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National and State-Specific Pregnancy Rates Among Adolescents — United States, 1995–1997

Each year in the United States, 800,000–900,000 adolescents aged ≤19 years become pregnant. Adolescent pregnancy and childbearing have been associated with adverse health and social consequences for young women and their children. This report presents estimated national numbers of pregnancies and national and state-specific pregnancy rates for adolescents aged ≤19 years from 1995* to 1997. The findings indicate a decline in national and state-specific adolescent pregnancy rates during 1995–1997, and a continuing downward trend beginning in the early 1990s (*1,2,4*).

Number of pregnancies was estimated as the sum of live births, legally induced abortions, and estimated fetal losses (i.e., spontaneous abortions and stillbirths) among females aged ≤19 years. Live birth data were reported by the mother's state of residence. Because abortion data by residence were not available for all states, abortions were reported by state of occurrence.† Complete age-specific abortion information was not available for nine reporting areas in 1995 (including the District of Columbia [DC]), eight areas in 1996 (including DC), and six states in 1997. To calculate national adolescent pregnancy rates, estimates of abortions among adolescents were calculated for states with missing data (*1*). Estimates of fetal losses were based on sample survey data of women aged 15–44 years from the 1988 and 1995 National Surveys of Family Growth (NSFG) (*3*). A national estimate of fetal losses for all females aged 15–19 years was derived from NSFG data and used to create annual estimates of fetal losses based on the number of live births and legally induced abortions in a given year (CDC, unpublished

*National and state-specific adolescent pregnancy rates for 1995 were previously reported (*1,2*). National rates for 1995 are reported here because fetal loss estimates were not included in the earlier definition of pregnancy (*1*) and because of a change in the population denominator data supplied by the Bureau of the Census used in calculating rates; state-specific data for 1995 are reported again because of the change in the population denominator data. Adolescent pregnancy rates previously published by CDC (*2*) should not be used together with those reported here in time series analyses because of these changes in methods. Adolescent pregnancy rates in other sources (*3*) may not be comparable to data in this report because of different calculation methodologies.

† For 48 reporting areas in 1995–1996 and 49 in 1997, the number and characteristics of persons who had legal induced abortions were provided by state health departments and the health departments of New York City and the District of Columbia. For four areas in 1995–1996 and three in 1997, the number of abortions were provided from hospitals and other medical facilities.

Pregnancy Rates — Continued

data, 1998). Denominators (estimates of the adolescent female population by state, age, and race) for abortion and fetal loss rates were obtained from postcensal population estimates.[§] Published birth rates were added to abortion and fetal loss rates and were based on earlier, slightly different[¶] population estimates (*5*).

Rates were calculated as the number of pregnancies per 1000 females aged 15–17, 18–19, or 15–19 years. Because most pregnancies, births, and abortions (97% of live births and 94% of legally induced abortions) among females aged <15 years occurred among 13–14-year-olds (CDC, unpublished data, 2000; *6*), this age group was used as the denominator for calculating rates for females aged <15 years. Legally induced abortions for which mother's age or race was unknown were included in categories based on the distribution of mothers with known age or race.

Although abortion totals were available for all states, age-specific data adequate to calculate pregnancy** rates were available from 42 states and DC for 1995, 44 states and DC in 1996, and 45 states and DC in 1997. Because adequate age and Hispanic ethnicity data for females who had abortions were available for 24 states in 1995 (*7*), 23 states in 1996, and 26 states in 1997, pregnancy rates by ethnicity were not included; some states with missing Hispanic ethnicity data had large Hispanic populations.

From 1995 to 1997, among females aged 15–19 years, the national number of pregnancies declined by 3.1% and the national pregnancy rate declined by 7.8%, from 98.3 per 1000 in 1995 to 90.7 in 1997 (Table 1). During 1995–1997, the pregnancy rate declined by 11.3% among females aged <15 years, by 10.7% among females aged 15–17 years, and by 5.8% among females aged 18–19 years. For each year, the pregnancy rate for 18–19-year-olds was approximately 2.5 times that of 15–17-year-olds, and the rate for females aged <15 years was approximately one ninth that of 15–17-year-olds.

§ Available on the World-Wide Web at http://www.census.gov/population/estimates/state/5age9890.txt. Accessed July 2000.

¶ Birth rates for females aged <15 years were calculated using 13–14-year-olds as the denominator.

** Pregnancy rates were excluded if they were based on <20 pregnancies or <1000 adolescents in a particular category, or if >15% of the pregnancies were in women of unknown age or race.

TABLE 1. Estimated number of pregnancies* and rates† among adolescents, by age and year — United States, 1995–1997

	Estimated no. of pregnancies				Pregnancy rate			
Year	**<15**	**15–17**	**18–19**	**15–19**	**<15**	**15–17**	**18–19**	**15–19**
1995	26,600	342,100	525,000	**867,100**	7.2	63.9	151.4	**98.3**
1996	25,400	332,500	526,700	**859,200**	6.8	60.5	147.8	**94.8**
1997	23,700	321,300	518,800	**840,000**	6.4	57.1	142.7	**90.7**
% Change from 1995 to 1997§	–11.1%	–6.1%	–1.2%	**–3.1%**	–11.3%	–10.7%	–5.8%	**–7.8%**

* Rounded to the nearest 100.

† Per 1000 adolescent females in the appropriate age group (per 13–14-year-olds for <15 years age group). For states that did not report abortion data by age (nine in 1995, eight in 1996, and six in 1997), numbers of abortions were estimated.

§ Percent changes were computed on the basis of unrounded numbers and rates.

Pregnancy Rates — Continued

State-specific pregnancy rates per 1000 among 15–19-year-olds ranged[††] from 56.3 (North Dakota) to 117.1 (Nevada) in 1995; from 53.9 (North Dakota) to 114.1 (Texas) in 1996; and from 48.2 (North Dakota) to 127.8 (Delaware) in 1997 (Table 2). In each year, the rate for each reporting area was highest for females aged 18–19 years and lowest for females aged <15 years. From 1995 to 1997, the pregnancy rate for 15–19-year-olds decreased in 40 of the 43 reporting areas for which age-specific data were available. Statistically significant declines occurred in 34 states and ranged from 1.9% (Ohio) to 19.8% (Maryland); no state showed a significant increase. During 1995–1997, significant declines in the pregnancy rate occurred among females aged <15 years in 20 of 41 reporting areas with available data, among 15–17-year-olds in 35 of 42 reporting areas, and among 18–19-year-olds in 27 of 42 reporting areas.

Pregnancy rates for 15–19-year-olds were, in every state except one, higher for blacks than for whites among the 30 states with available data for both groups (Table 3). Significant declines in the pregnancy rate occurred among whites in 29 of the 35 states for which adequate data for whites were available, and in 17 of 28 states for which adequate data for blacks were available. No significant increases in pregnancy rates were found for adolescents of either race in states with available data.

Among females aged 15–19 years, the national birth rate decreased from 56.8 in 1995 to 52.3 in 1997 (*5*), with declines occurring in most reporting areas. The national number of abortions declined 2.7% from 1995 to 1997, and the national abortion rate decreased 7.4%, from 26.6 per 1000 in 1995 to 24.6 in 1997. During this period, the abortion rate decreased 3.9% among females aged <15 years (from 2.8 to 2.7), 10.1% among females aged 15–17 years (from 18.2 to 16.3), and 5.4% among females aged 18–19 years (from 39.6 to 37.5). From 1995 to 1997, the abortion rate for 15–19-year-olds decreased in 32 of the 43 reporting areas for which age-specific data were available. In 25 of the 31 areas where both birth and abortion rates decreased, the percent decrease in abortion rates exceeded the decline in birth rates.

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Editorial Note: The estimation of national and state-specific adolescent pregnancy and abortion rates was limited by the lack of age-specific abortion and adequate race-specific abortion data for some states. The lack of adequate age-specific abortion data by Hispanic ethnicity in at least half of states for the 3 years also limited this analysis because separate rates for Hispanic and non-Hispanic adolescents could not be computed. State-by-state comparisons of pregnancy rates for whites for states with large Hispanic populations should be interpreted with caution. Moreover, use of abortion data by occurrence rather than by state of residence may have inflated the abortion rate in areas with large metropolitan areas that might draw from adjoining states (e.g., Delaware, DC, and Kansas).

Legally induced abortions reported to CDC may undercount the true number of these abortions (*1*). Estimates of fetal losses based on NSFG survey data are subject to underreporting because of unrecognized early fetal losses; for females aged <20 years, fetal loss estimates are based on small numbers of pregnancies. Therefore, pregnancy

[††] District of Columbia is not included in these comparisons because its pregnancy rates were higher than for any state, in part because of large numbers of abortions among nonresidents.

TABLE 2. Pregnancy rates* among adolescents aged ≤19 years, by age group and reporting area†, and percentage change§ in rates for 15–19-year-olds — United States, 1995–1997

	1995				1996				1997				% Change for 15–19-year-olds
Reporting area	**<15**	**15–17**	**18–19**	**15–19**	**<15**	**15–17**	**18–19**	**15–19**	**<15**	**15–17**	**18–19**	**15–19**	**from 1995 to 1997**
Alabama	10.1	70.8	157.6	**105.9**	9.7	67.4	156.5	**103.6**	8.0	63.7	149.3	**98.6**	–6.9
Alaska	¶	¶	¶	¶	3.0	44.1	116.1	**73.4**	3.7	39.9	111.1	**68.5**	¶
Arizona	6.2	69.9	164.9	**107.8**	5.7	69.2	156.8	**104.3**	5.1	62.7	158.1	**99.5**	–7.7
Arkansas	8.4	68.0	158.3	**104.0**	8.2	63.9	169.6	**105.8**	8.8	60.3	165.5	**101.8**	*–2.1*
Colorado	4.2	54.1	120.9	**80.3**	4.2	49.7	122.8	**78.2**	3.4	48.4	116.9	**75.0**	–6.6
Connecticut	4.9	53.8	114.6	**77.2**	5.2	55.7	124.2	**81.9**	5.3	51.1	122.8	**78.6**	*1.8*
Delaware	¶	¶	¶	¶	¶	¶	¶	¶	11.0	89.0	183.9	**127.8**	¶
District of Columbia	26.0	**	**	**229.6**	22.4	**	**	**211.2**	26.5	176.2	340.8	**249.7**	8.8
Georgia	11.9	79.2	172.3	**115.5**	10.5	74.0	169.2	**111.4**	9.3	71.5	166.1	**108.8**	–5.9
Hawaii	7.3	58.4	138.7	**92.0**	4.6	57.8	132.2	**89.4**	4.7	52.1	124.9	**82.6**	–10.2
Idaho	2.9	35.1	105.6	**63.4**	2.4	34.9	100.7	**61.6**	2.7	30.8	92.7	**56.0**	–11.6
Illinois	¶	¶	¶	¶	7.0	**	**	**100.9**	6.1	**	**	**92.3**	¶
Indiana	4.8	49.8	131.9	**82.3**	4.6	48.2	133.5	**82.0**	3.8	46.4	127.6	**78.6**	–4.6
Kansas	7.1	59.4	149.9	**94.6**	5.1	54.6	143.9	**89.2**	4.9	52.9	143.4	**87.9**	–7.1
Kentucky	5.8	55.8	137.9	**88.5**	5.4	51.6	134.6	**85.0**	4.8	49.3	131.2	**82.5**	–6.8
Louisiana	8.2	63.7	149.7	**98.2**	8.6	61.4	145.3	**95.1**	7.7	58.3	143.6	**93.0**	–5.3
Maine	2.7	36.3	94.2	**58.7**	1.8	30.8	90.9	**54.1**	1.2	30.8	92.9	**54.9**	–6.5
Maryland	7.0	54.9	123.3	**81.3**	6.0	47.0	112.9	**72.5**	4.9	41.8	102.5	**65.2**	–19.8
Massachusetts	4.3	44.2	113.1	**71.7**	3.9	42.2	109.9	**69.2**	4.3	41.3	107.1	**67.5**	–5.8
Michigan	5.2	49.9	127.8	**80.1**	4.6	46.7	121.3	**75.7**	4.4	41.6	116.3	**71.0**	–11.4
Minnesota	2.7	34.0	92.9	**56.4**	2.6	33.4	93.6	**56.3**	2.8	32.0	94.8	**55.9**	*–0.8*
Mississippi	10.7	73.4	147.7	**103.0**	9.8	66.4	144.1	**97.5**	9.4	64.7	143.3	**96.2**	–6.7
Missouri	5.2	46.7	130.6	**79.1**	4.5	44.8	127.0	**76.5**	4.0	41.5	120.3	**72.0**	–9.0
Montana	2.7	43.8	118.5	**72.8**	3.2	40.6	111.5	**68.2**	3.1	39.4	110.7	**67.1**	–7.7
Nebraska	3.1	38.8	103.5	**64.6**	2.9	39.0	109.4	**67.0**	4.8	37.4	102.3	**63.0**	*–2.4*
Nevada	6.7	74.5	185.1	**117.1**	7.2	69.7	178.0	**111.4**	5.9	68.9	170.1	**107.5**	–8.1
New Jersey	5.0	46.2	112.3	**71.7**	4.7	46.0	109.9	**70.7**	3.8	39.8	105.8	**65.3**	–8.9
New Mexico	6.6	70.1	164.5	**106.8**	5.8	69.1	158.3	**103.6**	5.7	66.6	154.2	**100.5**	–5.9
New York	7.8	69.9	159.8	**105.6**	8.2	69.2	164.0	**107.0**	7.0	63.3	151.0	**98.1**	–7.1
North Carolina	9.6	75.4	168.4	**112.3**	8.1	68.7	166.0	**107.6**	7.1	62.1	162.9	**102.1**	–9.2
North Dakota	††	30.7	96.8	**56.3**	††	29.8	91.9	**53.9**	2.4	25.0	84.9	**48.2**	–14.3
Ohio	4.8	51.5	132.1	**83.1**	4.3	46.8	127.6	**78.5**	5.5	48.6	132.5	**81.5**	–1.9
Oregon	5.4	58.1	146.8	**92.4**	4.7	56.0	148.5	**91.8**	5.2	53.9	143.1	**88.4**	–4.3

