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Misdiagnoses of Tuberculosis Resulting From Laboratory Cross-Contamination of *Mycobacterium Tuberculosis* Cultures — New Jersey, 1998

A diagnosis of tuberculosis (TB) is rarely disputed if *Mycobacterium tuberculosis* is isolated from a clinical specimen; however, specimen contamination may occur (*1–3*). Identification of TB strain patterns through molecular typing or DNA fingerprinting is a recent advancement in TB laboratory techniques (*3–7*). CDC's National Tuberculosis Genotyping and Surveillance Network (NTGSN) performs DNA fingerprinting on TB isolates to determine the frequency of clustering among *M. tuberculosis* strains in project surveillance sites. In November 1998, NTGSN detected 11 isolates from previously reported TB cases among persons in New Jersey whose DNA fingerprints matched the avirulent laboratory *M. tuberculosis* control strain H37Ra. H37Ra does not cause active TB in humans, but it has been reported as a source of cross-contamination (*8*). In collaboration with the New Jersey Department of Health and Senior Services, CDC investigated H37Ra as a possible cause of TB disease and/or TB misdiagnoses caused by laboratory cross-contamination in the 11 case-patients. This report describes findings from two of the 11 cases and summarizes the results of this investigation, which indicate that TB was misdiagnosed and demonstrate the value of DNA fingerprinting to identify occurrences of cross-contamination of patient specimens.

Case Findings

Case 1. In October 1998, a 44-year-old woman with multiple sclerosis and no known exposure to a person with active TB had TB diagnosed on the basis of a positive culture result. Cerebrospinal fluid revealed no signs of infection, but the culture grew *M. tuberculosis* at 7 weeks. Her chest radiograph was normal, and a tuberculin skin test (TST) was not documented. Anti-TB therapy was not initiated because no development or progression of symptoms consistent with TB occurred. The cerebrospinal fluid was retested in the same laboratory (7 weeks after the original specimen was obtained) and revealed a stain with 1+ acid-fast bacilli (AFB). The patient was started on anti-TB medications. The culture for the second specimen was negative for TB. This patient had received 4 months of anti-TB treatment at the time of the investigation.

Case 2. A 58-year-old woman with a history of reactive airway disease and angioedema was taken to a local emergency department with shortness of breath and cough. Her chest radiograph was normal, and a TST was not documented. A sputum specimen obtained at that time was AFB smear-negative, but *M. tuberculosis* culture

Cross-Contamination of Mycobacterium Tuberculosis — *Continued*

was positive at 6 weeks. Although the patient had recovered after treatment for acute asthma, she was started on anti-TB treatment. Treatment was discontinued after 2 weeks when health-care providers determined her illness was not TB.

Summary Findings

A list of the 11 case-patients with an isolate with a fingerprint matching H37Ra was compiled, and information on the origin of each case-specimen was obtained. Investigators reviewed hospital, clinic, and health department records for each case-patient to establish the clinical events leading to TB diagnosis. Investigators visited the laboratories where the 11 specimens were processed to interview laboratory personnel about specimen processing techniques and to review laboratory logs for mycobacterial specimen testing.

The 11 case-patients had TB diagnosed and reported during 1996–1998. Mean age of patients was 60 years (range: 36–81 years); eight were women, and three were human immunodeficiency virus (HIV)-positive. Eight cases were classified as pulmonary and three as extrapulmonary. Seven patients had abnormal chest radiograph findings, and two had documented positive TSTs. All case-patients received partial or full-course therapy for TB; treatment durations ranged from 2 weeks to 6 months. Seven patients had contact investigations performed; four of the 32 contacts identified were tested and treated for latent TB infection. Each case met at least one criterion for suspected laboratory cross-contamination with *M. tuberculosis**. In addition, each of the eight pulmonary patients had clinical courses suggestive of an illness other than TB (i.e., bacterial pneumonia [four], reactive airways disease [two], interstitial lung disease [one], and congestive heart failure [one]).

The laboratory investigation revealed that the 11 specimens were processed during February 1996–October 1998 at four laboratories in New Jersey (three hospital laboratories and one commercial laboratory). Each of the laboratories either used the strain H37Ra or participated in laboratory proficiency testing using H37Ra; however, laboratory logs did not include the specific times when H37Ra was handled on the same day as any of the 11 specimens. In addition, personnel at the laboratories could not recall instances when the control strain may have been mishandled. The average number of specimens collected for AFB culture per patient was four (range: two to 12). All culture-positive patient specimens were smear-negative. Mean number of days to *M. tuberculosis* growth for patient specimens was 38 (range: 17–54 days).

