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Farm-Tractor–Related Fatalities — Kentucky, 1994

Fatalities associated with farm tractors are the most common cause of work-related death in the U.S. agricultural industry (*1*). To characterize farm-tractor–related fatalities in Kentucky, the Kentucky Fatality Assessment and Control Evaluation (KY FACE) Project studied all fatal farm injuries occurring among persons in that state during 1994, the initial year of operation for FACE in Kentucky. This report summarizes the results of that study.

KY FACE is part of a 14-state surveillance and investigation program coordinated by CDC's National Institute for Occupational Safety and Health (NIOSH) and is designed both to evaluate the circumstances of fatal occupational injuries and to develop prevention strategies. KY FACE employs multiple reporting sources* to identify occupational fatalities throughout the state and conducts follow-up investigations. A farm-tractor–related fatality was defined as a death caused by operating or working on or near a farm tractor. A farm tractor was defined as a two- or four-wheel–drive vehicle or track vehicle with a >20-horsepower engine designed to furnish the power to pull, carry, propel, or drive implements designed for agricultural activities (*2*).

During 1994, the KY FACE surveillance system identified 28 tractor-related fatalities in Kentucky; 14 (50%) of these incidents occurred during June–August. Tractor-related fatalities accounted for 16% of the 176 occupational fatalities recorded in Kentucky during 1994.

The most common cause of tractor-related fatalities was rollover (23 [82%]), followed by runover (five [18%]). The most common activity at the time of injury was mowing with a rotary mower trailing a tractor (i.e., bush-hogging) on private farms (32%). Other activities included transporting equipment or farm products (21%); checking livestock or property (14%); pulling logs (11%); and planting, plowing, or cutting hay (11%). Of the 28 deaths, 23 (82%) occurred on farms, and five (18%) occurred on public roadways. Four of those occurring on roadways were attributed to loss of control; one tractor was struck by a truck in a rear-end collision.

*Notification sources include newspapers, county coroners, emergency medical personnel, Kentucky Labor Cabinet, U.S. Bureau of Labor Statistics Census of Fatal Occupational Injuries, Kentucky Department of Motor Vehicles' Fatal Accident Reporting System, Southeast Center for Agricultural Health and Injury Prevention, Occupational Health Nurses in Agricultural Communities, and Kentucky Vital Statistics.

Farm-Tractor–Related Fatalities — Continued

All decedents were males who ranged in age from 15 to 86 years (median: 46 years); one was aged <18 years, and 15 (54%), ≥60 years. One death occurred in a 15-year-old student who was killed in a tractor rollover incident while working a summer job plowing tobacco. Farming was listed as the usual occupation on 11 (39%) of the 28 death certificates. Ten (36%) of those fatally injured also held jobs off the farm, and 12 (43%) were retired from nonfarming occupations. Most (53%) fatalities occurred from 12:01 to 6 p.m.; 32% occurred from 7 a.m. and noon, and 14% after 6 p.m.

An industrial hygienist conducted on-site investigations of 16 of the incidents. Tractors involved in these 16 incidents ranged in age from 2 to 41 years (median: 23 years). In three of the cases, the operators were driving directly up or down steep slopes (of 8, 14, and 30 degrees); in two of these incidents, the operator lost control while descending, and in the third, the operator rolled over backward while ascending a hill. In eight of the 16 incidents, one or both wheels on one side of the tractor slid down an embankment, causing a rollover. In one case, the operator backed the tractor over an embankment, causing the tractor to roll over backwards. In eight of the incidents, tires were air-filled rather than fluid-filled; fluid-filled tires lower the center of gravity, improve traction, and can prevent skidding, loss of control, and rollover. Only two of the tractors were equipped with front-end counterweights, which improve traction and stability. In eight cases, poor equipment condition (e.g., minimally operable brakes), was a contributing factor.

Only one of the tractors involved in a rollover fatality was fitted with a rollover-protective structure (ROPS); in this incident, a tractor manufactured in 1962 had been retrofitted with a ROPS but not equipped with seatbelts.

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Editorial Note: During 1994, the fatality rate for civilian workers in the agriculture/forestry/fishing industry in Kentucky was 85 per 100,000 workers, a rate more than three times greater than that for the industry in the United States (26 per 100,000 workers in 1993) (*3*). Operating tractors is a particularly hazardous activity for older workers and adolescents. The proportion of Kentucky tractor-related fatalities among workers aged >60 years (54%) was greater than that reported in the NIOSH National Traumatic Occupational Fatalities surveillance system (44%) (*4*). Operating tractors with a >20-horsepower engine is extremely hazardous to youth, and federal Child Labor Laws prohibit this activity for employees aged <16 years; however, children working on their family farm are exempt from Child Labor Laws.

In 1994, tractor rollovers and runovers accounted for 62% of agricultural fatalities in Kentucky. The findings of the KY FACE investigations indicated that in most of the incidents rollover fatalities could have been prevented if the tractors had been equipped with ROPS (Figure 1) and the operators secured with seatbelts, which ensure that the operator remains within the ROPS-protected zone during a rollover.

ROPS first became available as optional equipment on farm tractors in 1971 (tractors manufactured before 1971 were not designed to accommodate ROPS devices). However, ROPS were not required for new tractors until 1976, when a standard promulgated by the Occupational Safety and Health Administration (OSHA) required

Farm-Tractor–Related Fatalities — Continued

FIGURE 1. Rollover protective structure on a farm tractor

employers to provide ROPS and seatbelts for all employee-operated tractors[†] manufactured after October 25, 1976 (*2*). Although virtually all tractors sold after 1985 have been equipped with ROPS, farms with <11 employees are not subject to OSHA inspection or enforcement, and farms managed by family members with no other employees are not required to comply with OSHA standards; in Kentucky, 94% of the farms are family-owned businesses with <11 employees (*5*). The median age of tractors investigated in this report was 23 years. One fatal tractor rollover in this study involved a 1979 tractor manufactured without ROPS. Because it was purchased for use on a family farm without employees, it was not subject to the ROPS standard. The cost to retrofit tractors manufactured before 1975 ranges from $400 to $1800, and economic constraints associated with farms in Kentucky limit the feasibility of appropriately modifying all tractors.

The findings of KY FACE suggest that installation of ROPS and seatbelts on farm tractors could have prevented the 23 tractor rollover deaths. These findings and previous reports (*1*) underscore the need for economically feasible ROPS retrofit programs. In Kentucky, the FACE program disseminates reports containing investigative findings and recommends intervention strategies to county extension agents, the Kentucky Labor Cabinet Division of Education and Training, the Kentucky Farm Bureau, and the National Safety Council. News media releases assist in disseminating this information further to the agriculture community and the general public.

[†]The standard provides exemptions for tractors used in special circumstances where vertical clearances may be limited (e.g., in orchards or inside buildings).

Farm-Tractor–Related Fatalities— Continued

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Mass Treatment of Humans Exposed to Rabies — New Hampshire, 1994

On October 22, 1994, the laboratory of the New Hampshire Division of Public Health Services (NHDPHS) diagnosed rabies in a kitten that had been purchased from a pet store in Concord, New Hampshire. On October 19, the animal had developed seizures, then died of unknown causes during the night of October 20–21. Approximately 665 persons received rabies postexposure prophylaxis because of exposure to this kitten and other cats from the same pet store. This report summarizes the epidemiologic investigation of the source of the infection and follow-up care of humans and animals potentially exposed to rabies.