Pennsylvania	5.6	44.4	113.8	**71.6**	5.2	41.0	109.4	**67.8**	4.4	37.0	107.2	**64.4**	–10.0
Rhode Island	5.3	54.1	154.5	**93.4**	6.2	50.5	151.6	**90.5**	5.1	53.1	148.8	**91.0**	*–2.6*
South Carolina	8.8	64.6	141.2	**95.6**	7.6	60.7	135.1	**91.0**	6.8	58.5	134.4	**89.2**	–6.7
South Dakota	1.8	33.9	98.5	**59.3**	2.0	34.3	90.2	**56.3**	2.7	32.3	91.2	**55.9**	*–5.7*
Tennessee	7.7	64.0	167.0	**104.4**	7.9	62.1	159.6	**100.6**	7.1	59.5	157.8	**98.6**	–5.6
Texas	7.3	76.6	176.8	**116.3**	7.0	74.2	175.8	**114.1**	6.2	69.3	169.3	**108.4**	–6.8
Utah	2.2	34.2	91.9	**57.8**	2.3	33.2	94.0	**58.7**	2.6	32.5	92.6	**58.0**	*0.3*
Vermont	3.4	36.7	109.3	**64.7**	††	36.9	108.9	**64.5**	2.4	30.7	101.4	**57.7**	–10.8
Virginia	6.2	54.4	127.7	**84.2**	5.4	50.6	126.3	**81.4**	5.8	47.0	122.9	**77.8**	–7.5
Washington	5.2	56.7	136.9	**88.2**	4.5	53.7	135.2	**85.6**	4.9	51.9	131.4	**82.8**	–6.0
West Virginia	3.7	43.7	117.4	**73.2**	3.5	41.1	112.0	**69.9**	2.4	40.5	111.7	**69.7**	–4.9
Wisconsin	4.1	36.1	95.2	**59.1**	3.5	35.7	96.8	**59.4**	3.8	34.9	94.0	**57.8**	*–2.3*
Wyoming	††	30.7	102.7	**58.0**	††	31.9	91.1	**54.5**	††	28.9	91.6	**52.8**	–8.9

* Per 1000 adolescent females in the appropriate age group (13–14 years for <15-year-old age group).
† Abortion data by age for 1995–1997 were not reported for California, Florida, Iowa, New Hampshire, and Oklahoma.
§ Percent changes were computed on the basis of unrounded rates. All but italicized changes in rates were statistically significant at $p<0.05$.
¶ Pregnancy rates and percent change could not be calculated because the state did not provide abortion data by age for certain years.
** Pregnancy rates could not be calculated because the reporting area did not provide abortion data for certain age groups.
†† Pregnancy rate was not calculated for groups with <20 pregnancies or <1000 adolescent females.

Pregnancy Rates — Continued

TABLE 3. Pregnancy rates* among adolescents aged 15–19 years and percentage change in rate†, by race§ and state¶ — United States, 1995–1997

	1995		1996		1997		% Change in rate from 1995 to 1997	
State	White	Black	White	Black	White	Black	White	Black
Alabama	86.2	145.4	83.8	143.4	81.4	132.0	–5.5	–9.2
Alaska	**	**	61.0	††	**	**	**	**
Arizona	108.7	112.3	105.5	108.8	100.5	109.0	–7.5	*–3.0*
Arkansas	88.3	155.7	93.0	149.9	89.1	145.0	*0.9*	–8.0
Colorado	§§	§§	§§	§§	73.1	108.1	§§	§§
Delaware	**	**	**	**	102.7	208.8	**	**
Georgia	90.4	164.7	87.8	156.8	85.4	152.9	–5.5	–7.2
Hawaii	50.7	77.4	52.7	59.4	46.3	65.6	*–8.6*	*–15.2*
Idaho	63.3	††	61.1	††	55.7	††	–11.9	††
Indiana	74.0	159.2	73.0	164.1	70.4	155.1	–4.9	*–2.5*
Kansas	85.8	208.8	81.3	191.4	79.8	194.5	–7.0	*–6.9*
Kentucky	82.2	154.0	78.9	148.0	77.0	137.8	–6.4	–10.5
Louisiana	71.8	135.5¶¶	70.2	130.0¶¶	69.2	125.8¶¶	–3.7	–7.1¶¶
Maine	57.7	††	53.3	††	54.4	††	–5.7	††
Maryland	58.1	132.4	51.2	120.3	43.8	111.4	–24.6	–15.8
Minnesota	47.1	217.4	47.3	210.6	46.4	213.5	*–1.4*	*–1.8*
Mississippi	72.7	137.6	67.8	131.3	68.1	128.6	–6.3	–6.5
Missouri	66.2	161.6	63.6	158.2	60.9	141.4	–8.1	–12.5
Montana	65.4	††	61.5	††	59.2	††	–9.5	††
Nebraska	**	**	**	**	§§	§§	**	**
Nevada††	117.8	140.9	109.6	145.5	105.8	145.1	–10.2	*3.0*
New Jersey	46.4	175.6	45.3	169.7	42.0	160.8	–9.5	–8.4
New Mexico	108.6	100.3	106.7	90.5	104.1	86.1	–4.2	*–14.2*
New York	84.8	190.5	85.0	197.0	78.0	180.7	–8.1	–5.2
North Carolina	92.4	157.6	87.7	152.0	84.4	142.7	–8.7	–9.4
North Dakota	49.4	††	47.2	††	41.5	††	–16.0	††
Ohio	69.2	173.0	65.2	163.1	67.4	173.1	–2.5	0.1
Oregon	90.6	183.2	89.3	191.1	86.0	170.9	–5.0	*–6.7*
Pennsylvania	53.6	210.0	51.3	195.8	47.8	195.5	–10.8	–6.9
Rhode Island	83.4	206.3	82.7	167.6	82.9	177.6	*–0.6*	–13.9
South Carolina	78.0	123.4	73.8	118.2	72.9	115.8	–6.6	–6.2
South Dakota	48.3	††	45.8	††	45.0	††	*–6.9*	††
Tennessee	87.4	169.5	85.3	156.9	82.3	158.0	–5.8	–6.8
Texas	114.3	142.1	111.8	143.0	106.7	132.9	–6.7	–6.5
Utah	56.3	††	57.5	††	56.8	††	*0.8*	††
Vermont	65.2	††	64.9	††	58.1	††	–10.9	††
Virginia	68.6	138.1	65.5	134.5	62.1	129.3	–9.4	–6.4
Washington	§§	§§	§§	§§	§§	§§	§§	§§
West Virginia	71.1	133.4	68.3	118.1	68.1	116.1	–4.2	*–13.0*
Wisconsin	46.3	196.8	46.3	197.6	44.9	198.3	*–3.0*	*0.8*
Wyoming	**	**	**	**	51.8	††	**	**

* Per 1000 adolescent females.

† Percent changes were computed on the basis of unrounded rates. All but italicized changes in rates were statistically significant at $p<0.05$.

§ Pregnancy in Hispanic women is included in rates for white and black adolescents. Race-specific rates, especially for white adolescents, may reflect higher fertility among Hispanic adolescents in states with large Hispanic populations, including Arizona, Colorado, Nevada, New Jersey, New Mexico, New York, Oregon, Rhode Island, Texas, and Washington. Pregnancy rates for adolescents of races other than white or black are not presented because the composition of this category varied widely by state and because abortion information was not available on the race breakdown of "others" for each state.

¶ Pregnancy rate and percent change could not be calculated for the following areas because they did not provide abortion data by age and race for 1995–1997: California, Connecticut, District of Columbia, Florida, Illinois, Iowa, Massachusetts, Michigan, New Hampshire, and Oklahoma.

** Pregnancy rate and percent change could not be calculated because state did not provide abortion data by age and race for certain years.

†† Pregnancy rate and percent change could not be calculated for age groups with <20 pregnancies or <1000 adolescent females.

§§ Pregnancy rate and percent change could not be calculated because age or race information was missing for >15% of women who had an abortion.

¶¶ Rate and percent change is for all races other than white.

Pregnancy Rates — Continued

totals based on births, legally induced abortions reported to CDC, and fetal loss estimates may underestimate the actual pregnancy rate. However, underreporting likely remains relatively constant from year to year and is therefore unlikely to affect the trends shown in this report.

Sexual experience, sexual activity, and effective contraceptive use are important determinants of changes in pregnancy rates. The decline in pregnancy rates among females aged 15–19 years have been attributed to stable rates of sexual experience and activity among this group and increased use of condoms (*4,8*). Increased use of long-acting hormonal methods introduced in the early 1990s also has been associated with the decline (*9*).

Sustaining the downward trend in adolescent pregnancy will require addressing complex individual and community-level factors that can affect adolescents' sexual and reproductive behavior. Community- and school-based programs designed to reduce adolescent pregnancy that address risk factors and specific skills to postpone sexual experience and increase contraceptive use may be more effective in reducing adolescent pregnancy than programs focusing exclusively on changing sexual beliefs or behavior (*10*). Effective programs also include strong educational components, messages targeting different groups of adolescents, and youth development approaches that will strengthen self-esteem and planning for the future (*10*). Scientific evaluation of adolescent pregnancy prevention measures is an essential component of these community-based programs. The identification of effective strategies will assist state and local agencies in implementing successful approaches to continuing the downward trend in adolescent pregnancy.

References

1. Kaufmann RB, Spitz AM, Strauss LT, et al. The decline in US teen pregnancy rates, 1990–1995. Pediatrics 1998;102:1141–7.
2. CDC. State-specific pregnancy rates among adolescents—United States, 1992–1995. MMWR 1998;47:497–504.
3. The Alan Guttmacher Institute. Teenage pregnancy: overall trends and state-by-state information. New York, New York: The Alan Guttmacher Institute, 1999.
4. Ventura SJ, Mosher WD, Curtin SC, Abma JC, Henshaw S. Trends in pregnancies and pregnancy rates by outcome: estimates for the United States, 1976–96. Hyattsville, Maryland: US Department and Health and Human Services, CDC, National Center for Health Statistics. Vital Health Stat 2000;21(56).
5. Ventura SJ, Mathews TJ, Curtin SC. Declines in teenage birth rates, 1991–1998: update of national and state trends. Hyattsville, Maryland: US Department of Health and Human Services, CDC, National Center for Health Statistics, 1999.
6. Kochanek KD. Induced terminations of pregnancy: reporting states, 1988. Hyattsville, Maryland: US Department of Health and Human Services, CDC, National Center for Health Statistics, 1988. Monthly Vital Statistics Report; vol 39.
7. Koonin LM, Smith JC, Ramick M, Strauss LT. Abortion surveillance—United States, 1995. In: CDC surveillance summaries (July). MMWR 1998;47(no. SS-2).
8. CDC. Trends in sexual risk behaviors among high school students—United States, 1991–1997. MMWR 1998;47:749–52.
9. Darroch JE, Singh S. Why is teenage pregnancy declining? the roles of abstinence, sexual activity and contraceptive use. New York, New York: The Alan Guttmacher Institute, 1999.
10. Kirby D. No easy answers: research findings on programs to reduce teen pregnancy. Washington, DC: The National Campaign to Prevent Teen Pregnancy, 1997.

Silicosis Screening in Surface Coal Miners — Pennsylvania, 1996–1997

Silicosis is an occupational respiratory disease caused by inhaling respirable crystalline silica dust. Silicosis is irreversible, often progressive (even after exposure has ceased), and potentially fatal. Exposure to silica dust occurs in many occupations, including mining (*1*). During 1996–1997, surface coal miners at eight sites in Pennsylvania were screened to estimate the prevalence of silicosis, to identify risk factors for silicosis, and to refer miners with a possible diagnosis of silicosis or other conditions for medical evaluation and treatment. This report summarizes the results of the screening, which indicated that an increased prevalence of and risk for silicosis is associated with miners' age and years of drilling experience, and provides recommendations for preventing silicosis among miners.

