

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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Current Trends

Minors' Access to Cigarette Vending Machines — Texas

The sale of tobacco products to persons aged <18 years has been prohibited by law in Texas since September 1989*. This law requires cigarette vending machine owners to post signs on their machines stating the illegality of tobacco product sales to persons aged <18 years and that merchants convicted for selling tobacco products to underaged persons be fined a maximum of \$500. In August 1991, Arlington, Texas, enacted legislation requiring installation of electronic locking devices on all cigarette vending machines. These devices render the vending machine inoperable until the store owner electronically unlocks the machine on customer request. To assess minors' access to cigarettes through vending machines, in October 1993 the Texas Department of Health conducted a study in Arlington and five neighboring communities. This report summarizes the study findings.

In September 1993, the health department obtained a list of business establishments with cigarette vending machines owned by the largest cigarette vending company in the Arlington area. A total of 116 establishments were identified in the study area; 59 (51%) machines were in establishments considered easily accessible to minors (i.e., restaurants, gas stations, motel lobbies, food stores, and recreational facilities). Data were collected for 42 of the 59 sites.

Four investigative teams consisted of one adult paired with one minor (aged 15–17 years). One purchase attempt was made at each of the 42 establishments. During each purchase attempt, the adult entered the establishment first and asked for street directions. The adult then observed while the minor entered and attempted to purchase cigarettes from the vending machine. Minors were instructed to answer, if asked, that the cigarettes were for themselves.

While attempting to purchase cigarettes from vending machines, no minors were challenged by business owners. Of the 42 attempts, 41 were successful. Of the 41 sites where purchase attempts were successful, 24 (59%) were located within 1/2 mile of a school. Most (35 [83%] of 42) purchase attempts occurred in restaurants; however, cigarettes were bought at every type of establishment where purchases were at-

*Texas Health and Safety Code, Title 2, Sections 161.081–161.082.

Cigarette Machines — Continued

tempted. Warning signs prohibiting cigarettes sales to minors were posted on vending machines in 32 (76%) establishments.

Of the 16 vending machines located in business establishments in the city of Arlington, one was equipped with an electronic locking device. The single unsuccessful purchase attempt occurred at this electronically locked machine.

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Editorial Note: The findings in this report indicate that, despite laws prohibiting cigarette sales to persons aged <18 years, minors readily purchased cigarettes from vending machines in Arlington and five neighboring communities. Although the only failed purchase attempt in this study resulted from a vending machine equipped with a remote-controlled locking device, compliance with legislation requiring these devices has been minimal (1). The finding that only one of 16 vending machines in Arlington was equipped with the device is similar to findings of studies about locking device usage in other areas (1).

The findings in this report are subject to at least two limitations. First, data in this report were obtained for only one vending machine company in the Arlington area because the Texas Department of the Treasury does not require vending machine companies to specify the locations of their machines. Second, because of time constraints during the study, data were not collected for 17 establishments considered easily accessible to minors; however, sites included in the analysis probably do not differ from sites that were not included.

Approximately 82% of adult smokers report that they first tried a cigarette by age 18 years, and 53% were daily smokers by that age (2). The initiation rate for smoking increases rapidly after age 11 years (3); in Texas, a 1989 survey of 4400 high school students found that 55% of 12-year-olds had already tried cigarette smoking (4). Because vending machine sales are not monitored actively by adults, cigarette vending machines can be an important source for younger adolescents (i.e., aged 12–15 years), who are more likely than older adolescents (i.e., aged 16–18 years) to be refused an over-the-counter cigarette sale (5). Studies indicate that younger adolescent smokers are more likely to buy cigarettes from vending machines than older adolescent smokers (6,7).

Unregulated cigarette vending machines may facilitate initiation of smoking among younger adolescents; therefore, more effective regulation of these sales may be an important preventive measure. Prevention of adolescent smoking may be enhanced by the recently enacted Synar Amendment to the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) Reorganization Act.[†] The Synar Amendment requires that states demonstrate effective prohibition of the sale of tobacco products (including cigarettes from vending machines) to persons aged <18 years as a condition of receiving full ADAMHA block grants. As a result of this study, the Arlington City Council enacted legislation prohibiting cigarette vending machines in all business establishments that admit persons aged <18 years.

[†]Public Law 102-321, §1926.

