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Resurgent Bacterial Sexually Transmitted Disease Among Men Who Have Sex With Men — King County, Washington, 1997–1999

During the late 1980s and early 1990s, King County, Washington (1998 population: 1.6 million), experienced a substantial epidemic of infectious syphilis (i.e., primary, secondary, and early latent). Subsequently, reported cases of infectious syphilis declined to six cases in 1995 and one in 1996; five of the 1995 cases and the case in 1996 were believed to have been acquired outside King County. However, in 1997, sustained spread of syphilis was reestablished in King County (*1*). To determine whether this reemergence was associated with changes in the epidemiology of other sexually transmitted diseases (STDs), Public Health–Seattle and King County (PHSKC) analyzed notifiable STD data for 1997–1999. This report summarizes the results of this analysis, which indicate that infectious syphilis among men who have sex with men (MSM) in King County increased to 46 cases during January–June 1999, and chlamydia and gonorrhea also increased among MSM attending public health clinics.

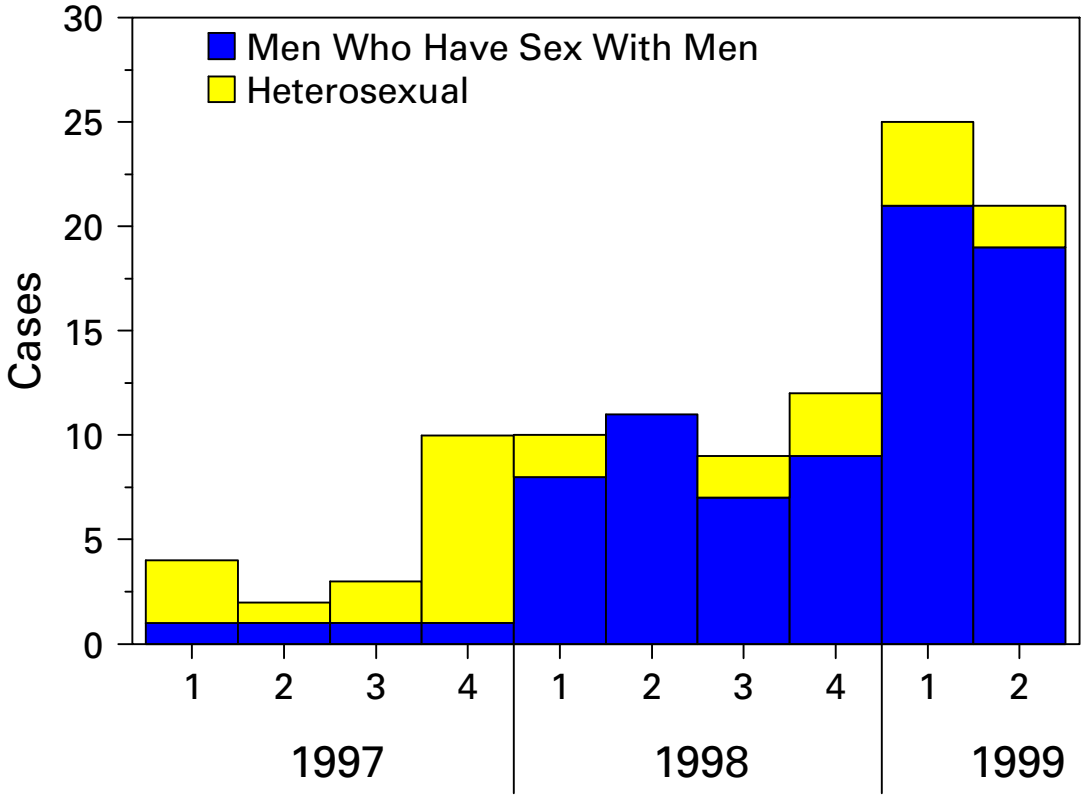
For this report, PHSKC analyzed surveillance data on infectious syphilis, chlamydia, and gonorrhea reported to PHSKC from health-care providers and laboratories. Data included disease, sex, stage of disease, racial/ethnic group, age, and in some cases sexual orientation and anatomic site of infection. Persons with these diseases were interviewed by PHSKC staff for partner management. Data collected included number and sex of sex partners, sexual orientation, and other risk factors.

Syphilis cases increased steadily from late 1997 to mid-1998, appeared to stabilize in the second half of 1998, then increased during January–June 1999 (Figure 1). The proportion of cases in MSM increased from 21% (four of 19) in 1997 to 85% (75 of 88) in 1998 and 1999 ($p<0.01$). Among 79 MSM, the median age was 35 years (range: 19–56 years) and 70% were aged >30 years. Primary, secondary, and early latent infection accounted for 23%, 61%, and 16% of cases in MSM, respectively; these proportions did not differ significantly from 1997 to 1999. Among the 79 MSM with early latent syphilis in 1997 through June 1999, 48 (72%) of 67 had human immunodeficiency virus (HIV) infection and two others were HIV seropositive near the time syphilis was diagnosed.

From 1997 through June 1999, laboratory-confirmed infections with *Neisseria gonorrhoeae* and *Chlamydia trachomatis* among MSM attending the PHSKC STD clinic also increased (Figure 2). In addition, cases of rectal gonococcal infection in

Bacterial Sexually Transmitted Disease — Continued

FIGURE 1. Reported cases of infectious (i.e., primary, secondary, and early latent) syphilis, by quarter and sexual orientation of infected persons — King County, Washington, 1997–1999



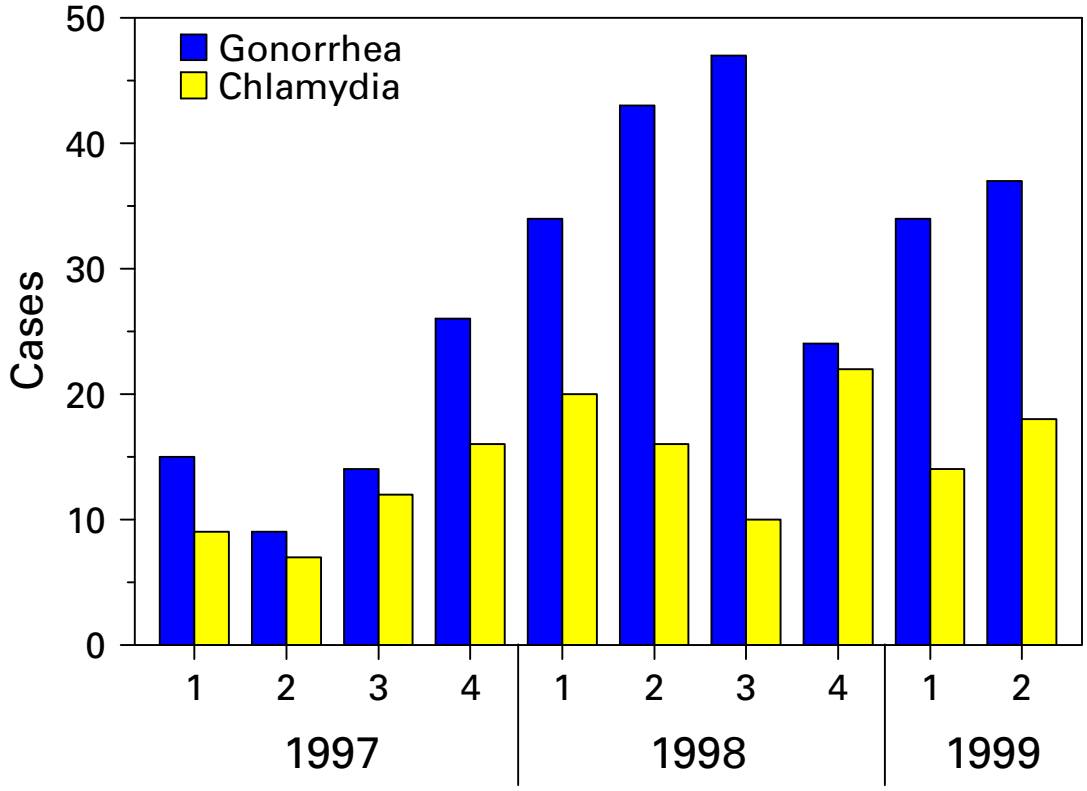
males reported by providers outside the STD clinic increased from six cases in 1997 to 25 cases in 1998 and 13 cases during January–June 1999. The median age of the 427 MSM who received a diagnosis of gonorrhea or chlamydial infection in the STD clinic from 1997 through June 1999 was 32 years (range: 20–53 years), and 17% with chlamydial infection and 19% with gonorrhea were known to be infected with HIV; this proportion did not vary significantly through the period of analysis.