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Editorial Note: These misdiagnosed cases of TB illustrate the need for heightened awareness of laboratory cross-contamination with *M. tuberculosis*. Clinicians and health department personnel did not suspect laboratory cross-contamination in these 11 cases; therefore, this oversight would not have been detected without the use of DNA

*Suspected laboratory cross-contamination with *M. tuberculosis* may include at least one of the following: 1) patient's clinical course is inconsistent with TB; 2) single positive *M. tuberculosis* culture with no AFB seen in any specimen; 3) culture-positive specimen from a different patient processed or handled on the same day has an identical DNA fingerprint, and no epidemiologic connections exist between patients; 4) laboratory control strain has an identical fingerprint; and 5) time to growth detection is >30 days.

fingerprinting through NTGSN. The putative source of cross-contamination for the 11 cases, H37Ra, is a laboratory control strain that is used weekly in some laboratories for routine drug susceptibility testing. H37Ra also is distributed to mycobacteriology laboratories as part of a biyearly proficiency testing required by the Clinical Laboratory Improvement Amendments (*9*). The control strains for proficiency testing often are processed simultaneously with patient specimens, but many laboratories do not document consistently specific times when proficiency testing is conducted. As a result, it is difficult to prove that the control strain is the source of cross-contamination in a specific case. In addition, several opportunities exist for specimen carryover, spillage, or inadvertent contamination during specimen processing, but these occurrences are difficult to discover retrospectively. Given these obstacles in discovering cross-contamination, NTGSN has established criteria for suspected laboratory cross-contamination of TB (CDC, unpublished data, 1998).

Reliance on clinical judgment and the presence of corroborating clinical signs and symptoms play pivotal roles in interpreting laboratory data. Systemic symptoms of fever, loss of appetite, weight loss, weakness, night sweats, and malaise are common but not specific for TB. Other signs and symptoms vary according to the site involved. In pulmonary TB, prolonged cough with or without sputum production, and ensuing pulmonary inflammation and necrosis are manifest. Chest radiograph findings of adenopathy, lung infiltrates, and pleural reaction are important correlates in the diagnosis, but these findings may be due to illnesses other than TB, particularly in the presence of HIV. These scenarios often create clinical dilemmas when initial laboratory data support a TB diagnosis. A positive TST is evidence for TB, but the positive predictive value depends on the cut-off value used to determine a positive test and the prevalence of TB infection in the population (*10*). In the appropriate clinical setting, the presence of a positive AFB smear should raise suspicion for TB; however, a positive smear with a concomitant inconsistent clinical history may represent the presence of H37Ra, a nontuberculous organism, such as *Mycobacterium avium complex*, or environmental contamination with a ubiquitous acid-fast species such as *Mycobacterium gordonae.* H37Ra and nontuberculous organisms are indistinguishable from pathogenic strains of *M. tuberculosis* on a laboratory smear.

For some patients, signs, symptoms, and test results are lacking or conflicting, as illustrated by the case-patients described in this report. If discrepancies exist among clinical and laboratory data, and at least one criterion for laboratory cross-contamination is met, an investigation should ensue to determine whether the patient has a potential TB exposure, whether specimens from the laboratory strain or other TB patients were processed simultaneously with the specimen in question, and whether performance of DNA fingerprinting is appropriate. To identify occurrences and sources of cross-contamination, it also is important for mycobacteriology laboratories to determine the DNA fingerprint pattern of the *M. tuberculosis* control strain used in their respective laboratories.

The patients described in this report received unnecessary treatment for TB and more than half had a contact investigation initiated. Recognition by health-care professionals and laboratorians of the potential for laboratory cross-contamination with *M. tuberculosis* should help avert erroneous TB diagnoses and avoid unnecessary treatment and associated toxicity. In addition, this awareness assists TB-control programs in avoiding unnecessary patient care costs and futile contact investigations and helps maintain accurate TB case reporting.

Cross-Contamination of Mycobacterium Tuberculosis — *Continued*

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Cause-Specific Adult Mortality: Evidence From Community-Based Surveillance — Selected Sites, Tanzania, 1992–1998

Mortality data are a standard information resource to guide public health action. Because Tanzania did not have a representative mortality surveillance system, in 1992 the Adult Morbidity and Mortality Project (AMMP)* was established by the Muhimbili University College of Health Sciences, the Ministry of Health of Tanzania (MOH), and the University of Newcastle upon Tyne, United Kingdom. The purpose of the surveillance system is to provide cause-specific death rates among adults in three areas of Tanzania and to link community-based mortality surveillance to evidence-based planning for health care. This report describes the results of AMMP surveillance during 1992–1998, which indicated that human immunodeficiency virus infection/acquired immunodeficiency syndrome (HIV/AIDS) was the leading cause of death reported by decedents' relatives and caretakers for adults of both sexes in all study areas, and suggests that a range of other causes of death exist across the three surveillance sites.

The AMMP surveillance project was conducted in a low-income and in a middle-income section of the city of Dar es Salaam, which is part of a region ranked by the

*AMMP is a project of the Ministry of Health of Tanzania, is funded by the Department for International Development, United Kingdom, and is implemented in partnership with the University of Newcastle upon Tyne, United Kingdom.