*Cigarette Machines — Continued**References*

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*Epidemiologic Notes and Reports***Interstate Measles Transmission from a Ski Resort —
Colorado, 1994**

During April 1–May 25, 1994, a chain of measles transmission began in Breckenridge, Colorado, and extended into nine additional states; a total of 247 measles cases were reported, representing 36% of all U.S. measles cases reported to the National Notifiable Diseases Surveillance System (excluding those reported from U.S. territories) through July 2 (week 26). The source of exposure was unknown but is believed to have been an out-of-state tourist who probably visited Breckenridge during March because 1) no measles cases had previously been reported in Colorado during 1994, and 2) the only common exposure appeared to have been at a ski resort visited by many out-of-state travelers. Persons associated with spread of measles from Breckenridge were predominately school- and college-aged. This report summarizes the investigation of this chain of interstate measles transmission.

A total of 15 measles cases with rash onset during April 4–21 occurred in Breckenridge. Persons with measles ranged in age from 16 years to 46 years (median: 27.6 years). All cases met the CDC measles clinical case definition (1); 12 were serologically confirmed. All 15 ill persons either lived in Summit County (Breckenridge) or three neighboring counties (Arapahoe, Chaffee, and Park) or worked in tourism-related services in or near Breckenridge. Twelve of the 15 ill persons are believed to have been exposed to the unidentified source, and three cases resulted from secondary transmission. Two cases occurred among high school students; no further transmission in schools was reported.

Interstate transmission of measles occurred through four out-of-state travelers and a Silver Thorn, Colorado, resident—all of whom had visited Breckenridge during

Measles Transmission — Continued

March 18–25. All five visitors are believed to have been exposed to the unidentified source. Two persons (a 46-year-old Texas resident [rash onset: April 16] and a 29-year-old Missouri resident [rash onset: April 4]) developed measles on return home but have not been linked to additional cases. The other three persons—an Illinois resident, a Maryland resident, and the Silver Thorn resident—became sources for further transmission.

Illinois. A 14-year-old unvaccinated female high school student returned home to Jersey County, Illinois; she developed a rash on April 4. The student was identified as the source of an outbreak involving 51 unvaccinated persons (age range: 1–24 years; median: 18 years; last rash onset: June 3) in her community—which was associated with a Christian Science college in the county. She also was identified as the source of an outbreak involving 156 persons (age range: 4–25 years; median: 15 years; rash onsets: April 17–May 15) at the Christian Science boarding high school she attended in St. Louis County, Missouri. After several unvaccinated persons from other states visited the school during the outbreak, six additional cases occurred. Five persons developed measles on return home (two persons to Maine and one each to California, New York, and Washington); the California patient was the source of exposure for a sibling. No further transmission associated with these six cases is known.

Maryland. A 24-year-old woman returned home to Baltimore County, Maryland; she developed a rash on April 4. The woman was the source of exposure for her 56-year-old father, who had rash onset on April 21.

Michigan. A 25-year-old Silver Thorn man visited his family in Wayne County, Michigan; he developed rash on April 17. The man was identified as the source of an outbreak involving 12 persons (age range: 9 months–37 years; median: 24 years; rash onsets: April 17–May 18) who were exposed at a wedding and a restaurant. One additional case (rash onset: April 16) was reported in a 12-year-old Chicago resident who had visited Wayne County. No further transmission associated with the Michigan or Chicago cases is known.

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Editorial Note: The sustained interstate measles outbreak described in this report demonstrates the ability of measles virus to spread rapidly and widely among a highly mobile population. The dates of rash onset for the five Breckenridge visitors suggest that they had been exposed to measles during the same period the Breckenridge cases were exposed; therefore, exposure to the common, unidentified source—not the Breckenridge cases—probably led to this widespread interstate outbreak. Direct contact of the five visitors with the unidentified source resulted in primary transmission of measles in five other states (222 reported cases), and further contact resulted in secondary transmission in four additional states (six reported cases) before the chain of transmission ended.

Measles Transmission — Continued

Factors that may have contributed to this interstate measles outbreak include 1) the timing of the initial exposure during school spring break; 2) exposure of an unvaccinated student who subsequently returned home to a community and school with many susceptible, unvaccinated persons; and 3) special events at the Missouri boarding school that drew susceptible, unvaccinated visitors from other states.

Although measles spread from Colorado to nine other states, transmission in six states stopped with the index case or after one additional case. In some of these states, spread may have been limited because the sources were adults whose routine activities may not have involved close contact with groups containing susceptible persons. Only two outbreaks (Illinois/Missouri and Michigan) resulted in substantial numbers of reported cases, and both were associated with contact with large groups (e.g., high school and college populations, wedding guests, and restaurant patrons). The extended outbreak in Illinois and Missouri has been the largest measles outbreak in the United States (excluding territories) in 1994 (2).