Because the pet store did not keep records for kittens acquired for sale, the kitten's origin and date of arrival were unknown. However, on September 26, a group of kittens reported to have included the rabid kitten was examined by a veterinarian and given health certificates, in accordance with state law, before being offered for sale by the pet store. The kitten was sold on October 5 and kept by its owners until its death. On October 22, rabies was diagnosed in the kitten by fluorescent antibody testing at the NHDPHS laboratory. At CDC, genetic typing of the rabies virus isolated from the kitten indicated that it was a variant associated with raccoons. The investigation could not determine whether the kitten was infected with rabies before, during, or after its stay in the pet store; two other kittens sold by the pet store during the same period as the infected kitten died of unknown causes at their new homes but were unavailable for testing for rabies.

On October 12, a raccoon captured in Henniker (a suburb of Concord), where the kitten was suspected to have originated, tested positive for rabies. Subsequent investigation indicated that the raccoon may have had direct contact with three feral kittens acquired by the pet store on September 20. All three feral kittens developed signs of respiratory illness and died during approximately October 4–October 6—a period overlapping that during which the rabid kitten was in the store. None of these three kittens were available for testing for rabies and all were younger than the minimum age (3 months) recommended for rabies vaccination.

Rabies — Continued

From September 19 through October 23 (the last date any potentially exposed kittens were in the pet store), a minimum of 34 kittens had been offered for sale by the store. In addition to the infected kitten, 33 other kittens were included in the investigation: 27 were located and tested negative for rabies, and five died of unknown causes but were unavailable for testing (including the three feral kittens); one kitten was quarantined at the owner's request, and its status is unknown.

Because of limitations in the store's records regarding the origins and sale destinations of the kittens, local news media assisted in alerting community residents about the potential exposures to rabies at the store. The kittens had been allowed to roam freely throughout the store, which was frequented by children from child-care centers and a nearby school. As a result, NHDPHS and two major health-care facilities screened approximately 1000 persons who responded to media alerts and referred to private sector health-care providers for definitive evaluation of those persons who might need rabies postexposure treatment. NHDPHS gave medical providers an algorithm to determine the necessity for recommending rabies postexposure treatment. Rabies postexposure treatment, consisting of one dose of rabies immune globulin and five doses of rabies vaccine, was initiated for approximately 665 persons (*1*).

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Editorial Note: This incident of rabies associated with a pet store resulted in the largest number of persons ever reported to have received rabies postexposure treatment as a result of potential contact with a point source in the United States.* At least three factors accounted for the large number of persons requiring treatment. First, the absence of pet store records regarding the source and destination of animals precluded an accurate estimation of the exposure period. Second, the store's popularity and its practice of allowing kittens to roam freely throughout the establishment increased contacts between humans and kittens. Finally, because many children were potentially exposed, accurate exposure histories could not be elicited; as a consequence, many rabies postexposure treatments were administered on the basis of incomplete information or unknown likelihood of exposure.

The costs associated with the public health response to exposures to the rabid kitten in New Hampshire are unprecedented in the United States. The overall estimated cost was $1.5 million, including expenditures for rabies immune globulin and vaccine ($1.1 million), laboratory testing of animals ($4200), and investigation by NHDPHS and CDC personnel ($15,000). This cost is nearly 15-fold higher than that ($105,790) associated with rabies postexposure treatment of 70 persons after a single case of rabies occurred in a domestic dog in California in 1981 (*2*).

CDC recommends implementation of four measures to minimize the number of exposed persons and the costs associated with exposures to persons. First, to facilitate efforts to investigate such exposures, pet stores should keep adequate records (e.g., health certificates, animal source identification, and complete sales receipts).

* On June 22, a second episode of rabies in a kitten associated with a pet store was reported by the Delaware Department of Health and Social Services. Through June 30, approximately 18 persons had received postexposure prophylaxis for potential rabies exposure. An investigation of this incident is ongoing.

Rabies — Continued

Second, to prevent the exposure to, or the transmission of, rabies and other zoonotic diseases—as well as injuries such as bites and scratches—animals should be kept and displayed separate from customers or at least confined to a discrete area within the store. Third, because feral animals are less likely to have been vaccinated and more likely to have been in contact with wildlife disease reservoirs, acquisition and sale of these animals should be monitored closely. Finally, prompt and standardized assessment of exposure by public health officials should help minimize the number of persons who unnecessarily receive rabies postexposure treatment. The rabies virus is transmitted only when introduced into open wounds or mucous membranes through a bite or direct saliva contact. Other forms of contact (e.g., petting a rabid animal or contact with blood, urine, or feces of a rabid animal) do not constitute an exposure and are not indications for prophylaxis (*1*). Skillful interviewing is essential to assess individual exposures, especially when the potential exposure occurred some time ago or in another family member (e.g., a young child).

The rabid kitten involved in this incident had been infected with a rabies virus variant usually associated with raccoons. Since 1977, a raccoon rabies epizootic has spread from a focus in West Virginia to involve all eastern region states (*3*). During 1993, nearly 6000 raccoons were confirmed with rabies in this region. Although no human rabies cases have been associated with this epizootic, the economic burden related to postexposure prophylaxis has been high. This epizootic and case described in this report underscore the need for intensification of rabies-control measures, including vaccination of all household pets.

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Measles — United States, 1994

As of June 13, 1995, local and state health departments in 39 states had reported 958 measles cases to CDC for 1994. This represents the second lowest number of cases ever reported, after the historic low of 312 cases in 1993 (*1*). In addition, 303 cases were reported for the U.S. territory of Guam (228) and the commonwealths of the Northern Mariana Islands (29) and Puerto Rico (46). This report summarizes the epidemiologic characteristics of measles cases and outbreaks reported in the United States during 1994.

Age distribution, complications, and hospitalizations. Of the 954 measles patients for whom age was known, 247 (26%) were aged <5 years, including 73 (8%) who were aged <12 months and 69 (7%) who were aged 12–15 months. Nearly one half (475) of all measles patients were aged 5–19 years, and 232 (24%) were aged ≥20 years. Among the 537 measles patients for whom information was available, 45 (8%) were reported to have been hospitalized; the median duration of hospitalization was 4 days

Measles — Continued

(range: 1–22 days). Among 338 (35%) measles cases for which information on laboratory testing was provided, 229 (68%) were serologically confirmed.

Vaccination status. Vaccination status was reported for 848 (89%) measles patients. Among 762 vaccine-eligible persons,* 171 (22%) were reported to have documented receipt of at least one dose of measles-containing vaccine, and 539 (71%) were unvaccinated. Fifty-two (7%) persons with reported unknown vaccination status were considered to be unvaccinated. Four cases occurred among persons with documentation of two appropriately spaced doses of measles vaccine >14 days before onset of symptoms. Among 301 unvaccinated measles patients who were eligible for vaccination and for whom a reason for nonvaccination was reported, 294 (98%) cited a religious (154 [51%]) or philosophic (140 [47%]) exemption to vaccination. Almost all (92% [277]) of these cases occurred in outbreaks in Illinois, Missouri (*2*), Nevada, and Utah. Cases among persons claiming religious or philosophic exemption to vaccination accounted for 36% of all reported cases in 1994.