Enrollment in the screening was voluntary and available to anyone who had worked in surface mining for 1 year or more. Surface miners were informed of the screening by Mine Safety and Health Administration (MSHA) inspectors during routine mine visits. Screening was performed by a multiagency team from the Chronic Respiratory Disease Program of the Pennsylvania Department of Health (team leader), the Department of Health Evaluation Sciences of the Pennsylvania State University College of Medicine, MSHA, and CDC's National Institute for Occupational Safety and Health (NIOSH).

Screening was conducted during May–June 1996, at five mine sites in bituminous coalfields in western Pennsylvania (Altoona, Clearfield, Farmington, Indiana, and Somerset) and, in June 1997, at three mine sites in anthracite coalfields in eastern Pennsylvania (Centralia, Pottsville, and Wilkes-Barre). The screening was divided by coal type and region because of differences in geology and mining practices. Screening consisted of anterior-posterior chest radiographs; spirometry; and a survey containing questions about demographics; medical, work, and smoking history; and workplace exposures. Silicosis was defined as a radiographic finding of International Labour Organization (ILO) classification of profusion category ≥1/0 (*2*); classification was based on consensus of at least two of three NIOSH-certified B readers*. Descriptive analyses were performed on all variables collected from the radiographs, spirometry, and surveys. Multivariable logistic regression models were used to determine risk factors for developing silicosis.

During 1996–1997, 1250 current and former coal miners were screened at the eight sites (664 in western and 586 in eastern Pennsylvania); and data from 1236 miners were suitable for analysis (Figure 1). Screened miners were almost exclusively white (99.9%), male (99.5%), and non-Hispanic (97.6%); the mean age was 46.2 years (range: 18–87 years). Of 1221 miners, 289 (23.7%) were current smokers, and 729 (59.7%) had ever smoked; 1120 (90.7%) of 1235[†] were employed full-time.

Radiographic evidence of silicosis was found in 83 (6.7%) of 1236 screened miners. Prevalence of silicosis did not vary by smoking status, and no significant differences in prevalence were noted by site except among the 213 participants at Clearfield (16.0%; p=0.001). When data from Clearfield were excluded, the prevalence of silicosis was

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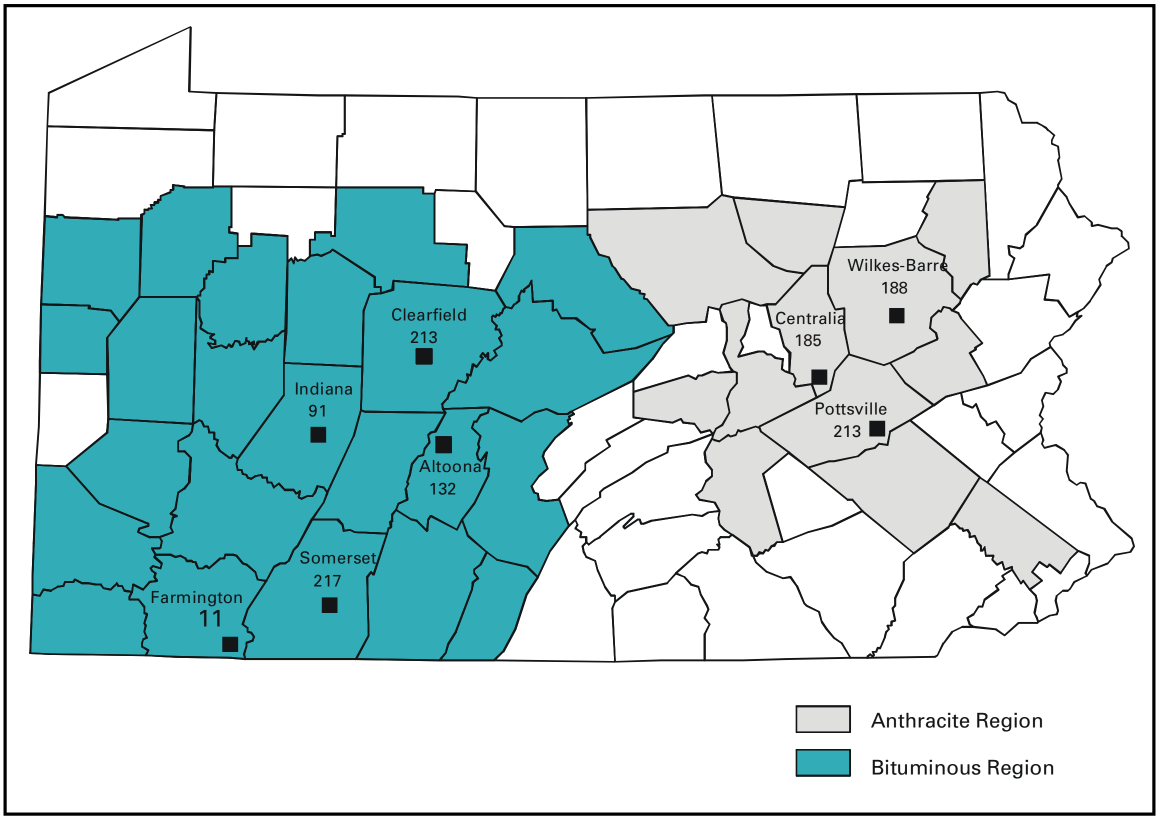
*A physician certified by NIOSH as having competency in the classification of chest radiographs to detect pneumoconiosis using ILO guidelines. If at least two of the three B readers categorized the profusion as ≥1/0, the miner was classified as having silicosis; if at least two readers indicated the film was negative (<1/0), the miner was classified as not having silicosis.

†Denominators vary because of nonresponse to specific questions.

Silicosis — Continued

FIGURE 1. Number of surface coal miners participating in silicosis screening, by region and site — Pennsylvania, 1996–1997



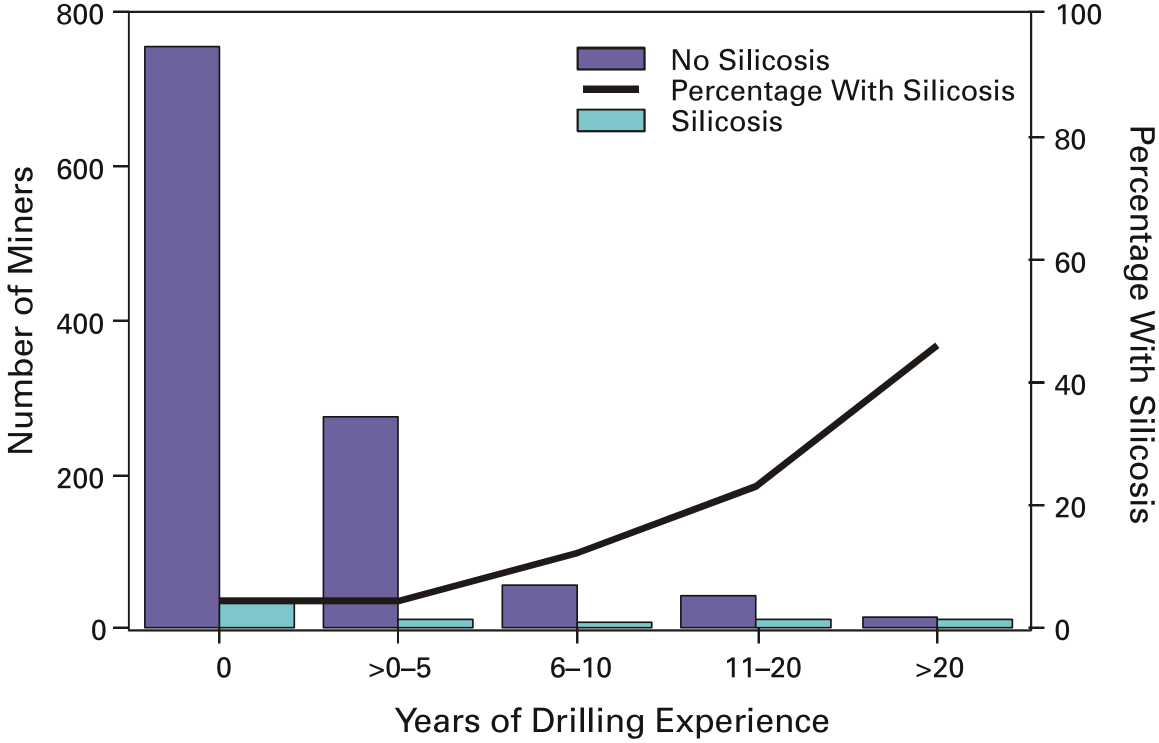
similar for western (5.2%) and eastern (4.5%) Pennsylvania. The odds ratio (OR) for silicosis at the Clearfield site compared with other western sites was 4.4 (95% confidence interval [CI]=2.3–8.5); the OR for silicosis at eastern sites was 1.1 (95% CI=0.6–2.1) compared with western sites, excluding Clearfield.

The mean age of miners with silicosis was 50.6 years and without silicosis was 45.6 years (p=0.0002). When age was modeled as a quadratic function in the logistic regression model, a significant increase in silicosis occurred with increasing age. Compared with miners aged 30 years, miners aged 40, 50, and 60 years had progressively increased odds of silicosis: 3.7 (95% CI=1.7–8.2), 7.8 (95% CI=2.4–25.3), and 9.7 (95% CI=3.0–31.6), respectively. Silicosis prevalence increased as the number of reported years of drilling experience increased, from 37 (4.7%) of 792 miners reporting no drilling experience to 12 (46%) of 26 in miners reporting >20 years experience (Figure 2). Compared with miners with ≤5 years of drilling experience, those who had 6–10, 11–20, and >20 years experience had progressively increased odds of silicosis: 4.3 (95% CI=1.6–11.8), 7.0 (95% CI=2.6–18.6), and 14.5 (95% CI=4.8–43.6), respectively.

Reported by: PA Tyson, MSW, Chronic Respiratory Disease Program, Pennsylvania Dept of Health. JL Stauffer, MD, EA Mauger, PhD, JE Caulfield, MS, Pennsylvania State Univ College of Medicine, Hershey. DW Conrad, KG Stricklin, Mine Safety and Health Administration, US Dept of Labor. Div of Respiratory Disease Studies; Office for Mine Safety and Health, Pittsburgh Research Laboratory, National Institute for Occupational Safety and Health, CDC.

Silicosis — Continued

FIGURE 2. Number and percentage of surface coal miners with and without silicosis, by reported years of drilling experience — Pennsylvania, 1996–1997



Editorial Note: This report underscores the risk for silicosis associated with surface coal mining operations. Previous studies identified an increased risk for silicosis among rock drillers (*3*), and this report corroborates the increased prevalence of silicosis among surface coal mining drillers (*4,5*).

The findings in this report are subject to at least four limitations. First, the sample was voluntary and represented approximately 40% of Pennsylvania surface coal miners (63% of anthracite miners and 29% of bituminous miners[§]); therefore, the results do not necessarily represent all surface coal miners in Pennsylvania or the United States. Silicosis prevalence may be underestimated if miners with confirmed or suspected silicosis did not participate or may be overestimated if a higher percentage of affected workers participated. Second, B reader variability in the interpretation of chest radiographs was a possibility, although the study methods were designed to limit the effects of reader variability (*6*). Third, prevalence differences across sites must be interpreted cautiously; miners were not restricted in their choice of screening site, and the latency period for silicosis, several years to several decades following exposure, makes it difficult to determine a specific source of exposure in workers. Finally, the study collected data on years of drilling experience and not on years of overall mining experience; some miners may have performed numerous duties at different mines throughout the region.

[§] Data from MSHA, part 50. The Federal Mine Safety and Health Act of 1977 requires all mine operators to record and report to MSHA data on occupational injuries; illnesses; certain noninjurious accidents; and related employment, work time, and operating activity information. MSHA data cited for number of employees are for mine operator employees only; state-specific data are not available for contractor employees.

Silicosis — Continued

According to MSHA part 50 data for 1996 and 1997, Pennsylvania had almost one third of the U.S. surface coal mines; however, because of the many small operations in Pennsylvania, 3205 (approximately 10%) of the 31,308 surface coal miners in the United States are employed in Pennsylvania. Smaller mine operations may lack resources required to purchase or maintain optimal dust-control equipment, and small-scale operations represent special challenges for enforcement activities. The reason for the higher silicosis prevalence at Clearfield is unknown; however, influences may include site-specific geologic factors (e.g., quartz content of overlying rock), past work practices, mining methods, types of controls, or machinery maintenance.

Because no effective treatment exists for silicosis, prevention through exposure control is essential (*7*). When proper practices are not followed or controls are not maintained, silica exposures can exceed the MSHA Permissible Exposure Limit (PEL) or the NIOSH Recommended Exposure Limit (REL)¶. Effective engineering controls in the mining environment include dust suppression (e.g., wet drilling), dust collection (e.g., dry drilling with particulates exhausted through a dust collection system), and use of enclosed isolation systems (e.g., air conditioned cabs under positive pressure and equipped with both filtered air supply and filtered recirculated air). In 1994, MSHA and NIOSH implemented a regional, and later a national, silicosis prevention program that promoted educational efforts and allowed coal mine inspectors to issue citations on the basis of visual inspection of dust-producing drilling equipment rather than more extensive sampling (*8*). As a result, some high-risk equipment has been discarded by the mines; however, because of the long latency period that usually precedes clinical onset of silicosis, the impact of these reforms on the incidence of silicosis remains unclear.