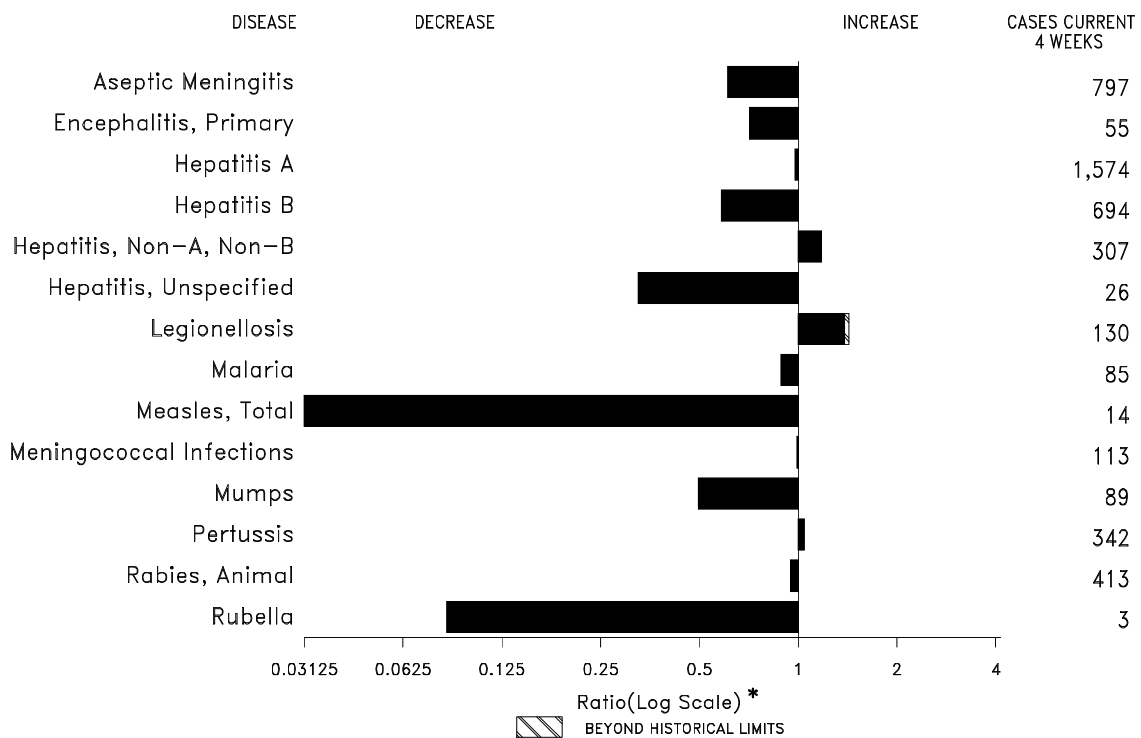
The primary strategy to prevent measles outbreaks is achieving and sustaining measles vaccination coverage levels of at least 90% for a single dose among all age groups. Efforts are under way to increase measles vaccination coverage among pre-school children and implement a recommendation that all school-aged and college-aged persons receive two doses of measles-mumps-rubella vaccine. However, additional strategies may be needed to ensure complete vaccination of adults and to prevent outbreaks in settings where large groups of adults gather (e.g., resorts and restaurants). Large groups that do not routinely accept vaccination will remain potential problems for measles-control programs.

To achieve the Childhood Immunization Initiative's goal of eliminating indigenous measles in the United States by 1996 (3), continued efforts to assure rapid detection of measles cases and implementation of control measures are necessary. To define disease transmission patterns more completely, state and local health departments should rapidly investigate and report all suspected measles cases, obtain laboratory confirmation, determine the vaccination status of each suspected case, and determine the source or chain of disease transmission. Identification of measles cases by transmission category (i.e., international importation, linked to an importation, or indigenously acquired) also will be necessary to track progress toward achieving the 1996 elimination goal.

