and Salem (10%). Among 9th-grade students, Marlboro (75% [95% CI = ± 8.2%]), Newport (10% [95% CI = ± 5.3%]), and Camel (6% [95% CI = ± 4.3%]) were the most commonly purchased brands.

In all regions,[§] Marlboro was the most popular brand (Table 1). Newport was second in the Northeast (16%), and Camel was second in the West (18%). Among white adolescents, Newport was more popular in the Northeast (14% [95% CI = ± 5.0%]) and the Midwest (7% [95% CI = ± 3.5%]) than in the South (1% [95% CI = ± 1.2%]) and the West (1% [95% CI = ± 1.3%]).

COMMIT

For the COMMIT study, data on the adult preferences for cigarette brands were obtained from telephone surveys conducted during January–April 1988 of random samples of 15,415 adult current smokers[¶] aged 25–64 years in the 10 communities. The survey was conducted in two stages: 1) an adult household member reported the smoking status of all adults in that household and 2) all smokers in the household who were aged 25–64 years were interviewed. The overall response rate for the 10 communities was 75%; the first-stage response rate was 82% (range: 76%–86%) and the second-stage response rate was 92% (range: 85%–94%). Current brand use was measured by response to the question, “What brand of cigarettes do you usually smoke now?”

During October–December 1990, data on preferences for cigarette brands among teenaged smokers aged 13–16 years were obtained from school-based surveys of students from a random sample of 9th-grade classrooms in each of the 10 communities. The survey included both public and private schools and yielded representative samples of approximately 400 9th-grade students per community. Forty-six (96%) of the 48 eligible schools (i.e., schools with ≥50 students in 9th grade) participated, and 4129 (86%, range: 76%–91%) of the 4783 eligible students completed the survey. Data

[†]Adolescents who reported smoking cigarettes on 1 or more of the 30 days preceding the survey.

[§]The four regions were Northeast (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont), Midwest (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin), South (Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia), and West (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming).

[¶]Adults who answered “yes” to the question “Have you smoked at least 100 cigarettes in your entire life?” and then answered “yes” to the question “Do you smoke cigarettes now?”

TABLE 1. Percentage of self-reported cigarette brands usually bought by current smokers* aged 12–18 years who usually bought their own cigarettes, by cigarette brand† – Teenage Attitudes and Practices Survey, 1989, and cigarette market shares,† 1989

Category	No.	Percentage (95% confidence interval)									
		Marlboro	Newport	Camel	Winston	Salem	Benson & Hedges	Kool	Merit	Vantage	Other
Overall[§]	865	68.7 (± 3.4)	8.2 (± 1.8)	8.1 (± 2.1)	3.2 (± 1.2)	1.5 (± 0.8)	1.4 (± 1.2)	1.0 (± 0.6)	0.5 (± 0.5)	0.1 (± 0.2)	7.3 (± 1.9)
Sex											
Male	477	68.9 (± 4.5)	7.3 (± 2.4)	10.9 (± 3.4)	3.6 (± 1.8)	0.5 (± 0.6)	0.2 (± 0.4)	1.9 (± 1.1)	0.7 (± 0.7)	0.2 (± 0.4)	6.0 (± 2.3)
Female	388	68.4 (± 5.2)	9.4 (± 2.9)	4.6 (± 1.9)	2.6 (± 1.7)	2.9 (± 1.7)	2.9 (± 2.5)	0 (± 0.5)	0.3 (± 0.5)	0	8.9 (± 3.0)
Race[§]											
White	807	71.4 (± 3.4)	5.6 (± 1.6)	8.4 (± 2.2)	3.4 (± 1.3)	1.0 (± 0.7)	1.3 (± 1.2)	0.6 (± 0.5)	0.5 (± 0.5)	0.1 (± 0.2)	7.6 (± 2.0)
Black	41	8.7 (± 9.7)	61.3 (± 15.7)	3.1 (± 6.2)	0	9.7 (± 9.7)	3.3 (± 6.4)	10.9 (± 9.1)	0	0	2.9 (± 5.8)
Ethnicity**											
Hispanic	46	60.9 (± 15.0)	12.8 (± 9.5)	7.6 (± 8.6)	0	2.8 (± 5.4)	3.7 (± 4.9)	5.8 (± 6.1)	0	0	6.5 (± 7.6)
Non-Hispanic	817	69.1 (± 3.5)	8.0 (± 1.9)	8.1 (± 2.1)	3.3 (± 1.3)	1.5 (± 0.8)	1.3 (± 1.2)	0.8 (± 0.6)	0.5 (± 0.5)	0.1 (± 0.2)	7.3 (± 1.9)
Age (yrs)											
12–15	195	74.8 (± 6.3)	6.1 (± 3.7)	8.7 (± 3.9)	2.5 (± 2.1)	0.9 (± 1.3)	0.4 (± 0.8)	1.1 (± 1.5)	0	0	5.4 (± 3.2)
16–18	670	67.0 (± 3.9)	8.8 (± 2.0)	7.9 (± 2.4)	3.3 (± 1.5)	1.7 (± 0.9)	1.6 (± 1.5)	1.0 (± 0.7)	0.6 (± 0.6)	0.1 (± 0.3)	7.8 (± 2.2)
Region											
Northeast	184	68.4 (± 7.7)	16.2 (± 5.2)	4.1 (± 3.1)	0	2.3 (± 2.3)	0	0	0.6 (± 1.2)	0.5 (± 1.0)	7.9 (± 4.0)
Midwest	247	70.2 (± 6.2)	10.0 (± 3.9)	7.3 (± 4.8)	3.4 (± 2.5)	2.2 (± 2.0)	0	1.1 (± 1.3)	0.5 (± 1.0)	0	5.3 (± 3.1)
South	281	67.2 (± 5.8)	5.0 (± 2.3)	6.1 (± 2.8)	6.2 (± 2.9)	1.1 (± 0.8)	2.9 (± 2.9)	2.1 (± 1.5)	0.4 (± 0.7)	0	9.1 (± 3.6)
West	153	69.6 (± 8.1)	2.0 (± 2.2)	18.1 (± 6.3)	0.7 (± 1.3)	0.6 (± 1.1)	2.3 (± 2.2)	0	0.6 (± 1.1)	0	6.2 (± 4.0)
Overall market share,[†] 1989		26.3	4.7	3.9	9.1	6.2	3.9	5.9	3.8	2.5	33.7

*Persons who reported smoking on 1 or more of the 30 days preceding the survey. Sample size = 1396.

