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As part of its commemoration of CDC's 50th anniversary, MMWR *is reprinting selected* MMWR *articles of historical interest to public health, accompanied by current editorial notes.*

Reprinted below is a report published February 9, 1974, which described the investigation of a cluster of cases of angiosarcoma of the liver among polyvinyl chloride workers in Kentucky, followed by a contemporary editorial note. The report illustrates the public health process in occupational safety and health—progressing from the initial observation of a new problem by informed clinicians through follow-up epidemiologic and toxicologic investigations to a targeted regulatory response, which virtually eliminated the newly recognized problem.

EPIDEMIOLOGIC NOTES AND REPORTS
ANGIOSARCOMA OF THE LIVER AMONG POLYVINYL CHLORIDE WORKERS — Kentucky

Between September 1967 and December 1973, 4 cases of angiosarcoma of the liver were diagnosed among men employed in the polyvinyl chloride polymerization section of a B.F. Goodrich plant near Louisville, Kentucky. This section of the plant began operations in 1938. It employs about 270 persons and produces polyvinyl chloride as well as a variety of copolymers by polymerization of vinyl chloride monomer. All 4 men had worked continuously in the section for at least 14 years prior to onset of illness (Table 1); all 4 had worked directly in various phases of the polymerization process.

Case 1 presented in August 1967 with an epigastric mass and thrombocytopenia. An exploratory laparotomy was performed in September 1967; liver biopsy revealed angiosarcoma. Case 2 presented in January 1970 with gastrointestinal (GI) bleeding. Recurrent bleeding in May 1970 led to an exploratory laparotomy at which time a diagnosis of angiosarcoma was made on liver biopsy. Case 3 presented in January 1964 with GI bleeding which recurred in May 1965 with signs of portal hypertension. A portacaval shunt was performed, and liver biopsy yielded a diagnosis of cirrhosis. Repeat biopsies in October 1970 and September 1972 confirmed this diagnosis. Autopsy in March 1973 revealed angiosarcoma. Case 4 presented in July 1973 with

Angiosarcoma — Continued

Table 1
Cases of Angiosarcoma of the Liver among Polyvinyl Chloride Workers
B.F. Goodrich Plant
Louisville, Kentucky

Case	Age at illness onset	Date of			Years worked with PVC before illness
		Illness onset	Diagnosis	Death	
1	43	Aug. 1967	Sept. 1967	Jan. 7, 1968	17
2	36	Jan. 1970	May 1970	Sept. 27, 1971	14
3	41	Jan. 1964	Mar. 1973	Mar. 3, 1973	14
4	58	July 1973	Dec. 1973	Dec. 19, 1973	27

hepatosplenomegaly, weight loss, and jaundice. Two liver biopsies were interpreted as showing severe cirrhosis. Autopsy in December 1973 revealed angiosarcoma.

In each case, pathologic material revealed the presence of extensive cirrhosis of a non-alcoholic type in addition to angiosarcoma. In 2 cases, the diagnosis of angiosarcoma was made only at autopsy, cirrhosis having been diagnosed 7 years before in Case 3 and 5 months before in Case 4. None of the patients gave histories of prolonged alcohol use or exposure to hepatotoxin outside their work place. In particular, none had ever had exposure to thorium dioxide or to arsenic, two materials known specifically to induce hepatic angiosarcoma in man (*1,2*).

(Reported by John Creech, M.D., Plant Physician, B.F. Goodrich Chemical Company, Louisville, Kentucky; Maurice N. Johnson, M.D., Director of Environmental Health, B.F. Goodrich Chemical Company, Akron, Ohio; Bradford Block, M.D., Medical Consultant, Kentucky Occupational Safety and Health Administration, Kentucky State Department of Labor; National Institute for Occupational Safety and Health, and the Cancer and Birth Defects Division, Bureau of Epidemiology, CDC.)

Editorial Note

Angiosarcoma of the liver is an exceedingly rare tumor. It is estimated that only about 25 such cases occur each year in the United States. Four cases, therefore, among a small number of workers at a single plant is a most unusual event, and one which raises the possibility of some work-related carcinogen, conceivably vinyl chloride itself. Although no data are yet available concerning the occurrence of angiosarcoma among workers at other vinyl chloride plants in the United States, it seems distinctly possible that the problem may be industry-wide. Epidemiologic studies have started to determine the extent of the problem in the United States, with respect both to angiosarcoma of the liver and to its possible relationship to post-toxic cirrhosis.

Published data concerning the potential hepato-toxicity and oncogenicity of vinyl chloride are limited. Studies in Germany have suggested a link between hepatic damage and occupational exposure to vinyl chloride (*3*), while Italian workers have suggested that vinyl chloride may cause a wide variety of tumors in animals (*4*). The chemical concentrations used in these latter experiments, however, far exceed levels likely to be encountered in industrial environments. Efforts to confirm such observations and to measure effects at lower dose levels are now in progress.

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4. Viola PL, Bigotti A, Caputo A: Oncogenic response of rat skin, lungs, and bone to vinyl chloride. Cancer Research 31:516-522, 1971

Editorial Note—1997: Workers constitute the segment of the U.S. population most heavily exposed to chemical toxins and physical agents. Because of their intense and prolonged exposures compared with the general public's, workers generally develop illnesses of toxic etiology more frequently, more quickly after the introduction of new chemical compounds, and in more severe forms.

Work-related diseases encompass a broad range of human illness (*1*). For example, chronic bronchitis frequently occurs in coal miners; skin cancer in farmers; bladder cancer in dye workers exposed to aniline compounds; leukemia and lymphoma in chemical workers exposed to benzene; kidney failure in lead workers; impaired repro-

Angiosarcoma — Continued

M.D., an Epidemic Intelligence Service (EIS) officer in the Cancer and Birth Defects Division in CDC's Bureau of Epidemiology, was assigned by his Division Director, Clark W. Heath, Jr., M.D., to investigate this outbreak. Working with Richard Waxweiler, Ph.D., of the National Institute for Occupational Safety and Health, Hans Popper, M.D., of the Mount Sinai School of Medicine, and Louis Thomas, M.D., of the National Cancer Institute, Dr. Falk confirmed the existence of the outbreak and also discovered a premalignant lesion—idiopathic hepatic fibrosis—in additional members of the population heavily exposed to VCM (*6*). This work stimulated a major international conference that was convened at the New York Academy of Sciences by Irving Selikoff, M.D. (*7*), at which the carcinogenicity of VCM was confirmed. VCM is now universally considered to be a highly potent chemical carcinogen (*7*).

This recognition of the carcinogenicity of VCM also stimulated intense regulatory activity (*8*). To prevent future cases of VCM-associated angiosarcoma, the Occupational Safety and Health Administration in 1974 proposed a 500-fold reduction in the occupational exposure standard for VCM gas—from 500 parts per million (ppm) in air to 1 ppm. The plastics-manufacturing industry immediately objected that such reduction was not possible and would drive the vinyl chloride polymerization industry overseas. An industry-sponsored study estimated that the costs to comply with the proposed new standard would exceed $25 billion (*8*). Within the year, however, a major plastics manufacturer announced development of a novel closed-loop polymerization process that greatly reduced atmospheric releases of VCM and almost completely eliminated worker exposures. The manufacturer patented this system and subsequently licensed it to other manufacturers at substantial profit. The VCM standard of 1 ppm remains in force today (*9*) and is readily achieved in the workplace. New cases of hepatic angiosarcoma in vinyl chloride polymerization workers have been virtually eliminated (*10*).

This episode, one of the earliest reports of an occupational disease outbreak published in the *MMWR*, underscores the importance of informed clinical observation in the recognition of work-related illness. Furthermore, the regulatory actions precipitated by this report and the ensuing investigation of this episode illustrate that a safe working environment and economic progress are not mutually exclusive. When well-conceived protective standards are accepted with good will and ingenuity is used to encourage compliance with those standards, then job safety, economic advances, and a healthy environment can comfortably co-exist.

1997 Editorial Note by Philip J Landrigan, MD, MSc, Chairman, Department of Community Medicine, Mount Sinai School of Medicine, New York, and former Director, Division of Surveillance, Hazard Evaluations, and Field Studies, National Institute for Occupational Safety and Health, CDC.