Data on sex partners were provided by 63 (80%) of the 79 MSM with infectious syphilis from 1997 through June 1999. During the interval when syphilis was likely to have been acquired or transmitted (mean: 6 months), these men reported 740 sex partners, of whom 653 (88%) were met at anonymous venues such as bath houses, bars, or clubs; 50 (79%) of 63 men had had at least one anonymous partner (median: three partners; range: one to 100). MSM with gonorrhea or chlamydial infection reported a mean of 3.5 sex partners during the 2 months before treatment, and approximately 20% apparently acquired infection from anonymous partners.

Based on an estimate of PHSKC that 40,000 MSM reside in King County, the annual rate of infectious syphilis per 100,000 MSM increased from zero in 1996 to approximately 10 in 1997 and 90 in 1998, and the projected annual incidence in 1999 is 200 cases per 100,000. An estimated 10% of MSM in King County are infected with HIV (PHSKC, unpublished data, 1999). If 4000 HIV-infected MSM reside in King County, the projected annual incidence of infectious syphilis in the HIV-infected MSM

Bacterial Sexually Transmitted Disease — Continued

FIGURE 2. Reported cases of laboratory-confirmed gonorrhea and chlamydial infection among men who have sex with men attending a Public Health Seattle and King County STD clinic, by quarter — King County, Washington, 1997–1999



population in 1999 is approximately 1500 per 100,000. The minimum incidence of gonorrhea in MSM, based on the number of cases diagnosed in the PHSKC STD clinic plus rectal infections in males diagnosed elsewhere (data on sexual orientation are not available outside the STD clinic), increased from 180 per 100,000 MSM in 1997 to 430 and 420 in 1998 and 1999, respectively. In comparison, the reported rate of gonorrhea in presumptively heterosexual persons in King County was 50 per 100,000 in 1997 and 1998.

PHSKC has used outreach activities, targeted publications in the local gay press, and community forums to encourage MSM to follow safer sex practices and to be screened for STDs. STD and HIV testing and counseling are being offered at bath houses and other venues, screening has been expanded among MSM attending public clinics, and King County health-care providers have been encouraged to expand STD screening among at-risk MSM.

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Editorial Note: The incidence of STDs among MSM declined substantially during the early 1980s as a result of a decrease in sexual risk behavior (*2,3*). However, high-risk behaviors and STDs among MSM have increased in some cities (*4,5*). In Washington, the proportion of cases of primary and secondary syphilis among MSM declined from

Bacterial Sexually Transmitted Disease — Continued

81% in 1973 to 8% in 1988 (*3*). The findings in this report indicate that syphilis transmission in King County is occurring predominantly among MSM. When STDs are introduced into a community, the size of the subsequent outbreak depends on the sexual mixing patterns of the community, the numbers of sex partners, concurrency of sexual partnerships, condom use, and the frequency of partner change (*3,6*). In King County, syphilis, gonorrhea, and chlamydia apparently have been introduced into a population of MSM who have large numbers of anonymous partners, which can result in rapid and extensive transmission of STDs (*7*). In addition to this outbreak, recent reports have suggested increases in gonococcal infection in several western states and in the frequency of unprotected anal sex among MSM (*4,5*). Some MSM may be recruiting sex partners in anonymous venues more often now than in the recent past (*8*).

The high proportion of persons with syphilis, gonorrhea, and chlamydial infection who also were infected with HIV is of particular concern. Persons with STDs, including genital ulcer disease and nonulcerative STD, have a twofold to fivefold increased risk for HIV infection (*9,10*). Control of STDs is a central component of HIV infection prevention efforts in the United States (*10*); resurgence of bacterial STD threatens national HIV infection prevention efforts.

Reasons for the increasing rates of bacterial STD in MSM in King County are unknown but may include an increased frequency of unprotected sex among some MSM. Anecdotal reports by MSM with bacterial STDs suggest that such behaviors are linked to sex with anonymous partners in bath houses, which may be related to improvements in the treatment of HIV infection or to changing patterns of recreational drug use. The age distribution of syphilis cases suggests that in King County, relapse in sexual safety among older MSM is a more important determinant than failure of young, newly sexually active MSM to adopt safer sex practices.

The findings in this report are subject to at least three limitations. First, reporting of STDs is incomplete, which could result in an underestimate of the incidence of disease in this population. Second, MSM attending STD clinics probably are not representative of all MSM at risk. Finally, some persons may not have given accurate responses when asked about sexual relationships, HIV serostatus, or high-risk behaviors.

PHSKC has employed several control measures to contain these outbreaks. Although partner notification is effective for the known partners of persons with syphilis and gonorrhea, its ability to reach exposed persons is greatly limited in situations such as the syphilis outbreak in King County, where 88% of partners were met at venues where anonymous sex is common. The high frequency of anonymous sex strongly suggests that sex partner management services for identifiable partners alone would be insufficient to control the outbreak. Print media, public service announcements, outreach, and expanded screening have been used in this outbreak to augment traditional partner management services. These interventions may have encouraged timely symptom recognition and health-seeking behavior by infected men. Among men with syphilis, 72% knew they were HIV positive and many were receiving health care for the disease, indicating that enhanced STD prevention efforts may be needed for HIV-infected MSM in health-care settings and other venues. This outbreak demonstrates the need to sustain surveillance for STDs even after rates have decreased in a community.

Bacterial Sexually Transmitted Disease — Continued

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Inadvertent Use of Bicillin® C-R for Treatment of Syphilis — Maryland, 1998

In October 1998, the Maryland Department of Health and Mental Hygiene (MDH) was notified that a public sexually transmitted disease (STD) clinic in a county (county A) had used a nonrecommended preparation to treat syphilis patients during January–October 1998. The clinic had been inadequately treating syphilis patients or syphilis contacts with Bicillin®* C-R (a mixture of 1.2 million units [MU] benzathine penicillin G [BPG] and 1.2 MU procaine penicillin G), rather than with Bicillin® L-A (2.4 MU BPG). Compared with short-acting procaine penicillin G, BPG has a longer half-life considered essential for effective syphilis treatment because it yields sustained spirochetecidal levels needed to treat the slowly reproducing agent of syphilis, *Treponema pallidum*. The inadvertent use of Bicillin C-R, which contains only half the recommended dose of BPG for syphilis, was recognized by a health-care provider at the STD clinic in a neighboring county (county B) approximately 1 month after county B had borrowed BPG from county A. This report summarizes the investigation of the use of Bicillin C-R to treat STD patients in county A and discusses the frequency of Bicillin C-R use in STD clinics nationwide. Findings of this investigation indicate that inadvertent Bicillin C-R use is more frequent than previously known and that preventive measures should be taken to minimize such use.

Three BPG-containing products are marketed by Wyeth-Ayerst Laboratories (Philadelphia, Pennsylvania): Bicillin L-A, Bicillin C-R, and Bicillin® C-R 900/300 (a mixture of 0.9 MU BPG and 0.3 MU procaine penicillin G). Besides having similar proprietary names, the package and label for Bicillin C-R and Bicillin L-A have similar lettering and colors. Bicillin L-A is recommended for treating syphilis patients and upper respiratory tract infections caused by susceptible streptococci (*1*). The efficacy of Bicillin C-R to

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

Bicillin C-R — Continued

treat syphilis is unknown. The package insert for Bicillin C-R states that this product should not be used to treat syphilis, gonorrhea, yaws, bejel, or pinta.

To identify patients who might have been treated with Bicillin C-R at county A's STD clinic, investigators reviewed the clinic's invoice records and the penicillin injection log. MDH searched its STD surveillance database for residents from county A who were treated for syphilis or had a positive syphilis serology during January–October 1998.

During December 1997–May 1998, 150 doses of Bicillin C-R were shipped to county A's STD clinic after orders for Bicillin L-A were placed by telephone. During January–October 1998, 123 of 160 doses of penicillin administered for syphilis were Bicillin C-R. Sixty-three patients, including five pregnant women, might have received Bicillin C-R. Because the efficacy of Bicillin C-R for treatment of patients with syphilis is unknown, the clinic attempted to contact and treat all patients with Bicillin L-A. During this period, routine outreach activities were suspended, clinic hours were extended, and personnel were asked to work overtime.