†Source: Reference 9.

[§]Data were weighted to provide national estimates.

[§]Excludes the racial category "other" (n = 17).

**Ethnicity for two persons was unknown.

Cigarette Brand Preferences – Continued

in this report were limited to 9th-grade students who reported they were current cigarette smokers** and usually bought their own cigarettes. Current brand use was measured by responses to the question, "What brand do you usually buy?"

In all but one community, Marlboro was the preferred brand for at least 20% of adult smokers (Table 2); in Raleigh, North Carolina, the brand most popular among adults was Salem. Winston was preferred by more than 10% in six of the 10 communities. Except for these three preferences, cigarette brand use among adult smokers varied considerably within and across communities; most brands were mentioned by less than 10% of smokers. In communities where the preference for Camels was high among adults (Santa Fe, Medford/Ashland, and Bellingham), use of Camels was highest among younger adults (i.e., aged 25–34 years). Overall, the cigarette brand preferences of adult smokers were consistent with known national market share patterns^{††} (9).

Among 9th-grade smokers across all 10 communities, three cigarette brands—Marlboro, Camel, and Newport—were consistently preferred (84%–100%) (Table 3, page 179). Among the 424 teenaged smokers who usually purchased their own cigarettes, 180 (43%) purchased Marlboro, 126 (30%) purchased Camel, and 85 (20%) purchased Newport. In nine of the 10 communities, one third or more of all 9th-grade smokers preferred Marlboro cigarettes. The preference for Camel and Newport cigarette brands varied considerably among communities. In five communities (Santa Fe, Medford/Ashland, Bellingham, Raleigh, and Cedar Rapids) Marlboro and Camel were the most frequently mentioned cigarette brands. In four other communities (Paterson, Utica, Yonkers, and Vallejo), Newport and Marlboro were the dominant cigarette brands. Camel cigarettes were most popular among teenaged smokers in western and midwestern communities. Newport cigarettes were most popular among teenaged smokers from communities in the Northeast. Newport was the most popular brand among black 9th-grade students and third most popular among white 9th-grade students.

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Editorial Note: In both the TAPS and COMMIT surveys, at least 84% of the adolescent current smokers who usually bought their own cigarettes purchased one of three brands—Marlboro, Newport, or Camel. Brand preference is much more tightly concentrated among adolescent smokers than among adult smokers in the 1988 COMMIT baseline survey of adults and in the 1986 Adult Use of Tobacco Survey (AUTS) (3) as well as in the overall market (9). Marlboro, Camel, and Newport were among the most heavily advertised cigarette brands in the United States during 1990 (10); therefore, these data suggest that tobacco advertising may influence teenagers in their choice of brands.

**Adolescents who reported smoking cigarettes on 1 or more of the 30 days preceding the survey.

^{††}Percentage of all cigarettes sold in the United States, by brand. Market share data are collected quarterly by a tobacco industry analyst (9).

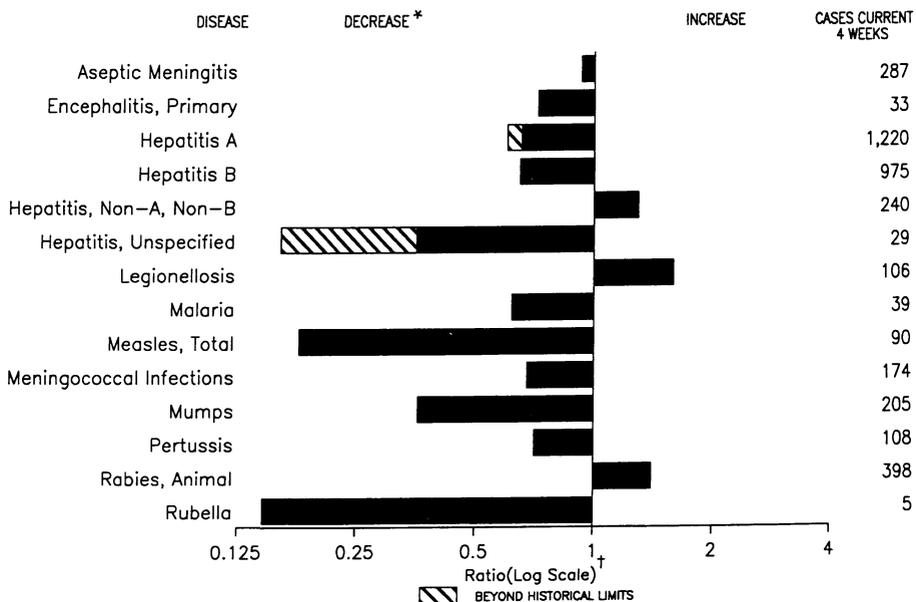
TABLE 2. Percentage of cigarette brand use self-reported by adult current smokers*, by cigarette brand — 10 U.S. communities, 1988†