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Angiosarcoma — Continued

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Rates of Homicide, Suicide, and Firearm-Related Death Among Children — 26 Industrialized Countries

During 1950–1993, the overall annual death rate for U.S. children aged <15 years declined substantially (*1*), primarily reflecting decreases in deaths associated with unintentional injuries, pneumonia, influenza, cancer, and congenital anomalies. However, during the same period, childhood homicide rates tripled, and suicide rates quadrupled (*2*). In 1994, among children aged 1–4 years, homicide was the fourth leading cause of death; among children aged 5–14 years, homicide was the third leading cause of death, and suicide was the sixth (*3*). To compare patterns and the impact of violent deaths among children in the United States and other industrialized countries, CDC analyzed data on childhood homicide, suicide, and firearm-related death in the United States and 25 other industrialized countries for the most recent year for which data were available in each country (*4*). This report presents the findings of this analysis, which indicate that the United States has the highest rates of childhood homicide, suicide, and firearm-related death among industrialized countries.

In the 1994 *World Development Report* (*5*), 208 nations were classified by gross national product; from that list, the United States and all 26 of the other countries in the high-income group and with populations of ≥1 million were selected because of their economic comparability and the likelihood that those countries maintained vital records most accurately. In January and February 1996, the ministry of health or the national statistics institute in each of the 26 countries were asked to provide denominator data and counts by sex and by 5-year age groups for the most recent year data were available for the number of suicides (*International Classification of Diseases, Ninth Revision* [ICD-9], codes E950.0–E959), homicides (E960.0–E969), suicides by firearm (E955.0–E955.4), homicides by firearm (E965.0–E965.4), unintentional deaths caused by firearm (E922.0–E922.9), and firearm-related deaths for which intention was undetermined (E985.0–E985.4); 26 (96%) countries, including the United States, provided complete data*. Twenty (77%) countries provided data for 1993 or 1994; the remaining countries provided data for 1990, 1991, 1992, or 1995. Cause-specific rates

*Complete data were provided by Australia, Austria, Belgium, Canada, Denmark, England and Wales, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Kuwait, Netherlands, New Zealand, Northern Ireland, Norway, Scotland, Singapore, Sweden, Spain, Switzerland, Taiwan, and the United States. In this analysis, Hong Kong, Northern Ireland, and Taiwan are considered as countries.

Homicide, Suicide, and Firearm-Related Deaths — Continued

per 100,000 population were calculated for three groups (children aged 0–4 years, 5–14 years, and 0–14 years). The rates for homicide and suicide by means other than firearms were calculated by subtracting the firearm-related homicide and firearm-related suicide rates from the overall homicide and suicide rates. Rates for the United States were compared with rates based on pooled data for the other 25 countries. Of the 161 million children aged <15 years during the 1 year for which data were provided, 57 million (35%) were in the United States and 104 million (65%) were in the other 25 countries.

Overall, the data provided by the 26 countries included a total of 2872 deaths among children aged <15 years for a period of 1 year. Homicides accounted for 1995 deaths, including 1177 (59%) in boys and 818 (41%) in girls. Of the homicides, 1464 (73%) occurred among U.S. children. The homicide rate for children in the United States was five times higher than that for children in the other 25 countries combined (2.57 per 100,000 compared with 0.51) (Table 1).

Suicide accounted for the deaths of 599 children, including 431 (72%) in boys and 168 (28%) in girls. Of the suicides, 321 (54%) occurred among U.S. children. The suicide rate for children in the United States was two times higher than that in the other 25 countries combined (0.55 compared with 0.27) (Table 1). No suicides were reported among children aged <5 years.

A firearm was reported to have been involved in the deaths of 1107 children; 957 (86%) of those occurred in the United States. Of all firearm-related deaths, 55% were reported as homicides; 20%, as suicides; 22%, as unintentional; and 3%, as intention undetermined. The overall firearm-related death rate among U.S. children

TABLE 1. Rates* of homicide, suicide, and firearm-related death† among children aged <15 years — United States and 25 other industrialized countries§

Age group (yrs)	Total homicide	Total suicide	Firearm-related deaths				
			Homicide	Suicide	Unintentional	Intention undetermined	Total
0–4							
U.S.	**4.10**	**0**	0.43	0	0.15	0.01	**0.59**
Non-U.S.	**0.95**	**0**	0.05	0	0.01	0.01	**0.07**
Ratio U.S.:Non-U.S.	***4.3:1***		*8.6:1*		*15.0:1*	*1.0:1*	***8.4:1***
5–14							
U.S.	**1.75**	**0.84**	1.22	0.49	0.46	0.06	**2.23**
Non-U.S.	**0.30**	**0.40**	0.07	0.05	0.05	0.01	**0.18**
Ratio U.S.:Non-U.S.	***5.8:1***	***2.1:1***	*17.4:1*	*9.8:1*	*9.2:1*	*6.0:1*	***12.4:1***
0–14							
U.S.	**2.57**	**0.55**	**0.94**	**0.32**	**0.36**	**0.04**	**1.66**
Non-U.S.	**0.51**	**0.27**	**0.06**	**0.03**	**0.04**	**0.01**	**0.14**
Ratio U.S.:Non-U.S.	***5.0:1***	***2.0:1***	***15.7:1***	***10.7:1***	***9.0:1***	***4.0:1***	***11.9:1***

*Per 100,000 children in each age group and for 1 year during 1990–1995.

†Homicides (*International Classification of Diseases, Ninth Revision,* codes E960.0–E969), suicides (E950.0–E959), homicides by firearm (E965.0–E965.4), suicides by firearm (E955.0–E955.4), unintentional deaths caused by firearm (E922.0–E922.9), and firearm-related deaths for which intention was undetermined (E985.0–E985.4).

§All countries classified in the high-income group with populations ≥1 million (*5*) that provided complete data (Australia, Austria, Belgium, Canada, Denmark, England and Wales, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Kuwait, Netherlands, New Zealand, Northern Ireland, Norway, Scotland, Singapore, Sweden, Spain, Switzerland, and Taiwan). In this analysis, Hong Kong, Northern Ireland, and Taiwan are considered as countries.

Homicide, Suicide, and Firearm-Related Deaths — Continued

aged <15 years was nearly 12 times higher than among children in the other 25 countries combined (1.66 compared with 0.14) (Table 1). The firearm-related homicide rate in the United States was nearly 16 times higher than that in all of the other countries combined (0.94 compared with 0.06); the firearm-related suicide rate was nearly 11 times higher (0.32 compared with 0.03); and the unintentional firearm-related death rate was nine times higher (0.36 compared with 0.04). For all countries, males accounted for most of the firearm-related homicides (67%), firearm-related suicides (77%), and unintentional firearm-related deaths (89%). The nonfirearm-related homicide rate in the United States was nearly four times the rate in all of the other countries (1.63 compared with 0.45), and nonfirearm-related suicide rates were similar in the United States and in all of the other countries combined (0.23 compared with 0.24).

The rate for firearm-related deaths among children in the United States (1.66) was 2.7-fold greater than that in the country with the next highest rate (Finland, 0.62) (Figure 1). Except for rates for firearm-related suicide in Northern Ireland and firearm-related fatalities of unknown intent in Austria, Belgium, and Israel, rates for all types of firearm-related deaths were higher in the United States than in the other countries. However, among all other countries, the impact of firearm-related deaths varied substantially. For example, five countries, including three of the four countries in Asia, reported no firearm-related deaths among children. In comparison, firearms were the primary cause of homicide in Finland, Israel, Australia, Italy, Germany, and England and Wales. Five countries (Denmark, Ireland, New Zealand, Scotland, and Taiwan) reported only unintentional firearm-related deaths.

Reported by: Div of Violence Prevention, National Center for Injury Prevention and Control, CDC.