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FIGURE I. Notifiable disease reports, comparison of 4-week totals ending August 27, 1994, with historical data — United States



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

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending August 27, 1994 (34th Week)

	Cum. 1994		Cum. 1994
AIDS*	45,801	Measles: imported	158
Anthrax	-	indigenous	651
Botulism: Foodborne	42	Plague	12
Infant	48	Poliomyelitis, Paralytic [§]	1
Other	6	Psittacosis	25
Brucellosis	59	Rabies, human	1
Cholera	10	Syphilis, primary & secondary	14,031
Congenital rubella syndrome	2	Syphilis, congenital, age < 1 year [¶]	532
Diphtheria	-	Tetanus	23
Encephalitis, post-infectious	79	Toxic shock syndrome	125
Gonorrhea	245,524	Trichinosis	27
<i>Haemophilus influenzae</i> (invasive disease) [†]	772	Tuberculosis	13,845
Hansen Disease	76	Tularemia	57
Leptospirosis	18	Typhoid fever	269
Lyme Disease	6,236	Typhus fever, tickborne (RMSF)	259

*Updated monthly to the Division of HIV/AIDS, National Center for Infectious Diseases; last update July 26, 1994.

[†]Of 735 cases of known age, 206 (28%) were reported among children less than 5 years of age.

[§]The remaining 5 suspected cases with onset in 1994 have not yet been confirmed. In 1993, 3 of 10 suspected cases were confirmed. Two of the confirmed cases of 1993 were vaccine-associated and one was classified as imported.

[¶]Total reported to the Division of Sexually Transmitted Diseases and HIV Prevention, National Center for Prevention Services, through first quarter 1994.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending August 27, 1994, and August 28, 1993 (34th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic- Shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994
UNITED STATES	14,031	17,229	125	13,845	14,554	57	269	259	3,978
NEW ENGLAND	152	236	3	313	305	-	20	10	1,216
Maine	4	4	-	-	12	-	-	-	-
N.H.	3	21	-	14	15	-	-	-	118
Vt.	-	1	1	3	3	-	-	-	99
Mass.	64	101	2	166	163	-	16	8	465
R.I.	12	10	-	32	38	-	1	-	5
Conn.	69	99	-	98	74	-	3	2	529
MID. ATLANTIC	854	1,540	21	2,757	3,087	1	80	8	388
Upstate N.Y.	107	138	11	185	466	1	7	2	79
N.Y. City	371	796	-	1,725	1,860	-	58	1	-
N.J.	120	202	-	501	307	-	15	1	193
Pa.	256	404	10	346	454	-	-	4	116
E.N. CENTRAL	1,900	2,872	25	1,360	1,464	7	46	37	39
Ohio	788	770	9	202	210	1	5	24	2
Ind.	163	237	2	115	143	2	4	5	11
Ill.	545	1,110	5	710	764	2	26	6	9
Mich.	180	412	9	292	286	1	4	2	10
Wis.	224	343	-	41	61	1	7	-	7
W.N. CENTRAL	790	1,131	20	358	321	21	1	22	144
Minn.	32	44	1	81	38	1	-	-	13
Iowa	40	51	7	35	38	-	-	1	62
Mo.	684	925	5	155	171	14	1	9	12
N. Dak.	-	4	1	6	5	-	-	-	8
S. Dak.	-	2	-	17	11	1	-	10	22
Nebr.	-	10	2	18	16	1	-	1	-
Kans.	34	95	4	46	42	4	-	1	27
S. ATLANTIC	4,076	4,533	6	2,457	2,954	1	36	114	1,357
Del.	13	83	-	-	30	-	1	-	37
Md.	167	256	-	213	255	-	6	10	373
D.C.	157	236	-	81	113	-	1	-	2
Va.	516	431	1	214	299	-	6	12	262
W. Va.	8	8	-	58	53	-	-	2	55
N.C.	1,141	1,282	1	293	335	-	-	46	108
S.C.	519	664	-	242	271	-	-	9	126
Ga.	1,005	757	-	569	508	1	2	32	264
Fla.	550	816	4	787	1,090	-	20	3	130
E.S. CENTRAL	2,486	2,575	3	814	1,057	-	2	21	124
Ky.	135	216	1	214	249	-	1	4	10
Tenn.	656	742	2	207	319	-	1	13	34
Ala.	447	555	-	271	318	-	-	2	80
Miss.	1,248	1,062	-	122	171	-	-	2	-
W.S. CENTRAL	3,102	3,312	1	1,921	1,509	15	10	35	455
Ark.	346	380	-	200	116	13	-	6	20
La.	1,176	1,657	-	94	116	-	3	-	47
Okla.	96	212	1	186	97	2	2	25	24
Tex.	1,484	1,063	-	1,441	1,180	-	5	4	364
MOUNTAIN	176	166	6	311	355	10	9	12	88
Mont.	3	1	-	9	13	3	-	4	13
Idaho	1	-	1	11	9	-	-	-	2
Wyo.	-	7	-	5	2	-	-	2	15
Colo.	94	45	3	21	56	1	3	4	8
N. Mex.	18	24	-	43	35	2	1	-	3
Ariz.	31	71	-	149	148	-	1	1	31
Utah	6	4	2	29	21	2	2	-	10
Nev.	23	14	-	44	71	2	2	1	6
PACIFIC	495	864	40	3,554	3,502	2	65	-	167
Wash.	38	37	-	174	162	-	3	-	-
Oreg.	21	33	-	90	-	2	3	-	7
Calif.	430	785	37	3,077	3,119	-	55	-	131
Alaska	4	6	-	35	42	-	-	-	29
Hawaii	2	3	3	178	179	-	4	-	-
Guam	4	3	-	58	42	-	1	-	-
P.R.	187	356	-	86	132	-	-	-	51
V.I.	22	32	-	-	2	-	-	-	-
Amer. Samoa	1	-	-	3	3	-	1	-	-
C.N.M.I.	2	3	-	22	20	-	1	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending
August 27, 1994 (34th Week)