Clinic workers contacted patients by telephone, and subsequent clinical evaluations were made by two nurses. STD field staff visited patients in their homes; multiple attempts were often needed to locate and counsel patients. Although the five pregnant women were located and treated with Bicillin L-A, four infants were treated for congenital syphilis because their mothers had not been treated adequately at least 30 days before delivery. None of the infants had congenital syphilis.

After 8 weeks of follow-up efforts, 52 (82%) of the 63 patients had been restaged and retreated; the remaining 11 patients either could not be located (one) or refused retreatment (10). The total estimated direct costs of follow-up efforts conducted by county A's clinic was approximately $24,000.

In county B, 10 syphilis patients received Bicillin C-R during an 11-day period according to the clinic's syphilis treatment records. Of these, eight were treated with Bicillin L-A, one was not located, and the other refused further treatment.

To determine the frequency of Bicillin C-R use in STD clinics nationwide and to educate STD program managers about the possible confusion between Bicillin C-R and Bicillin L-A, CDC surveyed 65 STD program areas during January–February 1999 about unintentional Bicillin C-R use from 1993 through 1998. Fifty-seven of the 65 program areas were state/city program areas, and the remainder were islands and territories; 55 (96%) of the state/city program areas responded to the survey. Of these, 45 (82%) used only Bicillin L-A to treat syphilis patients, three used Permapen® exclusively (a BPG product from Pfizer, Inc. [New York, New York]), and seven used both Permapen and Bicillin L-A. Besides the Maryland clinics, four program areas reported unintentional Bicillin C-R use at least once from 1993 through 1998. In two areas, Bicillin C-R was received at the state health department and was distributed to STD clinics statewide; the administration of a nonrecommended regimen subsequently occurred at many local STD clinics. Two other areas reported unintentional use of Bicillin C-R at individual clinics (one area reported multiple occurrences). In March 1999, unintentional use of Bicillin C-R was reported from a program area that had responded negatively to the earlier survey. The number of persons who received a nonrecommended regimen in this incident could not be determined.

Bicillin C-R — Continued

Among the 55 state/city program areas that responded to the survey, 31 (56%) were unaware of the possible confusion between Bicillin C-R and Bicillin L-A; 24 (46%) program areas routinely ordered Bicillin L-A by telephone.

Reported by: D Dwyer, MD, State Epidemiologist, Maryland Dept of Health and Mental Hygiene. Div of STD Prevention, National Center for HIV, STD, and TB Prevention; and an EIS Officer, CDC.

Editorial Note: The inadvertent use of Bicillin C-R in county A's STD clinic disrupted routine public health functions and incurred substantial monetary costs to the clinic and unnecessary discomfort to patients. Such incidents may undermine the credibility of and trust in health departments on the part of affected patients and the broader community. Although no treatment failures or congenital syphilis cases were associated with this incident, treatment according to standard guidelines was missed for patients who either could not be relocated or refused retreatment.

In addition to Maryland, five program areas reported unintentional use of Bicillin C-R from 1993 through 1998. This number should be viewed as a conservative estimate because some program areas might have failed to report such use because of concerns over liability or performance evaluation. Because most program areas surveyed were unaware of the possible confusion between Bicillin C-R and Bicillin L-A, some unintentional Bicillin C-R use could have occurred that remained unknown.

Penicillin therapy is the mainstay of treatment and a core element of syphilis prevention in the United States (*2,3*). However, declining syphilis rates may have caused providers to become less familiar with the penicillin regimens appropriate for syphilis. Less attention may have been paid to clinician outreach and training for medications used to treat a disease that has declined as sharply as syphilis (83% decline in primary and secondary syphilis from 1990 to 1997 in the United States) (*4*).

Sustained participation by manufacturers in providing diagnostic and therapeutic products is an essential element of emerging initiatives to eliminate syphilis transmission in the United States (*5*). Increased efforts are needed to re-educate clinic managers and providers about the existence of different penicillin preparations and their appropriate usage. Written rather than telephone orders may help to minimize ordering or shipment errors. Although the most important safeguard against medication errors is that providers carefully read package labels, some label and package modifications may help decrease confusion about Bicillin products and other pharmaceuticals with similar names and labels.

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Notice to Readers

Availability of Hepatitis B Vaccine That Does Not Contain Thimerosal as a Preservative

On August 27, 1999, Merck Vaccine Division* (Merck & Co., Inc., West Point, Pennsylvania) received approval from the Food and Drug Administration (FDA) of a supplement to Merck's license application to include the manufacture of single-antigen preservative-free hepatitis B vaccine (Recombivax HB®, Pediatric); distribution is expected to begin September 13, 1999. In addition, SmithKline Beecham Biologicals (SmithKline Beecham, Philadelphia, Pennsylvania), expects to make single-antigen preservative-free hepatitis B vaccine (Engerix-B®, Pediatric) available in the near future. Further product information will be provided when it becomes available. Product packaging and labels will indicate that these vaccines do not contain preservative.

To prevent shortages because of limited supplies of single-antigen hepatitis B vaccines that do not contain thimerosal as a preservative and to assure prevention of perinatal and early childhood hepatitis B virus (HBV) infection during the transition when both vaccines that contain and do not contain thimerosal as a preservative are available, the following three steps should be taken:

1) **Newborn infants.** The priority for use of single-antigen hepatitis B vaccines that do not contain thimerosal as a preservative should be to vaccinate newborn infants. Routine hepatitis B vaccination policies for all newborn infants should be reintroduced immediately in hospitals in which these policies and practices have been discontinued. All hospitals should ensure that newborn infants of hepatitis B surface antigen (HBsAg)-positive mothers and of mothers whose HBsAg status is unknown receive their first dose of hepatitis B vaccine within 12 hours of birth. If hepatitis B vaccine that does not contain thimerosal as a preservative is not available, then thimerosal preservative-containing vaccine should be used for these infants.
2) **Infants aged <6 months.** When available, hepatitis B vaccines that do not contain thimerosal as a preservative should be used to vaccinate infants aged <6 months (single-antigen hepatitis B vaccine for infants aged <6 weeks and either single-antigen or combination products for infants aged ≥6 weeks). Infants in groups at high risk for perinatal and early childhood HBV infections should complete the three-dose hepatitis B vaccine series by age 6 months. When vaccines that do not contain thimerosal as a preservative are not available, these groups should be vaccinated with thimerosal preservative-containing vaccine. For infants born to HBsAg-negative mothers and who are not in high-risk groups, existing recommendations should be used for administering thimerosal preservative-containing hepatitis B vaccines if vaccine that does not contain thimerosal as a preservative is not available (*1–4*). These groups should complete the three-dose hepatitis B vaccine series by age 18 months.

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

Notice to Readers — Continued

3) **Children aged ≥6 months, adolescents, and adults**. Thimerosal preservative-containing hepatitis B vaccines can continue to be used for vaccinating children aged ≥6 months, adolescents, and adults as is recommended (*1–6*).

Reported by: National Center for Infectious Diseases; National Immunization Program; Agency for Toxic Substances and Disease Registry; National Center for Environmental Health, CDC.

Editorial Note: On July 8, 1999, the American Academy of Pediatrics (AAP) and the Public Health Service (PHS) released a joint statement about thimerosal in vaccines, and the American Academy of Family Physicians (AAFP) released a comparable statement (*1–3*). Thimerosal is a mercury-containing preservative that has been used as an additive to biologics and vaccines since the 1930s because it is effective in preventing bacterial and fungal contamination, particularly in open multidose containers. Vaccine manufacturers, FDA, and other PHS agencies are working together to replace expeditiously thimerosal preservative-containing vaccines whenever possible with vaccines that do not contain thimerosal as a preservative while ensuring maintenance of high vaccination coverage levels and prevention of disease.

Previous recommendations for using thimerosal-containing vaccines indicated that clinicians and parents could take advantage of the flexibility in the immunization schedule to delay hepatitis B vaccination from birth until age 2–6 months for infants born to mothers who are HBsAg negative (*1–4*). No changes were made in recommendations for immunization at birth of infants of HBsAg-positive mothers or infants of mothers with an unknown HBsAg status.