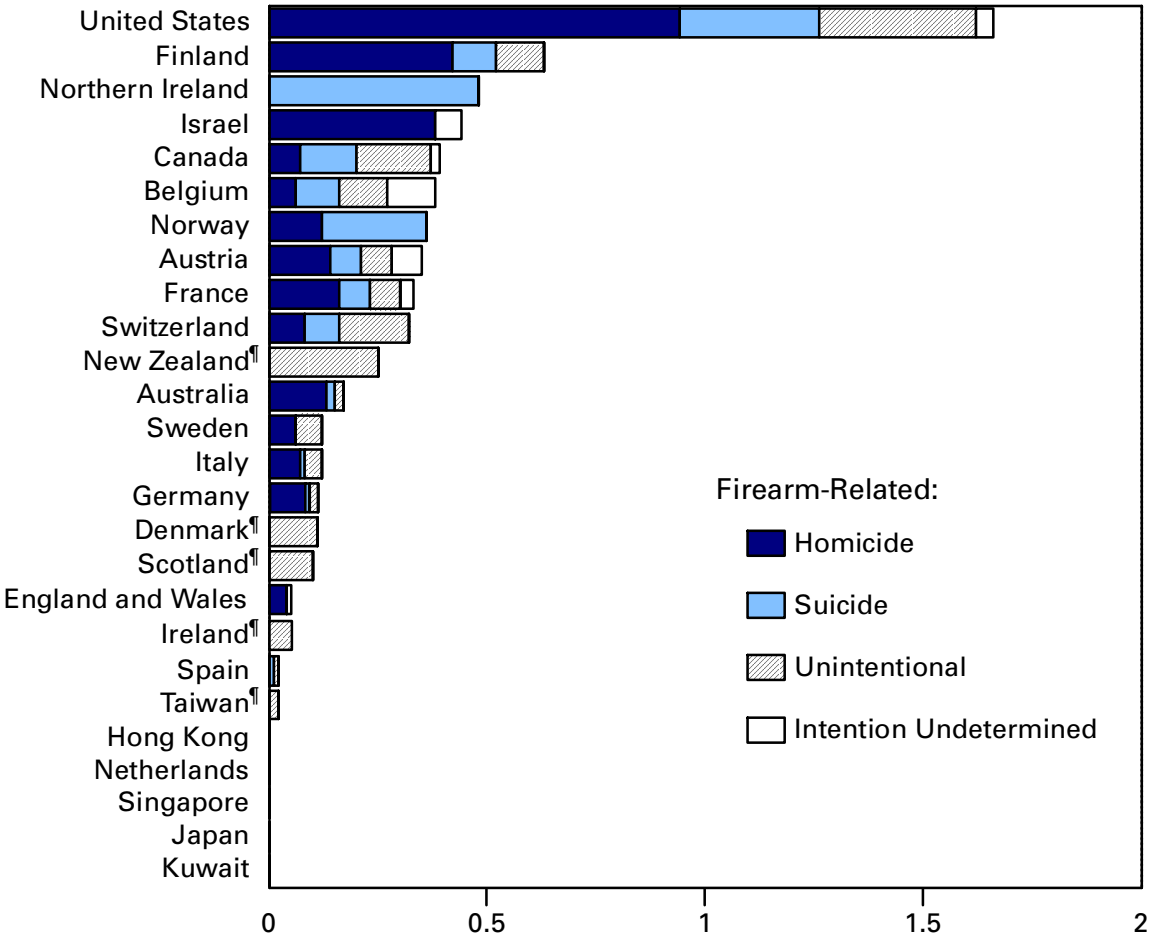
Editorial Note: The findings in this report document a high rate of death among U.S. children associated with violence and unintentional firearm-related injuries, particularly in comparison with other industrialized countries. Even though rates in all other countries were lower than those in the United States, rates among other countries varied substantially and were particularly low in some countries. Although specific reasons for the differences in rates among countries are unknown, previous studies have reported on the associations between rates of violent childhood death and low funding for social programs (*6*), economic stress related to participation of women in the labor force (*7,8*), divorce, ethnic-linguistic heterogeneity, and social acceptability of violence (*9*).

The findings of the analysis in this report are subject to at least three limitations. First, although the data were obtained from official sources and were based on ICD-9 codes, the sensitivity and specificity of the vital records and reporting systems may have varied by country. Second, because 21 (81%) countries each reported <10 firearm-related deaths among children aged 0–14 years, the firearm-related death rates for those countries, when not pooled, are unstable and may vary substantially for different years. Finally, only one half of the countries (including the United States) reported all four digits of the ICD-9 codes for firearm-related deaths; the fourth digit distinguishes whether deaths were caused by injuries from firearms or by other explosives. For countries in which this distinction could not be made, the firearm-related death rates may be overestimated slightly.

In May 1996, the 49th World Health Assembly adopted a resolution that declared violence a leading worldwide public health problem and urged all member states to assess the problem of violence and to communicate their findings to the World Health

Homicide, Suicide, and Firearm-Related Deaths — Continued

FIGURE 1. Rates* of firearm-related death† among children aged <15 years — 26 industrialized countries§



*Per 100,000 children aged <15 years and for 1 year during 1990–1995.
†Homicides by firearm (*International Classification of Diseases, Ninth Revision,* codes E965.0–E965.4), suicides by firearm (E955.0–E955.4), unintentional deaths caused by firearm (E922.0–E922.9), and firearm-related deaths for which intention was undetermined (E985.0–E985.4).
§All countries classified in the high-income group with populations ≥1 million (*5*) that provided complete data. In this analysis, Hong Kong, Northern Ireland, and Taiwan are considered as countries.
¶Reported only unintentional firearm-related deaths.

Organization (*10*). Cross-cultural comparisons may identify key factors (e.g., attitudinal, behavioral, educational, socioeconomic, or regulatory) not evident from intranational studies that could assist in the development of new country-specific strategies for preventing such deaths.

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Adult Blood Lead Epidemiology and Surveillance — United States, Third Quarter, 1996

CDC's National Institute for Occupational Safety and Health Adult Blood Lead Epidemiology and Surveillance program (ABLES) monitors laboratory-reported elevated blood lead levels (BLLs) among adults in 25 states.* This report presents ABLES data through the third quarter of 1996 and compares these data with the third quarter of 1995.

During July 1–September 30, 1996, the 4990 reports of BLLs ≥25 μg/dL represented a 15% decrease from the 5888 reports for the third quarter of 1995 (*1*), which now include previously unpublished data for Minnesota and an estimate for Ohio. For the first 3 quarters of 1996, the number of reports of BLLs ≥25 μg/dL decreased by 11% compared with the number reported for the first 3 quarters of 1995 (*1*), which also include previously unpublished data for Minnesota and an estimate for Ohio (Table 1). The cumulative number of reports in 1996 decreased at each reporting level compared with data for 1995. This overall trend of decreasing reports is consistent with the second quarter report for 1996 (*2*).

Of the 25 states currently participating in ABLES, 17 reported each year during 1993–1995. Among these 17, the overall number of reports of BLLs ≥25 μg/dL decreased by 3%; the largest decreases were reported in Oregon (–44%), New York (–40%), and Texas (–38%). However, the number of reports of BLLs ≥25 μg/dL increased in six of the 17 states; the largest increases were reported in Iowa (215%), Arizona (205%), and Washington (76%).

During 1993–1995, the number of persons with reported elevated BLLs decreased by 18% overall in the 17 states. Decreases occurred in nine of the 17 states; the largest decreases were in Texas (–66%), Illinois (–61%), and California (–42%). However, the number of persons increased in eight of the 17 states; the largest increases were in Wisconsin (216%), Arizona (174%), and Iowa (41%). The number of persons with new

*Alabama, Arizona, California, Connecticut, Illinois, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Ohio, Okla-

Adult Blood Lead Epidemiology and Surveillance — Continued

TABLE 1. Number of reports of elevated blood lead levels (BLLs) among adults, number of adults with elevated BLLs, and percentage change in number of reports — 25 states,* third quarter, 1996

Reported BLL (μg/dL)	Third quarter, 1996		Cumulative reports, 1995¶	Cumulative reports, 1996	% Change 1995 to 1996
	No. reports†	No. persons§			
25–39	3,974	2,972	15,039	13,952	– 7%
40–49	780	554	3,713	2,891	–22%
50–59	162	137	791	593	–25%
≥60	74	65	359	274	–24%
Total	**4,990**	**3,728**	**19,902**	**17,710**	**–11%**

*Alabama, Arizona, California, Connecticut, Illinois, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Texas, Utah, Vermont, Washington, and Wisconsin.

†Data for Alabama were missing; first quarter 1995 data were used as an estimate.

§Individual reports for persons are categorized according to the highest reported BLL for the person during the given quarter. Pennsylvania and Michigan provide the number of reports but no information on persons. The data on persons for Pennsylvania and Michigan included in this table are estimates based on the proportions from the other 23 states combined and the number of reports received. Data for Alabama were missing; first quarter 1995 data were used as an estimate.

¶Data for Minnesota and Ohio are included for the first time in addition to previously published 1995 totals (*1*). For Minnesota, first through third quarter data for 1995 were used; for Ohio, first through third quarter data for 1996 were used as an estimate.

cases decreased in each of the 17 states except Arizona (41%) and decreased by 42% overall; the largest decreases were in Illinois (–84%), Iowa (–76%), and Connecticut (–60%).

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Editorial Note: The findings in this report suggest a continued decline in the overall number of detected cases of elevated BLLs, possibly reflecting decreased occupational exposures to lead, diminished compliance with Occupational Safety and Health

Adult Blood Lead Epidemiology and Surveillance — Continued

Administration requirements regarding blood lead monitoring, and/or a reduction in the size of the workforce in lead-using industries. Although this overall decrease in reports is consistent with the overall decline reported during 1993–1995 (*3*), increases occurred in some of the states participating in ABLES during that period. Variation in nationwide quarterly reporting totals may result from 1) changes in the roster of participating states, 2) changes in staffing and funding in state-based surveillance programs, and 3) interstate differences in worker BLL testing by lead-using industries.