References

1. Wagner GR. Asbestosis and silicosis. Lancet 1997;349:1311–5.
2. International Labour Office. Guidelines for the use of ILO international classification of radiographs of pneumoconioses. Geneva, Switzerland: International Labour Office, 1980.
3. National Institute for Occupational Safety and Health. NIOSH alert: request for assistance in preventing silicosis and deaths in rock drillers. Cincinnati, Ohio: US Department of Health and Human Services, Public Health Service, CDC, 1992; DHHS publication no. (NIOSH)92-107.
4. Amandus HE, Hanke W, Kullman G, Reger RB. A re-evaluation of radiologic evidence from a study of U.S. strip coal miners. Arch Environ Health 1984;39:346–51.
5. Amandus HE, Petersen MR, Richards TB. Health status of anthracite surface coal miners. Arch Environ Health 1989;44:75–81.
6. Wagner GR, Attfield MD, Parker JE. Chest radiography in dust-exposed miners: promise and problems, potential and imperfections. Occup Med 1993;8:127–41.
7. CDC. Silicosis deaths among young adults—United States, 1968–1994. MMWR 1998;47: 331–5.
8. US Department of Labor, Mine Safety and Health Administration. Code of federal regulations title 30; part 72.620. Federal Register 1994;59:8323–4.

¶ PEL for coal mining is 2.0 mg of respirable coal dust per cubic meter of air (2 mg/m^3); however, when the respirable quartz (crystalline silica) content of the dust exceeds 5%, a reduced PEL is computed by dividing the percentage of respirable quartz into the number 10 (Title 30, Code of Federal Regulations, Part 71.101). NIOSH-recommended exposure limit (REL) for respirable crystalline silica is a 10-hour, time-weighted average level of 50 µg/m^3.

Hepatitis B Vaccination Coverage Among Asian and Pacific Islander Children — United States, 1998

Asian and Pacific Islander (API) children in the United States have high rates of hepatitis B virus (HBV) infection (*1–3*). To prevent these infections, hepatitis B vaccination has been recommended for these children since the vaccine was first licensed by the Food and Drug Administration in 1981 (*4*). Recommendations have included universal hepatitis B vaccination of API infants beginning in 1990 and catch-up vaccination for API children aged <7 years (*5*). These recommendations were reinforced in 1991 when hepatitis B vaccination was recommended for all infants, particularly in populations such as API children with high rates of early childhood HBV infection (*6*). In 1995, vaccination was recommended for unvaccinated API children aged <11 years and catch-up vaccination for children aged 11–12 years who had not received hepatitis B vaccine (HepB) (*7*). Series completion among API children aged 19–35 months increased from 39% in 1994 to 88% in 1997 (*8*). However, among older API children, hepatitis B vaccination coverage was 10% in 1995 (*7*). In 1998, to examine trends in hepatitis B vaccination catch-up coverage among API children born before 1994, surveys were conducted in six U.S. cities. This report summarizes the results of the surveys, which indicate varying coverage among API children and suggest a need for continued focused vaccination programs for this population.

In three cities (Milwaukee, St. Paul, and Seattle), state or county health departments evaluated hepatitis B vaccination programs conducted in the API community. These cities were compared with three other cities (Dallas, Houston, and Washington, D.C.) where no vaccination programs were targeted for API children. Sampling and data collection methods varied between cities. In Milwaukee, students aged 5–14 years with Lao/Hmong surnames were sampled randomly from all public schools. In St. Paul and Seattle, children aged 4–13 and 4–14 years, respectively, were selected using a population-based cluster sample technique. In these three cities, parents or guardians were interviewed in person, and vaccination data were validated with written records from parents, schools, or health-care providers. In Dallas, Houston, and Washington, D.C., a random sample of persons with Vietnamese surnames was selected from area telephone directories, primary caretakers of persons aged 3–18 years were interviewed by telephone, and health-care providers were contacted to verify vaccination histories. For each city, a range of the percentage vaccinated was estimated using the total sample to represent the lower percentage and only those children identified with health-care providers for the higher percentage (Table 1).

Children born during 1984–1993 were included for this report. The third HepB dose (HepB-3) was counted if it had been administered at or after age 164 days with an interval of at least 108 days between doses 1 and 3. LOWESS plots (*9*) were constructed to compare city-specific trends in yearly HepB administration rates among children eligible for vaccination. The percentage of all children in each survey who completed the HepB series by 1998 ranged from 14% (Houston) to 67% (St. Paul) (Table 1). For all children in all surveys combined, the weighted average HepB series completion rate was 42% and did not differ by place of birth (born in the United States versus foreign-born; n=1232 and 708, respectively). Series completion rates at or before age 12, 18, and 60 months were 12%, 16%, and 30%, respectively.

Hepatitis B Vaccination Coverage — Continued

TABLE 1. Hepatitis B vaccination coverage rates among Asian and Pacific Islander children born during 1984–1993 — six-city survey, 1998

	Households				No.	No.		% of	% of
City	Total	Response rate	No. eligibles identified	Eligible response rate	children in sample	children with providers	Ethnicity	children receiving Hep B-1*	children receiving Hep B-3†
Without program									
Dallas§	3801	72%	549	91%	332	(177)¶	Vietnamese	28% (52%)¶	18% (36%)¶
Houston§	4743	65%	539	94%	314	(132)¶	Vietnamese	25% (61%)¶	14% (36%)¶
Washington, DC§	3550	79%	503	93%	346	(127)¶	Vietnamese	25% (56%)¶	15% (43%)¶
With program									
Milwaukee**	275	99%	271	76%	207		Lao/Hmong	82%	51%
St. Paul††	1391	56%	209	96%	586		Hmong	80%	67%
Seattle††	4200	95%	272	100%	412		Pan-Asian§§	79%	65%

* First dose in the hepatitis B vaccination series.
† Third dose in the hepatitis B vaccination series.
§ Systematic random sample from telephone directory list of Vietnamese surnames.
¶ To be included in this subsample, health-care providers had to report child as patient.
** Systematic random sample from school enrollment list of Lao/Hmong surnames.
†† Cluster sample of households within geographic area.
§§ Primarily Vietnamese (32%), Chinese (19%), Filipino (19%), and Cambodian (12%).

Vaccination coverage was examined separately for cities with and without hepatitis B vaccination programs for API children. HepB coverage was 41%–61% and 2%–11% for cities with and without these programs for the 1980s birth cohorts and increased with the 1990s birth cohorts (Figure 1). The increase was greatest in cities with a designated API vaccination program; combined vaccination coverage in the 1993 birth cohort was 83%. The effect of the 1990 and 1991 recommendations for infant vaccination was observed when vaccination coverage was stratified by age at HepB series completion (Figure 1). In each birth cohort, the proportion of children who completed the HepB series by age 18 months (infant vaccination) increased substantially in cities with and without ongoing programs; however, during 1992–1998, annual catch-up vaccination rates as measured by HepB-3 completion remained 7%–11% per year in cities with ongoing API hepatitis B vaccination programs compared with 0.7%–2.6% per year in cities without such programs.

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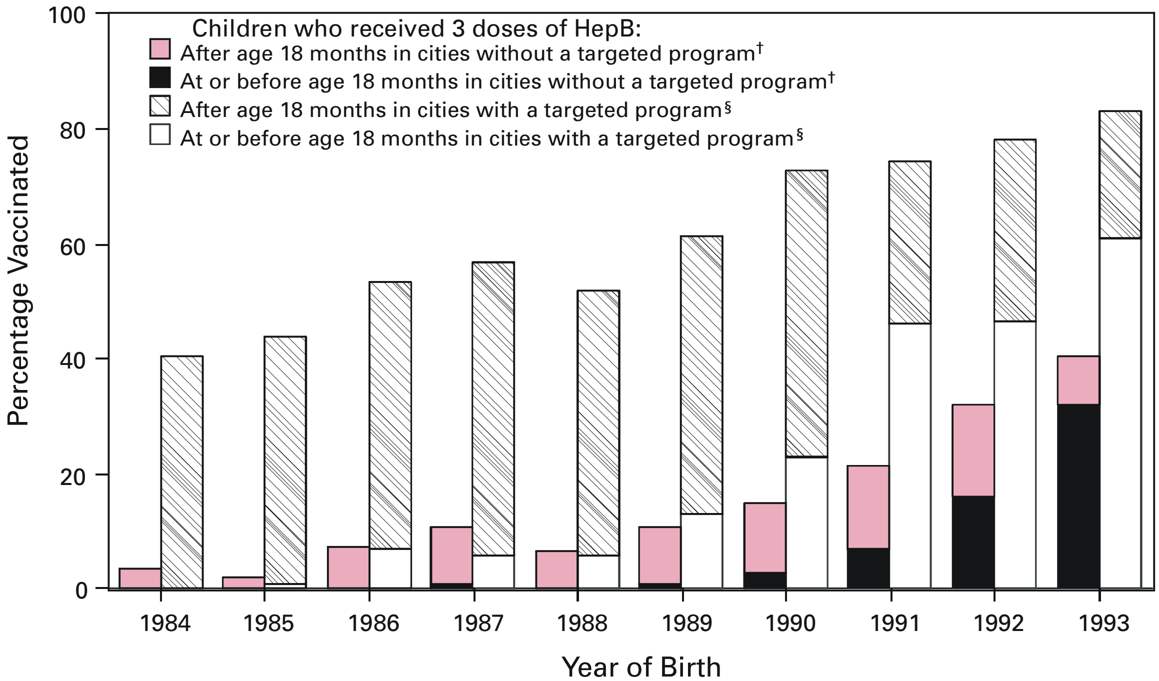
Editorial Note: The findings in this report document the impact of targeted vaccination programs for populations at high risk for childhood HBV infection. In the three cities with ongoing API hepatitis B vaccination programs, coverage increased with each successive birth cohort over a 10-year period, reaching 83% among children born in 1993; however, in cities without programs, the overall vaccination coverage remained low, although coverage also increased with each successive birth cohort.

The three cities with API hepatitis B vaccination programs used three approaches to achieve their higher rates of coverage. In Milwaukee, an active refugee health hepatitis B vaccination program, which began in 1984, provided screening and vaccination services to all new API arrivals. In St. Paul, during the 1989–1991 measles epidemic that resulted in three deaths among Hmong children, a coalition was formed that conducted

Hepatitis B Vaccination Coverage — Continued

FIGURE 1. Coverage with three doses of hepatitis B vaccine (HepB) among Asian and Pacific Islander children*, by year of birth — six cities, 1998



*n=2197.
† Dallas, Houston, and Washington, D.C.
§ Milwaukee, St. Paul, and Seattle.

a multimedia health-promotion campaign and health-care provider education and outreach. In Seattle, state and local health departments and two clinics that served a large proportion of the API population educated providers about the need for catch-up coverage among API children and, during 1996–1997, conducted a 16-month, citywide middle school and high school-based hepatitis B vaccination program for all public school students.

The findings in this report are subject to at least three limitations. First, the populations studied may not represent the nationwide API population. Second, the cities with and without programs may not represent all U.S. cities with and without targeted catch-up hepatitis B vaccination programs. Third, biases may have resulted from a loss of randomness in sampling, nonrespondents whose vaccination rates differ from respondents, and missing vaccination records that may have caused inaccurate coverage estimates.

Data from the six city surveys and from other cities and state reports (*10*) indicate that 40% of all API children in the United States aged 7–18 years have completed their HepB series (CDC, unpublished data, 1999). This low rate of coverage in a group at risk for HBV infection underscores the need for increased efforts to continue to provide catch-up vaccination to these children. In addition, catch-up efforts among preschool children are needed in communities where many API infants do not receive HepB. API children born since 1988 who were not vaccinated as infants or caught up as young

Hepatitis B Vaccination Coverage — Continued

children should be vaccinated routinely at age 11–12 years. Although eventual high rates of universal adolescent vaccination can be expected for API children living in the 20 states and Washington, D.C., with existing middle school entry laws, special efforts will be needed to ensure vaccination of API children in states without such laws. Because no established vaccination visits exist for older adolescents, hepatitis B vaccination will depend primarily on self-identification, community-based programs, and health-care providers who are aware of the high risk for HBV infection among API children and who can meet specific API cultural and language needs (CDC, unpublished data, 1999). Community-based catch-up hepatitis B vaccination programs have been the mission of the National Task Force on Hepatitis B Immunization, Focus on Asians and Pacific Islanders (on the World-Wide Web at http://aapihp.com*). Successful catch-up initiatives to protect API children should be implemented as quickly as possible.