After the joint AAP/PHS statement on thimerosal, the AAP and CDC provided additional implementation guidance (*3,4*). CDC guidance included hepatitis B vaccination should be continued at birth for infants born to HBsAg-negative mothers belonging to populations or groups that have a high risk for early childhood HBV infection, including Asian/Pacific Islanders, immigrant populations from countries in which HBV infection is of high or intermediate endemicity (*7*), and households with persons with chronic HBV infection. To ensure the prevention of perinatal HBV transmission, hospitals should continue policies to vaccinate all infants at birth until procedures are in place to guarantee that 1) the HBsAg status of every pregnant woman is reviewed at delivery, 2) appropriate passive-active immunoprophylaxis (hepatitis B immune globulin and hepatitis B vaccine) is provided for infants of HBsAg-positive women within 12 hours of birth, and 3) appropriate active immunoprophylaxis (hepatitis B vaccine) is provided for infants of women with an unknown HBsAg status.

After the statements on thimerosal in vaccines were published, changes occurred in newborn hepatitis B vaccination policies and practices in some hospitals, including unintended changes affecting immunization of infants at risk for perinatal HBV transmission. In August 1999, state and territorial health department hepatitis coordinators conducted surveys of selected birthing hospitals in their project areas. Of 977 hospitals surveyed in 48 project areas, 773 (79%) were aware of the joint AAP/PHS statement on thimerosal. Of 574 hospitals that were aware of the statement and had existing policies or standing orders to vaccinate all newborns, 262 (46%) reported a policy change to no longer routinely vaccinate newborns of HBsAg-negative mothers. In addition, 52 (9%) reported they no longer routinely vaccinate any newborn (CDC, unpublished data, 1999). Such a policy usually requires a physician's order to vaccinate infants of HBsAg-positive mothers and infants of mothers whose HBsAg status is unknown. CDC also has received anecdotal reports of hospitals in which policies were

Notice to Readers — Continued

changed, and infants born to HBsAg-positive mothers and infants born to mothers with unknown HBsAg status were not vaccinated within 12 hours of birth (CDC, unpublished data, 1999). Chronic HBV infection develops in approximately 90% of infants infected perinatally; among chronically infected infants, the risk for premature death from HBV-related liver cancer or cirrhosis is approximately 25% (*8*). The availability of hepatitis B vaccine that does not contain thimerosal as a preservative should alert medical facilities to review their policies to ensure the vaccination of newborns as recommended by the Advisory Committee on Immunization Practices, AAFP, and AAP.

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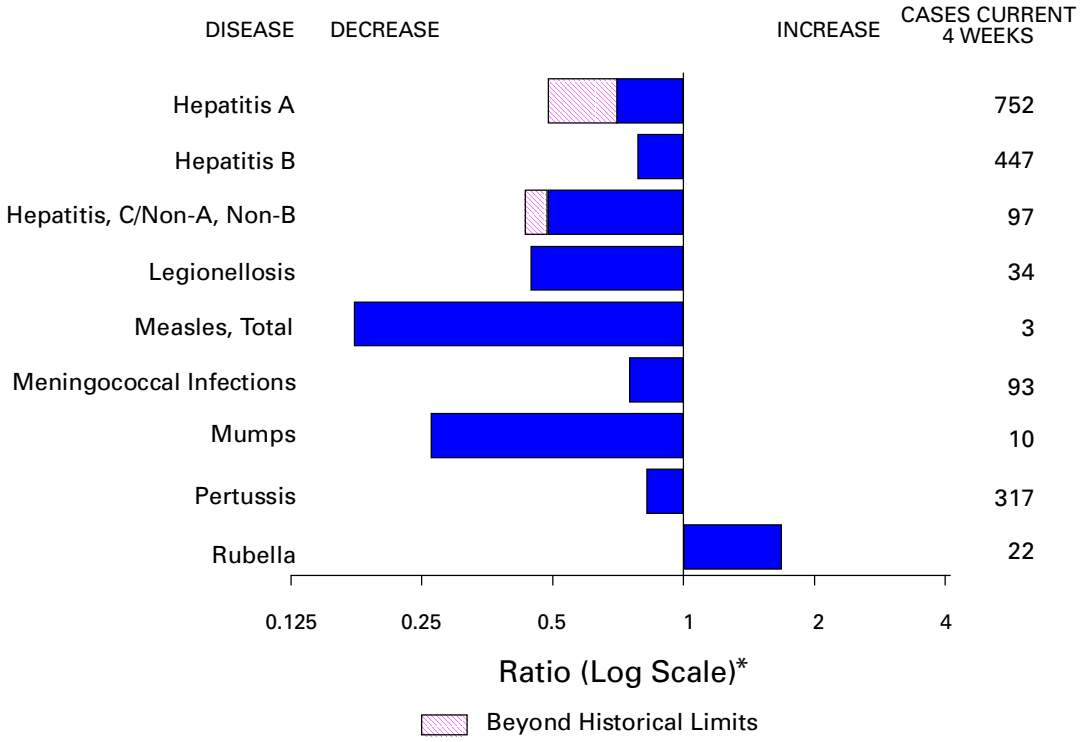
FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending September 4, 1999, with historical data — United States



*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 September 4, 1999 (35th Week)

	Cum. 1999		Cum. 1999
Anthrax	-	HIV infection, pediatric*§	100
Brucellosis*	33	Plague	3
Cholera	4	Poliomyelitis, paralytic	-
Congenital rubella syndrome	4	Psittacosis*	15
Cyclosporiasis*	46	Rabies, human	-
Diphtheria	2	Rocky Mountain spotted fever (RMSF)	361
Encephalitis: California*	18	Streptococcal disease, invasive Group A	1,500
eastern equine*	2	Streptococcal toxic-shock syndrome*	28
St. Louis*	-	Syphilis, congenital¶	122
western equine*	-	Tetanus	20
Ehrlichiosis human granulocytic (HGE)*	103	Toxic-shock syndrome	83
human monocytic (HME)*	25	Trichinosis	7
Hansen Disease*	59	Typhoid fever	207
Hantavirus pulmonary syndrome*†	16	Yellow fever	-
Hemolytic uremic syndrome, post-diarrheal*	59		

-: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 August 29, 1999.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending September 4, 1999, and September 5, 1998 (35th Week)