The findings in this report document the continuing hazard of work-related lead exposures as an occupational health problem in the United States. ABLES enhances surveillance for this preventable condition by expanding the number of participating states, reducing variability in reporting, and distinguishing between new and recurring elevated BLLs in adults.

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Notice to Readers

FDA Approval for Infants of a *Haemophilus influenzae* Type b Conjugate and Hepatitis B (Recombinant) Combined Vaccine

The Advisory Committee on Immunization Practices (ACIP); the Committee on Infectious Diseases, American Academy of Pediatrics; and the American Academy of Family Physicians recommend that all infants receive *Haemophilus influenzae* type b (Hib) conjugate vaccine and hepatitis B vaccine (*1–4*). On October 2, 1996, the Food and Drug Administration (FDA) licensed a combined Hib conjugate and hepatitis B (recombinant) vaccine (COMVAX™)* for infants. Since 1991, the antigenic components of COMVAX™ have been used routinely in separate vaccines and have contributed to the declining incidence of infant Hib disease and hepatitis B virus (HBV) infection in the United States (*5,6*).

Vaccine Description

COMVAX™ is made of the antigenic components used in PedvaxHIB® and RECOMBIVAX HB® manufactured and distributed by Merck & Co., Inc. (West Point, Pennsylvania). Each 0.5-mL dose of COMVAX™ contains 7.5 μg of *Haemophilus influenzae* type b polyribosylribitol phosphate (PRP), 125 μg of *Neisseria meningitidis* outer membrane protein complex (OMPC) and 5 μg of hepatitis B surface antigen (HBsAg) with an aluminum hydroxide adjuvant and pH stabilizer in normal saline.

*Use of trade names and commercial sources is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

Notices to Readers — Continued

Indications and Usage

COMVAX™ is indicated for vaccination against invasive Hib disease and HBV infection in infants born to HBsAg-negative women. Three doses of COMVAX™ should be administered at ages 2, 4, and 12–15 months. This vaccine must not be administered to infants younger than age 6 weeks because of potential suppression of the immune response to PRP-OMPC with subsequent doses of COMVAX™.

For complete protection against invasive Hib disease, infants should receive their first dose of Hib conjugate vaccine at age 2 months and should complete the full series by age 12–15 months (*1*). If the series is started late, the required number of doses of a vaccine containing PRP-OMPC (i.e., COMVAX™ or PedvaxHIB®) depends on the child's age—three if started at age ≤10 months, two if started at age 11–14 months, and one if started at age 15–71 months. However, three doses of hepatitis B vaccine are required regardless of the child's age when the series is started. Children who receive one dose of hepatitis B vaccine at or shortly after birth may be administered COMVAX™ at ages 2, 4, and 12–15 months.

The use of COMVAX™ has not yet been studied in infants born to women who are HBsAg-positive or women of unknown HBsAg status. However, there has been no evidence of diminished effectiveness of postexposure prophylaxis in populations that have received the initial doses of hepatitis B immune globulin and hepatitis B vaccine at birth followed by PedvaxHIB® and RECOMBIVAX HB® vaccines at 6–10 weeks of age and subsequently completed each vaccine series (CDC, unpublished data, 1994).

Safety and Immunogenicity

Adverse experiences (AEs) were evaluated in clinical trials in which 6705 doses of COMVAX™ were administered to 2612 healthy infants aged 6 weeks–15 months. AEs observed ≤5 days after each dose were generally similar in type and frequency to those observed in a group of infants who received liquid PedvaxHIB® and RECOMBIVAX HB® in concurrent injections at separate sites. No serious vaccine-related AEs were observed. The type, frequency, and severity of observed AEs in a group of infants (n=126) who were administered one dose of hepatitis B vaccine shortly after birth and three doses of COMVAX™ on the recommended schedule were similar to AEs among a group that received only the three-dose COMVAX™ series (Merck Research Laboratories, unpublished data, 1996).

The efficacy of COMVAX™ is expected to be comparable to existing monovalent vaccines (*7–9*). Findings of prelicensure clinical trials indicate that the immunogenicity of COMVAX™ is equivalent to that of the monovalent vaccines. After two doses of COMVAX™, 95% of approximately 570 subjects had antibodies to PRP at levels >0.15 μg/mL. After three doses, 93% had antibodies to PRP at levels >1.0 μg/mL, and 98% had antibodies to HBsAg at levels ≥10 mIU/mL (Merck Research Laboratories, unpublished data, 1995).

The immunogenicity of COMVAX™ when used in a vaccination series with other vaccines containing HBsAg or Hib conjugate has not been studied. However, immunogenicity data from studies of monovalent vaccines indicate that any combination of Hib conjugate vaccines licensed for administration to infants may be used to complete the primary series (*1,10*). When COMVAX™ and a Hib conjugate vaccine other than PedvaxHib® are used to complete the primary series, three doses should be administered at ages 2, 4, and 6 months. Interchangeable administration of hepatitis B vaccine

Notices to Readers — Continued

(e.g., one to two doses of one product and subsequent dose[s] of another) produced an immune response comparable to that resulting from three doses of a single vaccine (*4*). Completion of both primary vaccination series—Hib conjugate vaccine and hepatitis B vaccine—with the same products with which they are started is preferred.

Simultaneous Vaccination

Results from clinical studies indicate that COMVAX™ may be administered at the same time as diphtheria and tetanus toxoids and pertussis vaccine, oral poliovirus vaccine, inactivated poliovirus vaccine, measles-mumps-rubella vaccine, varicella vaccine, and a booster dose of diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) at age 15 months; when administered simultaneously with other immunizing agents, separate sites and syringes for injectable vaccines should be used. No impairment of immune response to these individually tested vaccine antigens was demonstrated in clinical trials. As of November 1996, COMVAX™ had been administered concomitantly with the primary series of DTaP to 38 infants; no serious vaccine-related adverse events have been reported. Immune response data are satisfactory for COMVAX™ but are currently unavailable for DTaP. (See the manufacturer's package insert for additional information.)

Additional Information

Additional product information is available from Merck, telephone (888)426-6829 ([888] 4COMVAX). ACIP recommendations for use of COMVAX™ are being developed and will be included in future published statements.

Reported by: Office of Vaccines Research and Review, Center for Biologics Evaluation and Research, Food and Drug Administration. Epidemiology and Surveillance Div, National Immunization Program; Childhood and Respiratory Diseases Br, Div of Bacterial and Mycotic Diseases; Hepatitis Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

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Notice to Readers

FDA Approval of a Second Acellular Pertussis Vaccine for Use Among Infants and Young Children

On December 30, 1996, the Food and Drug Administration (FDA) licensed Wyeth-Lederle Vaccines and Pediatrics to distribute a combined diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) (ACEL-IMUNE®*)† for all five doses of the diphtheria, tetanus, and pertussis vaccination series administered to infants and children aged 6 weeks–6 years (before the seventh birthday). Since December 1991, ACEL-IMUNE® has been licensed for use as the fourth and fifth doses of the vaccination series among children aged 15 months–6 years who previously received three or four doses of diphtheria and tetanus toxoids combined with whole-cell pertussis vaccine (DTP). ACEL-IMUNE® is the second acellular pertussis-containing vaccine to be licensed for use in infants in the United States (*1*).

The Advisory Committee on Immunization Practices (ACIP); Committee on Infectious Diseases, American Academy of Pediatrics; and American Academy of Family Physicians recommend that children routinely receive a series of five doses of vaccine against diphtheria, tetanus, and pertussis before age 7 years (*2–5*). The first four doses should be administered at ages 2, 4, 6, and 15–18 months and the fifth dose at age 4–6 years.