References

1. Franks AL, Berg CJ, Kane MA, et al. Hepatitis B virus infection among children born in the United States to Southeast Asian refugees. N Engl J Med 1989;321:1301–5.
2. Hurie MB, Mast EE, Davis JB. Horizontal transmission of hepatitis B virus infection to United States-born children of Hmong refugees. Pediatrics 1992;89:269–73.
3. Coleman PJ, McQuillan GM, Moyer LA, Lambert SB, Margolis HS. Incidence of hepatitis B virus infection in the United States, 1976–1994: estimates from the National Health and Nutrition Examination surveys. J Infect Dis 1998;178:954–9.
4. CDC. Inactivated hepatitis B virus vaccine. MMWR 1982;31:317–22,327–8.
5. CDC. Protection against viral hepatitis—recommendations of the Immunization Practices Advisory Committee (ACIP). MMWR 1990;39(no. RR-2).
6. CDC. Hepatitis B virus: a comprehensive strategy for eliminating transmission in the United States through universal childhood vaccination. MMWR 1991;40(no. RR-13).
7. CDC. Update: recommendations to prevent hepatitis B virus transmission—United States. MMWR 1995;44:574–5.
8. CDC. Vaccination coverage by race/ethnicity and poverty level among children aged 19–35 months—United States, 1997. MMWR 1998;47:956–9.
9. Cleveland WS. Robust locally weighted regression and smoothing scatterplots. Journal of the American Statistical Society 1979;74:829–36.
10. Euler GL. Changing the legacy for Asian Americans and Pacific Islanders. Asian Am Pacific Isl J Health 1998;6:304–10.

*References to sites of non-CDC organizations on the World-Wide Web are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of pages found at these sites.

Notice to Readers

Delayed Supply of Influenza Vaccine and Adjunct ACIP Influenza Vaccine Recommendations for the 2000–01 Influenza Season

Annual vaccination against influenza is the primary means for minimizing serious adverse outcomes from influenza virus infections. These infections result in approximately 20,000 deaths and 110,000 hospitalizations per year in the United States (*1*). The amount of trivalent inactivated influenza vaccine produced for distribution in the United States has increased substantially; in 1999, four manufacturers produced a combined total of 80 to 85 million doses.

For the 2000–01 influenza season in the United States, lower than anticipated production yields for this year's influenza A(H3N2) vaccine component and other manufacturing problems are expected to lead to a substantial delay in the distribution of influenza vaccine and possibly substantially fewer total doses of vaccine for distribution than last year. A more precise estimate of the vaccine supply will be available as production progresses during the summer. Because many vaccine providers currently are planning their fall vaccination activities, CDC and the Advisory Committee on Immunization Practices (ACIP) are issuing adjunct influenza vaccination recommendations beyond those made by ACIP on April 14, 2000 (*1*). The adjunct recommendations are specific to the 2000–01 influenza season.

Adjunct Influenza Vaccine Use Recommendations for the 2000–01 Influenza Season

1. Implementation of organized influenza vaccination campaigns should be delayed. Health-care providers, health organizations, commercial companies, and other organizations planning organized influenza vaccination campaigns for the 2000–01 influenza season should delay vaccination campaigns until early to mid-November. The purpose of this recommendation is to minimize cancellations of vaccine campaigns and wastage of vaccine doses resulting from delays in vaccine delivery.
2. Influenza vaccination of persons at high risk for complications from influenza and their close contacts should proceed routinely during regular health-care visits. Routine influenza vaccination activities in clinics, offices, hospitals, nursing homes, and other health-care settings (especially vaccination of persons at high risk for complications from influenza, health-care staff, and other persons in close contact with persons at high risk for complications from influenza) should proceed as normal with available vaccine.
3. Provider-specific contingency plans for an influenza vaccine shortage should be developed. All influenza vaccine providers, including health-care systems and organizers of vaccination campaigns, should develop a provider-specific contingency plan to maximize vaccination of high-risk persons and health-care workers. These plans should be available for implementation if a vaccine shortage develops.

Use of Influenza Antiviral Medications

There are no new recommendations for the use of influenza antiviral drugs. The approved usage (i.e., for treatment or chemoprophylaxis), age group, dosage, route of administration, metabolism, and adverse reactions of these agents vary (*1*), and all of them require prescription by a physician. Influenza antiviral drugs are useful for controlling influenza outbreaks in specific and circumscribed situations, such as nursing homes. In addition, long-term antiviral chemoprophylaxis of high-risk institutionalized residents or some persons at high risk for complications from influenza might be indicated if vaccine either is unavailable, ineffective (e.g., severely immunocompromised persons), or contraindicated.

However, these drugs are not a substitute for influenza vaccine. Even if an influenza vaccine shortage develops, CDC and ACIP do not support their routine and widespread use as chemoprophylaxis against influenza because this is an untested and expensive strategy that could result in large numbers of persons experiencing adverse effects.

Notices to Readers — Continued

Additional Discussion

In the United States, 70 to 76 million persons (approximately 35 million persons aged ≥65 years; 33 to 39 million persons aged <65 years with high-risk medical conditions; and 2 million pregnant women) are at high risk for serious complications from influenza infections, including hospitalizations and deaths. The expected delay in influenza vaccine distribution and a possible shortage for the 2000–01 influenza season has raised difficult questions of how to maximize protection against influenza for these persons. One complicating factor is that many vaccine providers must plan their fall vaccination activities now even though the vaccine supply is uncertain. Given the current situation, CDC and ACIP have issued modified recommendations for the 2000–01 season emphasizing the delay of organized influenza vaccine campaigns until November, the continuation of routine vaccination activities during regular health-care visits, and the development of provider-specific contingency plans in case a vaccine shortage should develop. There are additional important points worth emphasizing in addition to these main recommendations:

- Influenza vaccine administered after mid-November can still provide substantial protective benefits. In general, ACIP recommends that routine vaccination of persons at high risk for complications from influenza begin in September. In previous years, ACIP has recommended that organized campaigns take place during October through mid-November. These timing recommendations balance several considerations, including the desirability of administering vaccine before substantial seasonal influenza activity has begun but not vaccinating so early such that vaccine antibody titers might substantially decrease in some persons. Nonetheless, many persons who should receive influenza vaccine remain unvaccinated after mid-November, and for many of these persons, influenza vaccination after mid-November will be beneficial. For the 2000–01 season, it is particularly important for vaccine providers to continue to administer vaccine after mid-November.
- Once vaccine is available, health-care workers should provide vaccine to persons at high risk for complications from influenza as is normally done. This is particularly important for young children at high risk who are receiving influenza vaccination for the first time and who require two doses of vaccine.
- Minimizing wastage of influenza vaccine is important. In particular, influenza vaccine purchasers should refrain from placing duplicate orders with multiple companies to minimize the amount of vaccine that is returned to a manufacturer and discarded. Options to promote redistribution of vaccine that otherwise would be returned or discarded are being developed.
- In 2000, ACIP broadened its influenza vaccine recommendations to include all persons aged 50–64 years. This recommendation was based, in part, on an effort to increase vaccination coverage of persons in this age group with high-risk conditions. In the context of a possible vaccine shortage, it would be appropriate for contingency plans covering this age group to focus primarily on vaccinating persons with high-risk conditions rather than this entire age group.
- Influenza vaccine is routinely recommended for persons in close contact with persons at high risk for complications from influenza because such persons are in a position to transmit influenza virus infection to high-risk persons. Vaccination of health-care workers has been highlighted in particular because health-care workers have frequent and close contact with many different high-risk persons at a time when high-risk persons are particularly vulnerable.

Notices to Readers — Continued

As new information becomes available, CDC and the Food and Drug Administration (FDA) will issue updates. In the meantime, ACIP and CDC request that persons and organizations planning to administer influenza vaccine, as well as members of the general public, join in these efforts to maximize protection of persons most likely to develop serious and life-threatening complications from influenza. FDA, CDC, ACIP, National Institutes of Health, and vaccine manufacturers will continue to work together to facilitate the availability of influenza vaccine for the upcoming season and to minimize the adverse impact of an influenza vaccine shortage if one should develop. If a substantial vaccine shortage appears imminent, or if the situation warrants, then CDC and ACIP will issue further recommendations.

Reference

1. CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2000;49(no. RR-3).

Notice to Readers

Summary of the Joint Statement on Thimerosal in Vaccines

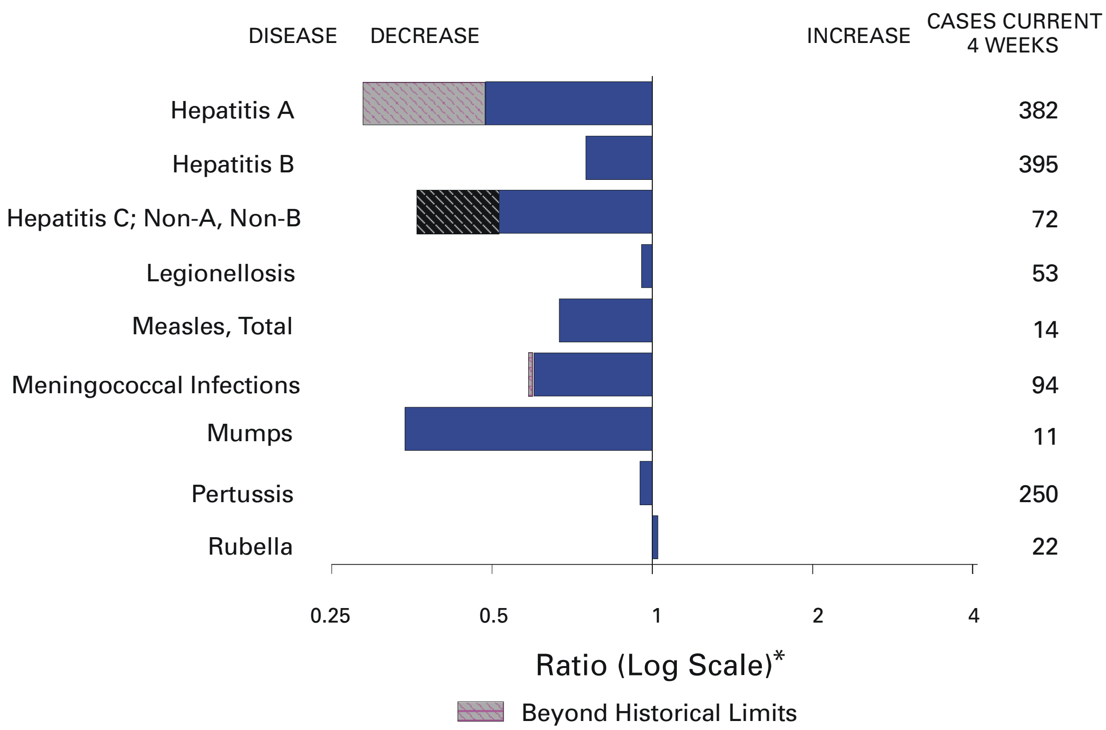
In June 2000, a joint statement on thimerosal* in vaccines was prepared by the American Academy of Family Physicians (AAFP), the American Academy of Pediatrics (AAP), the Advisory Committee on Immunization Practices (ACIP), and the Public Health Service (PHS) in response to 1) the progress in achieving the national goal declared in July 1999 to remove thimerosal from vaccines in the recommended childhood vaccination schedule, and 2) results of recent studies that examined potential associations between exposure to mercury in thimerosal-containing vaccines and health effects. In this statement, AAFP, AAP, ACIP, and PHS recommend continuation of the current policy of moving rapidly to vaccines that are free of thimerosal as a preservative. Until adequate supplies are available, use of vaccines that contain thimerosal as a preservative is acceptable.

A joint statement issued by AAP and PHS in July 1999 and agreed to by the AAFP later in 1999 established the goal of removing thimerosal as soon as possible from vaccines routinely recommended for infants. The goal was established as a precautionary measure. No evidence existed of any harm caused by low levels of thimerosal in vaccines. Public concern had been expressed about the health effects of mercury exposure of any sort, and the elimination of mercury from vaccines was considered a feasible means of reducing an infant's total exposure to mercury in a world where other environmental sources of exposure are more difficult or impossible to eliminate (e.g., certain foods).