Reporting Area	AIDS		Chlamydia		Cryptosporidiosis		*Escherichia coli* O157:H7*			
							NETSS		PHLIS	
	Cum. 1999†	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	30,285	31,313	385,364	390,302	1,228	2,575	1,820	1,843	1,186	1,492
NEW ENGLAND	1,532	1,171	13,461	13,624	68	112	196	245	211	201
Maine	51	22	738	657	18	25	22	28	-	-
N.H.	36	25	627	655	10	12	23	31	24	37
Vt.	11	17	322	282	19	19	21	11	12	7
Mass.	1,005	582	6,218	5,592	20	51	109	118	115	116
R.I.	73	92	1,552	1,569	1	5	21	11	6	1
Conn.	356	433	4,004	4,869	-	-	U	46	54	40
MID. ATLANTIC	7,780	8,838	46,767	40,677	217	383	106	198	46	71
Upstate N.Y.	890	1,014	N	N	91	223	94	134	-	-
N.Y. City	4,062	4,969	21,963	17,795	107	145	6	11	13	12
N.J.	1,476	1,638	6,935	7,848	9	15	6	53	32	43
Pa.	1,352	1,217	17,867	15,034	10	-	N	N	1	16
E.N. CENTRAL	1,980	2,269	56,637	65,749	239	486	421	312	240	258
Ohio	291	490	16,784	17,675	31	50	135	81	99	49
Ind.	247	376	6,876	7,017	18	41	50	71	30	38
Ill.	933	880	19,029	17,902	17	56	98	88	33	59
Mich.	405	389	13,948	13,964	32	25	66	72	41	48
Wis.	104	134	U	9,191	141	314	N	N	37	64
W.N. CENTRAL	678	595	21,735	23,040	111	201	389	270	215	246
Minn.	114	118	4,621	4,656	33	73	162	100	121	114
Iowa	62	51	1,615	2,750	29	47	68	65	37	44
Mo.	340	280	8,595	8,346	19	17	31	34	37	46
N. Dak.	4	4	325	665	13	23	9	9	1	13
S. Dak.	13	13	1,064	1,051	6	19	35	17	13	22
Nebr.	45	56	2,060	1,857	10	18	69	25	-	-
Kans.	100	73	3,455	3,715	1	4	15	20	6	7
S. ATLANTIC	8,314	7,901	84,968	74,964	222	182	210	147	121	121
Del.	112	104	1,839	1,698	-	2	5	-	3	2
Md.	889	912	7,152	5,127	11	12	11	24	-	12
D.C.	321	634	N	N	7	5	-	1	-	-
Va.	508	649	9,942	8,739	14	7	49	-	39	42
W. Va.	46	60	1,148	1,609	-	1	8	7	4	6
N.C.	552	536	15,387	14,830	6	-	48	40	42	36
S.C.	764	503	7,972	12,193	-	-	17	8	13	5
Ga.	1,235	855	21,374	15,422	96	68	22	51	-	-
Fla.	3,887	3,648	20,154	15,346	88	87	50	16	20	18
E.S. CENTRAL	1,363	1,268	28,663	27,436	18	19	86	88	43	50
Ky.	201	193	4,752	4,306	5	8	21	27	-	-
Tenn.	540	431	9,563	8,991	6	6	43	37	27	31
Ala.	337	372	8,675	6,874	5	-	18	19	13	17
Miss.	285	272	5,673	7,265	2	5	4	5	3	2
W.S. CENTRAL	3,201	3,787	54,603	59,260	44	810	55	65	68	75
Ark.	123	136	3,915	2,574	1	6	9	7	7	8
La.	596	651	7,726	9,556	21	14	3	3	11	4
Okla.	94	224	5,418	6,650	4	-	15	11	11	6
Tex.	2,388	2,776	37,544	40,480	18	790	28	44	39	57
MOUNTAIN	1,174	1,050	20,629	21,911	67	95	161	251	80	192
Mont.	7	20	1,038	793	10	8	11	12	-	4
Idaho	16	19	1,127	1,308	7	16	18	28	8	18
Wyo.	6	1	445	432	-	-	8	50	5	54
Colo.	208	209	4,509	5,505	10	13	57	47	40	41
N. Mex.	67	166	1,748	2,405	26	36	8	17	3	15
Ariz.	607	384	8,550	7,710	9	14	23	31	14	25
Utah	102	91	1,318	1,497	-	-	25	53	8	21
Nev.	161	160	1,894	2,261	5	8	11	13	2	14
PACIFIC	4,263	4,434	57,901	63,641	242	287	196	267	162	278
Wash.	250	300	7,921	7,318	-	-	62	51	64	80
Oreg.	136	129	3,910	3,616	80	37	45	78	43	79
Calif.	3,803	3,878	43,091	49,791	162	247	86	134	48	107
Alaska	13	17	1,246	1,276	-	-	-	4	-	-
Hawaii	61	110	1,733	1,640	-	3	3	-	7	12
Guam	5	-	226	269	-	-	N	N	-	-
P.R.	936	1,243	U	U	-	-	5	5	U	U
V.I.	25	19	N	N	-	-	N	N	U	U
Amer. Samoa	-	-	U	U	-	-	N	N	U	U
C.N.M.I.	-	-	N	N	-	-	N	N	U	U

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

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

†Updated monthly from reports to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update August 29, 1999.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending September 4, 1999, and September 5, 1998 (35th Week)

Reporting Area	Gonorrhea		Hepatitis C/NA,NB		Legionellosis		Lyme Disease	
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	208,897	231,736	2,259	2,182	550	866	6,651	10,283
NEW ENGLAND	3,976	3,977	59	47	41	50	1,860	3,398
Maine	42	41	2	-	4	1	22	58
N.H.	69	61	-	-	4	3	5	28
Vt.	34	24	4	2	8	4	9	9
Mass.	1,724	1,430	50	42	16	25	749	605
R.I.	391	249	3	3	3	8	284	320
Conn.	1,716	2,172	-	-	6	9	791	2,378
MID. ATLANTIC	26,400	24,909	97	149	107	216	3,639	5,323
Upstate N.Y.	4,385	4,688	62	75	35	69	2,651	2,740
N.Y. City	9,463	7,994	-	-	9	30	27	164
N.J.	4,055	5,173	-	-	5	14	247	917
Pa.	8,497	7,054	35	74	58	103	714	1,502
E.N. CENTRAL	37,635	45,075	1,173	489	157	292	90	587
Ohio	10,162	11,301	1	7	56	95	58	32
Ind.	3,754	4,211	1	5	24	55	16	24
Ill.	13,605	14,833	25	34	10	36	10	11
Mich.	10,114	10,620	560	330	43	57	1	12
Wis.	U	4,110	586	113	24	49	5	508
W.N. CENTRAL	9,230	11,367	89	27	31	48	116	136
Minn.	1,746	1,738	4	7	4	5	71	96
Iowa	452	923	-	7	11	7	10	22
Mo.	4,448	6,071	76	10	11	12	16	11
N. Dak.	31	53	-	-	-	-	1	-
S. Dak.	123	166	-	-	2	3	-	-
Nebr.	939	762	3	2	3	15	6	3
Kans.	1,491	1,654	6	1	-	6	12	4
S. ATLANTIC	61,804	62,241	150	71	84	101	721	644
Del.	1,159	933	1	-	8	9	22	54
Md.	5,969	5,743	34	8	16	27	512	462
D.C.	1,357	3,010	-	-	1	6	3	4
Va.	6,480	5,708	10	11	20	16	79	47
W. Va.	311	578	13	4	N	N	14	8
N.C.	13,510	12,851	30	17	13	8	56	41
S.C.	4,413	7,713	17	3	7	7	5	3
Ga.	14,359	13,558	1	9	-	7	-	5
Fla.	14,246	12,147	44	19	19	21	30	20
E.S. CENTRAL	22,962	26,278	195	202	31	48	70	73
Ky.	2,091	2,483	13	16	14	24	6	18
Tenn.	7,687	7,813	83	119	14	12	36	31
Ala.	7,680	8,832	1	4	3	5	17	14
Miss.	5,504	7,150	98	63	-	7	11	10
W.S. CENTRAL	30,131	36,478	144	336	3	14	24	17
Ark.	2,002	2,737	8	13	-	1	4	6
La.	6,054	8,310	100	24	1	2	-	3
Okla.	2,665	3,631	12	8	2	8	4	2
Tex.	19,410	21,800	24	291	-	3	16	6
MOUNTAIN	5,949	6,083	101	291	35	50	11	11
Mont.	28	29	4	7	-	2	-	-
Idaho	54	123	6	85	1	2	2	3
Wyo.	14	18	31	69	-	1	3	1
Colo.	1,547	1,371	18	19	9	12	-	-
N. Mex.	379	592	7	70	1	2	1	3
Ariz.	3,044	2,805	22	4	5	11	-	-
Utah	124	160	5	19	13	16	3	-
Nev.	759	985	8	18	6	4	2	4
PACIFIC	10,810	15,328	251	570	61	47	120	94
Wash.	1,358	1,285	13	13	10	9	4	5
Oreg.	544	530	15	14	N	N	10	13
Calif.	8,464	12,957	223	489	50	36	106	75
Alaska	207	217	-	-	1	1	-	1
Hawaii	237	339	-	54	-	1	-	-
Guam	32	38	-	-	-	2	-	-
P.R.	193	275	-	-	-	-	-	-
V.I.	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	-	26	-	-	-	-	-	-

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

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending September 4, 1999, and September 5, 1998 (35th Week)