Community	No.	Percentage (95% confidence interval)										
		Marlboro	Winston	Salem	Kool	Newport	Benson & Hedges	Camel	Merit	Virginia Slims	Doral	All other brands
Vallejo, Calif.	1,536	24.3 (±2.1)	7.7 (±1.3)	10.0 (±1.5)	8.5 (±1.4)	4.6 (±1.0)	9.6 (±1.5)	4.1 (±1.0)	3.5 (±0.9)	4.7 (±1.1)	0.7 (±0.4)	22.4 (±3.9)
Cedar Rapids, Iowa	1,234	23.1 (±2.4)	9.2 (±1.6)	6.4 (±1.4)	5.1 (±1.2)	0.3 (±0.3)	2.6 (±0.9)	5.0 (±1.2)	9.1 (±1.6)	3.3 (±1.0)	2.7 (±0.9)	33.2 (±5.4)
Fitchburg/ Leominster, Mass.	1,185	24.1 (±2.4)	13.8 (±2.0)	6.8 (±1.4)	5.1 (±1.3)	8.1 (±1.6)	3.0 (±1.0)	2.6 (±0.9)	5.6 (±1.3)	3.5 (±1.0)	0.3 (±0.3)	27.1 (±4.9)
Paterson, N.J.	1,854	24.5 (±2.0)	13.8 (±1.6)	9.7 (±1.3)	6.5 (±1.1)	16.0 (±1.7)	3.5 (±0.8)	1.3 (±0.5)	1.7 (±0.6)	3.2 (±0.8)	0.1 (±0.1)	19.5 (±3.3)
Sante Fe, N.M.	2,307	28.6 (±1.8)	11.0 (±1.3)	9.5 (±1.2)	3.3 (±0.7)	0.5 (±0.3)	7.2 (±1.1)	11.2 (±1.3)	4.2 (±0.8)	2.8 (±0.7)	1.0 (±0.4)	20.8 (±3.3)
Yonkers, N.Y.	1,494	24.0 (±2.2)	6.2 (±1.2)	9.6 (±1.5)	6.4 (±1.2)	10.4 (±1.5)	4.1 (±1.0)	1.4 (±0.6)	4.1 (±1.0)	3.3 (±0.9)	0	30.5 (±4.6)
Utica, N.Y.	1,347	21.1 (±2.2)	11.7 (±1.7)	9.9 (±1.6)	4.6 (±1.1)	6.8 (±1.3)	3.4 (±1.0)	3.6 (±1.0)	5.2 (±1.2)	1.6 (±.7)	2.3 (±0.8)	29.7 (±4.8)
Raleigh, N.C.	1,546	13.1 (±1.7)	12.8 (±1.7)	13.8 (±1.7)	4.4 (±1.0)	8.0 (±1.4)	4.3 (±1.0)	2.5 (±0.8)	6.9 (±1.3)	5.2 (±1.1)	1.4 (±0.6)	27.6 (±4.6)
Medford/ Ashland, Ore.	1,373	27.5 (±2.4)	9.2 (±1.5)	4.1 (±1.1)	2.5 (±0.8)	0.3 (±0.3)	4.8 (±1.1)	12.5 (±1.8)	5.0 (±1.1)	3.7 (±1.0)	0.9 (±0.5)	29.6 (±4.8)
Bellingham, Wash.	1,539	23.3 (±2.1)	10.5 (±1.5)	6.6 (±1.2)	3.1 (±0.9)	0.2 (±0.2)	4.6 (±1.0)	14.6 (±1.8)	6.6 (±1.2)	2.7 (±0.8)	0.8 (±0.4)	26.9 (±4.5)
Overall	15,415	23.6 (±0.7)	10.6 (±0.5)	8.8 (±0.4)	4.9 (±0.3)	5.6 (±0.4)	4.9 (±0.3)	6.1 (±0.4)	5.0 (±0.3)	3.4 (±0.3)	1.0 (±0.2)	26.1 (±0.7)

*Persons aged 25–64 years who answered “yes” to the question “Have you smoked at least 100 cigarettes in your entire life?” and then answered “yes” to the question “Do you smoke cigarettes now?”

†Unweighted data.

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending March 7, 1992, with historical data – United States



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

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

TABLE I. Summary – cases of specified notifiable diseases, United States, cumulative, week ending March 7, 1992 (10th Week)

	Cum. 1992		Cum. 1992
AIDS	8,883	Measles: imported	22
Anthrax	-	indigenous	173
Botulism: Foodborne	6	Plague	-
Infant	9	Poliomyelitis, Paralytic*	-
Other	-	Psittacosis	12
Brucellosis	3	Rabies, human	-
Cholera	3	Syphilis, primary & secondary	6,403
Congenital rubella syndrome	1	Syphilis, congenital, age < 1 year	-
Diphtheria	1	Tetanus	4
Encephalitis, post-infectious	17	Toxic shock syndrome	55
Gonorrhea	89,873	Trichinosis	2
<i>Haemophilus influenzae</i> (invasive disease)	324	Tuberculosis	2,972
Hansen Disease	18	Tularemia	14
Leptospirosis	6	Typhoid fever	42
Lyme Disease	550	Typhus fever, tickborne (RMSF)	19

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

TABLE II. Cases of selected notifiable diseases, United States, weeks ending March 7, 1992, and March 9, 1991 (10th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
			Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992		
UNITED STATES	8,883	815	84	17	89,873	109,883	2,881	2,339	577	85	230	550
NEW ENGLAND	340	75	5	-	2,096	3,308	110	134	16	10	18	46
Maine	13	6	-	-	24	18	14	8	1	-	2	-
N.H.	12	3	-	-	-	56	10	11	3	-	3	4
Vt.	-	2	1	-	2	12	1	1	1	-	1	1
Mass.	203	23	4	-	779	1,269	53	89	8	10	8	10
R.I.	14	41	-	-	165	216	22	12	3	-	4	22
Conn.	98	-	-	-	1,126	1,737	10	13	-	-	-	9
MID. ATLANTIC	1,916	109	6	3	5,910	13,847	273	324	88	4	77	404
Upstate N.Y.	284	39	-	-	540	2,120	78	57	54	1	35	250
N.Y. City	855	14	-	-	1,867	5,247	66	27	1	-	4	-
N.J.	509	4	-	-	673	2,142	33	75	26	-	12	50
Pa.	268	52	6	3	2,830	4,338	96	165	7	3	26	104
E.N. CENTRAL	854	124	23	2	15,422	20,555	390	332	40	2	44	28
Ohio	214	42	12	-	5,475	5,456	106	56	31	-	26	18
Ind.	63	17	-	-	1,613	2,233	137	106	-	1	5	5
Ill.	395	9	1	-	5,302	6,215	32	6	1	-	1	-
Mich.	133	56	9	2	2,544	5,299	27	109	2	1	12	5
Wis.	49	-	1	-	488	1,352	88	55	6	-	-	-
W.N. CENTRAL	266	47	2	3	5,042	5,573	300	141	31	1	9	6
Minn.	35	1	-	-	580	586	71	7	1	-	-	-
Iowa	19	14	-	2	379	409	5	9	-	-	2	6
Mo.	131	12	-	-	2,920	3,494	66	110	30	1	-	-
N. Dak.	-	1	-	-	-	13	10	1	-	-	-	-
S. Dak.	2	2	-	1	45	89	97	-	-	-	-	-
Nebr.	9	4	-	-	33	383	22	6	-	-	7	-
Kans.	70	13	2	-	1,085	599	29	8	-	-	-	-
S. ATLANTIC	2,075	180	20	6	33,010	32,580	185	418	48	8	34	30
Del.	11	7	2	-	296	451	2	35	-	-	1	10
Md.	274	33	5	-	3,204	3,245	43	84	6	3	4	5
D.C.	150	2	-	-	1,602	2,189	4	17	-	-	5	-
Va.	114	44	3	2	4,016	3,034	21	39	6	4	2	11
W. Va.	14	-	1	-	181	248	2	14	-	1	-	1
N.C.	133	31	8	-	4,255	6,190	17	75	19	-	8	1
S.C.	117	5	-	-	2,202	2,548	9	10	-	-	11	-
Ga.	172	14	-	-	12,009	8,341	19	53	5	-	-	-
Fla.	1,090	44	1	4	5,245	6,334	68	91	12	-	3	2
E.S. CENTRAL	297	62	4	-	8,675	9,840	52	196	210	-	13	11
Ky.	36	33	3	-	881	1,061	18	22	-	-	7	6
Tenn.	86	10	-	-	2,416	3,870	20	144	205	-	5	5
Ala.	125	15	-	-	3,159	2,447	5	30	5	-	1	-
Miss.	50	4	1	-	2,219	2,462	9	-	-	-	-	-
W.S. CENTRAL	792	16	2	1	9,281	11,725	116	108	8	3	-	4
Ark.	43	7	1	-	1,785	1,501	17	16	-	-	-	1
La.	158	2	-	-	1,492	2,490	19	22	-	1	-	-
Okla.	43	-	-	1	978	1,214	47	50	8	1	-	3
Tex.	548	7	1	-	5,026	6,520	33	20	-	1	-	-
MOUNTAIN	220	18	5	-	1,801	2,248	378	110	21	16	15	-
Mont.	2	-	1	-	16	17	22	12	-	-	2	-
Idaho	2	-	-	-	23	25	13	15	-	-	1	-
Wyo.	1	-	-	-	6	24	-	1	3	-	-	-
Colo.	105	5	1	-	578	632	119	23	10	10	1	-
N. Mex.	16	5	3	-	175	220	35	14	-	3	1	-
Ariz.	42	7	-	-	606	841	140	15	6	-	6	-
Utah	24	-	-	-	41	70	28	1	2	3	-	-
Nev.	28	1	-	-	356	419	21	29	-	-	4	-
PACIFIC	2,123	184	17	2	8,636	10,207	1,077	576	115	41	20	21
Wash.	103	-	-	-	791	912	90	46	16	-	3	-
Oreg.	71	-	-	-	307	370	75	52	14	1	-	-
Calif.	1,904	153	15	1	7,344	8,610	882	475	85	39	16	21
Alaska	6	2	2	-	123	152	3	2	-	1	-	-
Hawaii	39	29	-	1	71	163	27	1	-	-	1	-
Guam	-	-	-	-	16	-	1	-	-	2	-	1
P.R.	108	24	-	-	15	94	3	30	-	1	-	-
V.I.	1	-	-	-	16	121	5	1	-	-	-	-
Amer. Samoa	-	-	-	-	5	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	18	2	-	-	-	-	-	-