Case classification. Among 949 reported cases for which the epidemiologic classification is known, 874 (92%) were indigenous to the United States, including 719 (76%) acquired in the state reporting the case and 155 (16%) resulting from spread from known importation from another state. International importations and cases occurring within two generations of these importations accounted for 75 (8%) measles cases in 1994. These cases were reported from 24 states and, for those for whom the country of origin was reported, occurred most frequently among persons arriving from Europe (26 cases) and East Asia (18). Cases resulted from importations from the Americas (eight), the Middle East (six), and Africa (two). Among the 75 persons with internationally imported measles, 23 (31%) were aged <5 years; 32 (43%), 5–19 years; and 20 (27%), ≥20 years.

Outbreaks. Twenty-two outbreaks (clusters of five or more epidemiologically linked cases) were reported by 15 states during 1994 and accounted for 74% (705) of all reported cases. Two of these outbreaks began in 1994 and continued into 1995 (only cases that occurred during 1994 are reported here). Eight outbreaks, which included 12–156 cases, occurred in schools (six outbreaks) or colleges (two), five outbreaks (range: five–22 cases) involved predominantly preschool-aged children, and nine (range: six–134 cases) occurred in other settings and primarily involved young adults. The largest college outbreak (94 cases) resulted from spread from an importation, and two other outbreaks followed known importations. A total of 176 cases (18% of all reported cases) were related to international importations in 1994.

A single chain of transmission that was first recognized in a Colorado ski resort (*3*) extended into nine additional states and resulted in the largest outbreak of 1994 (247 cases); this outbreak involved students who were unvaccinated because of religious exemptions and who attended a college in Illinois or a school in Missouri (*2*). Two other outbreaks involving persons with philosophic exemption to vaccination occurred in Salt Lake City, Utah (134 cases), and White Pine County, Nevada (12 cases). In outbreaks among persons with religious or philosophic exemption to vaccination, school-aged children accounted for 73% of all cases, and represented 56% of all measles cases among 5–19-year-olds in 1994.

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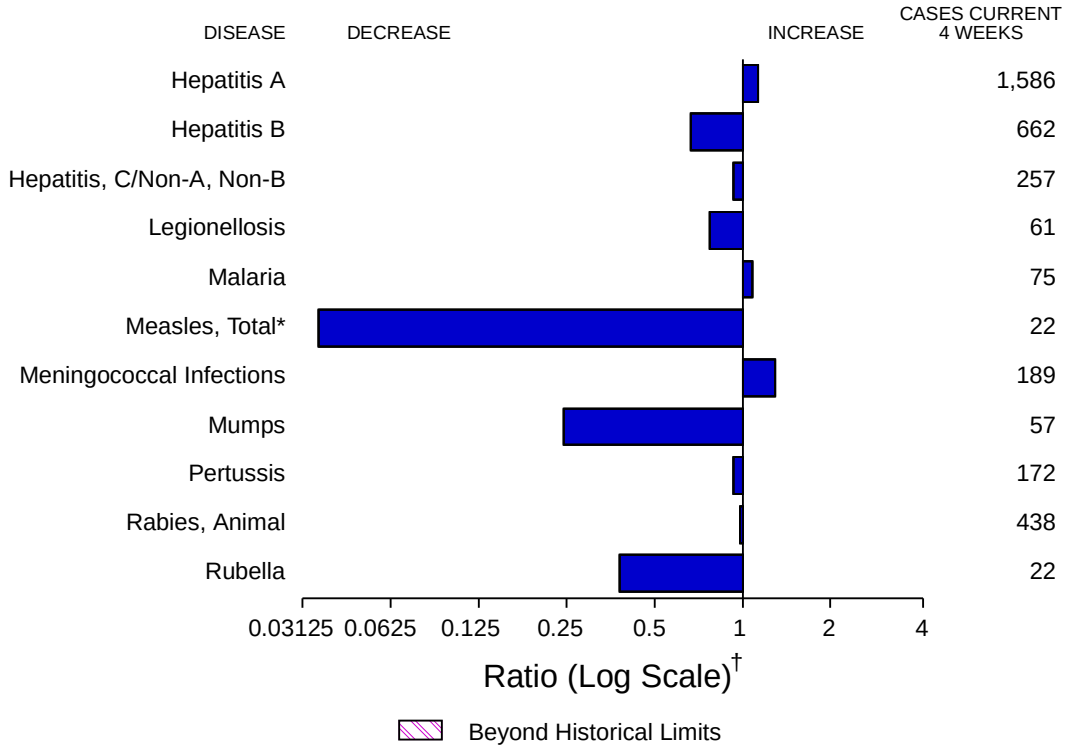
*Persons aged ≥12 months who were born after 1957. Persons born in or before 1957 are considered to be immune based on the likelihood of their having had measles before licensure of measles vaccine in 1963.

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending July 1, 1995, with historical data — United States



*The large apparent decrease in the number of reported cases of measles (total) reflects dramatic fluctuations in the historical baseline.

†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 July 1, 1995 (26th Week)

	Cum. 1995		Cum. 1995
Anthrax	-	Psittacosis	32
Brucellosis	46	Rabies, human	1
Cholera	8	Rocky Mountain Spotted Fever	138
Congenital rubella syndrome	4	Syphilis, congenital, age < 1 year§	-
Diphtheria*	-	Tetanus	12
Haemophilus influenzae†	634	Toxic shock syndrome	99
Hansen Disease	69	Trichinosis	21
Plague	2	Typhoid fever	148
Poliomyelitis, Paralytic	-		

*The case previously reported in 1995 had onset of illness in October 1994. It will now be included in 1994 data.
†Of 620 cases of known age, 154 (25%) were reported among children less than 5 years of age.
§Updated quarterly from reports to the Division of Sexually Transmitted Diseases and HIV Prevention, National Center for Prevention Services. First quarter data not yet available.
-: no reported cases

TABLE II. Cases of selected notifiable diseases, United States, weeks ending July 1, 1995, and July 2, 1994 (26th Week)