Reporting Area	Malaria		Rabies, Animal		Salmonellosis*			
					NETSS		PHLIS	
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	820	947	3,847	5,090	21,987	25,963	17,985	22,695
NEW ENGLAND	33	43	569	999	1,092	1,685	1,267	1,591
Maine	3	3	109	162	94	119	60	44
N.H.	2	3	38	52	91	122	101	170
Vt.	4	-	71	43	62	91	52	71
Mass.	13	16	127	352	775	936	718	946
R.I.	3	3	71	61	70	86	48	32
Conn.	8	18	153	329	U	331	288	328
MID. ATLANTIC	180	280	724	1,120	2,556	4,329	2,399	4,176
Upstate N.Y.	51	58	524	785	829	1,036	773	982
N.Y. City	79	162	U	U	868	1,366	682	1,148
N.J.	29	35	127	141	332	891	535	931
Pa.	21	25	73	194	527	1,036	409	1,115
E.N. CENTRAL	81	109	82	84	3,274	4,321	2,209	3,243
Ohio	18	9	28	46	811	1,019	593	841
Ind.	12	10	-	7	328	481	264	389
Ill.	20	45	5	-	1,078	1,337	399	933
Mich.	27	36	46	28	643	805	621	719
Wis.	4	9	3	3	414	679	332	361
W.N. CENTRAL	49	66	497	536	1,504	1,553	1,401	1,608
Minn.	21	36	80	90	445	367	477	434
Iowa	12	7	102	118	170	265	121	215
Mo.	12	12	12	28	448	439	597	594
N. Dak.	-	2	108	102	38	45	4	55
S. Dak.	-	-	117	121	71	76	58	83
Nebr.	-	1	2	6	131	122	-	29
Kans.	4	8	76	71	201	239	144	198
S. ATLANTIC	240	187	1,419	1,677	5,081	4,787	3,518	3,824
Del.	1	1	34	31	97	53	110	91
Md.	67	57	278	337	565	593	551	587
D.C.	13	13	-	-	53	51	-	-
Va.	51	38	353	409	879	667	707	616
W. Va.	1	1	80	60	106	106	105	108
N.C.	19	15	292	436	774	676	828	863
S.C.	10	5	107	104	363	334	262	326
Ga.	21	25	143	166	710	900	651	901
Fla.	57	32	132	134	1,534	1,407	304	332
E.S. CENTRAL	18	22	190	212	1,192	1,388	619	1,091
Ky.	6	4	31	27	278	265	-	124
Tenn.	7	11	64	112	330	373	324	497
Ala.	4	5	95	71	370	439	242	387
Miss.	1	2	-	2	214	311	53	83
W.S. CENTRAL	10	21	77	26	1,581	2,520	1,863	1,987
Ark.	1	1	14	26	339	309	116	242
La.	6	7	-	-	159	323	370	481
Okla.	2	2	63	-	228	287	199	130
Tex.	1	11	-	-	855	1,601	1,178	1,134
MOUNTAIN	32	46	134	162	2,031	1,677	1,374	1,485
Mont.	4	-	46	36	42	60	1	39
Idaho	3	7	-	-	67	79	56	68
Wyo.	1	-	32	52	34	45	22	41
Colo.	14	12	1	22	529	398	537	379
N. Mex.	2	11	6	5	247	203	174	188
Ariz.	5	8	43	33	636	526	525	512
Utah	2	1	4	11	358	232	6	121
Nev.	1	7	2	3	118	134	53	137
PACIFIC	177	173	155	274	3,676	3,703	3,335	3,690
Wash.	18	16	-	-	430	315	576	459
Oreg.	15	13	1	2	324	211	379	245
Calif.	136	138	147	249	2,631	2,989	2,163	2,773
Alaska	1	2	7	23	32	37	6	20
Hawaii	7	4	-	-	259	151	211	193
Guam	-	2	-	-	20	21	-	-
P.R.	-	-	46	37	254	488	-	-
V.I.	U	U	U	U	-	-	-	-
Amer. Samoa	U	U	U	U	-	-	-	-
C.N.M.I.	-	-	-	-	-	25	-	-

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

*Individual cases may 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 September 4, 1999, and September 5, 1998 (35th Week)

Reporting Area	Shigellosis*				Syphilis (Primary & Secondary)		Tuberculosis	
	NETSS		PHLIS					
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999†	Cum. 1998†
UNITED STATES	8,988	13,144	4,112	7,399	4,205	4,729	9,430	10,860
NEW ENGLAND	380	310	377	281	36	50	274	306
Maine	4	10	-	-	-	1	13	6
N.H.	12	10	11	15	-	1	12	-
Vt.	4	6	3	-	3	4	1	3
Mass.	343	205	315	198	22	31	156	175
R.I.	17	23	9	13	1	1	28	38
Conn.	U	56	39	55	10	12	64	84
MID. ATLANTIC	555	1,713	303	1,376	155	209	1,724	1,936
Upstate N.Y.	198	364	42	117	22	28	209	239
N.Y. City	182	550	82	518	67	45	911	942
N.J.	103	510	121	523	37	69	361	414
Pa.	72	289	58	218	29	67	243	341
E.N. CENTRAL	1,586	1,895	726	1,002	788	690	842	1,111
Ohio	321	367	83	89	66	95	174	169
Ind.	171	119	42	33	272	125	55	106
Ill.	637	1,017	354	833	298	290	381	526
Mich.	271	186	182	4	152	130	193	237
Wis.	186	206	65	43	U	50	39	73
W.N. CENTRAL	764	740	512	428	90	95	294	299
Minn.	160	236	181	269	7	6	101	99
Iowa	20	52	16	36	7	-	29	27
Mo.	499	84	279	59	60	73	119	106
N. Dak.	2	6	-	3	-	-	2	6
S. Dak.	11	29	5	20	-	1	12	14
Nebr.	38	307	-	16	6	4	12	11
Kans.	34	26	31	25	10	11	19	36
S. ATLANTIC	1,610	2,823	338	887	1,416	1,718	1,986	1,868
Del.	12	17	5	18	6	17	12	27
Md.	102	138	28	48	259	475	177	202
D.C.	38	16	-	-	35	60	33	76
Va.	81	131	42	65	113	108	168	187
W. Va.	7	11	3	7	2	2	30	30
N.C.	150	215	66	101	353	492	306	278
S.C.	94	114	42	47	181	195	194	204
Ga.	141	786	37	192	248	188	420	347
Fla.	985	1,395	115	409	219	181	646	517
E.S. CENTRAL	825	583	393	392	766	816	610	771
Ky.	183	88	-	45	64	73	112	113
Tenn.	510	114	348	167	445	384	233	244
Ala.	77	343	40	176	153	190	209	269
Miss.	55	38	5	4	104	169	56	145
W.S. CENTRAL	1,185	2,535	973	794	598	714	1,017	1,572
Ark.	60	134	21	39	40	83	117	76
La.	76	176	72	197	121	288	U	127
Okla.	357	238	123	60	136	40	92	118
Tex.	692	1,987	757	498	301	303	808	1,251
MOUNTAIN	601	813	344	504	164	171	280	367
Mont.	7	8	-	3	-	-	10	15
Idaho	17	15	7	11	1	2	14	7
Wyo.	3	1	1	-	-	1	2	4
Colo.	103	132	80	103	1	8	U	43
N. Mex.	82	193	40	98	10	22	42	41
Ariz.	306	411	209	257	144	122	155	137
Utah	41	30	1	24	2	3	30	42
Nev.	42	23	6	8	6	13	27	78
PACIFIC	1,482	1,732	146	1,735	192	266	2,403	2,630
Wash.	68	104	65	110	48	23	128	178
Oreg.	57	98	58	96	6	4	66	93
Calif.	1,331	1,496	-	1,496	135	236	2,055	2,204
Alaska	-	4	-	2	1	1	40	36
Hawaii	26	30	23	31	2	2	114	119
Guam	7	29	-	-	1	1	-	60
P.R.	60	43	-	-	109	139	41	108
V.I.	-	-	-	-	U	U	U	U
Amer. Samoa	-	-	-	-	U	U	U	U
C.N.M.I.	-	17	-	-	-	163	-	75