N: Not notifiable

U: Unavailable

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

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending March 7, 1992, and March 9, 1991 (10th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total		1992	Cum. 1992	1992	Cum. 1992	Cum. 1991	1992	Cum. 1992	Cum. 1991
		1992	Cum. 1992	1992	Cum. 1992	Cum. 1991									
UNITED STATES	118	42	173	6	22	1,195	509	67	495	30	204	421	2	30	122
NEW ENGLAND	1	-	1	2	3	3	31	-	-	2	15	31	-	4	1
Maine	-	-	-	-	-	-	3	-	-	-	1	-	-	-	-
N.H.	-	-	-	-	-	-	1	-	-	-	4	11	-	-	1
Vt.	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-
Mass.	1	-	1	-	1	-	15	-	-	2	10	18	-	-	-
R.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
Conn.	-	-	-	2†	2	3	11	-	-	-	-	1	-	-	-
MID. ATLANTIC	37	9	49	-	3	626	49	2	36	2	29	51	-	2	61
Upstate N.Y.	3	-	-	-	1	14	20	1	16	2	13	25	-	1	58
N.Y. City	23	4	20	-	1	60	6	-	4	-	-	-	-	-	-
N.J.	8	5	28	-	1	259	11	1	7	-	8	3	-	1	-
Pa.	3	-	1	-	-	293	12	-	9	-	8	23	-	-	3
E.N. CENTRAL	5	-	2	-	2	38	95	-	63	1	19	89	-	5	5
Ohio	1	-	2	-	1	1	17	-	21	1	4	24	-	-	-
Ind.	1	-	-	-	-	-	20	-	5	-	9	16	-	-	1
Ill.	1	-	-	-	-	-	20	-	20	-	1	23	-	5	2
Mich.	1	-	-	-	-	15	19	-	15	-	2	17	-	-	2
Wis.	1	-	-	-	1	2	4	-	2	-	3	9	-	-	-
W.N. CENTRAL	8	3	4	-	-	3	26	5	15	3	17	40	-	1	3
Minn.	3	2	3	-	-	2	5	-	1	-	2	16	-	-	2
Iowa	2	-	-	-	-	-	3	-	3	-	1	4	-	-	-
Mo.	2	1	1	-	-	-	6	3	9	3	11	14	-	-	1
N. Dak.	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
Nebr.	-	-	-	-	-	-	3	1	1	-	1	4	-	-	-
Kans.	1	-	-	-	-	1	9	1	1	-	-	-	-	1	-
S. ATLANTIC	23	4	32	2	3	47	92	30	250	5	27	24	-	3	-
Del.	1	-	-	-	-	4	2	-	-	-	-	-	-	-	-
Md.	10	-	1	2‡	2	3	8	4	28	3	11	2	-	-	-
D.C.	2	-	-	-	-	-	-	-	2	-	-	-	-	1	-
Va.	4	1	4	-	1	1	17	3	17	-	2	3	-	-	-
W. Va.	-	-	-	-	-	-	5	-	10	-	-	6	-	-	-
N.C.	1	3	3	-	-	-	19	19	45	2	6	7	-	-	-
S.C.	-	-	-	-	-	12	9	-	38	-	6	-	-	-	-
Ga.	-	-	-	-	-	-	11	-	-	-	-	3	-	-	-
Fla.	5	-	24	-	-	27	21	4	110	-	2	3	-	2	-
E.S. CENTRAL	4	19	55	1	1	-	45	2	14	-	5	12	-	-	-
Ky.	-	19	55	-	-	-	21	-	-	-	-	-	-	-	-
Tenn.	1	-	-	1‡	1	-	11	1	7	-	-	7	-	-	-
Ala.	3	-	-	-	-	-	13	1	5	-	5	5	-	-	-
Miss.	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
W.S. CENTRAL	2	-	-	-	-	5	16	25	34	-	8	12	-	-	1
Ark.	-	-	-	-	-	5	7	-	4	-	3	-	-	-	1
La.	-	-	-	-	-	-	2	1	5	-	-	7	-	-	-
Okla.	2	-	-	-	-	-	6	-	1	-	5	5	-	-	-
Tex.	-	-	-	-	-	-	1	24	24	-	-	-	-	-	-
MOUNTAIN	7	2	2	-	-	102	22	2	21	8	25	65	-	-	1
Mont.	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	1	5	-	1	-	4	14	-	-	-
Wyo.	-	1	1	-	-	-	1	-	-	-	-	3	-	-	-
Colo.	4	-	-	-	-	1	4	-	3	6	10	18	-	-	-
N. Mex.	2	-	-	-	-	67	1	N	N	1	8	12	-	-	-
Ariz.	1	-	-	-	-	26	3	-	11	-	-	8	-	-	-
Utah	-	-	-	-	-	-	5	2	3	1	3	10	-	-	-
Nev.	-	1	1	-	-	7	5	-	3	-	-	-	-	-	1
PACIFIC	31	5	28	1	10	371	133	1	62	9	59	97	2	15	50
Wash.	2	-	-	-	7	-	23	-	4	-	7	13	-	-	-
Oreg.	1	-	1	-	1	-	25	N	N	-	5	16	-	1	-
Calif.	25	5	19	1†	2	370	78	1	56	9	43	49	2	12	49
Alaska	-	-	8	-	1	-	3	-	-	-	-	5	-	-	-
Hawaii	3	-	-	-	-	-	4	-	2	-	4	14	-	2	1
Guam	-	U	-	U	3	-	-	U	1	U	-	-	U	-	-
P.R.	-	-	-	-	-	1	2	-	-	-	2	6	-	-	-
V.I.	-	U	-	U	-	1	-	U	7	U	-	-	U	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	23	-	U	-	-
C.N.M.I.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International ‡Out-of-state