Reporting Area	AIDS*	Gonorrhea		Hepatitis (Viral), by type						Legionellosis	
				A		B		C/NA,NB			
	Cum. 1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994
UNITED STATES	35,614	175,607	192,808	12,553	11,139	4,786	5,722	2,135	2,069	631	701
NEW ENGLAND	1,797	2,343	4,047	124	162	92	203	54	78	12	12
Maine	71	40	48	16	14	6	9	-	-	3	-
N.H.	56	63	41	5	9	12	16	7	7	1	-
Vt.	15	25	12	4	2	1	6	1	6	-	-
Mass.	812	1,374	1,467	48	69	39	124	45	53	7	6
R.I.	137	251	231	15	13	8	4	1	12	1	6
Conn.	706	590	2,248	36	55	26	44	-	-	N	N
MID. ATLANTIC	9,135	17,381	21,776	724	784	570	758	197	254	71	100
Upstate N.Y.	1,133	2,612	5,147	196	288	187	207	105	115	23	21
N.Y. City	4,481	6,128	8,162	348	258	154	156	1	1	1	-
N.J.	2,225	1,702	2,709	97	158	137	204	76	113	14	17
Pa.	1,296	6,939	5,758	83	80	92	191	15	25	33	62
E.N. CENTRAL	2,897	37,977	38,756	1,537	1,078	488	610	144	187	177	197
Ohio	607	12,247	11,308	964	349	65	95	5	13	84	92
Ind.	261	3,667	4,042	77	183	115	114	-	5	41	23
Ill.	1,284	10,194	11,499	217	299	94	165	33	50	13	20
Mich.	572	9,168	8,399	190	135	191	196	106	119	21	38
Wis.	173	2,701	3,508	89	112	23	40	-	-	18	24
W.N. CENTRAL	867	9,226	10,768	810	534	250	318	50	43	63	50
Minn.	204	1,396	1,583	88	107	26	39	2	9	-	1
Iowa	44	716	665	39	27	19	16	3	7	13	21
Mo.	346	5,616	5,827	561	228	168	227	33	8	36	15
N. Dak.	5	13	21	14	1	3	-	3	1	3	4
S. Dak.	9	91	101	21	17	2	-	1	-	-	-
Nebr.	71	-	698	25	83	16	17	5	8	7	7
Kans.	188	1,394	1,873	62	71	16	19	3	10	4	2
S. ATLANTIC	9,055	51,227	50,993	589	561	688	1,149	155	267	106	174
Del.	165	1,025	919	7	14	2	8	1	1	1	-
Md.	1,313	5,971	9,527	96	87	116	176	5	15	20	44
D.C.	579	2,315	3,705	8	10	12	20	-	-	3	5
Va.	645	5,174	6,230	98	73	47	60	5	18	7	4
W. Va.	44	406	356	11	6	29	15	26	19	3	1
N.C.	490	12,019	12,584	59	58	153	145	27	34	18	12
S.C.	449	6,073	6,156	18	20	28	22	11	3	22	9
Ga.	1,090	8,037	U	50	23	62	481	15	148	12	77
Fla.	4,280	10,207	11,516	242	270	239	222	65	29	20	22
E.S. CENTRAL	1,109	21,754	22,277	783	246	477	555	592	433	17	60
Ky.	155	2,276	2,222	24	95	38	54	11	16	2	6
Tenn.	437	6,795	7,085	675	89	374	464	579	409	10	31
Ala.	298	9,038	7,820	51	38	65	37	2	8	4	8
Miss.	219	3,645	5,150	33	24	-	-	-	-	1	15
W.S. CENTRAL	3,137	18,748	22,853	1,487	1,400	705	529	307	133	7	18
Ark.	137	1,970	3,353	136	30	25	12	2	4	-	4
La.	502	5,884	6,020	46	75	97	89	88	67	2	3
Okla.	154	1,303	2,274	333	125	231	61	201	30	3	8
Tex.	2,344	9,591	11,206	972	1,170	352	367	16	32	2	3
MOUNTAIN	1,119	3,836	4,777	2,025	2,134	423	305	246	225	107	52
Mont.	9	38	38	42	14	12	10	9	4	4	14
Idaho	26	65	41	192	166	45	45	30	48	2	1
Wyo.	6	26	38	73	13	12	13	108	69	5	3
Colo.	372	1,505	1,627	261	257	64	54	33	39	30	11
N. Mex.	107	443	499	379	561	153	102	30	34	3	1
Ariz.	299	1,419	1,545	584	791	73	27	23	12	44	3
Utah	69	83	155	438	195	49	25	5	9	6	3
Nev.	231	257	834	56	137	15	29	8	10	13	16
PACIFIC	6,498	13,115	16,561	4,474	4,240	1,093	1,295	390	449	71	38
Wash.	495	1,275	1,488	359	580	89	119	110	131	7	8
Oreg.	223	202	470	854	453	46	77	25	21	-	-
Calif.	5,594	11,013	13,785	3,149	3,058	943	1,069	245	293	59	28
Alaska	46	361	437	20	118	5	7	1	-	-	-
Hawaii	140	264	381	92	31	10	23	9	4	5	2
Guam	-	42	67	2	12	-	4	-	-	-	1
P.R.	1,514	267	274	59	32	365	165	203	75	-	-
V.I.	21	4	11	-	2	2	4	-	1	-	-
Amer. Samoa	-	9	18	5	5	-	-	-	-	-	-
C.N.M.I.	-	13	25	15	3	7	-	-	-	-	-

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

*Updated monthly to the Division of HIV/AIDS Prevention, National Center for Prevention Services, last update June 29, 1995.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending July 1, 1995, and July 2, 1994 (26th Week)