The following evidence supports the use of ACEL-IMUNE® for the diphtheria, tetanus, and pertussis vaccination series:

1. The rates of local reactions, fever, and other common systemic symptoms following receipt of ACEL-IMUNE® inoculations were lower than those following whole-cell pertussis vaccination (administered as DTP) for doses one through four in controlled clinical studies. The rates of these reactions following the fifth dose of ACEL-IMUNE® were no greater than the rates described for historical controls who received a fifth dose of DTP after four previous doses of DTP (*6*, package insert).
2. Efficacy of ACEL-IMUNE® was assessed in a prospective study in Erlangen, Germany. Infants were randomly assigned to groups that were administered either ACEL-IMUNE® or DTP (distributed by Wyeth-Lederle Vaccines and Pediatrics) at mean ages 3, 5, 7, and 17 months. A third group of infants (not selected randomly) received DT at ages 3, 5, and 17 months. In this trial, pertussis was defined as cough illness lasting ≥21 days with at least one pertussis-associated symptom (paroxysms, whoop, or post-tussive vomiting) confirmed by culture, serology, or epidemiologic link to a culture-positive household contact. The adjusted vaccine efficacy after three doses and before receipt of the fourth dose was 73% (95% confidence interval [CI]=51%–86%) for ACEL-IMUNE® and 83% (95% CI=65%–92%) for DTP. The adjusted efficacy after four doses of ACEL-

*Diphtheria and Tetanus Toxoids and Acellular Pertussis Vaccine Adsorbed, ACEL-IMUNE®, manufactured by Lederle Laboratories and distributed by Wyeth-Lederle Vaccines and Pediatrics (Pearl River, New York). The acellular pertussis vaccine component is produced by Takeda Chemical Industries, Ltd. (Osaka, Japan), and is combined with diphtheria and tetanus toxoids manufactured by Lederle Laboratories.

†Use of trade names and commercial sources is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

Notices to Readers — Continued

IMUNE® was 85% (95% CI=76%–90%). Adjusted efficacy of four doses of DTP was 94% (95% CI=89%–97%). Considering all observation time, (i.e., including after the third dose until the fourth dose [approximately 40% of follow-up time] and after the fourth dose until the end of the study [approximately 60% of follow-up time]), the adjusted efficacy estimated for ACEL-IMUNE® was 81% (95% CI=73%–87%) compared with 91% for DTP (95% CI=85%–95%) (package insert).

Because of the reduced frequency of adverse reactions and high efficacy, the ACIP recommends DTaP (either ACEL-IMUNE® or Tripedia® [Connaught Laboratories, Inc., Swiftwater, Pennsylvania]) for all doses of the routine diphtheria, tetanus, and pertussis vaccination series (*1*). DTaP also is recommended for all remaining doses in the schedule for children who have started the vaccination series with one, two, three, or four doses of DTP. During the transition period from use of whole-cell DTP to DTaP, vaccines containing a whole-cell pertussis component continue to be an acceptable alternative for all doses in the pertussis vaccination series.

Whenever feasible, the same DTaP vaccine should be used throughout the entire vaccination series. No data exist on the safety, immunogenicity, or efficacy of different DTaP vaccines when administered interchangeably in the primary or booster vaccination of a child. However, if the vaccine provider does not know or have available the type of DTaP vaccine the child to be vaccinated had previously received, any of the licensed DTaP vaccines may be used to complete the vaccination series. ACIP is developing recommendations for use of DTaP among infants.

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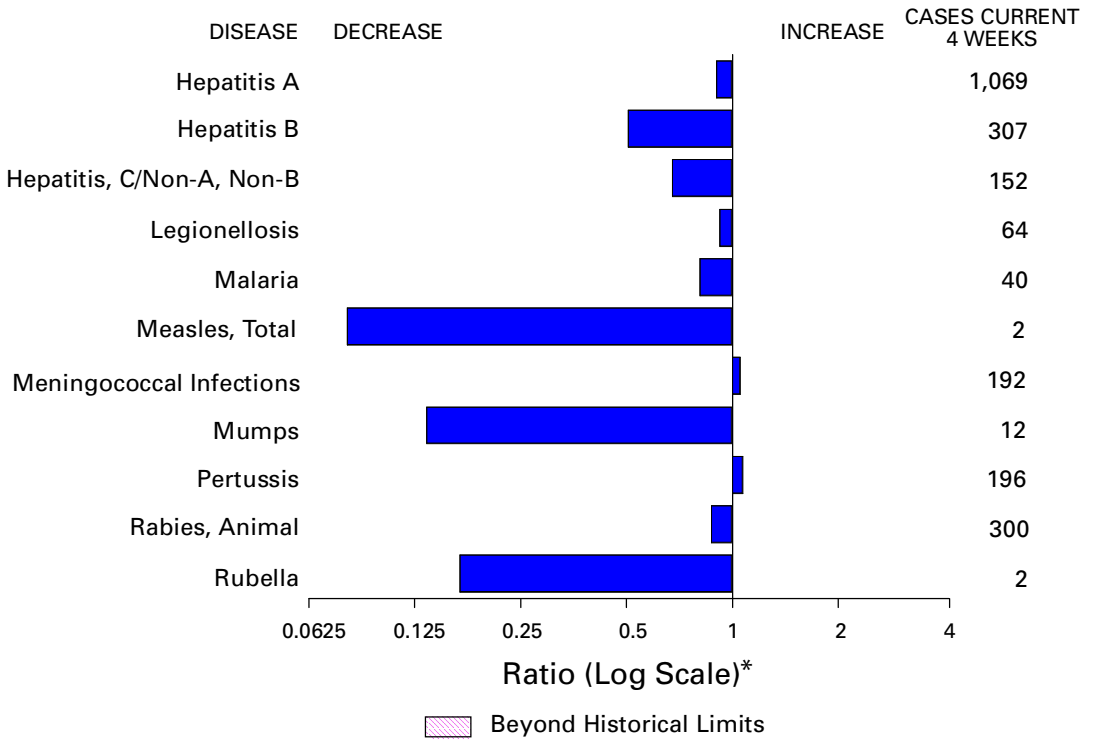
Notice to Readers

1997 Draft Recommendations for Prevention of Opportunistic Infections in Persons Infected with HIV

CDC, the National Institutes of Health, and the Infectious Diseases Society of America (IDSA) have prepared a revision of the 1995 U.S. Public Health Service/IDSA guidelines for prevention of opportunistic infections (OIs) in persons infected with human immunodeficiency virus. The draft document is available from CDC's Technical Information and Communications Branch, Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention, telephone (404) 639-2072, fax (404) 639-2007. Comments must be received in writing by March 12, 1997, and should be mailed to Attention: OI Guidelines, Technical Information and Communications Branch, Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention, CDC, Mailstop E-49, 1600 Clifton Road N.E., Atlanta, GA 30333; fax (404) 639-2007.

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending February 1, 1997, 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 — provisional cases of selected notifiable diseases, United States, cumulative, week ending February 1, 1997 (5th Week)

	Cum. 1997		Cum. 1997
Anthrax	-	Plague	-
Brucellosis	4	Poliomyelitis, paralytic	-
Cholera	-	Psittacosis	1
Congenital rubella syndrome	2	Rabies, human	-
Cryptosporidiosis*	69	Rocky Mountain spotted fever (RMSF)	5
Diphtheria	-	Streptococcal disease, invasive Group A	74
Encephalitis: California*	-	Streptococcal toxic-shock syndrome*	2
eastern equine*	-	Syphilis, congenital¶	-
St. Louis*	-	Tetanus	1
western equine*	-	Toxic-shock syndrome	9
Hansen Disease	8	Trichinosis	2
Hantavirus pulmonary syndrome*†	-	Typhoid fever	20
Hemolytic uremic syndrome, post-diarrheal*	6	Yellow fever	-
HIV infection, pediatric*§	19		

-: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 to the Division of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention (NCHSTP), last update January 28, 1997.
¶Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending February 1, 1997, and February 3, 1996 (5th Week)