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending March 7, 1992, and March 9, 1991 (10th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	6,403	8,025	55	2,972	3,292	14	42	19	1,099
NEW ENGLAND	133	218	4	39	90	-	8	1	115
Maine	-	-	-	16	16	-	-	-	-
N.H.	-	1	3	-	-	-	-	-	-
Vt.	-	1	-	-	-	-	-	-	-
Mass.	60	113	1	23	29	-	6	1	-
R.I.	10	11	-	-	16	-	-	-	-
Conn.	63	92	-	-	29	-	2	-	115
MID. ATLANTIC	775	1,449	7	574	815	-	11	2	349
Upstate N.Y.	48	103	3	-	52	-	2	-	241
N.Y. City	391	703	-	400	553	-	-	2	-
N.J.	54	235	-	43	140	-	8	-	70
Pa.	282	408	4	131	70	-	1	-	38
E.N. CENTRAL	743	819	17	303	396	-	2	4	20
Ohio	105	101	6	63	67	-	1	3	1
Ind.	42	20	3	27	15	-	-	1	-
Ill.	374	384	1	165	229	-	-	-	3
Mich.	118	216	7	36	61	-	1	-	2
Wis.	104	98	-	12	24	-	-	-	14
W.N. CENTRAL	225	151	6	60	83	2	-	1	189
Minn.	17	15	2	15	10	-	-	-	47
Iowa	5	15	3	6	17	-	-	-	30
Mo.	172	84	-	25	28	2	-	1	2
N. Dak.	-	-	1	-	3	-	-	-	12
S. Dak.	-	1	-	7	6	-	-	-	11
Nebr.	1	1	-	1	3	-	-	-	1
Kans.	30	35	-	6	16	-	-	-	86
S. ATLANTIC	1,938	2,519	5	573	478	3	5	7	257
Del.	40	21	-	5	7	-	-	-	49
Md.	148	235	1	54	34	2	1	-	97
D.C.	106	138	-	26	35	-	1	-	5
Va.	124	201	-	77	49	1	1	-	35
W. Va.	5	4	-	15	18	-	1	-	9
N.C.	468	368	2	74	65	-	-	5	1
S.C.	249	313	1	55	53	-	-	-	22
Ga.	421	615	-	114	100	-	-	-	34
Fla.	377	624	1	153	117	-	1	2	5
E.S. CENTRAL	982	810	-	173	228	4	-	-	20
Ky.	25	14	-	62	55	2	-	-	10
Tenn.	181	347	-	3	39	2	-	-	-
Ala.	507	233	-	80	81	-	-	-	10
Miss.	269	216	-	28	53	-	-	-	-
W.S. CENTRAL	1,162	1,310	-	204	296	5	-	3	48
Ark.	195	69	-	19	32	2	-	2	5
La.	473	436	-	8	20	-	-	-	-
Okla.	55	30	-	25	15	3	-	1	43
Tex.	439	775	-	152	229	-	-	-	-
MOUNTAIN	105	115	3	88	77	-	-	1	15
Mont.	2	1	-	-	-	-	-	-	1
Idaho	1	3	-	6	1	-	-	-	-
Wyo.	-	1	-	-	1	-	-	-	-
Colo.	16	19	1	5	6	-	-	-	8
N. Mex.	11	6	-	14	-	-	-	-	-
Ariz.	40	83	1	37	47	-	-	-	6
Utah	1	2	1	6	13	-	-	1	-
Nev.	34	-	-	20	9	-	-	-	-
PACIFIC	340	634	13	958	829	-	16	-	86
Wash.	9	36	-	41	36	-	-	-	-
Oreg.	13	21	-	13	13	-	-	-	-
Calif.	305	575	13	877	726	-	15	-	-
Alaska	-	2	-	9	15	-	-	-	80
Hawaii	13	-	-	18	39	-	1	-	6
Guam	1	-	-	10	-	-	-	-	-
P.R.	29	65	-	24	15	-	-	-	-
V.I.	11	21	-	1	1	-	-	-	9
Amer. Samoa	-	-	-	-	-	-	-	-	-
C.N.M.I.	1	-	-	4	4	-	-	-	-