Mortality in Tanzania — Continued

Tanzanian government among the 50% most deprived in Tanzania (i.e., Morogoro Rural District in Morogoro Region), and in part of a region ranked as one of the 15% least deprived (i.e., Hai District in Kilimanjaro Region) (*1*). These areas were selected to compare urban with rural conditions and high-income with low-income conditions. Population denominators were determined by semi-annual census rounds in Dar es Salaam and annual census rounds in Morogoro Rural and Hai. Mortality monitoring was conducted by trained volunteers who reported deaths to a team of supervisors. Supervisors then conducted "verbal autopsy" interviews with the decedents' relatives and caretakers to determine the cause of death (*2*). Family and caretakers were used as sources to determine cause of death because up to 80% of deaths occur outside health facilities and most deaths are not medically certified (*3*). The interviews usually occurred within a month of a supervisor's receipt of the death report (*4*). The completed interview forms were coded by three physicians using the *International Classification of Diseases and Related Health Problems, 10th Revision* (*3–5*).

During 1992–1998, 10,517 persons aged 15–59 years died in the three locations; a cause of death was assigned by AMMP in 95% of cases. Death rates per 100,000 population were calculated for persons aged 15–59 years and for men and women by study area. Cause-specific death rates were calculated for persons aged 15–59, 15–29, 30–44, and 45–59 years, by sex, and by study area; probability of death by age 60 years at age 15 years was calculated by sex and study area. Death rates were standardized to World Health Organization standard populations (*6*). The probability of death by age 60 years at age 15 years was 45% for women and 42% for men in Dar es Salaam, 43% for women and 51% for men in Morogoro Rural, and 26% for women and 37% for men in Hai.

In addition to indicating 6-year total death rates and death rates from the 10 leading causes of death for men and women (Table 1), the data reflected large variations in cause-specific death by sex and geographic area and are ranked according to an age-adjusted death rate for each district; no causes of death were excluded from ranking. HIV/AIDS, tuberculosis (TB), malaria, and diarrhea were major causes of death. HIV/AIDS and TB were particularly high in Dar es Salaam, especially among women aged 15–29 years (325 and 62 per 100,000, respectively) and men aged 30–59 years (1199 and 426, respectively). The HIV/AIDS death rate was 608 among men aged 30–44 years in Dar es Salaam, and the TB death rate was 232. HIV/AIDS was the leading cause of death among persons of both sexes aged 15–59 years; the rate ranged from 246 among men in Morogoro Rural to 534 among women in Dar es Salaam. However, stroke and TB death rates were 3.0 and 6.7 times higher, respectively, among women in Dar es Salaam than among women in the other areas, and anemia death rates in Morogoro Rural were 3.0 times higher than in the other districts. In Morogoro Rural, the rate of maternal mortality was 114, with a maternal mortality ratio of 1183 per 100,000 live births, more than eight times the official regional estimate (AMMP, unpublished data, 2000). Among men, malaria, acute diarrheal disease, and anemia death rates were 3.0, 4.3, and 21.7 times higher, respectively, in Morogoro Rural than in the other two districts. Stroke and cancer death rates for both sexes were higher in Dar es Salaam and Hai than in Morogoro Rural. Among men, injury was a substantial cause of death, and injury rates for both sexes were higher in rural than urban areas.

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TABLE 1. Cause-specific death rates* for 10 leading causes of death among persons aged 15–59 years†, by sex — selected sites, Tanzania, 1992–1998

	15–29			30–44			45–59			Total		
Sex/Cause of death	Dar es Salaam	Morogoro Rural	Hai	Dar es Salaam	Morogoro Rural	Hai	Dar es Salaam	Morogoro Rural	Hai	Dar es Salaam	Morogoro Rural	Hai
Women												
HIV/AIDS	325	397	173	882	625	486	454	186	120	534	428	264
Acute febrile illness§	45	144	60	88	167	64	95	193	44	69	162	58
Maternal	97	157	53	76	122	39	7	8	5	72	114	38
Acute diarrheal disease¶	38	81	13	55	157	27	67	252	63	49	141	28
Pulmonary tuberculosis	62	35	8	146	101	18	147	71	32	107	64	16
Cancer	10	14	15	85	59	67	149	107	169	63	48	64
Injuries (intended/unintended)	29	35	45	29	60	57	55	49	59	34	46	52
Stroke	8	1	6	32	28	23	218	62	49	59	22	20
Anemia	7	35	4	13	84	3	15	158	4	11	77	4
Pneumonia	10	22	5	16	43	7	38	77	28	18	40	10
No. deaths	**556**	**810**	**529**	**566**	**836**	**694**	**191**	**531**	**366**	**1314**	**2177**	**1589**
All cause death rate	*775*	*1024*	*483*	*1764*	*1663*	*930*	*1949*	*1520*	*851*	*1342*	*1336*	*705*
Men												
HIV/AIDS	154	106	95	608	451	517	591	243	273	390	246	268
Injuries (intended/unintended)	108	177	140	122	207	236	172	214	222	126	194	188
Acute febrile illness§	45	129	67	103	273	109	112	414	146	78	233	96
Pulmonary tuberculosis	56	50	18	194	196	70	232	299	68	137	148	45
Acute diarrheal disease¶	30	127	23	34	165	51	82	325	78	42	179	43
Liver disease	3	11	14	15	67	53	31	92	173	12	45	59
Stroke	4	4	4	36	42	20	194	85	96	53	33	27
Cancer	8	8	8	23	13	61	131	40	170	38	16	58
Pneumonia	8	24	7	13	61	19	51	101	50	18	52	19
Acute abdominal problem	6	22	7	10	51	10	55	121	13	17	51	9
No. deaths	**367**	**810**	**440**	**582**	**836**	**815**	**343**	**531**	**628**	**1292**	**2262**	**1883**
All cause death rate	*547*	*818*	*843*	*1451*	*1892*	*1346*	*2191*	*2697*	*1641*	*1171*	*1545*	*997*