UNITED STATES	5,109	4,320	22,421	30,157	72	25	17,915	29,505	178	228
NEW ENGLAND	134	202	1,221	1,620	5	4	480	693	1	3
Maine	13	7	20	-	-	-	1	3	-	-
N.H.	1	2	39	55	-	-	17	11	-	-
Vt.	7	-	36	45	1	-	5	12	-	3
Mass.	62	133	686	612	4	4	249	277	1	-
R.I.	19	9	203	200	-	-	58	49	-	-
Conn.	32	51	237	708	-	-	150	341	-	-
MID. ATLANTIC	1,921	1,234	1,533	1,289	1	-	984	2,275	15	5
Upstate N.Y.	113	156	N	N	1	-	44	2	10	3
N.Y. City	1,039	699	-	766	-	-	-	1,012	-	1
N.J.	468	242	482	523	-	-	268	266	-	-
Pa.	301	137	1,051	-	N	-	672	995	5	1
E.N. CENTRAL	242	415	4,041	8,029	8	-	3,200	5,851	56	39
Ohio	57	140	1,067	1,670	4	-	880	1,271	3	1
Ind.	25	50	423	728	1	-	423	648	1	-
Ill.	115	158	968	2,350	-	-	533	1,824	-	8
Mich.	29	36	1,476	2,263	3	-	1,261	1,590	52	30
Wis.	16	31	107	1,018	N	-	103	518	-	-
W.N. CENTRAL	127	143	1,607	2,693	12	7	770	1,451	7	6
Minn.	17	20	-	562	7	7	U	-	-	-
Iowa	38	17	517	1	3	-	142	-	2	-
Mo.	54	52	819	1,092	2	-	541	1,081	1	5
N. Dak.	2	-	44	40	-	-	2	3	-	-
S. Dak.	-	2	49	89	-	-	9	12	-	-
Nebr.	15	15	17	445	-	-	2	69	-	1
Kans.	1	37	161	464	-	-	74	286	4	-
S. ATLANTIC	1,239	863	5,790	3,560	7	-	7,240	9,977	16	8
Del.	20	32	-	-	-	-	120	155	-	-
Md.	166	69	453	323	-	-	1,099	1,461	3	-
D.C.	55	65	N	N	-	-	478	461	-	-
Va.	130	35	999	948	N	-	859	919	-	-
W. Va.	14	7	-	-	N	-	54	45	-	3
N.C.	59	1	1,886	-	2	-	1,555	1,415	4	1
S.C.	104	12	101	-	-	-	869	1,417	9	1
Ga.	183	213	593	474	3	-	723	2,504	U	-
Fla.	508	429	1,758	1,815	2	-	1,483	1,600	-	3
E.S. CENTRAL	134	152	2,206	2,428	12	-	2,514	2,899	20	55
Ky.	23	43	574	574	5	-	435	369	-	-
Tenn.	59	56	970	1,000	6	-	1,004	989	8	55
Ala.	37	35	662	829	-	-	1,075	1,313	1	-
Miss.	15	18	-	25	1	-	-	228	11	-
W.S. CENTRAL	420	492	1,108	2,868	1	1	1,250	3,166	15	31
Ark.	18	19	99	125	1	-	222	410	1	-
La.	64	112	546	-	-	1	607	685	11	2
Okla.	32	1	463	310	-	-	421	243	-	25
Tex.	306	360	-	2,433	-	-	-	1,828	3	4
MOUNTAIN	122	118	1,577	941	13	11	602	798	31	57
Mont.	7	2	48	-	-	-	4	2	2	3
Idaho	2	1	125	129	-	-	14	8	8	9
Wyo.	1	-	42	65	-	-	5	5	13	12
Colo.	24	53	-	-	8	5	170	199	3	9
N. Mex.	5	8	321	292	3	1	78	94	1	16
Ariz.	30	36	711	63	N	5	253	382	3	4
Utah	10	17	129	137	1	-	15	39	-	4
Nev.	43	1	201	255	1	-	63	69	1	-
PACIFIC	770	701	3,338	6,729	13	2	875	2,395	17	24
Wash.	45	64	787	897	1	-	203	270	-	2
Oreg.	30	48	-	483	2	2	-	9	1	2
Calif.	682	579	2,356	5,155	10	-	583	2,020	-	9
Alaska	10	3	118	38	-	-	52	48	-	1

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending February 1, 1997, and February 3, 1996 (5th Week)

Reporting Area	Legionellosis		Lyme Disease		Malaria		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal
	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997
UNITED STATES	73	76	132	239	72	73	570	1,097	678	959	407
NEW ENGLAND	3	2	10	6	-	3	11	18	14	19	46
Maine	-	-	-	-	-	-	-	-	-	2	6
N.H.	-	-	1	-	-	-	-	-	-	-	2
Vt.	1	-	1	-	-	1	-	-	-	-	9
Mass.	2	-	2	-	-	2	4	7	6	2	4
R.I.	-	2	6	6	-	-	-	-	1	5	-
Conn.	-	N	-	-	-	-	7	11	7	10	25
MID. ATLANTIC	10	11	87	211	7	17	7	27	48	65	99
Upstate N.Y.	1	-	-	1	-	-	-	4	6	5	73
N.Y. City	-	-	1	89	5	6	-	10	14	19	-
N.J.	1	4	19	32	1	10	1	6	13	22	8
Pa.	8	7	67	89	1	1	6	7	15	19	18
E.N. CENTRAL	37	34	3	1	7	11	42	192	131	176	1
Ohio	24	13	2	1	1	-	17	79	38	18	-
Ind.	-	7	1	-	1	1	10	33	9	14	1
Ill.	-	2	-	-	-	3	10	55	83	133	-
Mich.	13	11	-	-	5	5	-	-	-	9	-
Wis.	-	1	U	U	-	2	5	25	1	2	-
W.N. CENTRAL	1	4	-	3	1	1	9	49	20	16	32
Minn.	-	-	-	-	-	-	-	4	9	3	2
Iowa	-	-	-	-	1	-	1	-	4	3	22
Mo.	1	2	-	1	-	1	8	37	5	7	2
N. Dak.	-	-	-	-	-	-	-	-	1	-	5
S. Dak.	-	-	-	-	-	-	-	-	1	-	-
Nebr.	-	2	-	-	-	-	-	3	-	-	-
Kans.	-	-	-	2	-	-	-	5	-	3	1
S. ATLANTIC	10	8	19	11	15	13	263	304	60	60	204
Del.	1	-	-	2	1	2	3	5	-	5	2
Md.	7	1	15	9	2	2	71	40	7	4	39
D.C.	1	1	3	-	2	1	6	7	6	3	1
Va.	-	2	-	-	1	3	25	37	-	1	30
W. Va.	-	1	-	-	-	-	-	-	6	7	4
N.C.	-	3	1	-	1	2	62	83	17	17	81
S.C.	-	-	-	-	3	-	37	38	21	23	5
Ga.	-	-	-	-	3	2	36	75	-	-	22
Fla.	1	-	-	-	2	1	23	19	3	-	20
E.S. CENTRAL	2	7	9	5	1	-	140	299	29	81	9
Ky.	-	3	1	2	-	-	13	26	-	7	3
Tenn.	-	2	1	3	-	-	75	80	5	25	-
Ala.	1	-	-	-	1	-	52	49	24	27	6
Miss.	1	2	7	-	-	-	-	144	-	22	-
W.S. CENTRAL	-	-	-	-	-	-	73	137	1	13	8
Ark.	-	-	-	-	-	-	7	22	-	3	2
La.	-	-	-	-	-	-	53	40	-	-	-
Okla.	-	-	-	-	-	-	13	1	1	10	6
Tex.	-	-	-	-	-	-	-	74	-	-	-
MOUNTAIN	7	4	-	-	6	6	14	18	11	33	2
Mont.	-	-	-	-	1	-	-	-	-	-	1
Idaho	-	-	-	-	-	-	-	-	-	1	-
Wyo.	-	-	-	-	-	-	-	-	1	-	-
Colo.	2	2	-	-	4	4	-	6	2	14	-
N. Mex.	-	-	-	-	-	1	-	-	-	1	-
Ariz.	3	1	-	-	-	-	13	10	6	17	1
Utah	2	-	-	-	-	1	-	-	-	-	-
Nev.	-	1	-	-	1	-	1	2	2	-	-
PACIFIC	3	6	4	2	35	22	11	53	364	496	6
Wash.	1	-	-	-	-	-	-	-	7	20	-
Oreg.	-	-	1	1	2	2	-	1	-	15	-
Calif.	2	6	3	1	33	20	11	52	329	442	6
Alaska	-	-	-	-	-	-	-	-	7	11	-
Hawaii	-	-	-	-	-	-	-	-	21	8	-
Guam	-	-	-	-	-	-	-	2	-	-	-
P.R.	-	-	-	-	1	-	18	10	-	-	2
V.I.	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-	-	-