U: Unavailable

**TABLE III. Deaths in 121 U.S. cities,* week ending
March 7, 1992 (10th Week)**

Reporting Area	All Causes, By Age (Years)						P&I†	Reporting Area	All Causes, By Age (Years)						P&I†
	All Ages	≥65	45-64	25-44	1-24	<1			Total	All Ages	≥65	45-64	25-44	1-24	
NEW ENGLAND	605	433	106	33	13	20	49	S. ATLANTIC	1,254	764	260	139	46	44	80
Boston, Mass.	169	108	34	17	4	6	15	Atlanta, Ga.	187	100	37	31	7	12	5
Bridgeport, Conn.	34	24	7	2	-	1	-	Baltimore, Md.	181	98	39	29	10	5	19
Cambridge, Mass.	14	12	2	-	-	-	1	Charlotte, N.C.	70	40	14	9	4	3	3
Fall River, Mass.	26	23	3	-	-	-	1	Jacksonville, Fla.	132	104	20	5	3	-	11
Hartford, Conn.	61	40	12	6	-	3	1	Miami, Fla.	95	55	23	13	4	-	-
Lowell, Mass.	22	20	1	-	-	1	2	Norfolk, Va.	47	25	8	5	5	4	5
Lynn, Mass.	10	7	2	-	-	1	1	Richmond, Va.	81	50	18	9	3	1	4
New Bedford, Mass.	26	21	5	-	-	-	1	Savannah, Ga.	53	35	11	2	1	4	8
New Haven, Conn.	40	27	5	4	3	1	6	St. Petersburg, Fla.	70	50	12	4	1	3	-
Providence, R.I.	40	32	5	1	2	-	6	Tampa, Fla.	153	99	36	9	4	4	20
Somerville, Mass.	5	4	1	-	-	-	3	Washington, D.C.	164	91	39	22	4	8	5
Springfield, Mass.	52	38	8	1	2	3	3	Wilmington, Del.	21	17	3	1	-	-	-
Waterbury, Conn.	38	28	9	1	-	-	6	E.S. CENTRAL	861	553	166	73	32	37	68
Worcester, Mass.	68	49	12	1	2	4	6	Birmingham, Ala.	131	85	22	12	8	4	4
MID. ATLANTIC	3,110	2,038	611	338	56	67	161	Chattanooga, Tenn.	67	47	10	7	2	1	7
Albany, N.Y.	58	45	10	1	1	1	3	Knoxville, Tenn.	114	79	23	10	1	1	16
Allentown, Pa.	22	17	1	4	-	-	-	Louisville, Ky.	90	62	14	8	4	2	4
Buffalo, N.Y.	U	U	U	U	U	U	U	Memphis, Tenn.	182	105	37	17	7	16	16
Camden, N.J.	37	13	16	5	2	1	1	Mobile, Ala.	80	49	16	5	5	5	11
Elizabeth, N.J.	42	31	6	4	-	1	3	Montgomery, Ala.	47	32	9	4	-	2	2
Erie, Pa.‡	23	18	3	-	1	1	2	Nashville, Tenn.	150	94	35	10	5	6	8
Jersey City, N.J.	57	34	5	11	-	7	-	W.S. CENTRAL	1,389	857	297	140	53	42	124
New York City, N.Y.	1,861	1,163	399	227	34	38	70	Austin, Tex.	45	32	8	5	-	-	7
Newark, N.J.	60	24	13	17	1	5	2	Baton Rouge, La.	26	17	6	2	-	1	3
Paterson, N.J.	23	11	7	4	1	-	1	Corpus Christi, Tex.	51	30	15	2	2	2	2
Philadelphia, Pa.	489	345	88	36	11	9	44	Dallas, Tex.	219	120	47	33	12	7	2
Pittsburgh, Pa.‡	52	38	8	4	2	-	6	El Paso, Tex.	64	44	13	3	1	3	5
Reading, Pa.	40	35	4	1	-	-	7	Ft. Worth, Tex.	109	74	15	12	5	3	9
Rochester, N.Y.	125	89	28	7	1	-	6	Houston, Tex.	322	174	94	33	11	10	62
Schenectady, N.Y.	20	18	1	1	-	-	1	Little Rock, Ark.	86	48	21	10	4	3	10
Scranton, Pa.‡	34	28	5	1	-	-	6	New Orleans, La.	100	61	16	15	4	4	-
Syracuse, N.Y.	84	67	8	8	-	1	5	San Antonio, Tex.	226	145	44	19	11	7	10
Trenton, N.J.	36	25	4	4	-	3	1	Shreveport, La.	44	35	6	-	2	1	8
Utica, N.Y.	26	23	1	2	-	-	1	Tulsa, Okla.	97	77	12	6	1	1	6
Yonkers, N.Y.	21	14	4	1	2	-	3	MOUNTAIN	813	542	162	62	26	20	54
E.N. CENTRAL	2,382	1,519	429	234	122	78	129	Albuquerque, N.M.	97	55	29	9	2	2	2
Akron, Ohio	66	48	14	4	-	-	2	Colo. Springs, Colo.	34	25	5	2	-	-	6
Canton, Ohio	50	40	6	3	-	-	1	Denver, Colo.	119	77	23	13	2	4	9
Chicago, Ill.	523	225	96	113	75	14	18	Las Vegas, Nev.	149	85	42	11	5	5	3
Cincinnati, Ohio	155	105	26	13	6	5	15	Ogden, Utah	32	24	7	-	1	-	6
Cleveland, Ohio	127	82	26	10	4	5	2	Phoenix, Ariz.	150	102	26	14	3	5	10
Columbus, Ohio	213	143	43	16	8	3	11	Pueblo, Colo.	19	13	5	1	-	-	-
Dayton, Ohio	122	91	22	8	1	-	12	Salt Lake City, Utah	90	65	8	6	8	3	9
Detroit, Mich.	211	111	54	20	10	16	7	Tucson, Ariz.	123	96	17	6	3	1	9
Evansville, Ind.	55	45	7	2	1	-	8	PACIFIC	1,452	995	252	136	36	32	123
Fort Wayne, Ind.	73	51	13	5	1	3	6	Berkeley, Calif.	25	17	1	6	-	1	1
Gary, Ind.	21	9	6	4	2	-	-	Fresno, Calif.	137	95	25	10	1	6	11
Grand Rapids, Mich.	40	30	6	2	1	1	6	Glendale, Calif.	U	U	U	U	U	U	U
Indianapolis, Ind.	227	166	36	10	2	13	13	Honolulu, Hawaii	68	46	17	3	1	1	10
Madison, Wis.	44	28	10	3	1	2	1	Long Beach, Calif.	69	52	8	5	3	1	7
Milwaukee, Wis.	113	85	19	4	-	5	8	Los Angeles, Calif.	U	U	U	U	U	U	U
Peoria, Ill.	43	36	5	1	-	1	4	Pasadena, Calif.	41	32	3	3	2	1	8
Rockford, Ill.	47	39	3	3	1	1	4	Portland, Oreg.	139	107	19	11	-	2	7
South Bend, Ind.	53	36	8	4	3	2	2	Sacramento, Calif.	159	109	23	20	4	3	17
Toledo, Ohio	119	86	22	6	3	2	5	San Diego, Calif.	189	134	29	17	6	3	16
Youngstown, Ohio	80	63	7	3	3	4	2	San Francisco, Calif.	163	84	42	28	5	3	9
W.N. CENTRAL	815	591	135	60	12	17	63	San Jose, Calif.	166	112	36	11	3	4	16
Des Moines, Iowa	84	61	13	5	2	3	11	Santa Cruz, Calif.	23	19	2	2	-	-	6
Duluth, Minn.	31	22	7	2	-	-	2	Seattle, Wash.	153	102	23	15	9	4	3
Kansas City, Kans.	31	24	5	2	-	-	-	Spokane, Wash.	41	28	11	1	1	-	3
Kansas City, Mo.	139	95	25	16	2	1	6	Tacoma, Wash.	79	58	13	4	1	3	9
Lincoln, Nebr.	32	25	3	2	-	2	3	TOTAL	12,681†	8,292	2,418	1,215	396	357	851
Minneapolis, Minn.	212	151	39	15	3	4	23								
Omaha, Nebr.	75	56	13	2	2	2	6								
St. Louis, Mo.	110	81	17	8	2	2	5								
St. Paul, Minn.	57	42	7	5	1	2	5								
Wichita, Kans.	44	34	6	3	-	1	2								