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

*Individual cases may 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 September 4, 1999, and September 5, 1998 (35th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported*		Total	
	Cum. 1999†	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	1999	Cum. 1999	1999	Cum. 1999	Cum. 1999	Cum. 1998
UNITED STATES	803	769	10,030	15,203	4,280	6,570	1	37	-	19	56	50
NEW ENGLAND	59	49	146	205	69	142	-	6	-	4	10	3
Maine	5	2	5	16	1	2	-	-	-	-	-	-
N.H.	14	8	10	9	10	11	-	-	-	1	1	-
Vt.	5	5	6	13	2	6	-	-	-	-	-	1
Mass.	22	31	54	83	31	53	-	5	-	2	7	2
R.I.	1	2	13	12	25	48	-	-	-	-	-	-
Conn.	12	1	58	72	-	22	-	1	-	1	2	-
MID. ATLANTIC	128	122	654	1,168	484	860	-	-	-	2	2	13
Upstate N.Y.	62	41	177	236	139	164	-	-	-	2	2	2
N.Y. City	28	35	171	402	143	299	-	-	-	-	-	-
N.J.	37	39	57	238	40	154	-	-	-	-	-	8
Pa.	1	7	249	292	162	243	-	-	-	-	-	3
E.N. CENTRAL	127	132	1,916	2,349	432	970	-	1	-	1	2	15
Ohio	46	42	468	230	67	55	-	-	-	-	-	1
Ind.	20	32	77	108	33	78	-	1	-	-	1	3
Ill.	51	48	362	551	-	171	-	-	-	-	-	-
Mich.	10	5	983	1,310	331	298	-	-	-	1	1	10
Wis.	-	5	26	150	1	368	-	-	-	-	-	1
W.N. CENTRAL	60	69	525	1,078	225	277	-	-	-	-	-	-
Minn.	24	54	53	90	37	30	-	-	-	-	-	-
Iowa	6	2	92	369	27	45	-	-	-	-	-	-
Mo.	21	8	296	494	124	167	-	-	-	-	-	-
N. Dak.	1	-	1	3	-	4	-	-	-	-	-	-
S. Dak.	1	-	8	21	1	1	-	-	-	-	-	-
Nebr.	3	-	40	21	11	11	U	-	U	-	-	-
Kans.	4	5	35	80	25	19	-	-	-	-	-	-
S. ATLANTIC	190	142	1,352	1,246	816	674	-	1	-	4	5	8
Del.	-	-	2	3	-	-	-	-	-	-	-	1
Md.	49	44	249	275	121	101	-	-	-	-	-	1
D.C.	4	-	48	43	17	9	-	-	-	-	-	-
Va.	14	14	105	156	65	74	-	1	-	2	3	2
W. Va.	6	5	26	3	17	5	-	-	-	-	-	-
N.C.	28	23	108	76	147	149	-	-	-	-	-	-
S.C.	5	3	29	23	58	25	-	-	-	-	-	-
Ga.	49	30	333	361	108	123	-	-	-	-	-	2
Fla.	35	23	452	306	283	188	-	-	-	2	2	2
E.S. CENTRAL	51	42	281	281	319	341	-	-	-	-	-	2
Ky.	5	7	50	23	30	36	-	-	-	-	-	-
Tenn.	29	23	142	161	173	190	-	-	-	-	-	1
Ala.	15	10	40	52	58	47	-	-	-	-	-	1
Miss.	2	2	49	45	58	68	-	-	-	-	-	-
W.S. CENTRAL	41	39	1,741	2,693	492	1,472	-	5	-	3	8	-
Ark.	2	-	38	66	34	68	-	-	-	-	-	-
La.	7	17	59	47	72	66	-	-	-	-	-	-
Okla.	28	20	336	399	94	59	-	-	-	-	-	-
Tex.	4	2	1,308	2,181	292	1,279	-	5	-	3	8	-
MOUNTAIN	69	86	923	2,334	426	583	1	3	-	-	3	-
Mont.	1	-	16	72	16	5	-	-	-	-	-	-
Idaho	1	-	31	188	21	24	-	-	-	-	-	-
Wyo.	1	1	4	29	10	3	-	-	-	-	-	-
Colo.	10	18	161	193	65	74	-	-	-	-	-	-
N. Mex.	18	4	36	108	141	227	-	-	-	-	-	-
Ariz.	30	42	554	1,442	112	136	-	1	-	-	1	-
Utah	6	3	35	143	24	52	1	2	-	-	2	-
Nev.	2	18	86	159	37	62	-	-	-	-	-	-
PACIFIC	78	88	2,492	3,849	1,017	1,251	-	21	-	5	26	9
Wash.	3	6	221	768	45	68	-	-	-	-	-	1
Oreg.	30	36	184	296	58	130	-	9	-	-	9	-
Calif.	36	38	2,072	2,729	892	1,034	-	12	-	4	16	7
Alaska	5	1	5	15	12	10	-	-	-	-	-	1
Hawaii	4	7	10	41	10	9	-	-	-	1	1	-
Guam	-	-	2	1	2	2	U	1	U	-	1	-
P.R.	1	2	110	47	101	177	-	-	-	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	-	3	-	47	U	-	U	-	-	-

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

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

†Of 156 cases among children aged <5 years, serotype was reported for 80 and of those, 21 were type b.

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending September 4, 1999, and September 5, 1998 (35th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998
UNITED STATES	1,698	1,907	3	224	486	100	3,537	3,892	5	179	329
NEW ENGLAND	85	82	-	4	4	5	415	678	-	7	38
Maine	5	5	-	-	-	-	-	5	-	-	-
N.H.	12	10	-	1	-	1	70	56	-	-	-
Vt.	4	1	-	1	-	2	40	60	-	-	-
Mass.	48	38	-	2	3	2	274	519	-	7	8
R.I.	4	3	-	-	-	-	20	7	-	-	1
Conn.	12	25	-	-	1	-	11	31	-	-	29
MID. ATLANTIC	158	202	2	27	171	7	622	402	1	22	143
Upstate N.Y.	44	52	2	8	3	7	536	213	1	18	113
N.Y. City	42	24	-	3	153	-	10	23	-	-	16
N.J.	39	48	-	-	6	-	12	13	-	1	13
Pa.	33	78	-	16	9	-	64	153	-	3	1
E.N. CENTRAL	282	303	-	28	61	7	321	493	-	2	-
Ohio	112	109	-	11	23	2	151	183	-	-	-
Ind.	38	52	-	4	5	3	46	77	-	1	-
Ill.	76	81	-	6	9	-	46	50	-	1	-
Mich.	34	37	-	7	22	2	35	45	-	-	-
Wis.	22	24	-	-	2	-	43	138	-	-	-
W.N. CENTRAL	180	165	-	10	25	48	222	298	-	83	32
Minn.	38	28	-	1	12	48	126	168	-	5	-
Iowa	32	27	-	4	9	-	29	57	-	28	-
Mo.	69	63	-	2	3	-	36	22	-	2	2
N. Dak.	3	3	-	-	1	-	4	3	-	-	-
S. Dak.	11	6	-	-	-	-	5	8	-	-	-
Nebr.	9	11	U	-	-	U	1	13	U	48	-
Kans.	18	27	-	3	-	-	21	27	-	-	30
S. ATLANTIC	297	311	-	38	34	15	277	208	3	35	13
Del.	6	1	-	-	-	-	4	3	-	-	-
Md.	44	24	-	3	-	1	71	36	-	1	1
D.C.	1	-	-	2	-	-	-	1	-	-	-
Va.	35	27	-	8	6	-	13	19	-	-	-
W. Va.	5	12	-	-	-	-	2	1	-	-	-
N.C.	34	46	-	8	10	10	73	74	3	34	9
S.C.	34	46	-	3	5	-	14	22	-	-	-
Ga.	49	72	-	3	1	-	25	18	-	-	-
Fla.	89	83	-	11	12	4	75	34	-	-	3
E.S. CENTRAL	115	136	1	9	13	-	64	91	-	1	1
Ky.	22	22	-	-	-	-	16	37	-	-	-
Tenn.	47	49	-	-	1	-	29	30	-	-	1
Ala.	27	39	1	8	7	-	15	20	-	1	-
Miss.	19	26	-	1	5	-	4	4	-	-	-
W.S. CENTRAL	149	223	-	29	46	2	123	249	-	7	87
Ark.	32	26	-	-	7	2	17	50	-	-	-
La.	34	42	-	3	6	-	3	5	-	-	-
Okla.	25	30	-	1	-	-	12	20	-	-	-
Tex.	58	125	-	25	33	-	91	174	-	7	87
MOUNTAIN	101	108	-	12	30	9	394	663	1	18	5
Mont.	2	4	-	-	-	-	2	7	-	-	-
Idaho	8	9	-	1	4	-	93	168	-	-	-
Wyo.	3	5	-	-	1	-	2	8	-	-	-
Colo.	27	21	-	3	6	2	126	173	1	3	-
N. Mex.	13	18	N	N	N	6	86	76	-	-	1
Ariz.	29	35	-	-	5	-	30	140	-	13	1
Utah	13	10	-	5	4	1	52	59	-	1	2
Nev.	6	6	-	3	10	-	3	32	-	1	1
PACIFIC	331	377	-	67	102	7	1,099	810	-	4	10
Wash.	51	53	-	2	7	3	543	223	-	-	5
Oreg.	57	63	N	N	N	1	28	61	-	-	-
Calif.	214	255	-	54	74	2	501	499	-	4	3
Alaska	5	2	-	1	2	-	4	14	-	-	-
Hawaii	4	4	-	10	19	1	23	13	-	-	2
Guam	1	2	U	1	2	U	1	-	U	-	-
P.R.	5	9	-	-	2	-	16	4	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	U	-	2	U	-	1	U	-	-