* Per 100,000 population.
† Age adjusted to World Health Organization standard population (*6*).
§ Includes malaria.
¶ Includes cholera.

Mortality in Tanzania — Continued

Editorial Note: AMMP is being developed as a prototype of a routine mortality data collection system to be integrated into the local health system of Tanzania. The data from the selected districts show that substantial variation in overall and cause-specific deaths exist in conditions of extreme poverty relative to other countries. In 1997, Tanzania had the third lowest gross national product per capita in the world (*7*). In 1990, estimates of the probability of death at age 15 years by age 60 years in sub-Saharan Africa were 39% for men and approximately 30% for women (*8*). On the basis of data in this report, the probability of death is considerably higher for the three study areas; the data also show that in these areas important differences exist by sex and geography. Infectious diseases predominated in Dar es Salaam and Morogoro Rural, and noninfectious disease and injury rates were greater in Hai than in Dar es Salaam and Morogoro Rural.

In addition, the data reflect age-specific patterns of HIV/AIDS and the need for HIV prevention intervention and improved home care for persons with HIV/AIDS. Malaria and diarrhea also should be public health priorities, as should noninfectious diseases that represented major causes of death, particularly stroke, cancer, and diabetes for the populations residing in Dar es Salaam and Hai. Stroke death rates among persons aged 45–60 years in Dar es Salaam are several times higher than rates in the United Kingdom or North America (*8*).

The results of this study are subject to at least three limitations. First, because the study population has had little to moderate formal education, age reporting may be inaccurate, especially among older age groups. Second, the exact cause of death may not have been known (*3*), particularly for conditions such as anemia, septicemia, genitourinary disorders, and some cancers. Third, an unknown amount of overlap may exist among HIV/AIDS, TB, chronic diarrhea, and other causes of death.

The high mortality reported from these three areas highlights the need to establish adult health as a priority in Tanzania. For many of the important causes of death, effective and inexpensive preventive or treatment measures are available, including condoms, insecticide-treated bednets, oral rehydration therapy for acute diarrhea, treatment for hypertension, directly observed therapy for TB, improved nutrition, and access to clean water. MOH has used these data to design a National Essential Health Package, a minimum standard of care that all districts in Tanzania will be expected to provide by 2010.

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Prevalence of Leisure-Time and Occupational Physical Activity Among Employed Adults — United States, 1990

Regular physical activity and high levels of physical fitness offer numerous health benefits, such as reduced risk for cardiovascular disease, diabetes, obesity, some cancers, and musculoskeletal conditions (*1*). National rates for participation in leisure-time physical activity are consistently low for women, older adults, persons with low educational attainment, and racial/ethnic minorities (*2*). Public health recommendations for promoting physical activity emphasize moderate-intensity activities, building on recommendations for vigorous exercise to improve fitness (*3,4*). To determine the prevalence of leisure-time and occupational physical activity, data were analyzed for employed adults aged ≥18 years in the 1990 National Health Interview Survey (NHIS). This report summarizes the results of the survey, which indicate that approximately half of adults who reported no physical activity during leisure time also reported that they performed at least 1 hour per day of hard physical activity at work.

The survey used a probability sample of the U.S. civilian, noninstitutionalized population aged ≥18 years (*5*); 20,766 persons responded to the survey. Respondents were asked to identify the frequency and duration of their participation in 24 sports and conditioning activities during the 2 weeks preceding the survey, and to list the number of hours per day they spent doing hard physical work on the job (*2*).