Reporting Area	All Causes, By Age (Years)						P&I [†] Total	Reporting Area	All Causes, By Age (Years)						P&I [†] Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	490	334	83	47	14	12	46	S. ATLANTIC	1,134	675	230	161	41	27	49
Boston, Mass.	139	79	25	19	8	8	11	Atlanta, Ga.	154	91	36	25	2	-	3
Bridgeport, Conn.	41	36	2	2	1	-	7	Baltimore, Md.	209	116	41	36	6	10	15
Cambridge, Mass.	23	18	3	2	-	-	2	Charlotte, N.C.	113	71	23	11	3	5	7
Fall River, Mass.	32	26	6	-	-	-	1	Jacksonville, Fla.	105	67	24	11	3	-	4
Hartford, Conn.	41	26	7	7	1	-	-	Miami, Fla.	66	33	18	12	2	1	-
Lowell, Mass.	24	16	6	1	-	1	6	Norfolk, Va.	46	32	5	4	4	1	-
Lynn, Mass.	11	9	-	2	-	-	1	Richmond, Va.	U	U	U	U	U	U	U
New Bedford, Mass.	17	12	2	2	1	-	2	Savannah, Ga.	52	25	15	8	2	2	3
New Haven, Conn.	47	24	12	7	2	2	1	St. Petersburg, Fla.	58	51	5	-	2	-	4
Providence, R.I.	U	U	U	U	U	U	U	Tampa, Fla.	157	113	25	14	2	3	10
Somerville, Mass.	1	-	-	1	-	-	-	Washington, D.C.	168	71	37	40	15	5	3
Springfield, Mass.	29	19	8	1	-	1	3	Wilmington, Del.	6	5	1	-	-	-	-
Waterbury, Conn.	30	29	1	-	-	-	6	E.S. CENTRAL	779	503	168	63	22	23	53
Worcester, Mass.	55	40	11	3	1	-	6	Birmingham, Ala.	127	77	26	12	6	6	4
MID. ATLANTIC	2,363	1,516	463	276	69	36	88	Chattanooga, Tenn.	89	64	14	9	1	1	2
Albany, N.Y.	53	35	13	3	2	-	1	Knoxville, Tenn.	77	56	16	3	-	2	9
Allentown, Pa.	20	15	2	2	1	-	-	Lexington, Ky.	76	48	18	9	1	-	8
Buffalo, N.Y.	100	73	16	3	5	3	1	Memphis, Tenn.	205	122	49	18	9	7	14
Camden, N.J.	36	23	5	3	4	1	1	Mobile, Ala.	41	22	12	3	2	2	3
Elizabeth, N.J.	19	13	3	3	-	-	1	Montgomery, Ala.	52	36	10	2	2	2	-
Erie, Pa.‡	39	33	6	-	-	-	3	Nashville, Tenn.	112	78	23	7	1	3	13
Jersey City, N.J.	38	23	9	5	1	-	-	W.S. CENTRAL	1,416	852	290	169	52	50	80
New York City, N.Y.	1,261	767	257	174	42	21	33	Austin, Tex.	52	26	10	10	1	5	3
Newark, N.J.	74	21	24	23	4	2	4	Baton Rouge, La.	60	38	10	9	3	-	3
Paterson, N.J.	31	27	2	-	1	-	-	Corpus Christi, Tex.	48	30	10	4	1	3	3
Philadelphia, Pa.	321	196	67	47	6	3	20	Dallas, Tex.	175	94	37	28	10	6	3
Pittsburgh, Pa.‡	71	55	8	3	2	3	7	El Paso, Tex.	69	46	12	5	2	4	8
Reading, Pa.	23	18	4	1	-	-	2	Ft. Worth, Tex.	91	60	18	9	1	3	3
Rochester, N.Y.	117	87	21	6	1	2	8	Houston, Tex.	378	210	97	51	10	10	36
Schenectady, N.Y.	30	20	8	2	-	-	-	Little Rock, Ark.	62	33	15	5	5	4	2
Scranton, Pa.‡	37	29	7	-	-	1	2	New Orleans, La.	104	56	20	17	6	2	-