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

TABLE IV. Deaths in 122 U.S. cities,* week ending September 4, 1999 (35th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	426	296	81	33	11	5	32
Boston, Mass.	131	80	29	15	5	2	8
Bridgeport, Conn.	29	17	10	2	-	-	1
Cambridge, Mass.	13	12	1	-	-	-	2
Fall River, Mass.	25	23	1	1	-	-	2
Hartford, Conn.	U	U	U	U	U	U	U
Lowell, Mass.	29	23	3	2	-	1	2
Lynn, Mass.	9	5	2	2	-	-	-
New Bedford, Mass.	23	16	1	2	3	1	-
New Haven, Conn.	46	33	6	5	1	1	1
Providence, R.I.	U	U	U	U	U	U	U
Somerville, Mass.	2	2	-	-	-	-	-
Springfield, Mass.	41	28	11	1	1	-	6
Waterbury, Conn.	23	17	4	2	-	-	1
Worcester, Mass.	55	40	13	1	1	-	9
MID. ATLANTIC	1,889	1,324	350	144	38	33	57
Albany, N.Y.	31	25	5	1	-	-	1
Allentown, Pa.	U	U	U	U	U	U	U
Buffalo, N.Y.	U	U	U	U	U	U	U
Camden, N.J.	18	12	4	1	1	-	1
Elizabeth, N.J.	U	U	U	U	U	U	U
Erie, Pa.	36	31	-	4	-	1	1
Jersey City, N.J.	40	25	6	8	1	-	-
New York City, N.Y.	1,104	756	219	86	20	23	18
Newark, N.J.	U	U	U	U	U	U	U
Paterson, N.J.	U	U	U	U	U	U	U
Philadelphia, Pa.	381	264	69	31	10	7	22
Pittsburgh, Pa.§	42	32	7	2	1	-	4
Reading, Pa.	23	20	2	1	-	-	2
Rochester, N.Y.	111	83	18	5	4	1	1
Schenectady, N.Y.	23	13	9	-	-	1	3
Scranton, Pa.	24	20	2	2	-	-	-
Syracuse, N.Y.	31	26	2	2	1	-	1
Trenton, N.J.	11	6	4	1	-	-	2
Utica, N.Y.	14	11	3	-	-	-	1
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	1,817	1,245	335	134	48	55	113
Akron, Ohio	64	46	12	1	1	4	1
Canton, Ohio	34	25	8	-	-	1	3
Chicago, Ill.	325	202	75	35	10	3	24
Cincinnati, Ohio	125	81	29	3	5	7	8
Cleveland, Ohio	131	91	21	10	2	7	3
Columbus, Ohio	173	111	39	15	2	6	13
Dayton, Ohio	113	81	23	5	3	1	4
Detroit, Mich.	U	U	U	U	U	U	U
Evansville, Ind.	43	32	7	3	1	-	3
Fort Wayne, Ind.	73	54	3	10	3	3	1
Gary, Ind.	17	7	5	1	2	2	-
Grand Rapids, Mich.	79	60	10	4	4	1	4
Indianapolis, Ind.	195	125	39	15	7	9	18
Lansing, Mich.	39	29	5	5	-	-	1
Milwaukee, Wis.	108	76	17	11	3	1	13
Peoria, Ill.	53	42	7	1	1	2	3
Rockford, Ill.	51	36	12	2	-	1	-
South Bend, Ind.	40	31	5	2	1	1	3
Toledo, Ohio	100	75	13	6	2	4	10
Youngstown, Ohio	54	41	5	5	1	2	1
W.N. CENTRAL	562	405	100	35	9	13	21
Des Moines, Iowa	U	U	U	U	U	U	U
Duluth, Minn.	40	28	9	2	1	-	-
Kansas City, Kans.	U	U	U	U	U	U	U
Kansas City, Mo.	93	65	17	7	2	2	4
Lincoln, Nebr.	43	32	9	2	-	-	1
Minneapolis, Minn.	130	99	17	8	3	3	11
Omaha, Nebr.	84	67	11	3	1	2	3
St. Louis, Mo.	117	70	29	11	2	5	-
St. Paul, Minn.	55	44	8	2	-	1	2
Wichita, Kans.	U	U	U	U	U	U	U
S. ATLANTIC	903	601	187	75	29	10	64
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	204	129	40	27	8	-	24
Charlotte, N.C.	81	51	22	5	3	-	12
Jacksonville, Fla.	150	98	38	9	3	2	2
Miami, Fla.	99	61	22	11	5	-	1
Norfolk, Va.	44	29	4	3	3	5	4
Richmond, Va.	49	33	8	4	4	-	3
Savannah, Ga.	66	50	11	3	-	2	1
St. Petersburg, Fla.	44	33	11	-	-	-	7
Tampa, Fla.	151	102	31	13	3	1	10
Washington, D.C.	U	U	U	U	U	U	U
Wilmington, Del.	15	15	-	-	-	-	-
E.S. CENTRAL	838	560	153	79	27	17	63
Birmingham, Ala.	165	115	27	16	4	2	15
Chattanooga, Tenn.	51	35	6	7	2	1	4
Knoxville, Tenn.	72	50	13	6	1	2	-
Lexington, Ky.	59	46	10	3	-	-	5
Memphis, Tenn.	210	139	38	17	11	5	20
Mobile, Ala.	101	63	23	9	2	4	1
Montgomery, Ala.	48	32	11	4	1	-	6
Nashville, Tenn.	132	80	25	17	6	3	12
W.S. CENTRAL	1,161	705	253	122	34	47	56
Austin, Tex.	92	57	20	10	3	2	5
Baton Rouge, La.	38	25	7	5	1	-	-
Corpus Christi, Tex.	62	44	6	7	3	2	2
Dallas, Tex.	203	120	50	22	6	5	4
El Paso, Tex.	66	45	12	6	1	2	3
Ft. Worth, Tex.	124	89	17	11	1	6	13
Houston, Tex.	308	185	74	36	7	6	18
Little Rock, Ark.	54	29	16	5	4	-	3
New Orleans, La.	61	10	20	12	5	14	-
San Antonio, Tex.	U	U	U	U	U	U	U
Shreveport, La.	57	39	10	4	2	2	5
Tulsa, Okla.	96	62	21	4	1	8	3
MOUNTAIN	801	537	165	64	18	16	43
Albuquerque, N.M.	101	67	25	6	2	1	3
Boise, Idaho	37	25	8	2	1	1	2
Colo. Springs, Colo.	60	37	15	7	-	1	4
Denver, Colo.	100	53	27	11	5	4	10
Las Vegas, Nev.	177	116	41	12	5	3	5
Ogden, Utah	U	U	U	U	U	U	U
Phoenix, Ariz.	65	45	13	7	-	-	3
Pueblo, Colo.	30	25	2	3	-	-	4
Salt Lake City, Utah	103	67	21	9	2	4	6
Tucson, Ariz.	128	102	13	7	3	2	6
PACIFIC	1,145	794	216	82	28	25	88
Berkeley, Calif.	15	7	7	1	-	-	1
Fresno, Calif.	U	U	U	U	U	U	U
Glendale, Calif.	16	12	1	3	-	-	2
Honolulu, Hawaii	79	55	14	5	5	-	6
Long Beach, Calif.	61	47	7	1	3	3	7
Los Angeles, Calif.	352	248	59	32	8	5	27
Pasadena, Calif.	22	14	6	1	-	1	2
Portland, Oreg.	U	U	U	U	U	U	U
Sacramento, Calif.	U	U	U	U	U	U	U
San Diego, Calif.	133	88	23	13	1	8	10
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	175	128	29	10	4	4	19
Santa Cruz, Calif.	29	22	6	1	-	-	5
Seattle, Wash.	132	82	36	7	4	3	3
Spokane, Wash.	47	35	10	1	1	-	3
Tacoma, Wash.	84	56	18	7	2	1	3
TOTAL	9,542¶	6,467	1,840	768	242	221	537

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 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.

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