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

†Pneumonia and influenza.

‡Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week.

Complete counts will be available in 4 to 6 weeks.

§Total includes unknown ages.

U: Unavailable

TABLE 3. Percentage of cigarette brand use self-reported by 9th-grade students who smoked and usually bought their own cigarettes*, by cigarette brand – 10 U.S. communities, 1990†

Community	No.	Percentage (95% confidence interval)								
		Marlboro	Winston	Salem	Kool	Newport	Benson & Hedges	Camel	Virginia Slims	All other brands
Vallejo, Calif.	18	50.0 (± 23.1)	0	0	5.6 (± 10.7)	33.3 (± 21.8)	0	5.6 (± 10.7)	0	5.6 (± 10.7)
Cedar Rapids, Iowa	27	70.4 (± 17.2)	3.7 (± 7.1)	0	0	0	0	25.9 (± 16.5)	0	0
Fitchburg/ Leominster, Mass.	37	64.9 (± 15.4)	2.7 (± 5.2)	0	0	21.6 (± 13.3)	0	10.8 (± 10.0)	0	0
Paterson, N.J.	30	36.7 (± 17.3)	3.3 (± 6.4)	0	0	60.0 (± 17.5)	0	0	0	0
Sante Fe, N.M.	71	25.4 (± 10.1)	0	1.4 (± 2.7)	0	0	0	69.0 (± 10.8)	0	4.2 (± 4.7)
Yonkers, N.Y.	47	40.4 (± 14.0)	2.1 (± 4.1)	0	0	44.7 (± 14.2)	0	0	0	12.7 (± 9.5)
Utica, N.Y.	56	37.5 (± 12.7)	3.6 (± 4.9)	1.8 (± 3.5)	1.8 (± 3.5)	53.6 (± 13.1)	0	1.8 (± 3.5)	0	0
Raleigh, N.C.	49	44.9 (± 13.9)	10.2 (± 8.5)	0	0	4.1 (± 5.6)	2.0 (± 3.9)	34.7 (± 13.3)	4.1 (± 5.6)	0
Medford/ Ashland, Ore.	33	42.4 (± 16.9)	0	0	0	0	0	57.6 (± 16.9)	0	0
Bellingham, Wash.	56	41.1 (± 12.9)	5.4 (± 5.9)	0	0	0	0	50.0 (± 13.1)	0	3.6 (± 4.9)
Overall	424	42.5 (± 4.7)	3.3 (± 1.7)	0.5 (± 0.7)	0.5 (± 0.7)	20.0 (± 3.8)	0.2 (± 0.4)	29.7 (± 4.3)	0.5 (± 0.7)	2.8 (± 1.5)

*Students aged 13–16 years who reported they smoked one or more cigarettes during the 30 days preceding the survey.

†Unweighted data.

Cigarette Brand Preferences — Continued

In both surveys, Marlboro was the predominant brand used by adolescents. Teenaged smokers may be attracted to the brand's image of strength and independence promoted in the long-running "Marlboro man" advertising campaign.

The regional preferences for Camel and Newport brands among teenaged smokers (regardless of race) were consistent in both surveys. A recent report from California showed a high rate of Camel use among adolescent current smokers in that state (4). These findings may reflect regional differences in exposure to cigarette brand advertising and promotion.

The preference of black adolescent and adult smokers for Newport is also consistent across surveys and may reflect the increased occurrence of mentholated cigarette advertisements targeted to blacks (11). Further research is needed to determine whether preference preceded or followed such targeted advertising.

The COMMIT data for adolescents indicate a slightly different pattern of brand preference than do the TAPS data. The higher preference for Camel among the COMMIT respondents compared with the TAPS respondents may reflect the difference in age composition (adolescents aged 13–16 years compared with 12–18 years) and sample frames (the 10 U.S. communities compared with the overall U.S. population). The difference may, however, reflect a growing effect of the "Old Joe" advertising campaign. Recent evidence suggests that the advertising campaign for Camel that began in 1988 and features a dromedary cartoon character appeals more to children than to adults (5). In 1986, Camel ranked seventh among the youngest age group (17–24 years) of smokers responding to the AUTS (3); in 1989, 1 year after the advertising campaign began, the brand ranked third among teenagers surveyed in TAPS. Other studies, conducted after TAPS, report even higher rates of Camel preference among adolescents (4,5), consistent with the COMMIT survey results. Cigarette brands that appeal to children and teenagers also use promotions such as displays at sports and youth-oriented events and distribution of promotional items (e.g., T-shirts, posters, and caps) that may appeal more to children and teenagers than to adults (12). One of the national health objectives for the year 2000 is to eliminate or severely restrict all forms of tobacco product advertising and promotion to which persons aged ≤ 18 years are likely to be exposed (objective 3.15) (13).