N: Not notifiable U: Unavailable -: no reported cases

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending February 1, 1997, and February 3, 1996 (5th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported†		Total	
	Cum. 1997*	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	1997	Cum. 1997	1997	Cum. 1997	Cum. 1997	Cum. 1996
UNITED STATES	83	113	1,632	2,132	480	657	1	1	-	1	2	4
NEW ENGLAND	5	4	31	13	8	15	-	-	-	-	-	3
Maine	2	-	1	3	1	-	-	-	-	-	-	-
N.H.	1	4	1	1	-	-	-	-	-	-	-	-
Vt.	-	-	2	-	-	-	-	-	-	-	-	-
Mass.	1	-	13	2	5	1	-	-	-	-	-	3
R.I.	1	-	1	2	-	1	-	-	-	-	-	-
Conn.	-	-	13	5	2	13	-	-	-	-	-	-
MID. ATLANTIC	12	15	121	139	68	97	-	-	-	-	-	-
Upstate N.Y.	-	2	2	3	5	5	-	-	-	-	-	-
N.Y. City	5	2	55	77	36	48	-	-	-	-	-	-
N.J.	5	8	44	34	22	27	-	-	-	-	-	-
Pa.	2	3	20	25	5	17	-	-	-	-	-	-
E.N. CENTRAL	9	21	134	234	63	93	-	-	-	-	-	-
Ohio	9	14	53	94	10	12	-	-	-	-	-	-
Ind.	-	-	23	26	5	3	-	-	-	-	-	-
Ill.	-	7	-	57	-	34	-	-	-	-	-	-
Mich.	-	-	56	31	48	34	-	-	-	-	-	-
Wis.	-	-	2	26	-	10	-	-	-	-	-	-
W.N. CENTRAL	3	6	118	175	28	49	-	-	-	-	-	-
Minn.	2	-	1	-	-	1	-	-	-	-	-	-
Iowa	-	3	17	47	13	5	-	-	-	-	-	-
Mo.	1	3	60	87	9	33	-	-	-	-	-	-
N. Dak.	-	-	-	1	-	-	-	-	-	-	-	-
S. Dak.	-	-	5	6	-	-	-	-	-	-	-	-
Nebr.	-	-	7	21	1	4	-	-	-	-	-	-
Kans.	-	-	28	13	5	6	-	-	-	-	-	-
S. ATLANTIC	20	16	115	59	51	91	-	-	-	-	-	-
Del.	-	-	6	1	1	-	-	-	-	-	-	-
Md.	6	2	45	20	18	30	-	-	-	-	-	-
D.C.	2	-	1	2	2	1	-	-	-	-	-	-
Va.	1	-	15	4	4	5	-	-	-	-	-	-
W. Va.	-	-	1	2	2	3	-	-	-	-	-	-
N.C.	5	3	13	13	8	37	-	-	-	-	-	-
S.C.	1	1	7	6	5	4	-	-	-	-	-	-
Ga.	2	10	5	-	-	-	-	-	-	-	-	-
Fla.	3	-	22	11	11	11	-	-	-	-	-	-
E.S. CENTRAL	5	4	57	85	60	64	-	-	-	-	-	-
Ky.	1	-	1	4	1	6	-	-	-	-	-	-
Tenn.	4	2	30	50	38	53	-	-	-	-	-	-
Ala.	-	2	10	7	5	5	-	-	-	-	-	-
Miss.	-	-	16	24	16	U	-	-	-	-	-	-
W.S. CENTRAL	3	6	139	259	8	20	-	-	-	-	-	-
Ark.	-	-	19	42	3	4	-	-	-	-	-	-
La.	-	-	-	5	3	2	-	-	-	-	-	-
Okla.	2	6	88	166	-	6	-	-	-	-	-	-
Tex.	1	-	32	46	2	8	-	-	-	-	-	-
MOUNTAIN	5	10	362	331	83	89	-	-	-	-	-	-
Mont.	-	-	10	6	-	-	-	-	-	-	-	-
Idaho	-	1	20	50	-	10	-	-	-	-	-	-
Wyo.	-	-	3	1	3	-	-	-	-	-	-	-
Colo.	1	1	58	27	20	11	-	-	-	-	-	-
N. Mex.	-	4	17	57	27	40	-	-	-	-	-	-
Ariz.	2	2	148	86	18	10	-	-	-	-	-	-
Utah	1	1	89	75	12	12	-	-	-	-	-	-
Nev.	1	1	17	29	3	6	-	-	-	-	-	-
PACIFIC	21	31	555	837	111	139	1	1	-	1	2	1
Wash.	-	-	9	22	-	5	-	-	-	-	-	-
Oreg.	5	2	49	148	15	12	-	-	-	-	-	-
Calif.	14	27	485	654	92	120	-	-	-	1	1	-
Alaska	-	-	3	3	2	1	-	-	-	-	-	-
Hawaii	2	2	9	10	2	1	1	1	-	-	1	1
Guam	-	-	-	2	-	-	U	-	U	-	-	-
P.R.	-	-	4	11	9	17	-	-	-	-	-	-
V.I.	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	U	-	U	-	-	-
C.N.M.I.	-	8	-	1	-	3	U	-	U	-	-	-

N: Not notifiable U: Unavailable -: no reported cases

*Of 13 cases among children aged <5 years, serotype was reported for 4 and of those, 2 were type b.

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

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending February 1, 1997, and February 3, 1996 (5th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996
UNITED STATES	284	405	7	18	43	78	326	173	-	-	10
NEW ENGLAND	18	21	-	-	-	23	79	59	-	-	-
Maine	-	4	-	-	-	-	3	1	-	-	-
N.H.	2	1	-	-	-	-	18	1	-	-	-
Vt.	-	1	-	-	-	12	44	3	-	-	-
Mass.	10	4	-	-	-	11	14	54	-	-	-
R.I.	2	4	-	-	-	-	-	-	-	-	-
Conn.	4	7	-	-	-	-	-	-	-	-	-
MID. ATLANTIC	18	34	2	2	5	8	9	8	-	-	1
Upstate N.Y.	2	2	-	-	1	6	6	5	-	-	-
N.Y. City	4	8	-	-	-	-	-	-	-	-	-
N.J.	6	10	-	-	2	-	-	2	-	-	1
Pa.	6	14	2	2	2	2	3	1	-	-	-
E.N. CENTRAL	34	56	1	2	9	7	33	39	-	-	-
Ohio	26	26	1	2	5	7	25	19	-	-	-
Ind.	6	3	-	-	-	-	-	1	-	-	-
Ill.	-	17	-	-	1	-	3	2	-	-	-
Mich.	2	3	-	-	3	-	5	5	-	-	-
Wis.	-	7	-	-	-	-	-	12	-	-	-
W.N. CENTRAL	25	42	-	-	2	2	7	4	-	-	-
Minn.	2	-	-	-	-	1	1	-	-	-	-
Iowa	9	7	-	-	-	1	5	-	-	-	-
Mo.	10	24	-	-	-	-	-	3	-	-	-
N. Dak.	-	-	-	-	2	-	-	-	-	-	-
S. Dak.	1	2	-	-	-	-	1	-	-	-	-
Nebr.	1	4	-	-	-	-	-	1	-	-	-
Kans.	2	5	-	-	-	-	-	-	-	-	-
S. ATLANTIC	58	55	-	-	4	8	20	5	-	-	-
Del.	2	1	-	-	-	-	-	-	-	-	-
Md.	4	9	-	-	2	8	20	4	-	-	-
D.C.	1	2	-	-	-	-	-	-	-	-	-
Va.	3	4	-	-	-	-	-	-	-	-	-
W. Va.	1	1	-	-	-	-	-	-	-	-	-
N.C.	9	6	-	-	-	-	-	-	-	-	-
S.C.	16	10	-	-	1	-	-	-	-	-	-
Ga.	14	19	-	-	1	-	-	1	-	-	-
Fla.	8	3	-	-	-	-	-	-	-	-	-
E.S. CENTRAL	30	34	-	4	3	7	10	7	-	-	-
Ky.	3	6	-	-	-	-	-	5	-	-	-
Tenn.	14	6	-	1	-	4	4	1	-	-	-
Ala.	9	14	-	1	3	3	4	1	-	-	-
Miss.	4	8	-	2	-	-	2	-	-	-	N
W.S. CENTRAL	5	42	3	3	1	-	1	2	-	-	-
Ark.	3	6	-	-	-	-	-	1	-	-	-
La.	-	7	-	-	1	-	-	1	-	-	-
Okla.	1	2	-	-	-	-	-	-	-	-	-
Tex.	1	27	3	3	-	-	1	-	-	-	-
MOUNTAIN	18	32	-	2	2	11	105	19	-	-	-
Mont.	1	1	-	-	-	-	-	-	-	-	-
Idaho	2	2	-	-	-	2	72	-	-	-	-
Wyo.	-	-	-	-	-	1	3	-	-	-	-
Colo.	1	3	-	1	-	8	21	-	-	-	-
N. Mex.	3	8	N	N	N	-	5	8	-	-	-
Ariz.	7	12	-	-	-	-	4	2	-	-	-
Utah	2	1	-	1	-	-	-	-	-	-	-
Nev.	2	5	-	-	2	-	-	9	-	-	-
PACIFIC	78	89	1	5	17	12	62	30	-	-	9
Wash.	7	5	-	-	1	3	4	3	-	-	-
Oreg.	26	18	-	-	-	-	3	13	-	-	-
Calif.	45	64	-	1	11	9	54	13	-	-	9
Alaska	-	1	-	-	1	-	1	-	-	-	-
Hawaii	-	1	1	4	4	-	-	1	-	-	-
Guam	-	1	U	-	1	U	-	-	U	-	-
P.R.	-	-	-	-	-	-	-	-	-	-	-
V.I.	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	U	-	-	U	-	-	U	-	-
C.N.M.I.	-	-	U	-	-	U	-	-	U	-	-