Reporting Area	Lyme Disease		Malaria		Measles (Rubeola)						Meningococcal Infections		Mumps	
					Indigenous		Imported*		Total					
	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	1995	Cum. 1995	1995	Cum. 1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994
UNITED STATES	2,274	3,121	484	467	-	198	-	7	205	753	1,742	1,607	447	739
NEW ENGLAND	406	461	22	28	-	4	-	-	4	23	87	64	7	14
Maine	3	2	2	2	-	-	-	-	-	4	6	13	4	3
N.H.	14	11	1	3	-	-	-	-	-	1	17	6	-	4
Vt.	5	3	-	1	-	-	-	-	-	2	6	2	-	-
Mass.	53	44	7	11	-	2	-	-	2	7	31	27	1	-
R.I.	85	58	2	5	-	2	-	-	2	6	-	-	-	1
Conn.	246	343	10	6	-	-	-	-	-	3	27	16	2	6
MID. ATLANTIC	1,479	1,974	112	75	-	3	-	2	5	205	210	166	64	69
Upstate N.Y.	876	1,494	24	21	-	-	-	-	-	15	70	55	16	19
N.Y. City	47	3	51	25	-	1	-	2	3	12	22	23	5	-
N.J.	156	288	25	17	-	2	-	-	2	171	60	37	6	13
Pa.	400	189	12	12	-	-	-	-	-	7	58	51	37	37
E.N. CENTRAL	33	248	62	54	-	7	-	1	8	95	240	225	76	136
Ohio	24	14	5	7	-	1	-	-	1	15	75	66	24	40
Ind.	5	8	9	9	-	-	-	-	-	1	35	25	1	6
Ill.	3	11	32	24	-	-	-	-	-	56	71	81	23	56
Mich.	1	1	10	12	-	4	-	1	5	20	50	29	28	29
Wis.	-	214	6	2	-	2	-	-	2	3	9	24	-	5
W.N. CENTRAL	31	49	9	24	-	1	-	-	1	169	104	107	31	41
Minn.	-	-	3	7	U	-	U	-	-	-	16	9	2	3
Iowa	4	1	1	4	-	-	-	-	-	7	20	13	8	10
Mo.	10	43	3	9	-	1	-	-	1	159	38	51	17	25
N. Dak.	-	-	-	1	-	-	-	-	-	-	1	1	-	2
S. Dak.	-	-	-	-	-	-	-	-	-	-	5	7	-	-
Nebr.	1	2	2	2	-	-	-	-	-	2	9	8	4	1
Kans.	16	3	-	1	-	-	-	-	-	1	15	18	-	-
S. ATLANTIC	220	280	106	94	-	6	-	-	6	12	292	237	48	114
Del.	7	35	1	3	-	-	-	-	-	-	3	2	-	-
Md.	146	89	25	42	-	-	-	-	-	2	21	18	-	33
D.C.	-	2	9	8	-	-	-	-	-	-	1	2	-	-
Va.	17	33	21	9	-	-	-	-	-	2	34	43	14	25
W. Va.	12	9	1	-	-	-	-	-	-	1	5	10	-	3
N.C.	22	35	8	2	-	-	-	-	-	-	49	39	16	24
S.C.	7	4	-	2	-	-	-	-	-	-	37	11	7	6
Ga.	6	67	13	15	-	3	-	-	3	2	61	53	2	7
Fla.	3	6	28	13	-	3	-	-	3	5	81	59	9	16
E.S. CENTRAL	17	21	9	13	-	-	-	-	-	28	109	127	12	15
Ky.	3	13	-	4	-	-	-	-	-	-	32	28	-	-
Tenn.	11	5	3	6	-	-	-	-	-	28	34	24	-	5
Ala.	1	3	5	2	-	-	-	-	-	-	26	49	4	3
Miss.	2	-	1	1	-	-	-	-	-	-	17	26	8	7
W.S. CENTRAL	47	47	9	19	-	19	-	-	19	15	222	190	31	160
Ark.	3	3	2	1	-	2	-	-	2	1	19	32	2	4
La.	1	-	1	3	-	17	-	-	17	1	31	24	8	18
Okla.	19	23	-	2	-	-	-	-	-	-	22	19	-	22
Tex.	24	21	6	13	-	-	-	-	-	13	150	115	21	116
MOUNTAIN	4	2	30	20	-	47	-	-	47	154	128	116	27	24
Mont.	-	-	2	-	-	-	-	-	-	-	2	3	1	-
Idaho	-	1	1	2	-	-	-	-	-	-	5	14	2	5
Wyo.	2	1	-	1	-	-	-	-	-	-	5	5	-	1
Colo.	1	-	15	8	-	8	-	-	8	19	33	22	1	2
N. Mex.	-	-	3	3	-	28	-	-	28	-	27	11	N	N
Ariz.	-	-	6	1	-	10	-	-	10	-	42	40	6	2
Utah	-	-	2	4	-	-	-	-	-	126	7	15	10	8
Nev.	1	-	1	1	-	1	-	-	1	9	7	6	6	6
PACIFIC	37	39	125	140	-	111	-	4	115	52	350	375	151	166
Wash.	2	-	11	14	-	13	-	2	15	3	58	58	10	11
Oreg.	3	5	4	10	-	1	-	-	1	-	57	82	N	N
Calif.	32	34	101	108	-	97	-	1	98	46	227	229	128	144
Alaska	-	-	1	-	-	-	-	-	-	1	6	2	9	2
Hawaii	-	-	8	8	-	-	-	1	1	2	2	4	4	9
Guam	-	-	-	-	-	-	-	-	-	227	3	-	3	4
P.R.	-	-	1	2	1	10	-	-	10	11	12	5	-	2
V.I.	-	-	-	-	-	-	-	-	-	-	-	-	2	3
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	2
C.N.M.I.	-	-	1	1	-	-	-	-	-	29	-	-	-	2

*For imported measles, cases include only those resulting from importation from other countries.
N: Not notifiable U: Unavailable -: no reported cases

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending July 1, 1995, and July 2, 1994 (26th Week)

Reporting Area	Pertussis			Rubella			Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal	
	1995	Cum. 1995	Cum. 1994	1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994
UNITED STATES	50	1,435	1,768	1	64	181	7,648	10,746	8,941	10,582	3,146	3,522
NEW ENGLAND	8	183	191	-	14	124	92	119	196	210	828	926
Maine	-	20	2	-	1	-	2	4	-	-	-	-
N.H.	5	20	39	-	1	-	1	1	8	10	95	97
Vt.	-	5	27	-	-	-	-	-	2	3	111	80
Mass.	3	128	102	-	2	122	34	47	103	106	294	360
R.I.	-	-	4	-	-	1	1	9	22	18	143	5
Conn.	-	10	17	-	10	1	54	58	61	73	185	384
MID. ATLANTIC	-	124	310	-	6	6	437	667	1,829	2,036	704	873
Upstate N.Y.	-	65	121	-	3	5	24	94	185	272	261	626
N.Y. City	-	22	65	-	3	-	217	312	990	1,238	-	-
N.J.	-	5	9	-	-	1	87	109	350	364	194	149
Pa.	-	32	115	-	-	-	109	152	304	162	249	98
E.N. CENTRAL	7	142	273	1	1	8	1,305	1,538	905	1,005	20	21
Ohio	5	51	73	-	-	-	461	569	148	158	2	-
Ind.	-	13	36	-	-	-	118	118	21	87	3	4
Ill.	1	25	57	-	-	1	491	523	516	496	3	4
Mich.	1	41	23	1	1	7	151	161	190	229	11	7
Wis.	-	12	84	-	-	-	84	167	30	35	1	6
W.N. CENTRAL	-	63	77	-	-	2	404	632	283	265	163	109
Minn.	U	28	39	U	-	-	28	25	58	54	6	13
Iowa	-	2	6	-	-	-	28	28	38	20	59	45
Mo.	-	5	17	-	-	2	339	539	114	124	18	10
N. Dak.	-	6	3	-	-	-	-	1	1	4	18	6
S. Dak.	-	7	-	-	-	-	-	1	10	15	35	14
Nebr.	-	4	5	-	-	-	-	8	10	8	-	-
Kans.	-	11	7	-	-	-	9	30	52	40	27	21
S. ATLANTIC	5	138	177	-	16	12	1,813	2,793	1,696	1,982	1,073	938
Del.	-	6	-	-	-	-	8	16	12	20	33	21
Md.	-	15	55	-	-	-	43	117	211	159	218	305
D.C.	1	3	4	-	-	-	61	128	53	53	10	2
Va.	-	8	17	-	-	-	312	394	105	185	208	196
W. Va.	-	-	2	-	-	-	2	8	48	43	52	42
N.C.	-	55	44	-	-	-	588	899	192	237	225	89
S.C.	-	13	10	-	-	-	329	374	169	202	68	88
Ga.	4	5	14	-	-	-	268	435	271	381	151	193
Fla.	-	33	31	-	16	12	202	422	635	702	108	2
E.S. CENTRAL	-	32	93	-	-	-	2,004	1,885	474	768	80	102
Ky.	-	-	53	-	-	-	108	108	53	166	11	8
Tenn.	-	7	17	-	-	-	426	498	162	265	-	34
Ala.	-	25	14	-	-	-	318	359	194	211	69	60
Miss.	-	-	9	-	-	-	1,152	920	65	126	-	-
W.S. CENTRAL	7	75	52	-	2	7	1,219	2,477	1,164	1,240	63	363
Ark.	-	-	10	-	-	-	174	260	91	120	18	15
La.	3	7	6	-	-	-	536	907	-	7	23	43
Okla.	1	15	20	-	-	4	42	86	103	120	22	19
Tex.	3	53	16	-	2	3	467	1,224	970	993	-	286
MOUNTAIN	12	455	208	-	5	3	116	157	302	260	66	42
Mont.	-	3	3	-	-	-	3	1	3	9	25	8
Idaho	-	74	23	-	-	-	-	1	6	6	-	-
Wyo.	-	1	-	-	-	-	2	-	2	2	18	12
Colo.	7	21	116	-	-	-	71	76	22	26	-	6
N. Mex.	2	33	9	-	-	-	8	9	44	37	3	2
Ariz.	-	305	43	-	4	-	20	36	148	98	18	12
Utah	3	13	12	-	1	2	3	8	19	22	1	-
Nev.	-	5	2	-	-	1	9	26	58	60	1	2
PACIFIC	11	223	387	-	20	19	258	478	2,092	2,816	149	148
Wash.	3	44	50	-	1	-	9	22	133	132	2	4
Oreg.	1	9	49	-	1	1	6	19	23	81	-	-
Calif.	6	150	281	-	16	16	242	434	1,809	2,433	143	113
Alaska	-	-	-	-	-	-	1	2	42	33	4	31
Hawaii	1	20	7	-	2	2	-	1	85	137	-	-
Guam	-	-	2	-	-	1	1	3	5	37	-	-
P.R.	-	6	2	-	-	-	138	174	89	62	19	47
V.I.	-	-	-	-	-	-	1	22	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	1	3	3	-	-
C.N.M.I.	-	-	-	-	-	-	3	-	13	16	-	-