The forces that influence smoking initiation are complex and may include advertising, peer influence, and habits of family members (1,4,5). The exposure of youth to tobacco advertising can be reduced by 1) prohibiting the use of imagery in advertisements by allowing only words and a picture of the product itself (i.e., "tombstone" advertising); 2) prohibiting tobacco sponsorship of sporting and other events that have a substantial youth audience; 3) prohibiting tobacco advertising in publications that have a substantial teenaged readership; 4) prohibiting tobacco billboards located near schools and other areas where youths congregate (e.g., parks and shopping malls); 5) prohibiting paid tobacco placements in movies and videos; and 6) prohibiting tobacco advertising on promotional items (12,13). In addition, school tobacco-prevention programs can play a key role in reducing smoking initiation and should include information about the media's influence on smoking (13).

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*Epidemiologic Notes and Reports***Tornado Disaster – Kansas, 1991**

On April 26, 1991, 54 tornadoes swept across six midwestern states, causing 24 deaths and more than 200 injuries, requiring disaster-relief services for more than 8000 persons, and causing property damage of more than \$250 million. In Kansas, one tornado, with wind speeds exceeding 260 mph, caused 17 deaths. The 46-mile path of the tornado led through Andover, Kansas (Butler County) (population: 4300), where the town's only outdoor warning siren failed. A mobile-home park (MHP) in Andover with 244 homes and one community storm shelter was struck by the tornado, resulting in the destruction of 205 (84%) of these homes. This report summarizes a poststorm survey, conducted by local health departments, the Kansas Department of Health and Environment, the American Red Cross, and CDC, to identify risk factors for injury and death among persons in the MHP.

Telephone interviews were conducted with one adult from each MHP household that was destroyed. Data were obtained from relatives or neighbors for households in which no one survived. Information collected included length of warning, evacuation and shelter behavior, types of injury, and causes of death. Data were available for 333 of 336 persons who were at home during the tornado. The mean age of the study population was 29.7 years; 50% were female, and 99% were white.

In the 45 minutes before the tornado reached the MHP, 146 persons (44%) fled the MHP. Among the 187 (56%) persons remaining, 149 (80%) were in the community shelter and 38 (20%) were not when the tornado struck.

No deaths or serious injuries (i.e., injuries requiring hospitalization) occurred among persons who fled the MHP or among persons who reached the community

Tornado Disaster – Continued

storm shelter. Among the 38 unsheltered persons, 11 (29%) were killed, 17 (45%) were hospitalized, and nine (24%) sustained minor injuries.

Remaining unsheltered in the MHP was the prominent risk factor for injury or death and was associated with both delayed warning and advanced age. Persons receiving <5 minutes of warning time were more likely to remain unsheltered than were those with ≥ 5 minutes of warning (relative risk [RR]=10.3; 95% confidence interval [CI]=4.6–22.9). Persons aged ≥ 60 years were more likely to remain unsheltered than were those aged <60 years (RR=3.5; 95% CI=1.9–6.4).

Although Andover's only outdoor warning siren failed, 72% of the persons in the MHP study population received warning cues transmitted by the media from the National Weather Service. The MHP study population was aware of a tornado threat to their county for an average of 18 minutes. Because the tornado struck the MHP during daylight, many residents were able to see the funnel for as long as 14 minutes before impact.

In Butler County, 12% of the population resides in mobile homes, a rate twice the national average of 6% (Bureau of the Census, unpublished data, 1990). A survey of MHPs (defined as a centrally managed grouping of five or more mobile homes) in Butler County, conducted in conjunction with the poststorm survey, determined that, of 25 MHPs, 40% reported not having a community storm shelter. No legal requirements existed in Butler County at the time of the disaster for MHPs to provide community storm shelters for their residents.

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Editorial Note: In the United States, an average of 700 tornadoes are reported each year (1). Kansas is among five states with the highest incidence of tornadoes per 10,000 square miles (2). Since 1961, approximately 2500 persons have died, and 50,000 persons have been injured as a result of tornadoes in the United States (National Severe Storm Forecast Center, unpublished data, 1990). Persons at highest risk for injury during a tornado are the elderly, residents of mobile homes, and persons attempting to flee by automobile (3–5).

Adequate warning and proper sheltering are critical factors in preventing tornado injuries and deaths. Tornado-related deaths have been declining since 1950, largely because of improvements in warning systems (2). However, more than 12.7 million persons in the United States live in mobile homes, and more than 200,000 units are constructed each year (6). As the number of residents of mobile homes increases, mobile-home-related injuries from tornadoes are expected to rise unless the availability and use of storm shelters increase at a similar rate.

The investigation in Andover, Kansas, demonstrates that the use of a community storm shelter by a MHP population can prevent injuries and deaths during a tornado. Recommendations for tornado safety in MHPs include 1) providing community shelters that are accessible and of sufficient size and number to accommodate all residents; 2) making special provisions for the elderly who may have disabilities that impair their ability to access shelter and/or comprehend storm warnings; and 3) ensuring that tornado warning systems do not rely on a single mechanism to assure prompt and specific notification of potential danger (7).

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*Notice to Readers***Publication of 1992 Surgeon General's Report on Smoking and Health**

The 1992 report of the Surgeon General, *Smoking and Health in the Americas*, was released on March 12, 1992. The report, developed in collaboration with the Pan American Health Organization, examines epidemiologic, economic, historical, and legal aspects of tobacco use in the Americas.

The major conclusions of the report are:

1. The prevalence of smoking in Latin America and the Caribbean varies but is 50% or more among young persons in some urban areas; substantial numbers of women have begun smoking in recent years.
2. By 1985, an estimated minimum of 526,000 smoking-attributable deaths occurred yearly in the Americas; 100,000 of these deaths occurred in Latin America and the Caribbean.
3. In Latin America and the Caribbean, the current structure of the tobacco industry restricts smoking-control efforts.
4. The economic arguments for support of tobacco production are offset by the long-term economic effects of smoking-related disease.
5. Commitment to surveillance of tobacco-related factors (e.g., prevalence of smoking; morbidity and mortality; knowledge, attitudes, and practices; tobacco consumption and production; and taxation and legislation) is crucial to development of a systematic program for prevention and control of tobacco use.

An executive summary of the Surgeon General's report is available from the Public Information Branch, Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC; telephone (404) 488-5705. Copies of the full report are available from the Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 (S/N 017-001-00478-2 for the English edition and S/N 017-001-00479-7 for the Spanish translation) for \$12.00 each.

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

The data in the weekly *MMWR* 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. Inquiries about the *MMWR* Series, including material to be considered for publication, should be directed to: Editor, *MMWR* Series, Mailstop C-08, Centers for Disease Control, Atlanta, GA 30333; telephone (404) 332-4555.

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☆U.S. Government Printing Office: 1992-631-123/42065 Region IV

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