Leisure-time physical activities were scored by the intensity (i.e., metabolic equivalents [METs]), frequency, and duration of effort. METs for each leisure-time physical activity were based on the *Compendium of Physical Activities* (*6*). Respondents were categorized as 1) sedentary (no leisure-time activity), 2) irregularly active (not meeting public health recommendations), 3) moderately active (meeting the current public health recommendation)*, or 4) vigorously active (meeting the fitness recommendation)†. Hard physical activity at work was categorized as no hard labor, 1–4 hours per day, and ≥5 hours per day. Prevalence of activity was calculated by age, sex, race/ethnicity, and education level using SUDAAN to adjust for the complex sampling frame.

Approximately one third of adults reported an adequate level of leisure-time physical activity: 31.5% were moderately active, and 4.6% were vigorously active (Table 1). Men were more active than women at both the moderate and vigorous level. At the moderate level, whites were more active than Hispanics. The prevalence of both moderate and vigorous activity increased with education level and decreased with age (Table 1).

More than half (56.4%) of adults reported doing no hard physical activity during the workday; however, 20% reported 1–4 hours per day, and 23.6% reported ≥5 hours of hard occupational activity. Occupational activity was highest for persons who had <12 years of education, and was higher for blacks and Hispanics than whites. Occupational exertion decreased with increased education level and age (Table 2).

The prevalence of hard occupational activity differed by level of leisure-time physical activity (Figure 1). Half (51.3%) of the respondents classified as sedentary in leisure time reported at least 1 hour of hard occupational activity per day. The prevalence of hard occupational activity was lower among persons classified as irregularly (42.0%), moderately (40.7%), or vigorously (36.8%) active during leisure time.

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*Three or more METs, ≥30 minutes accumulated total, ≥5 days per week.

† More than six METs, ≥20 minutes continuous session, ≥3 days per week.

TABLE 1. Percentage of employed adults reporting levels of leisure-time physical activity*, by selected characteristics — United States, National Health Interview Survey, 1990

Characteristic	No.	Sedentary % (95% CI†)	Irregular % (95% CI)	Moderate % (95% CI)	Vigorous % (95% CI)
Sex					
Women	10,460	26.2 (24.7–27.7)	41.6 (40.5–42.7)	29.6 (28.5–30.9)	2.5 (2.1–2.9)
Men	10,306	22.5 (20.9–24.1)	38.3 (37.6–39.4)	33.0 (31.7–34.3)	6.2 (5.7–6.7)
Race/Ethnicity					
White	16,077	22.3 (20.9–23.7)	40.8 (40.0–41.6)	32.3 (31.2–33.4)	4.5 (4.1–4.9)
Black	2,543	28.8 (25.9–31.7)	37.0 (34.5–39.5)	30.3 (28.2–32.4)	4.0 (3.1–4.9)
Hispanic	1,510	33.9 (30.4–37.4)	34.4 (31.4–37.4)	26.6 (23.3–29.9)	5.0 (3.5–6.5)
Other§	636	29.1 (24.0–34.2)	37.2 (33.2–41.2)	27.9 (23.3–32.5)	5.8 (4.0–7.6)
Education level					
<High school	2,548	39.4 (36.5–42.3)	35.0 (32.4–37.6)	23.1 (20.9–25.3)	2.5 (1.7–3.2)
High school graduate	8,056	26.9 (25.2–28.6)	40.8 (39.5–42.1)	29.4 (27.9–30.9)	2.9 (2.4–3.4)
>High school	10,162	17.7 (16.5–18.9)	40.3 (39.3–41.3)	35.5 (34.2–36.8)	6.5 (5.9–7.0)
Age group (yrs)					
18–24	2,681	19.3 (17.3–21.3)	36.2 (34.1–38.3)	35.8 (33.4–38.2)	8.7 (7.4–10.0)
25–44	2,181	23.2 (21.7–24.7)	40.5 (39.5–41.5)	32.0 (30.9–33.1)	4.3 (3.9–4.7)
45–64	5,189	28.0 (26.1–29.9)	40.9 (39.3–42.5)	28.1 (26.5–29.7)	2.9 (2.4–3.4)
≥65	715	33.9 (30.1–37.7)	35.6 (31.7–39.5)	28.8 (24.7–32.9)	1.7 (0.8–2.7)
Total	**20,766**	**24.1 (22.7–25.5)**	**39.8 (39.2–40.8)**	**31.5 (30.5–32.5)**	**4.6 (4.2–4.9)**

* Sedentary=no leisure-time activity; irregular=not meeting public health recommendations; moderate=three or more metabolic equivalents (METs), ≥30 minutes accumulated total, ≥5 days per week; vigorous=more than six METs, ≥20 minutes continuous session, ≥3 days per week.
† Confidence interval.
§ Numbers for other racial/ethnic groups were too small for meaningful analysis.