U: Unavailable -: no reported cases

TABLE III. Deaths in 121 U.S. cities,* week ending July 1, 1995 (26th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	551	373	105	50	8	15	35
Boston, Mass.	161	101	36	14	2	8	6
Bridgeport, Conn.	45	31	9	4	1	-	1
Cambridge, Mass.	24	16	5	2	1	-	2
Fall River, Mass.	28	22	2	4	-	-	1
Hartford, Conn.	21	14	5	2	-	-	-
Lowell, Mass.	15	12	2	1	-	-	-
Lynn, Mass.	13	8	3	1	1	-	3
New Bedford, Mass.	18	12	2	2	2	-	-
New Haven, Conn.	38	21	13	2	-	2	3
Providence, R.I.	52	41	6	3	1	1	8
Somerville, Mass.	4	3	1	-	-	-	-
Springfield, Mass.	38	26	5	5	-	2	3
Waterbury, Conn.	21	12	4	3	-	2	2
Worcester, Mass.	73	54	12	7	-	-	6
MID. ATLANTIC	2,276	1,466	434	296	55	25	102
Albany, N.Y.	48	32	10	3	1	2	1
Allentown, Pa.	31	22	6	3	-	-	-
Buffalo, N.Y.	98	71	11	10	5	1	-
Camden, N.J.	28	19	3	4	1	1	4
Elizabeth, N.J.	17	12	4	1	-	-	1
Erie, Pa.§	38	30	7	1	-	-	2
Jersey City, N.J.	21	11	7	3	-	-	-
New York City, N.Y.	1,255	767	261	187	31	9	47
Newark, N.J.	46	16	9	18	1	2	4
Paterson, N.J.	31	20	6	1	2	2	-
Philadelphia, Pa.	279	187	49	38	5	-	16
Pittsburgh, Pa.§	42	24	10	4	2	2	2
Reading, Pa.	10	6	3	-	1	-	-
Rochester, N.Y.	121	94	16	8	2	1	9
Schenectady, N.Y.	24	21	1	2	-	-	-
Scranton, Pa.§	20	17	1	1	1	-	2
Syracuse, N.Y.	86	67	11	3	2	3	8
Trenton, N.J.	41	25	11	3	-	2	3
Utica, N.Y.	13	10	-	2	1	-	1
Yonkers, N.Y.	27	15	8	4	-	-	2
E.N. CENTRAL	2,023	1,305	410	185	67	55	125
Akron, Ohio	61	41	11	5	1	3	-
Canton, Ohio	33	30	2	1	-	-	5
Chicago, Ill.	420	245	86	56	19	13	39
Cincinnati, Ohio	93	58	22	6	5	2	7
Cleveland, Ohio	155	110	24	10	6	5	5
Columbus, Ohio	197	121	43	21	5	7	10
Dayton, Ohio	97	66	18	5	5	3	3
Detroit, Mich.	246	145	56	31	10	4	8
Evansville, Ind.	40	26	13	1	-	-	2
Fort Wayne, Ind.	51	34	11	4	1	1	1
Gary, Ind.	13	7	4	2	-	-	2
Grand Rapids, Mich.	51	35	12	1	1	2	5
Indianapolis, Ind.	172	115	37	13	2	5	11
Madison, Wis.	67	45	11	4	4	3	6
Milwaukee, Wis.	124	88	21	7	4	4	9
Peoria, Ill.	39	32	6	1	-	-	3
Rockford, Ill.	39	29	6	4	-	-	6
South Bend, Ind.	49	36	11	1	1	-	3
Toledo, Ohio	U	U	U	U	U	U	U
Youngstown, Ohio	76	42	16	12	3	3	-
W.N. CENTRAL	636	456	111	26	21	11	39
Des Moines, Iowa	U	U	U	U	U	U	U
Duluth, Minn.	24	20	3	1	-	-	1
Kansas City, Kans.	U	U	U	U	U	U	U
Kansas City, Mo.	121	68	26	9	4	3	6
Lincoln, Nebr.	38	27	8	2	1	-	3
Minneapolis, Minn.	161	119	31	6	3	2	13
Omaha, Nebr.	112	86	12	4	6	4	5
St. Louis, Mo.	119	82	25	4	6	2	6
St. Paul, Minn.	61	54	6	-	1	-	5
Wichita, Kans.	U	U	U	U	U	U	U
S. ATLANTIC	1,252	744	262	186	33	27	52
Atlanta, Ga.	188	113	40	29	3	3	4
Baltimore, Md.	200	117	42	37	2	2	13
Charlotte, N.C.	107	59	31	10	3	4	1
Jacksonville, Fla.	121	81	19	12	6	3	7
Miami, Fla.	109	60	25	21	2	1	1
Norfolk, Va.	66	34	11	15	2	4	3
Richmond, Va.	69	43	12	9	2	3	2
Savannah, Ga.	44	32	7	2	3	-	3
St. Petersburg, Fla.	51	38	3	8	-	2	-
Tampa, Fla.	152	96	28	21	3	4	15
Washington, D.C.	141	69	42	22	7	1	3
Wilmington, Del.	4	2	2	-	-	-	-
E.S. CENTRAL	638	421	135	46	18	17	47
Birmingham, Ala.	110	75	25	4	1	4	3
Chattanooga, Tenn.	77	50	24	3	-	-	5
Knoxville, Tenn.	82	58	14	5	5	-	11
Lexington, Ky.	59	45	3	7	-	4	4
Memphis, Tenn.	131	87	27	9	6	2	13
Mobile, Ala.	35	18	10	4	2	1	1
Montgomery, Ala.	23	13	5	3	-	2	2
Nashville, Tenn.	121	75	27	11	4	4	8
W.S. CENTRAL	1,305	809	270	136	54	36	70
Austin, Tex.	70	49	12	7	2	-	3
Baton Rouge, La.	56	36	13	5	1	1	-
Corpus Christi, Tex.	55	41	6	5	2	1	5
Dallas, Tex.	196	117	46	15	12	6	5
El Paso, Tex.	61	43	5	6	6	1	7
Ft. Worth, Tex.	98	56	21	16	3	2	2
Houston, Tex.	277	158	64	40	8	7	18
Little Rock, Ark.	66	44	11	7	1	3	6
New Orleans, La.	91	55	19	10	5	2	-
San Antonio, Tex.	191	115	40	16	11	9	17
Shreveport, La.	62	43	15	1	1	2	2
Tulsa, Okla.	82	52	18	8	2	2	5
MOUNTAIN	877	516	190	104	38	29	40
Albuquerque, N.M.	77	51	10	7	5	4	1
Colo. Springs, Colo.	54	30	12	9	-	3	1
Denver, Colo.	105	55	31	12	2	5	7
Las Vegas, Nev.	149	64	42	29	13	1	7
Ogden, Utah	22	18	2	2	-	-	2
Phoenix, Ariz.	186	114	37	23	3	9	12
Pueblo, Colo.	20	12	4	1	3	-	-
Salt Lake City, Utah	102	62	15	13	8	4	4
Tucson, Ariz.	162	110	37	8	4	3	6
PACIFIC	1,162	774	195	122	38	32	107
Berkeley, Calif.	21	15	3	3	-	-	1
Fresno, Calif.	78	46	14	9	4	5	5
Glendale, Calif.	U	U	U	U	U	U	U
Honolulu, Hawaii	47	35	4	4	2	2	5
Long Beach, Calif.	67	39	12	14	-	2	12
Los Angeles, Calif.	U	U	U	U	U	U	U
Pasadena, Calif.	29	19	6	3	-	1	5
Portland, Oreg.	144	98	21	13	8	3	8
Sacramento, Calif.	U	U	U	U	U	U	U
San Diego, Calif.	134	74	29	21	4	6	18
San Francisco, Calif.	155	99	32	20	1	3	22
San Jose, Calif.	174	122	26	9	10	7	15
Santa Cruz, Calif.	41	34	3	3	1	-	5
Seattle, Wash.	141	101	23	14	2	1	2
Spokane, Wash.	49	35	8	4	1	1	5
Tacoma, Wash.	82	57	14	5	5	1	4
TOTAL	10,720¶	6,864	2,112	1,151	332	247	617