(*Continued on page 631*)

*Thimerosal is a derivative of ethylmercury and has been used as an additive to biologics and vaccines since the 1930s because it is effective in killing bacteria and in preventing bacterial contamination, particularly in opened, multidose containers. The full text of this statement is available on the World-Wide Web at http://www.aafp.org/policy/camp/20.html, http://www.aap.org/policy/jointthim.html, and http://www.cdc.gov/nip/vacsafe/concerns/thimerosal/joint_statement_00.htm. References to sites of non-CDC organizations on the World-Wide Web are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of pages found at these sites.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals ending July 8, 2000, with historical data



*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 of provisional cases of selected notifiable diseases, United States, cumulative, week ending July 8, 2000 (27th Week)

		Cum. 2000		Cum. 2000
Anthrax		-	HIV infection, pediatric*§	108
Brucellosis*		26	Plague	4
Cholera		-	Poliomyelitis, paralytic	-
Congenital rubella syndrome		4	Psittacosis*	8
Cyclosporiasis*		16	Rabies, human	-
Diphtheria		-	Rocky Mountain spotted fever (RMSF)	128
Encephalitis:	California serogroup viral*	4	Streptococcal disease, invasive, group A	1,671
	eastern equine*	-	Streptococcal toxic-shock syndrome*	55
	St. Louis*	-	Syphilis, congenital¶	67
	western equine*	-	Tetanus	12
Ehrlichiosis	human granulocytic (HGE)*	48	Toxic-shock syndrome	86
	human monocytic (HME)*	20	Trichinosis	4
Hansen disease (leprosy)*		30	Typhoid fever	162
Hantavirus pulmonary syndrome*†		13	Yellow fever	-
Hemolytic uremic syndrome, postdiarrheal*		46		

-: No reported cases.
*Not notifiable in all states.
† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP). Last update June 25, 2000.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending July 8, 2000, and July 10, 1999 (27th Week)

							Escherichia coli O157:H7*			
	AIDS		Chlamydia[†]		Cryptosporidiosis		NETSS		PHLIS	
Reporting Area	Cum. 2000[§]	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999
UNITED STATES	20,482	22,981	294,973	334,806	632	912	1,151	852	676	873
NEW ENGLAND	1,213	1,109	11,011	10,893	34	46	122	127	104	120
Maine	16	29	694	566	9	9	7	11	6	-
N.H.	18	30	511	512	4	5	10	14	9	16
Vt.	11	6	276	247	13	6	5	15	4	8
Mass.	776	702	5,128	4,605	6	23	54	58	50	56
R.I.	49	63	1,211	1,216	2	-	8	6	5	7
Conn.	343	279	3,191	3,747	-	3	38	23	30	33
MID. ATLANTIC	4,928	5,893	20,385	35,269	64	193	128	59	67	66
Upstate N.Y.	572	727	N	N	39	57	103	38	43	5
N.Y. City	2,620	2,995	5,527	14,943	7	113	7	4	-	-
N.J.	1,036	1,146	3,553	6,319	7	15	18	17	16	60
Pa.	700	1,025	11,305	14,007	11	8	N	N	8	1
E.N. CENTRAL	2,052	1,498	48,339	55,283	137	158	198	162	93	150
Ohio	306	246	12,299	14,147	23	20	42	54	25	48
Ind.	191	189	6,086	6,163	12	9	35	19	23	20
Ill.	1,198	677	13,112	16,539	7	31	55	61	-	39
Mich.	255	307	12,130	11,264	28	22	40	28	26	19
Wis.	102	79	4,712	7,170	67	76	26	N	19	24
W.N. CENTRAL	480	502	17,057	19,494	57	54	182	145	125	184
Minn.	87	82	3,282	3,912	11	13	52	36	49	60
Iowa	52	52	2,101	2,274	17	12	38	27	10	15
Mo.	223	231	6,331	7,097	10	10	48	14	41	24
N. Dak.	1	4	282	459	5	4	8	3	8	5
S. Dak.	4	11	865	821	5	3	10	5	3	17
Nebr.	31	37	1,548	1,720	7	11	15	48	9	61
Kans.	82	85	2,648	3,211	2	1	11	12	5	2
S. ATLANTIC	5,443	6,282	62,427	71,896	123	165	98	99	51	86
Del.	94	80	1,480	1,417	4	-	-	4	-	-
Md.	602	720	6,384	6,571	7	7	12	7	1	-
D.C.	388	239	1,731	N	7	7	-	-	U	U
Va.	385	335	7,782	7,707	4	10	20	28	15	29
W. Va.	33	31	753	916	3	-	7	4	3	2
N.C.	334	394	11,454	11,724	11	4	19	22	11	27
S.C.	434	579	4,880	9,166	-	-	6	12	2	9
Ga.	607	957	11,830	18,357	61	86	13	7	10	U
Fla.	2,566	2,947	16,133	16,038	26	51	21	15	9	19
E.S. CENTRAL	1,005	1,028	23,692	22,598	25	12	50	59	26	45
Ky.	114	151	4,167	3,985	1	4	18	14	12	11
Tenn.	407	402	7,319	7,109	7	4	20	25	12	18
Ala.	262	255	7,432	5,346	10	2	5	14	-	14
Miss.	222	220	4,774	6,158	7	2	7	6	2	2
W.S. CENTRAL	1,868	2,475	44,100	45,747	28	40	68	43	59	53
Ark.	103	90	2,717	3,082	1	-	33	5	3	5
La.	336	464	9,808	7,279	8	21	4	5	18	7
Okla.	156	71	4,019	4,105	4	2	9	7	7	6
Tex.	1,273	1,850	27,556	31,281	15	17	22	26	31	35
MOUNTAIN	755	852	18,904	18,079	42	41	130	67	70	60
Mont.	9	4	803	654	8	7	15	4	-	-
Idaho	13	12	966	869	3	3	14	2	-	6
Wyo.	6	3	377	382	3	-	7	3	2	5
Colo.	157	171	5,582	4,186	12	4	55	25	30	15
N. Mex.	86	46	2,345	2,731	2	17	5	4	3	2
Ariz.	244	422	5,851	6,570	3	7	25	11	18	7
Utah	67	80	1,240	1,092	9	N	7	15	17	19
Nev.	173	114	1,740	1,595	2	3	2	3	-	6
PACIFIC	2,738	3,342	49,058	55,547	122	203	175	91	81	109
Wash.	285	185	6,645	6,124	N	N	55	31	43	40
Oreg.	89	87	2,626	3,251	8	76	29	22	31	22
Calif.	2,275	3,011	37,476	43,589	114	127	82	33	-	42
Alaska	10	13	1,182	946	-	-	2	-	-	-
Hawaii	79	46	1,129	1,637	-	-	7	5	7	5
Guam	13	5	-	233	-	-	N	N	U	U
P.R.	518	737	298	U	-	-	4	5	U	U
V.I.	21	15	-	U	-	U	-	U	U	U
Amer. Samoa	-	-	-	U	-	U	-	U	U	U
C.N.M.I.	-	-	-	U	-	U	-	U	U	U

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

* Individual cases can be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

† Chlamydia refers to genital infections caused by *C. trachomatis*. Totals reported to the Division of STD Prevention, NCHSTP.

§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update June 25, 2000.

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending July 8, 2000, and July 10, 1999 (27th Week)

Reporting Area	Gonorrhea		Hepatitis C; Non-A, Non-B		Legionellosis		Lyme Disease	
	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999
UNITED STATES	153,214	178,480	1,275	1,959	366	454	2,952	4,570
NEW ENGLAND	3,007	3,280	27	9	23	29	734	1,382
Maine	41	27	1	1	2	3	-	1
N.H.	53	49	-	-	2	3	35	1
Vt.	30	28	3	3	2	4	4	2
Mass.	1,342	1,281	20	2	9	10	275	372
R.I.	304	313	3	3	3	3	57	99
Conn.	1,237	1,582	-	-	5	6	363	907
MID. ATLANTIC	12,964	20,325	35	69	73	111	1,690	2,271
Upstate N.Y.	3,380	3,077	35	34	32	27	821	965
N.Y. City	2,322	7,102	-	-	-	14	4	67
N.J.	1,958	3,759	-	-	4	11	287	564
Pa.	5,304	6,387	-	35	37	59	578	675
E.N. CENTRAL	29,959	34,401	115	1,086	89	143	59	317
Ohio	7,254	8,863	4	1	38	44	25	22
Ind.	2,808	3,294	1	1	20	18	10	14
Ill.	9,123	11,199	7	31	8	19	1	11
Mich.	9,045	7,874	103	463	17	35	-	8
Wis.	1,729	3,171	-	590	6	27	23	262
W.N. CENTRAL	7,460	8,228	345	94	27	24	75	66
Minn.	1,334	1,439	5	2	1	1	24	13
Iowa	465	529	1	-	4	7	4	8
Mo.	3,811	4,029	314	90	17	11	14	30
N. Dak.	6	43	-	-	-	-	-	1
S. Dak.	128	80	-	-	1	1	-	-
Nebr.	562	786	3	2	-	4	-	7
Kans.	1,154	1,322	22	-	4	-	33	7
S. ATLANTIC	45,123	52,805	62	107	80	55	325	407
Del.	830	863	-	-	4	6	34	35
Md.	4,221	5,881	6	29	25	10	207	288
D.C.	1,235	1,862	2	-	1	-	1	1
Va.	4,955	5,189	1	10	11	13	49	29
W. Va.	227	309	9	13	N	N	8	10
N.C.	9,315	10,062	13	24	8	8	11	34
S.C.	5,783	5,227	1	12	2	7	2	3
Ga.	7,369	12,065	2	1	4	-	-	-
Fla.	11,188	11,347	28	18	24	11	13	7
E.S. CENTRAL	17,029	17,693	229	159	11	22	14	40
Ky.	1,740	1,740	17	9	5	10	3	5
Tenn.	5,695	5,644	57	54	4	10	8	15
Ala.	5,843	4,834	7	1	2	2	2	10
Miss.	3,751	5,475	148	95	-	-	1	10
W.S. CENTRAL	22,989	25,753	276	261	11	2	1	16
Ark.	1,427	1,529	3	14	-	-	-	1
La.	6,894	5,987	171	183	8	1	1	3
Okla.	1,731	2,083	4	7	1	1	-	4
Tex.	12,937	16,154	98	57	2	-	-	8
MOUNTAIN	4,831	4,905	105	100	18	28	3	6
Mont.	26	21	2	4	-	-	-	-
Idaho	49	40	3	4	3	-	-	-
Wyo.	30	13	61	34	1	-	1	1
Colo.	1,509	1,202	14	15	7	7	1	1
N. Mex.	508	525	10	17	1	1	-	1
Ariz.	1,920	2,349	11	18	2	4	-	-
Utah	125	103	-	5	4	10	-	1
Nev.	664	652	4	3	-	6	1	2
PACIFIC	9,852	11,090	81	74	34	40	51	65
Wash.	1,153	1,056	13	9	11	9	3	2
Oreg.	345	469	17	11	N	N	3	6
Calif.	8,032	9,187	49	54	23	30	45	57
Alaska	160	155	-	-	-	1	-	-
Hawaii	162	223	2	-	-	-	N	N
Guam	-	31	-	-	-	-	-	-
P.R.	275	172	1	-	-	-	N	N
V.I.	-	U	-	U	-	U	-	U
Amer. Samoa	-	U	-	U	-	U	-	U
C.N.M.I.	-	U	-	U	-	U	-	U

N: Not notifiable. U: Unavailable. - : No reported cases.

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending July 8, 2000, and July 10, 1999 (27th Week)

Reporting Area	Malaria		Rabies, Animal		Salmonellosis*			
					NETSS		PHLIS	
	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999
UNITED STATES	492	625	2,692	3,040	14,107	15,741	9,816	14,598
NEW ENGLAND	19	24	354	427	932	936	871	965
Maine	4	2	73	79	68	61	38	50
N.H.	1	-	8	26	64	49	62	60
Vt.	2	1	34	60	57	37	58	36
Mass.	6	11	117	94	530	535	488	529
R.I.	4	2	21	51	40	52	49	72
Conn.	2	8	101	117	173	202	176	218
MID. ATLANTIC	85	170	492	563	1,790	2,152	1,748	2,022
Upstate N.Y.	30	34	340	392	523	502	502	525
N.Y. City	29	82	U	U	390	627	560	651
N.J.	9	34	80	102	418	481	307	469
Pa.	17	20	72	69	459	542	379	377
E.N. CENTRAL	54	81	30	49	2,066	2,422	1,241	2,101
Ohio	12	9	9	12	555	451	423	451
Ind.	3	8	-	-	255	206	233	206
Ill.	19	35	1	2	605	802	1	743
Mich.	15	20	20	25	421	466	428	462
Wis.	5	9	-	10	230	497	156	239
W.N. CENTRAL	23	26	270	405	980	976	1,012	1,113
Minn.	8	5	48	54	201	221	282	334
Iowa	1	7	42	65	151	102	94	95
Mo.	4	10	11	14	347	345	397	402
N. Dak.	2	-	74	84	27	15	39	30
S. Dak.	-	-	48	120	36	44	37	68
Nebr.	2	-	-	3	64	108	44	83
Kans.	6	4	47	65	154	141	119	101
S. ATLANTIC	140	150	1,174	1,089	2,834	3,082	1,791	2,608
Del.	3	1	20	30	48	56	51	65
Md.	45	47	227	232	385	360	339	377
D.C.	8	10	-	-	29	46	U	U
Va.	28	31	284	271	389	534	302	486
W. Va.	1	1	63	65	72	59	67	63
N.C.	11	10	287	221	386	469	292	517
S.C.	1	2	70	79	272	188	180	165
Ga.	4	13	157	101	450	486	514	670
Fla.	39	35	66	90	803	884	46	265
E.S. CENTRAL	19	12	94	151	740	826	432	598
Ky.	5	2	14	24	165	185	111	134
Tenn.	5	5	48	55	190	211	194	227
Ala.	8	4	32	72	220	236	111	204
Miss.	1	1	-	-	165	194	16	33
W.S. CENTRAL	7	13	35	62	1,090	1,414	1,264	1,169
Ark.	1	2	-	-	218	189	105	76
La.	2	9	-	-	107	291	177	254
Okla.	4	2	35	62	155	170	104	125
Tex.	-	-	-	-	610	764	878	714
MOUNTAIN	23	22	113	103	1,306	1,425	908	1,291
Mont.	1	4	34	37	58	28	-	1
Idaho	1	1	1	-	69	41	-	45
Wyo.	-	1	26	29	24	20	14	22
Colo.	11	9	-	1	392	409	363	400
N. Mex.	-	2	10	4	108	216	83	166
Ariz.	3	2	39	31	354	402	267	365
Utah	3	2	2	-	172	218	181	243
Nev.	4	1	1	1	129	91	-	49
PACIFIC	122	127	130	191	2,369	2,508	549	2,731
Wash.	12	10	-	-	213	224	237	427
Oreg.	22	13	2	1	163	244	202	272
Calif.	85	95	109	183	1,865	1,812	-	1,854
Alaska	-	-	19	7	29	23	18	13
Hawaii	3	9	-	-	99	205	92	165
Guam	-	-	-	-	-	20	U	U
P.R.	-	-	32	50	109	249	U	U
V.I.	-	U	-	U	-	U	U	U
Amer. Samoa	-	U	-	U	-	U	U	U
C.N.M.I.	-	U	-	U	-	U	U	U

N: Not notifiable. U: Unavailable. -: No reported cases.