Syracuse, N.Y.	54	49	5	-	-	-	4	San Antonio, Tex.	200	143	30	18	7	2	14
Trenton, N.J.	14	10	3	1	-	-	-	Shreveport, La.	68	40	12	8	4	4	2
Utica, N.Y.	25	22	3	-	-	-	1	Tulsa, Okla.	109	76	19	5	2	7	3
Yonkers, N.Y.	U	U	U	U	U	U	U	MOUNTAIN	822	550	135	87	26	24	49
E.N. CENTRAL	1,980	1,266	341	198	109	57	92	Albuquerque, N.M.	89	53	22	11	1	2	3
Akron, Ohio	67	50	6	6	2	3	-	Colo. Springs, Colo.	46	33	5	7	-	1	2
Canton, Ohio	33	25	6	1	1	-	3	Denver, Colo.	100	66	9	17	5	3	6
Chicago, Ill.	317	149	46	64	53	5	5	Las Vegas, Nev.	152	95	35	9	7	6	6
Cincinnati, Ohio	124	90	28	3	3	-	7	Ogden, Utah	24	19	2	1	1	1	1
Cleveland, Ohio	128	87	27	8	4	2	1	Phoenix, Ariz.	186	125	27	18	7	9	16
Columbus, Ohio	137	80	36	9	7	5	10	Pueblo, Colo.	17	11	3	3	-	-	-
Dayton, Ohio	101	80	11	6	3	1	11	Salt Lake City, Utah	90	62	13	11	3	1	9
Detroit, Mich.	269	152	50	41	6	11	7	Tucson, Ariz.	118	86	19	10	2	1	6
Evansville, Ind.	48	30	10	1	-	7	-	PACIFIC	1,227	807	202	138	36	35	94
Fort Wayne, Ind.	52	36	9	4	3	-	5	Berkeley, Calif.	13	8	4	-	-	1	1
Gary, Ind.	21	8	6	3	2	2	-	Fresno, Calif.	61	40	10	4	2	5	2
Grand Rapids, Mich.	54	38	8	4	3	1	7	Glendale, Calif.	16	14	1	1	-	-	3
Indianapolis, Ind.	183	112	31	20	14	6	8	Honolulu, Hawaii	83	53	12	10	5	3	4
Madison, Wis.	68	49	6	7	4	2	3	Long Beach, Calif.	79	53	10	10	1	5	12
Milwaukee, Wis.	102	79	13	5	1	4	9	Los Angeles, Calif.	334	214	64	37	10	-	5
Peoria, Ill.	35	26	3	3	1	2	2	Pasadena, Calif.	30	22	3	1	-	4	1
Rockford, Ill.	45	35	6	3	-	1	4	Portland, Oreg.	74	54	11	6	3	-	2
South Bend, Ind.	40	31	8	1	-	-	6	Sacramento, Calif.	U	U	U	U	U	U	U
Toledo, Ohio	83	55	19	6	1	2	1	San Diego, Calif.	127	82	11	26	5	3	27
Youngstown, Ohio	73	54	12	3	1	3	3	San Francisco, Calif.	U	U	U	U	U	U	U
W.N. CENTRAL	623	436	109	44	22	12	31	San Jose, Calif.	135	87	26	10	3	9	16
Des Moines, Iowa	U	U	U	U	U	U	U	Santa Cruz, Calif.	27	20	3	2	2	-	4
Duluth, Minn.	17	11	5	1	-	-	1	Seattle, Wash.	124	81	22	17	-	4	8
Kansas City, Kans.	31	20	5	5	1	-	1	Spokane, Wash.	51	32	10	6	2	1	5
Kansas City, Mo.	88	71	13	2	1	1	5	Tacoma, Wash.	73	47	15	8	3	-	4
Lincoln, Nebr.	35	23	4	5	2	1	3	TOTAL	10,834 [†]	6,939	2,021	1,183	391	276	582
Minneapolis, Minn.	137	104	19	7	5	2	9								
Omaha, Nebr.	74	48	17	4	3	2	4								
St. Louis, Mo.	117	68	28	12	6	3	2								
St. Paul, Minn.	62	46	9	2	3	2	4								
Wichita, Kans.	62	45	9	6	1	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.