*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 -: no reported cases

Measles — Continued

Intensive surveillance and case investigation resulted in identification of three large multistate outbreaks during 1994. Epidemiologic linkages were established among 247 cases in 10 states from the outbreak that began in Colorado, among 57 cases in six states resulting from exposures in Las Vegas, and among 146 cases from an outbreak that began in Utah and spread to Nevada.

The genomic sequences of viruses isolated from the outbreak in Illinois and Missouri was similar to that of a virus isolated from an earlier outbreak in Memphis, Tennessee. These viruses probably were recently imported into the United States because they were closely related to measles virus strains that had previously circulated in Europe. Four distinct genotypes were identified by genomic sequencing among 10 isolates from four outbreaks and three single measles cases in the United States in 1994. None of these was related to the genotype circulating during the resurgence of 1989–1991, suggesting that all of these viruses were introduced into the United States as a result of importation.

Reported by: State and local health depts. Measles Virus Section, Respiratory and Enteric Viruses Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; National Immunization Program, CDC.

Editorial Note: Although measles incidence has increased since the historic low reported in 1993, the number of cases reported during 1994 is the second fewest in the United States since measles reporting began in 1912. Important characteristics of current epidemiologic trends are the shift in age distribution of cases to older persons, the large proportion of cases in groups whose members do not routinely accept vaccination, and the increasing numbers of cases linked to international importations.

Since the measles resurgence of 1989–1991, increasing proportions of cases have occurred among school-aged children and adults, and proportionately fewer in preschool-aged children—a substantial change from 1989–1991, when incidence was highest among preschool-aged children, of whom as many as 80% were unvaccinated (*4,5*). The shift in age distribution probably resulted from record-high measles vaccination coverage levels among preschool-aged children, which reached 90% in the first quarter of 1994 (*6*). More than half of the cases in persons aged 5–19 years were associated with outbreaks among persons with a religious or philosophic exemption to vaccination. Additional efforts will be necessary to reduce transmission among persons with objections to vaccination.

Laboratory and epidemiologic data suggest that measles transmission was interrupted in the United States during late 1993 (*7*). Because of the effective implementation of a strategy of mass vaccination of children in all countries in Central and South America, importations from the Americas have decreased substantially since 1991 and now represent a small percentage of all importations. However, the continued risk for international importations and spread from importations from other locations represent a challenge to the goal of measles elimination in the United States; known international importations or spread from international importations accounted for almost one fifth of reported measles cases in 1994.

The strategy for achieving the Childhood Immunization Initiative goal of eliminating indigenous measles transmission in the United States (*8*) is based on four components: 1) maintaining high coverage with a single dose of measles-mumps-rubella vaccine (MMR) among preschool-aged children, 2) achieving coverage with two doses of MMR for all school and college attendees, 3) enhancing surveillance and

Measles — Continued

outbreak response, and 4) increasing efforts to develop and implement strategies for global measles elimination. CDC will continue to work with state and local health departments to implement recommendations to achieve high levels of population immunity, rapidly report and investigate all suspected measles cases, and enhance surveillance to facilitate rapid identification and confirmation of cases and implementation of appropriate control measures.

References

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Prevalence of Smoking by Area of Residence — Missouri, 1989–1991

Variation in smoking prevalence by area of residence may be an important consideration in the development, implementation, and management of programs that promote nonsmoking. In general, the prevalence of cigarette smoking is highest among persons at economic, educational, and social disadvantage (*1,2*), and the proportion of persons who are disadvantaged is greater in urban and nonmetropolitan areas. Because smoking prevalence varies by area of residence and characterization of these differences can assist in directing efforts to promote nonsmoking, the Missouri Department of Health compared urban, suburban, and nonmetropolitan areas using data from two sources: the Behavioral Risk Factor Surveillance System (BRFSS) for Missouri from 1989 through 1991 (suburban and nonmetropolitan areas) and a survey specially commissioned in 1990 (Smoking Cessation in Black Americans [SCBA]) of persons living in low-income census tracts in north St. Louis and central Kansas City (urban areas). This report summarizes the results of this analysis.

BRFSS is a population-based, random-digit–dialed telephone survey of the civilian, noninstitutionalized population aged ≥18 years (*3*). For this analysis, respondents' suburban or nonmetropolitan residence was determined by county of residence: respondents not living in counties composing a metropolitan statistical area (MSA) were categorized as residing in nonmetropolitan areas; respondents living in counties composing MSAs were categorized as residing in suburban areas. Persons living in the urban areas of St. Louis or Kansas City (Jackson County) were excluded from the BRFSS data. However, the SCBA survey was conducted in 60 low-income census tracts to determine smoking prevalence and attitudes among residents of these areas (*4*). To estimate prevalences, BRFSS data were weighted to reflect the total population

Smoking — Continued

in each area (based on the 1990 census) and for respondent probability of selection. Based on the 1990 census, 46% of persons resided in suburban areas, 34% in nonmetropolitan areas, and 20% in St. Louis and Kansas City. BRFSS data were aggregated for 3 survey years to increase the number of respondents in the demographic categories* for the suburban and nonmetropolitan areas, and SUDAAN was used to calculate the variance (*5*). For both the BRFSS and SCBA, current smokers were defined as persons who had smoked ≥100 cigarettes and who reported being a smoker at the time of the interview. The prevalence of cessation was obtained by dividing the number of former smokers by the number of ever smokers (respondents who have ever smoked ≥100 cigarettes during their lifetime) and multiplying by 100. Differences in group-specific prevalence rates in this report reflect nonoverlapping confidence intervals.