* Individual cases can be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending July 8, 2000, and July 10, 1999 (27th Week)

Reporting Area	Shigellosis*				Syphilis (Primary & Secondary)		Tuberculosis	
	NETSS		PHLIS					
	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999†
UNITED STATES	8,468	6,952	3,994	3,957	2,964	3,401	5,309	7,679
NEW ENGLAND	169	175	131	150	41	31	192	204
Maine	6	3	-	-	1	-	2	11
N.H.	3	7	6	6	1	1	4	4
Vt.	1	4	-	3	-	2	2	-
Mass.	120	116	86	98	31	19	116	116
R.I.	12	14	12	9	3	1	23	20
Conn.	27	31	27	34	5	8	45	53
MID. ATLANTIC	1,015	480	624	282	121	151	1,172	1,198
Upstate N.Y.	425	120	146	34	7	13	131	141
N.Y. City	387	157	326	120	40	66	637	639
N.J.	120	124	76	102	24	32	280	258
Pa.	83	79	76	26	50	40	124	160
E.N. CENTRAL	1,861	1,318	527	632	584	609	604	771
Ohio	143	260	95	63	39	50	132	108
Ind.	760	69	51	29	220	209	40	59
Ill.	431	486	2	386	168	220	305	390
Mich.	402	169	346	122	136	113	82	163
Wis.	125	334	33	32	21	17	45	51
W.N. CENTRAL	895	565	603	391	37	80	236	260
Minn.	189	82	201	103	3	7	79	100
Iowa	241	9	131	13	10	7	23	26
Mo.	351	410	221	226	19	52	94	97
N. Dak.	4	2	3	2	-	-	2	2
S. Dak.	2	8	1	5	-	-	9	3
Nebr.	25	31	9	23	2	4	10	12
Kans.	83	23	37	19	3	10	19	20
S. ATLANTIC	1,220	1,119	322	297	1,005	1,113	1,177	1,608
Del.	8	8	6	3	5	4	-	20
Md.	67	62	23	21	143	227	134	134
D.C.	16	31	U	U	31	26	7	27
Va.	201	42	133	23	69	89	108	121
W. Va.	3	5	3	3	1	2	18	23
N.C.	64	115	26	57	299	250	162	212
S.C.	63	62	46	35	97	140	54	169
Ga.	122	108	36	42	178	210	214	317
Fla.	676	686	49	113	182	165	480	585
E.S. CENTRAL	428	693	258	452	458	601	381	490
Ky.	107	130	44	93	51	52	58	98
Tenn.	210	446	200	323	286	331	171	153
Ala.	23	63	11	35	62	131	152	151
Miss.	88	54	3	1	59	87	-	88
W.S. CENTRAL	949	1,235	973	509	403	515	165	1,077
Ark.	108	51	24	21	49	37	101	82
La.	71	104	72	57	100	129	1	U
Okla.	64	325	16	99	73	110	63	66
Tex.	706	755	861	332	181	239	-	929
MOUNTAIN	483	354	202	238	107	116	233	229
Mont.	4	6	-	-	-	-	6	5
Idaho	31	5	-	6	1	1	5	-
Wyo.	1	2	2	1	1	-	1	1
Colo.	80	54	37	42	2	1	30	U
N. Mex.	47	45	22	31	15	6	29	30
Ariz.	210	191	105	120	85	102	102	114
Utah	35	27	36	27	-	2	22	25
Nev.	75	24	-	11	3	4	38	54
PACIFIC	1,448	1,013	354	1,006	208	185	1,149	1,842
Wash.	315	53	279	56	35	39	113	86
Oreg.	95	37	55	32	4	3	8	57
Calif.	1,006	900	-	897	168	141	909	1,584
Alaska	7	-	3	-	-	1	51	31
Hawaii	25	23	17	21	1	1	68	84
Guam	-	7	U	U	-	1	-	-
P.R.	1	54	U	U	65	85	-	103
V.I.	-	U	U	U	-	U	-	U
Amer. Samoa	-	U	U	U	-	U	-	U
C.N.M.I.	-	U	U	U	-	U	-	U

N: Not notifiable. U: Unavailable. -: No reported cases.

*Individual cases can be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

† Cumulative reports of provisional tuberculosis cases for 1999 are unavailable ("U") for some areas using the Tuberculosis Information System (TIMS).

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending July 8, 2000, and July 10, 1999 (27th Week)

Reporting Area	*H. influenzae,* Invasive		Hepatitis (Viral), By Type				Measles (Rubeola)					
			A		B		Indigenous		Imported*		Total	
	Cum. 2000†	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	2000	Cum. 2000	2000	Cum. 2000	Cum. 2000	Cum. 1999
UNITED STATES	642	633	5,575	9,736	3,349	3,482	3	29	-	10	39	59
NEW ENGLAND	47	45	140	119	35	76	-	-	-	3	3	9
Maine	1	5	10	4	5	-	-	-	-	-	-	-
N.H.	9	7	16	7	10	8	-	-	-	-	-	1
Vt.	3	4	4	1	4	1	-	-	-	3	3	-
Mass.	23	19	56	47	7	27	-	-	-	-	-	6
R.I.	1	-	7	9	9	17	-	-	-	-	-	-
Conn.	10	10	47	51	-	23	-	-	-	-	-	2
MID. ATLANTIC	101	114	335	621	337	481	3	6	-	1	7	5
Upstate N.Y.	50	47	106	132	64	108	3	6	-	-	6	2
N.Y. City	23	35	150	165	194	145	-	-	-	-	-	3
N.J.	21	29	79	80	79	73	-	-	-	-	-	-
Pa.	7	3	-	244	-	155	-	-	-	1	1	-
E.N. CENTRAL	84	100	682	1,635	364	346	-	6	-	-	6	2
Ohio	35	37	146	376	65	49	-	2	-	-	2	-
Ind.	11	14	33	59	26	27	-	-	-	-	-	1
Ill.	33	41	238	352	61	-	-	3	-	-	3	-
Mich.	5	8	252	802	211	247	-	1	-	-	1	1
Wis.	-	-	13	46	1	23	-	-	-	-	-	-
W.N. CENTRAL	36	26	589	394	492	144	-	2	-	1	3	-
Minn.	16	13	129	35	19	22	-	-	-	1	1	-
Iowa	-	1	49	74	21	23	-	1	-	-	1	-
Mo.	8	3	284	233	407	84	-	-	-	-	-	-
N. Dak.	1	-	2	1	2	-	U	-	U	-	-	-
S. Dak.	-	2	-	8	-	1	-	-	-	-	-	-
Nebr.	4	3	18	33	18	11	U	-	U	-	-	-
Kans.	7	4	107	10	25	3	-	1	-	-	1	-
S. ATLANTIC	177	138	698	923	636	542	-	1	-	-	1	4
Del.	-	-	-	2	-	-	-	-	-	-	-	-
Md.	46	34	84	173	68	97	-	-	-	-	-	-
D.C.	-	4	11	35	16	12	-	-	-	-	-	-
Va.	28	12	76	82	78	53	-	-	-	-	-	3
W. Va.	5	4	44	19	6	14	-	-	-	-	-	-
N.C.	15	22	92	64	139	125	-	-	-	-	-	-
S.C.	8	2	30	21	5	38	-	-	-	-	-	-
Ga.	50	41	111	268	98	63	-	-	-	-	-	-
Fla.	25	19	250	259	226	140	-	1	-	-	1	1
E.S. CENTRAL	29	42	234	233	244	246	-	-	-	-	-	2
Ky.	11	6	27	44	50	19	-	-	-	-	-	2
Tenn.	13	21	90	97	109	117	-	-	-	-	-	-
Ala.	4	13	31	36	27	52	-	-	-	-	-	-
Miss.	1	2	86	56	58	58	-	-	-	-	-	-
W.S. CENTRAL	36	42	925	2,898	353	590	-	1	-	-	1	4
Ark.	-	1	89	25	55	43	-	1	-	-	1	-
La.	7	11	28	97	50	113	-	-	-	-	-	-
Okla.	27	27	153	303	71	73	-	-	-	-	-	-
Tex.	2	3	655	2,473	177	361	-	-	-	-	-	4
MOUNTAIN	69	57	470	734	250	325	-	11	-	1	12	1
Mont.	-	1	2	12	3	16	-	-	-	-	-	-
Idaho	3	1	17	29	5	18	-	-	-	-	-	-
Wyo.	1	1	8	4	2	7	-	-	-	-	-	-
Colo.	11	9	100	142	51	47	-	1	-	1	2	-
N. Mex.	14	13	41	30	64	104	-	-	-	-	-	-
Ariz.	33	28	235	417	89	80	-	-	-	-	-	1
Utah	6	2	34	28	14	20	-	3	-	-	3	-
Nev.	1	2	33	72	22	33	-	7	-	-	7	-
PACIFIC	63	69	1,502	2,179	638	732	-	2	-	4	6	32
Wash.	3	2	145	168	41	34	-	-	-	-	-	5
Oreg.	18	24	116	147	50	61	-	-	-	-	-	10
Calif.	24	36	1,233	1,847	537	616	-	1	-	2	3	16
Alaska	2	5	8	4	5	13	-	1	-	-	1	-
Hawaii	16	2	-	13	5	8	-	-	-	2	2	1
Guam	-	-	-	2	-	2	U	-	U	-	-	1
P.R.	1	2	55	173	54	125	U	-	U	-	-	-
V.I.	-	U	-	U	-	U	U	-	U	-	-	U
Amer. Samoa	-	U	-	U	-	U	U	-	U	-	-	U
C.N.M.I.	-	U	-	U	-	U	U	-	U	-	-	U

N: Not notifiable. U: Unavailable. - : No reported cases.

*For imported measles, cases include only those resulting from importation from other countries.

†Of 130 cases among children aged <5 years, serotype was reported for 59 and of those, 16 were type b.