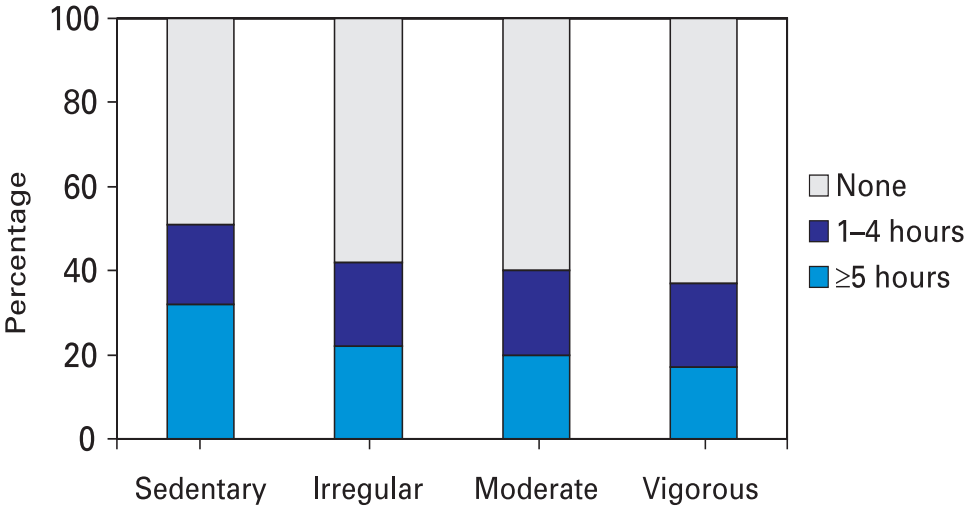
TABLE 2. Percentage of employed adults reporting hard occupational activity, by selected characteristics — United States, National Health Interview Survey, 1990

Characteristic	No.	Hours per day: 0 %	0 (95% CI*)	1–4 %	1–4 (95% CI)	≥5 %	≥5 (95% CI)
Sex							
Women	10,460	65.0	(63.7–66.3)	18.0	(16.9–19.0)	17.0	(16.0–18.0)
Men	10,306	49.4	(48.1–50.8)	21.6	(20.6–22.5)	29.0	(27.7–30.3)
Race/Ethnicity							
White	16,077	58.1	(56.9–59.2)	20.0	(19.2–20.8)	21.9	(20.9–22.9)
Black	2,543	49.5	(46.8–52.2)	20.4	(18.1–22.7)	30.1	(27.6–32.7)
Hispanic	1,510	47.6	(44.1–51.2)	19.3	(16.4–22.2)	33.0	(30.1–36.0)
Other†	636	59.4	(53.6–65.1)	18.9	(15.6–22.2)	21.7	(17.4–26.0)
Education level							
<High school	2,548	32.0	(30.0–34.0)	20.5	(18.6–22.5)	47.5	(45.3–49.7)
High school graduate	8,056	47.4	(45.9–48.9)	23.1	(22.0–24.3)	29.5	(28.0–30.9)
>High school	10,162	70.5	(69.3–71.6)	17.2	(16.2–18.2)	12.4	(11.6–13.2)
Age group (yrs)							
18–24	2,681	50.0	(47.7–52.3)	22.1	(20.4–23.9)	27.9	(25.6–30.1)
25–44	12,181	56.4	(55.1–57.7)	20.1	(19.1–21.0)	23.5	(22.4–24.6)
45–64	5,189	59.4	(57.7–61.1)	18.3	(17.1–19.4)	22.3	(20.8–23.8)
≥65	715	62.3	(61.9–62.7)	20.8	(17.1–24.4)	16.9	(13.7–20.2)
Total	**20,766**	**56.4**	**(55.3–57.0)**	**20.0**	**(19.2–20.7)**	**23.6**	**(22.6–24.6)**

* Confidence interval.
† Numbers for other racial/ethnic groups were too small for meaningful analysis.

Leisure-Time and Occupational Physical Activity — Continued

FIGURE 1. Percentage of respondents reporting hard occupational activity (hours per day), by levels of leisure-time physical activity* — United States, National Health Interview Survey, 1990



* Sedentary=no leisure-time activity; irregular=not meeting public health recommendations; moderate=three or more metabolic equivalents (METs), ≥30 minutes accumulated total, ≥5 days per week; vigorous=more than six METs, ≥20 minutes continuous session, ≥3 days per week.

Editorial Note: The findings in this report indicate that during leisure time approximately two thirds (63.9%) of employed adults in the United States do not meet current recommendations for participation in moderate or vigorous physical activity. The NHIS findings were consistent with previous reports that indicate women, older adults, persons with <12 years of education, or members of racial/ethnic minorities are most likely to be inactive during leisure time (*7*). However, other opportunities exist for obtaining recommended amounts of physical activity, such as activities involved in commuting to and from work and those associated with certain occupations or maintaining a home.

Although the findings in this report suggest that adults may participate in physical activity at work, the frequency, intensity, and type of activity are not available from the NHIS data. Assessing activity patterns limited to leisure-time activity may underestimate the proportion of persons who obtain the recommended level of physical activity. Many persons from groups that are sedentary in their leisure time may be getting sufficient occupational physical activity to derive health benefits.