Overall, the prevalence of current smoking was higher among persons residing in the urban areas (32.4%) than in the suburban (24.8%) and nonmetropolitan areas (26.5%) (Table 1). This pattern was consistent across all sex and education subgroups. The prevalence of current smoking also was higher in the urban areas for adults aged 35–54 years and ≥55 years. For the 18–34–year age group, the prevalence of current smoking in the urban areas (31.3%) was comparable to that in the suburban (27.8%) and nonmetropolitan (33.5%) areas. For whites, the prevalence of current smoking was higher for those living in the urban areas (34.8%) than in suburban (24.9%) or nonmetropolitan (26.0%) areas. For blacks, the prevalence of current smoking was similar in urban areas (32.0%) and nonmetropolitan areas (32.1%) but higher than in suburban areas (24.0%).

*Numbers for races other than black and white were too small for meaningful analysis.

TABLE 1. Prevalence of current smoking among adults in urban*, suburban†, and nonmetropolitan† areas — Missouri, 1989–1991

	Urban		Suburban		Nonmetropolitan	
Characteristic	**%**	**(CI§)**	**%**	**(CI)**	**%**	**(CI)**
Sex						
Male	37.3	(±3.5)	25.5	(±3.1)	32.6	(± 4.2)
Female	29.9	(±2.4)	24.1	(±2.5)	20.9	(± 2.9)
Education						
≤12 years	35.1	(±2.6)	30.7	(±3.2)	29.7	(± 3.2)
>12 years	27.9	(±3.2)	19.2	(±2.4)	19.0	(± 4.1)
Age group (yrs)						
18-34	31.3	(±3.3)	27.8	(±3.4)	33.5	(± 5.0)
35-54	42.1	(±3.9)	28.7	(±3.4)	32.8	(± 4.9)
≥55	25.2	(±3.3)	15.6	(±3.2)	14.3	(± 3.1)
Race¶						
White	34.8	(±4.5)	24.9	(±2.1)	26.0	(± 2.6)
Black	32.0	(±2.3)	24.0	(±7.8)	32.1	(±22.2)
Total	**32.4**	**(±2.0)**	**24.8**	**(±2.0)**	**26.5**	**(± 2.6)**

*Smoking Cessation in Black Americans Survey, 1990.
†Missouri Behavioral Risk Factor Surveillance System, 1989–1991.
§95% confidence interval.
¶Numbers for races other than black and white were too small for meaningful analysis.

Smoking — Continued

Among current smokers, the mean number of cigarettes smoked per day was highest in the nonmetropolitan areas (22.8), lowest in the urban areas (15.0), and intermediate in suburban areas (19.9). The prevalence of cessation was lower in the urban areas (37.4%) than in the suburban (50.0%) or nonmetropolitan areas (47.6%).

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Editorial Note: In Missouri during 1989–1991, the prevalence of smoking generally was highest in urban areas regardless of sex, education, age, and race. These findings are consistent with those of previous reports describing the relation between urban area of residence and smoking status (*6,7*). The persistence of the association between urban residence and smoking status, despite controlling for demographic characteristics, suggests that other factors contribute to the higher prevalence of smoking in urban areas. Such factors may include cultural norms, the burden and management of stress (8), relative effectiveness of risk-reduction messages (*9*), and exposure to tobacco advertisement and promotions. Differences in prevalences among racial/ethnic groups may be influenced by differences in educational levels, socioeconomic status, and social and cultural phenomena that require further explanation.

The findings in this report are subject to at least three limitations. First, because these estimates are based on self-reported data, prevalences may be underestimated (*10*). Second, a stratified analysis was conducted to control for each demographic variable individually because combining data from separate surveys with differing sampling designs precluded use of multivariate techniques to control for each variable simultaneously. Third, grouping areas at the urban, suburban, and nonmetropolitan levels may mask important community differences within each of these areas.

The findings in Missouri suggest that urban areas are an important target for nonsmoking promotion efforts. In general, local survey data can provide useful information to assist state and local health departments in identifying populations for risk-reduction programs. In Missouri, state and local health departments and community organizations are using these findings to develop programs and activities to reduce the prevalence of smoking among urban residents. For example, in Kansas City, intensive education efforts have been initiated to change social and community norms about smoking through activities such as rallies and town hall meetings and the promulgation of nonsmoking regulations. In St. Louis, activities have included counter-advertising, public service announcements, tobacco education in schools, and training of health-care providers about tobacco-use prevention.

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Monthly Immunization Table

To track progress toward achieving the goals of the Childhood Immunization Initiative (CII), CDC publishes monthly a tabular summary of the number of cases of all diseases preventable by routine childhood vaccination reported during the previous month and year-to-date (provisional data). In addition, the table compares provisional data with final data for the previous year and highlights the number of reported cases among children aged <5 years, who are the primary focus of CII. Data in the table are derived from CDC's National Notifiable Diseases Surveillance System.

Number of reported cases of diseases preventable by routine childhood vaccination — United States, May 1995 and 1994–1995*

Disease	No. cases, May 1995	Total cases January–May		No. cases among children aged <5 years† January–May	
		1994	1995	1994	1995
Congenital rubella syndrome	0	**2**	**3**	2	3
Diphtheria	0	**1**	**0**§	1	0
Haemophilus influenzae¶	96	**518**	**551**	151	131
Hepatitis B**	801	**4707**	**3853**	58	30
Measles	12	**647**	**175**	149	62
Mumps	107	**596**	**367**	76	64
Pertussis	197	**1419**	**1208**	790	639
Poliomyelitis, paralytic††	0	**0**	**0**	0	0
Rubella	10	**146**	**36**	10	7
Tetanus	1	**14**	**9**	0	0

*Data for 1994 and 1995 are provisional.

†For 1994 and 1995, age data were available for ≥91%, except for 1995 age data for measles, which were available for 89% of cases.

§The case-patient previously reported in 1995 had onset of illness in October 1994 and will now be included in 1994 data.

¶Invasive disease; *H. influenzae* serotype is not routinely reported to the National Notifiable Diseases Surveillance System. Of 131 cases among children aged <5 years, serotype was reported for 32 cases, and of those, 18 were type b, the only serotype of *H. influenzae* preventable by vaccination.

**Because most hepatitis B virus infections among infants and children aged <5 years are asymptomatic (although likely to become chronic), acute disease surveillance does not reflect the incidence of this problem in this age group or the effectiveness of hepatitis B vaccination in infants.

††One case with onset in July 1994 has been confirmed; this case was vaccine-associated. An additional six suspected cases are under investigation. In 1993, three of 10 suspected cases were confirmed; two of the confirmed cases of 1993 were vaccine-associated, and one was imported. The imported case occurred in a 2-year-old Nigerian child brought to the United States for care of his paralytic illness; no poliovirus was isolated from the child.

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