TABLE III. (Cont'd) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending July 8, 2000, and July 10, 1999 (27th Week)

	Meningococcal Disease		Mumps			Pertussis			Rubella		
Reporting Area	Cum. 2000	Cum. 1999	2000	Cum. 2000	Cum. 1999	2000	Cum. 2000	Cum. 1999	2000	Cum. 2000	Cum. 1999
UNITED STATES	1,229	1,418	4	198	217	44	2,485	3,010	19	76	160
NEW ENGLAND	77	69	-	2	5	4	636	331	-	6	7
Maine	6	5	-	-	-	-	14	-	-	-	-
N.H.	9	9	-	-	1	-	62	53	-	2	-
Vt.	2	4	-	-	-	4	142	25	-	-	-
Mass.	47	41	-	-	4	-	380	236	-	3	7
R.I.	5	2	-	1	-	-	9	8	-	-	-
Conn.	8	8	-	1	-	-	29	9	-	1	-
MID. ATLANTIC	119	144	-	9	29	6	189	597	-	2	23
Upstate N.Y.	36	39	-	6	5	6	115	499	-	2	15
N.Y. City	25	42	-	-	7	-	-	19	-	-	2
N.J.	26	31	-	-	1	-	-	15	-	-	3
Pa.	32	32	-	3	16	-	74	64	-	-	3
E.N. CENTRAL	221	253	-	23	27	1	279	253	-	1	2
Ohio	51	94	-	7	7	-	167	114	-	-	-
Ind.	34	32	-	-	3	-	27	14	-	-	1
Ill.	53	65	-	5	7	-	23	54	-	1	1
Mich.	64	35	-	11	8	1	31	25	-	-	-
Wis.	19	27	-	-	2	-	31	46	-	-	-
W.N. CENTRAL	104	139	-	12	9	1	135	109	-	1	83
Minn.	7	29	-	-	1	-	66	33	-	-	-
Iowa	19	26	-	5	4	-	24	23	-	-	25
Mo.	61	51	-	1	1	-	23	27	-	-	2
N. Dak.	2	3	U	-	-	U	1	-	U	-	-
S. Dak.	5	8	-	-	-	-	3	4	-	-	-
Nebr.	5	8	U	2	-	U	3	3	U	-	56
Kans.	5	14	-	4	3	1	15	19	-	1	-
S. ATLANTIC	201	219	1	32	35	15	208	154	19	51	20
Del.	-	4	-	-	-	1	5	-	-	-	-
Md.	19	35	-	7	4	2	47	47	-	-	1
D.C.	-	1	-	-	2	-	1	-	-	-	-
Va.	32	26	-	5	8	-	21	13	-	-	-
W. Va.	8	4	-	-	-	1	1	1	-	-	-
N.C.	30	27	1	5	8	2	51	42	19	42	19
S.C.	15	30	-	10	3	-	19	8	-	7	-
Ga.	33	43	-	2	1	-	20	16	-	-	-
Fla.	64	49	-	3	9	9	43	27	-	2	-
E.S. CENTRAL	88	108	-	6	7	2	45	54	-	4	2
Ky.	18	19	-	-	-	-	19	12	-	1	-
Tenn.	38	41	-	2	-	1	14	27	-	-	-
Ala.	25	29	-	2	5	1	11	13	-	3	2
Miss.	7	19	-	2	2	-	1	2	-	-	-
W.S. CENTRAL	87	144	-	20	29	2	117	85	-	4	4
Ark.	9	26	-	1	-	-	10	8	-	-	-
La.	27	52	-	3	6	-	3	5	-	-	-
Okla.	21	21	-	-	1	-	6	8	-	-	-
Tex.	30	45	-	16	22	2	98	64	-	4	4
MOUNTAIN	66	89	-	14	10	8	407	364	-	2	15
Mont.	1	2	-	1	-	1	9	2	-	-	-
Idaho	6	8	-	-	1	-	42	100	-	-	-
Wyo.	-	3	-	1	-	-	1	2	-	-	-
Colo.	24	22	-	1	3	5	225	131	-	1	-
N. Mex.	7	11	-	1	N	1	74	36	-	-	-
Ariz.	18	29	-	3	-	1	41	60	-	1	13
Utah	7	9	-	4	3	-	9	31	-	-	1
Nev.	3	5	-	3	3	-	6	2	-	-	1
PACIFIC	266	253	3	80	66	5	469	1,063	-	5	4
Wash.	32	38	-	3	2	3	181	505	-	-	-
Oreg.	36	47	N	N	N	2	55	21	-	-	-
Calif.	187	158	3	67	56	-	215	510	-	5	4
Alaska	5	6	-	7	1	-	12	3	-	-	-
Hawaii	6	4	-	3	7	-	6	24	-	-	-
Guam	-	1	U	-	1	U	-	1	U	-	-
P.R.	5	9	U	-	-	U	-	13	U	-	-
V.I.	-	U	U	-	U	U	-	U	U	-	U
Amer. Samoa	-	U	U	-	U	U	-	U	U	-	U
C.N.M.I.	-	U	U	-	U	U	-	U	U	-	U

N: Not notifiable. U: Unavailable. - : No reported cases.

TABLE IV. Deaths in 122 U.S. cities,* week ending July 8, 2000 (27th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	484	358	82	29	9	6	42
Boston, Mass.	118	77	23	13	3	2	9
Bridgeport, Conn.	51	40	6	2	1	2	1
Cambridge, Mass.	12	10	2	-	-	-	1
Fall River, Mass.	23	17	6	-	-	-	-
Hartford, Conn.	56	35	14	4	2	1	8
Lowell, Mass.	32	29	2	-	1	-	5
Lynn, Mass.	12	12	-	-	-	-	1
New Bedford, Mass.	21	18	2	1	-	-	1
New Haven, Conn.	37	24	9	1	2	1	1
Providence, R.I.	U	U	U	U	U	U	U
Somerville, Mass.	6	4	1	1	-	-	-
Springfield, Mass.	25	22	1	2	-	-	7
Waterbury, Conn.	34	29	4	1	-	-	1
Worcester, Mass.	57	41	12	4	-	-	7
MID. ATLANTIC	2,079	1,396	424	166	51	40	110
Albany, N.Y.	42	34	3	2	2	1	3
Allentown, Pa.	U	U	U	U	U	U	U
Buffalo, N.Y.	100	69	20	6	3	2	11
Camden, N.J.	28	15	4	5	2	2	-
Elizabeth, N.J.	5	4	1	-	-	-	1
Erie, Pa.§	35	31	2	2	-	-	3
Jersey City, N.J.	41	20	10	6	3	2	-
New York City, N.Y.	1,104	725	246	91	20	21	45
Newark, N.J.	52	24	16	5	4	3	1
Paterson, N.J.	10	6	2	2	-	-	1
Philadelphia, Pa.	299	197	62	26	13	1	23
Pittsburgh, Pa.§	37	25	7	2	-	3	1
Reading, Pa.	39	34	2	2	1	-	4
Rochester, N.Y.	127	95	22	6	1	2	10
Schenectady, N.Y.	22	16	4	2	-	-	1
Scranton, Pa.§	33	28	4	1	-	-	1
Syracuse, N.Y.	58	45	7	3	2	1	3
Trenton, N.J.	29	13	9	5	-	2	2
Utica, N.Y.	18	15	3	-	-	-	-
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	1,415	923	299	118	35	40	97
Akron, Ohio	42	31	5	4	-	2	2
Canton, Ohio	38	29	6	1	2	-	3
Chicago, Ill.	393	254	84	36	9	10	33
Cincinnati, Ohio	U	U	U	U	U	U	U
Cleveland, Ohio	111	66	26	11	3	5	5
Columbus, Ohio	134	83	28	17	4	2	6
Dayton, Ohio	84	57	19	6	1	1	5
Detroit, Mich.	150	72	42	17	7	12	7
Evansville, Ind.	37	26	7	2	1	1	3
Fort Wayne, Ind.	55	38	13	2	1	1	4
Gary, Ind.	18	10	5	2	-	1	-
Grand Rapids, Mich.	36	27	4	2	3	-	5
Indianapolis, Ind.	U	U	U	U	U	U	U
Lansing, Mich.	36	22	9	3	1	1	2
Milwaukee, Wis.	79	57	19	2	1	-	4
Peoria, Ill.	26	14	7	3	1	1	2
Rockford, Ill.	43	35	2	3	1	2	6
South Bend, Ind.	31	25	5	1	-	-	1
Toledo, Ohio	102	77	18	6	-	1	9
Youngstown, Ohio	U	U	U	U	U	U	U
W.N. CENTRAL	784	516	144	60	25	18	43
Des Moines, Iowa	U	U	U	U	U	U	U
Duluth, Minn.	13	10	1	2	-	-	-
Kansas City, Kans.	90	58	19	8	4	1	4
Kansas City, Mo.	96	60	20	11	5	-	4
Lincoln, Nebr.	21	16	4	1	-	-	-
Minneapolis, Minn.	130	90	22	9	4	5	6
Omaha, Nebr.	63	29	6	1	-	6	7
St. Louis, Mo.	66	41	13	8	2	2	6
St. Paul, Minn.	45	35	8	1	1	-	-
Wichita, Kans.	260	177	51	19	9	4	16
S. ATLANTIC	884	564	206	72	21	20	56
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	171	106	38	22	2	3	13
Charlotte, N.C.	80	46	16	12	1	5	4
Jacksonville, Fla.	135	91	31	8	1	4	9
Miami, Fla.	104	52	33	13	5	-	8
Norfolk, Va.	41	31	5	1	2	2	-
Richmond, Va.	39	23	9	5	1	1	3
Savannah, Ga.	37	23	10	1	2	1	3
St. Petersburg, Fla.	36	31	4	1	-	-	2
Tampa, Fla.	119	80	28	5	3	3	11
Washington, D.C.	103	67	27	4	4	1	3
Wilmington, Del.	19	14	5	-	-	-	-
E.S. CENTRAL	777	494	169	70	22	22	56
Birmingham, Ala.	144	98	31	7	7	1	20
Chattanooga, Tenn.	68	52	8	5	2	1	2
Knoxville, Tenn.	77	52	17	4	2	2	-
Lexington, Ky.	30	10	14	4	1	1	2
Memphis, Tenn.	226	144	53	16	4	9	20
Mobile, Ala.	85	41	15	21	4	4	4
Montgomery, Ala.	38	33	4	1	-	-	5
Nashville, Tenn.	109	64	27	12	2	4	3
W.S. CENTRAL	1,175	748	241	117	47	22	102
Austin, Tex.	68	46	12	6	3	1	9
Baton Rouge, La.	26	18	6	1	-	1	2
Corpus Christi, Tex.	47	32	8	6	1	-	2
Dallas, Tex.	164	92	41	19	7	5	10
El Paso, Tex.	51	33	12	5	-	1	4
Ft. Worth, Tex.	98	67	23	6	2	-	10
Houston, Tex.	313	179	69	44	16	5	34
Little Rock, Ark.	39	24	10	3	1	1	4
New Orleans, La.	U	U	U	U	U	U	U
San Antonio, Tex.	183	120	38	15	7	3	12
Shreveport, La.	100	73	11	6	6	4	11
Tulsa, Okla.	86	64	11	6	4	1	4
MOUNTAIN	822	540	160	71	27	20	54
Albuquerque, N.M.	97	58	24	7	7	1	4
Boise, Idaho	33	25	5	1	2	-	3
Colo. Springs, Colo.	65	47	12	3	2	1	4
Denver, Colo.	84	42	17	14	2	9	4
Las Vegas, Nev.	178	119	40	13	4	2	16
Ogden, Utah	29	21	5	3	-	-	-
Phoenix, Ariz.	151	93	25	16	7	6	11
Pueblo, Colo.	15	11	2	2	-	-	-
Salt Lake City, Utah	84	56	19	7	1	1	4
Tucson, Ariz.	86	68	11	5	2	-	8
PACIFIC	2,083	1,450	409	130	53	39	155
Berkeley, Calif.	14	11	2	-	-	1	1
Fresno, Calif.	75	52	15	5	2	1	-
Glendale, Calif.	47	30	8	7	1	1	5
Honolulu, Hawaii	58	48	7	2	-	1	4
Long Beach, Calif.	67	48	9	3	3	4	6
Los Angeles, Calif.	1,004	682	211	71	26	14	68
Pasadena, Calif.	27	21	3	1	1	1	1
Portland, Oreg.	84	59	18	5	1	1	8
Sacramento, Calif.	183	132	35	10	5	1	17
San Diego, Calif.	132	87	32	6	2	5	14
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	200	142	37	12	5	4	18
Santa Cruz, Calif.	21	15	5	1	-	-	2
Seattle, Wash.	U	U	U	U	U	U	U
Spokane, Wash.	56	40	7	3	2	4	5
Tacoma, Wash.	115	83	20	4	5	1	6
TOTAL	10,503¶	6,989	2,134	833	290	227	715

U: Unavailable. -:No reported cases.

*Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of ≥100,000. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

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

¶Total includes unknown ages.

Notices to Readers — Continued

Since July 1999, substantial progress has been made in removing thimerosal from vaccines. As of March 2000, all U.S. children had access to hepatitis B vaccines that do not contain thimerosal as a preservative. Beginning July 2000, only single-dose thimerosal-free *Haemophilus influenzae* type b vaccine will be produced in the United States; previously manufactured multidose vials containing thimerosal still may be in distribution. One diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) that does not contain thimerosal is available, and it is projected that additional DTaP vaccines without thimerosal as a preservative will become available in early 2001. On the basis of this progress, the most likely maximum amount of ethylmercury that an infant may be exposed to from the routine vaccination schedule has been reduced by 60%, from 187.5 µg to 75 µg. Measles-mumps-rubella, varicella, inactivated polio, and pneumococcal conjugate vaccines have never contained thimerosal.

Research on the potential health effects of exposure to thimerosal is continuing, and findings will be monitored closely by PHS to determine whether any changes in policy are needed. AAFP, AAP, and PHS, in consultation with the ACIP, reaffirm the goal set in July 1999 to remove or greatly reduce thimerosal from vaccines as soon as possible. On the basis of information from the Food and Drug Administration and manufacturers, PHS projects that the United States will complete its transition to a secure routine pediatric vaccine supply free of thimerosal as a preservative by the first quarter of 2001.

The vaccination of children in much of the world will continue to require the use of multidose vials because of cost, production, and storage capacity. Multidose vials require a preservative to prevent microbial contamination after the vial is opened. For multidose vials, manufacturers are encouraged to seek alternatives to thimerosal.

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