Emerging Infectious Diseases

Arenavirus Infection — Connecticut, 1994

On August 20, 1994, the Connecticut Department of Public Health and Addiction Services received a report of a case of acute illness in a virologist suspected to be associated with Sabiá virus, a newly described arenavirus. This report presents preliminary findings from the case investigation.

On August 19, 1994, the virologist presented to the Tropical Medicine Clinic at Yale-New Haven Hospital with a 4-day history of fever, malaise, backache, stiff neck, and myalgias that he attributed to a recurrence of a *Plasmodium vivax* infection. On evaluation at the clinic, his temperature was 99.8 F (37.6 C) on antipyretics, and he had a normal physical examination. Laboratory evaluation included a negative malaria smear, a total white blood cell count (WBC) of 2600 cells/mm³ (normal: 4000–10,000 cells/mm³), a platelet count of 138,000 cells/mm³ (normal: 150,000–350,000 cells/mm³), 2+ proteinuria, and alanine aminotransferase (ALT) of 6356 U/L (upper limit normal: 35 U/L).

A history of a possible laboratory exposure to Sabiá virus was obtained, and the man was hospitalized for prompt treatment with intravenous ribavirin, an antiviral drug that is effective against other arenavirus infections such as Lassa fever (1).

On admission, the patient had a temperature of 103 F (39.4 C). Within 24 hours of hospitalization, his total WBC and platelet count had declined to a low of 1400 cells/mm³ and 92,000 cells/mm³, respectively. His ALT peaked at 128 U/L on the 9th day of hospitalization. No hemorrhagic manifestations of the infection were observed during hospitalization. A diagnosis of Sabiá infection was confirmed on acute serum by amplification of a portion of the viral genome by polymerase chain reaction and by isolation of the virus from blood. The patient recovered and was discharged on August 26.

On August 8, the virologist was apparently exposed to an aerosol of Sabiá virus when a centrifuge bottle developed a crack, and tissue culture supernatant containing the virus leaked into the high-speed centrifuge. At the time of the incident, the virologist was working alone in the biosafety level-3 laboratory (negative pressure with HEPA-filtered exhaust system). He cleaned the spilled material from the centrifuge while wearing a gown, surgical mask, and gloves.

Persons who came in contact with the patient or with his biological specimens in the hospital laboratories since onset of his illness were notified and enrolled in a surveillance program. None of these persons have had exposure to the patient that would suggest a high risk for secondary infection. As of August 31, none of the persons under surveillance have reported a febrile illness.

Reported by: M Barry, MD, F Bia, MD, M Cullen, MD, L Dembry, MD, S Fischer, MD, D Geller, MD, W Hierholzer, MD, P McPhedran, MD, P Rainey, MD, M Russi, MD, E Snyder, MD, E Wrone, MD, Yale Univ School of Medicine and Yale-New Haven Hospital; JP Gonzalez, MD, R Rico-Hesse, PhD, R Tesh, MD, R Ryder, MD, R Shope, MD, Yale Arbovirus Research Unit, Yale Univ; WP Quinn, MPH, New Haven Health Dept; PD Galbraith, DMD, ML Cartter, MD, JL Hadler, MD, State Epidemiologist, Connecticut Dept of Public Health and Addiction Svcs. A DeMaria, Jr, MD, State Epidemiologist, Massachusetts Dept of Public Health. Div of Field Epidemiology, Epidemiology Program Office; Special Pathogens Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

Arenavirus Infection — Continued

Editorial Note: Sabiá virus was isolated by scientists in São Paulo, Brazil, in 1990 and characterized by scientists in Belém, Brazil, and at the Yale Arbovirus Research Unit (2). Only two cases of Sabiá virus infection (both in Brazil) have been reported (2). One was a naturally acquired infection in an agricultural engineer who was probably infected by exposure to an infected rodent (the natural reservoir of other known arenaviruses). The engineer died approximately 2 weeks after becoming ill. The second case was in a laboratory technician who was working with the virus. He had a severe illness characterized by 15 days of fever, chills, malaise, headache, generalized myalgia, sore throat, conjunctivitis, nausea, vomiting, diarrhea, epigastric pain, bleeding gums, and leukopenia. He recovered after hospitalization and treatment with intravenous fluids.