The findings in this report are subject to at least four limitations. First, estimates are based on self-reported activity and may be overestimates. Second, recall of the 24 types of leisure-time physical activity may have resulted in underreporting if seasonal or irregular activities were not performed during the 2-week recall period. Third, this study does not provide information on other sources of physical activity, such as transportation or housework, which may be disproportionately higher in certain population groups, such as women and racial/ethnic minorities. Finally, questions about occupational physical activity have not been asked since the 1990 NHIS, and the level of physical activity during work may have changed during the past decade.

Leisure-Time and Occupational Physical Activity — Continued

CDC and the American College of Sports Medicine recommend that every U.S. adult accumulate 30 minutes or more of moderate-intensity physical activity on most, preferably all, days of the week (*3*). In 1990, only one third of employed adults met this recommendation or the recommendation for vigorous activity during leisure time. One of the national health objectives for 2000 was to reduce to no more than 15% the proportion of persons who engage in no leisure-time physical activity (objective 1.5) (*8*).

Systems that collect information on physical activity should be expanded to include additional activities. Because of the demonstrated health benefits of moderate-intensity physical activity, surveillance systems should be designed to assess activities such as occupational, childcare, and transportation for future monitoring of health-related physical activity.

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Notice to Readers

Revision of Acute Hepatitis Panel

Current Procedural Terminology (CPT) codes are standardized codes developed and maintained by the American Medical Association (AMA) for the classification and reporting of medical services. The Health Care Financing Administration (HCFA) requires the use of these codes for reporting services to Medicare and Medicaid for reimbursement. On January 1, 1998, the components of the test panel for acute viral hepatitis (CPT#80059) were changed to exclude the tests for IgM antibody to hepatitis A virus (IgM anti-HAV) and IgM antibody to hepatitis B core antigen (IgM anti-HBc), the tests that specifically identify recent infection with hepatitis A virus (HAV) and hepatitis B virus (HBV).

Notices to Readers — Continued

Effective January 1, 2000 (CPT 2000), the acute hepatitis panel has been revised (CPT#80074) to re-include the tests for IgM anti-HAV and IgM anti-HBc. This revised panel, which also includes tests for hepatitis B surface antigen (HBsAg) and antibody to hepatitis C virus (anti-HCV), should be used to diagnose any patient presenting with signs and/or symptoms of acute viral hepatitis. Additional information on CPT codes is available at the AMA World-Wide Web site, http://www.ama-assn.org/med-sci/cpt/coding.htm.*

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

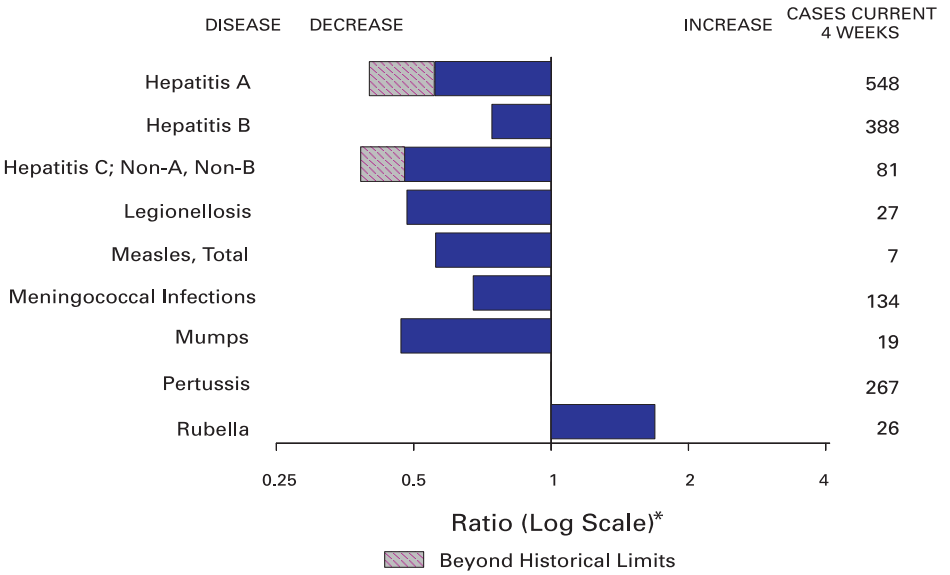
Notice to Readers

New Web-Based Training on Hepatitis C for Health Professionals

On May 15, 2000, CDC posted on its World-Wide Web site an interactive web-based training program titled "Hepatitis C: What Clinicians and Other Health Professionals Need to Know." The program is at http://www.cdc.gov/hepatitis.