N: Not notifiable U: Unavailable -: no reported cases

TABLE IV. Deaths in 122 U.S. cities,* week ending February 1, 1997 (5th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	661	491	94	51	9	16	51
Boston, Mass.	176	115	31	22	4	4	13
Bridgeport, Conn.	37	29	5	2	-	1	6
Cambridge, Mass.	24	23	1	-	-	-	1
Fall River, Mass.	23	17	5	1	-	-	-
Hartford, Conn.	47	33	10	3	1	-	3
Lowell, Mass.	32	25	5	2	-	-	3
Lynn, Mass.	17	13	1	3	-	-	1
New Bedford, Mass.	25	21	2	1	1	-	-
New Haven, Conn.	54	31	10	7	1	5	2
Providence, R.I.	76	64	9	1	-	2	4
Somerville, Mass.	6	6	-	-	-	-	1
Springfield, Mass.	58	44	4	8	-	2	4
Waterbury, Conn.	26	19	5	-	1	1	2
Worcester, Mass.	60	51	6	1	1	1	11
MID. ATLANTIC	2,587	1,789	502	219	36	41	154
Albany, N.Y.	65	50	9	4	-	2	4
Allentown, Pa.	23	18	2	3	-	-	-
Buffalo, N.Y.	67	46	12	4	3	2	4
Camden, N.J.	38	24	8	2	1	3	-
Elizabeth, N.J.	18	12	4	1	-	1	-
Erie, Pa.§	40	29	10	1	-	-	1
Jersey City, N.J.	39	28	5	6	-	-	1
New York City, N.Y.	1,435	994	288	117	14	22	82
Newark, N.J.	77	39	15	17	2	4	8
Paterson, N.J.	21	14	5	1	1	-	1
Philadelphia, Pa.	399	254	91	42	9	3	16
Pittsburgh, Pa.§	59	38	14	5	1	1	4
Reading, Pa.	8	5	3	-	-	-	5
Rochester, N.Y.	136	108	19	5	3	1	13
Schenectady, N.Y.	28	24	4	-	-	-	2
Scranton, Pa.§	24	18	3	2	1	-	1
Syracuse, N.Y.	80	63	5	9	1	2	10
Trenton, N.J.	17	15	2	-	-	-	1
Utica, N.Y.	13	10	3	-	-	-	1
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	2,769	1,984	489	174	52	69	213
Akron, Ohio	59	47	9	1	-	2	-
Canton, Ohio	51	41	8	1	1	-	9
Chicago, Ill.	505	331	112	41	12	8	48
Cincinnati, Ohio	205	159	27	10	7	2	27
Cleveland, Ohio	189	123	41	14	3	8	-
Columbus, Ohio	249	176	50	10	6	7	18
Dayton, Ohio	178	149	19	6	1	3	25
Detroit, Mich.	242	150	49	24	5	14	7
Evansville, Ind.	56	44	9	3	-	-	2
Fort Wayne, Ind.	70	57	10	3	-	-	6
Gary, Ind.	14	9	1	3	-	1	1
Grand Rapids, Mich.	78	57	10	5	3	3	9
Indianapolis, Ind.	374	260	74	27	5	8	26
Lansing, Mich.	51	42	3	4	1	1	5
Milwaukee, Wis.	141	102	26	8	2	3	14
Peoria, Ill.	48	36	7	1	1	3	4
Rockford, Ill.	51	40	6	2	2	1	5
South Bend, Ind.	37	29	7	1	-	-	4
Toledo, Ohio	92	71	13	5	2	1	2
Youngstown, Ohio	79	61	8	5	1	4	1
W.N. CENTRAL	896	689	114	48	21	15	82
Des Moines, Iowa	46	36	7	2	1	-	11
Duluth, Minn.	37	31	4	1	-	1	2
Kansas City, Kans.	30	16	9	3	2	-	1
Kansas City, Mo.	76	51	9	2	3	2	13
Lincoln, Nebr.	30	28	1	1	-	-	-
Minneapolis, Minn.	274	218	29	15	4	8	31
Omaha, Nebr.	96	79	15	2	-	-	8
St. Louis, Mo.	133	94	17	15	5	2	-
St. Paul, Minn.	74	54	13	3	3	1	7
Wichita, Kans.	100	82	10	4	3	1	9
S. ATLANTIC	1,317	856	250	144	35	32	119
Atlanta, Ga.	231	137	51	32	3	8	11
Baltimore, Md.	269	164	52	34	12	7	34
Charlotte, N.C.	U	U	U	U	U	U	U
Jacksonville, Fla.	161	110	27	13	5	6	8
Miami, Fla.	109	65	23	17	2	2	2
Norfolk, Va.	52	39	9	3	1	-	3
Richmond, Va.	94	55	23	9	2	5	6
Savannah, Ga.	77	59	14	4	-	-	12
St. Petersburg, Fla.	72	58	6	5	1	2	7
Tampa, Fla.	225	156	40	22	5	2	36
Washington, D.C.	U	U	U	U	U	U	U
Wilmington, Del.	27	13	5	5	4	-	-
E.S. CENTRAL	835	590	157	60	16	11	86
Birmingham, Ala.	15	12	-	1	2	-	-
Chattanooga, Tenn.	98	70	20	4	2	2	9
Knoxville, Tenn.	95	69	15	9	-	2	30
Lexington, Ky.	78	53	20	4	-	1	5
Memphis, Tenn.	200	145	37	12	3	3	23
Mobile, Ala.	130	92	26	7	2	3	3
Montgomery, Ala.	48	33	12	1	2	-	3
Nashville, Tenn.	171	116	27	22	5	-	13
W.S. CENTRAL	1,696	1,166	326	124	47	33	120
Austin, Tex.	88	60	18	7	3	-	11
Baton Rouge, La.	45	31	8	5	1	-	1
Corpus Christi, Tex.	72	53	11	4	1	3	6
Dallas, Tex.	209	125	49	18	12	5	4
El Paso, Tex.	U	U	U	U	U	U	U
Ft. Worth, Tex.	133	96	21	13	2	1	9
Houston, Tex.	474	301	119	37	9	8	39
Little Rock, Ark.	95	59	19	10	4	3	7
New Orleans, La.	86	56	12	7	7	4	-
San Antonio, Tex.	302	230	46	14	6	6	25
Shreveport, La.	54	47	4	1	1	1	5
Tulsa, Okla.	138	108	19	8	1	2	13
MOUNTAIN	1,092	731	200	106	29	26	100
Albuquerque, N.M.	119	73	27	15	4	-	9
Boise, Idaho	45	31	7	4	2	1	3
Colo. Springs, Colo.	46	32	7	3	1	3	4
Denver, Colo.	139	83	28	16	3	9	8
Las Vegas, Nev.	219	152	45	17	2	3	18
Ogden, Utah	U	U	U	U	U	U	U
Phoenix, Ariz.	208	135	36	23	7	7	22
Pueblo, Colo.	18	16	-	1	1	-	2
Salt Lake City, Utah	114	79	18	12	4	1	14
Tucson, Ariz.	184	130	32	15	5	2	20
PACIFIC	2,229	1,576	393	168	50	40	218
Berkeley, Calif.	17	15	2	-	-	-	3
Fresno, Calif.	115	86	18	6	2	3	12
Glendale, Calif.	28	24	2	1	1	-	2
Honolulu, Hawaii	80	58	11	7	-	3	10
Long Beach, Calif.	79	63	6	5	4	1	15
Los Angeles, Calif.	571	385	115	48	16	7	25
Pasadena, Calif.	36	30	2	3	-	1	3
Portland, Oreg.	172	136	21	9	2	4	12
Sacramento, Calif.	184	127	31	16	6	4	25
San Diego, Calif.	248	166	46	23	7	5	38
San Francisco, Calif.	158	104	37	14	1	2	21
San Jose, Calif.	186	131	38	13	1	3	27
Santa Cruz, Calif.	41	35	4	1	-	1	3
Seattle, Wash.	164	104	31	14	10	5	7
Spokane, Wash.	69	52	11	5	-	1	9
Tacoma, Wash.	81	60	18	3	-	-	6
TOTAL	14,082¶	9,872	2,525	1,094	295	283	1,143

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 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.

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