Little is known about the modes of transmission of the Sabiá virus. Based on the pathogenesis of other arenaviruses, the Sabiá virus is not believed to be infectious until the patient exhibits symptoms. Other arenaviruses can be transmitted by needle-stick but do not readily spread from person to person. Persons in casual contact with persons with arenavirus infection are not at risk for disease and do not require medical follow-up.

References

1. McCormick JB, King IJ, Webb PA, et al. Lassa fever: effective therapy with ribavirin. *N Engl J Med* 1986;314:20-6.
2. Coimbra TLM, Nassar ES, Burattini MN, et al. New arenavirus isolated in Brazil. *Lancet* 1994;343:391-2.

*Notice to Readers***NIOSH Alert: Request for Assistance in Preventing Scalping and Other Severe Injuries from Farm Machinery**

CDC's National Institute for Occupational Safety and Health (NIOSH) periodically issues alerts on workplace hazards that have caused death, serious injury, or illness to workers. One such alert, *Request for Assistance in Preventing Scalping and Other Severe Injuries from Farm Machinery (1)*, was recently published and is available to the public.*

This alert warns that farm workers are at high risk for avulsion of the scalp and other severe injuries when they work near farm machinery with inadequately guarded drivelines or shafts driven by power take-offs (PTOs). Entanglement of hair, clothing, or body parts around these drivelines or shafts kills and injures many farm workers each year: according to the NIOSH National Traumatic Occupational Fatalities Surveillance System, at least 346 farm workers aged ≥ 16 years died from farm-related entanglement injuries during 1980-1989; 112 of those deaths were caused by entanglement in PTO-driven drivelines and shafts of farm machinery. Approximately 10,000

*Single copies of this document are available without charge from the Publications Office, Division of Standards Development and Technology Transfer, NIOSH, CDC, Mailstop C-13, 4676 Columbia Parkway, Cincinnati, OH 45226-1998; telephone (800) 356-4674 ([513] 533-8328 for persons outside the United States); fax (513) 533-8573.

Notice to Readers — Continued

nonfatal entanglement injuries also occurred on farms during 1982–1986; 864 of these injuries included the loss of a body part (1).

The alert describes five persons who were severely injured when their hair became entangled around the inadequately guarded rotating drivelines or shafts of farm machinery driven by PTOs (1,2). Recommendations are given for farm owners and workers to prevent injuries from primary and secondary drivelines and other PTO-driven shafts.

References

1. NIOSH. Request for assistance in preventing scalping and other severe injuries from farm machinery. Cincinnati: US Department of Health and Human Services, Public Health Service, CDC, 1994; DHHS publication no. (NIOSH)94-105.
2. CDC. Scalping incidents involving hay balers—New York. *MMWR* 1992;41:489–91.

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, July 1994 and 1993–1994*

Disease	No. cases, July 1994	Total cases January–July		No. cases among children aged <5 years [†] January–July	
		1993	1994	1993	1994
Congenital rubella syndrome (CRS)	0	5	2	4	2
Diphtheria	0	0	0	0	0
<i>Haemophilus influenzae</i> [§]	114	795	718	248	194
Hepatitis B [¶]	1046	7229	6724	68	68
Measles	71	224	794	80	178
Mumps	119	1043	830	183	131
Pertussis	247	2295	1810	1329	1024
Poliomyelitis, paralytic**	1	3	1	1	1
Rubella	28	138	199	21	18
Tetanus	3	20	22	0	1

* Data for 1993 are final and for 1994, provisional.

[†]For 1993 and 1994, age data were available for 90% or more cases, except for 1993 age data for CRS, which were available for 80% of cases.

[§]Invasive disease; *H. influenzae* serotype is not routinely reported to the National Notifiable Diseases Surveillance System.

[¶]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 1994 has been confirmed; this case is vaccine-associated. In 1993, three of 10 suspected cases were confirmed; two of the confirmed cases of 1993 were vaccine-associated, and one was classified as imported.

Addendum: Vol. 43, No. 30

In the article "Hantavirus Pulmonary Syndrome—Northeastern United States, 1994," on page 549, the following authors should be added to the reported by section: M Hibberd, MD, M Mayer, MD, R Meyer, Suffolk County Dept of Health Svcs, Hauppauge, New York.

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