This program provides users with up-to-date information on the epidemiology, diagnosis, and management of hepatitis C virus (HCV) infection and HCV-related chronic disease. Users also can test their knowledge of the material through study questions at the end of each section and case studies at the end of the program. Continuing medical and nursing education credits are available free from CDC on completion of the training. The American Academy of Family Physicians also will grant the academy's education credits on completion of training and filing with the academy.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals ending May 13, 2000, with historical data



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

TABLE I. Summary of provisional cases of selected notifiable diseases, United States, cumulative, week ending May 13, 2000 (19th Week)

	Cum. 2000		Cum. 2000
Anthrax	-	HIV infection, pediatric*§	85
Brucellosis*	15	Plague	2
Cholera	-	Poliomyelitis, paralytic	-
Congenital rubella syndrome	4	Psittacosis*	5
Cyclosporiasis*	6	Rabies, human	-
Diphtheria	-	Rocky Mountain spotted fever (RMSF)	44
Encephalitis: California serogroup viral*	2	Streptococcal disease, invasive, group A	1,158
eastern equine*	-	Streptococcal toxic-shock syndrome*	41
St. Louis*	-	Syphilis, congenital¶	38
western equine*	-	Tetanus	7
Ehrlichiosis human granulocytic (HGE)*	23	Toxic-shock syndrome	49
human monocytic (HME)*	4	Trichinosis	4
Hansen disease (leprosy)*	14	Typhoid fever	99
Hantavirus pulmonary syndrome*†	3	Yellow fever	-
Hemolytic uremic syndrome, postdiarrheal*	31		

-: 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 April 30, 2000.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending May 13, 2000, and May 15, 1999 (19th Week)

Reporting Area	AIDS		Chlamydia†		Cryptosporidiosis		*Escherichia coli* O157:H7*			
							NETSS		PHLIS	
	Cum. 2000§	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999
UNITED STATES	13,355	14,726	198,586	241,711	397	580	535	446	318	378
NEW ENGLAND	802	759	7,964	7,665	19	29	54	67	41	66
Maine	14	15	481	253	5	3	3	4	3	-
N.H.	11	24	373	380	2	4	5	5	4	8
Vt.	2	5	198	187	8	5	2	6	2	1
Mass.	535	481	3,736	3,318	2	14	22	33	15	30
R.I.	34	52	855	833	2	-	-	3	-	5
Conn.	206	182	2,321	2,694	-	3	22	16	17	22
MID. ATLANTIC	3,280	3,596	11,702	28,589	38	130	65	31	47	18
Upstate N.Y.	186	402	N	N	28	37	61	24	40	2
N.Y. City	1,943	1,895	2,188	13,718	5	77	3	2	-	-
N.J.	703	752	1,865	4,616	1	8	1	5	2	16
Pa.	448	547	7,649	10,255	4	8	N	N	5	-
E.N. CENTRAL	1,310	1,103	32,535	37,647	80	101	96	82	26	63
Ohio	194	185	7,910	11,188	18	16	19	32	9	19
Ind.	100	146	4,425	4,342	6	8	18	14	9	10
Ill.	809	504	9,184	10,300	4	16	28	22	-	16
Mich.	153	213	8,535	7,936	12	14	14	14	4	12
Wis.	54	55	2,481	3,881	40	47	17	N	4	6
W.N. CENTRAL	299	286	12,069	13,944	28	33	91	82	64	80
Minn.	55	45	2,224	2,829	4	13	18	19	30	23
Iowa	26	37	1,576	1,511	7	7	18	9	4	3
Mo.	139	105	4,510	5,094	8	4	36	8	16	9
N. Dak.	-	4	61	327	2	2	6	3	4	2
S. Dak.	3	11	641	615	3	2	2	3	2	5
Nebr.	20	24	1,049	1,357	2	4	4	33	5	38
Kans.	56	60	2,008	2,211	2	1	7	7	3	-
S. ATLANTIC	3,641	4,078	41,422	51,231	83	106	48	50	24	35
Del.	65	50	1,092	1,052	2	-	-	3	-	-
Md.	392	466	4,269	4,885	5	6	8	3	1	-
D.C.	264	159	1,108	N	-	4	-	-	U	U
Va.	278	226	5,297	5,326	3	6	10	14	9	12
W. Va.	21	24	450	761	-	-	2	1	2	1
N.C.	195	268	7,440	8,219	7	1	8	9	2	10
S.C.	294	401	3,431	7,620	-	-	2	5	-	3
Ga.	357	583	7,016	12,329	50	67	5	3	5	U
Fla.	1,775	1,901	11,319	11,039	16	22	13	12	5	9
E.S. CENTRAL	639	631	18,122	16,452	16	5	28	30	21	19
Ky.	80	104	2,883	2,804	-	1	10	8	8	6
Tenn.	287	283	5,281	5,241	3	2	11	11	11	7
Ala.	169	111	5,947	3,808	8	1	1	6	-	5
Miss.	103	133	4,011	4,599	5	1	6	5	2	1
W.S. CENTRAL	1,128	1,545	31,353	32,424	12	41	21	22	35	23
Ark.	69	56	1,978	2,018	1	-	4	5	3	3
La.	232	161	6,753	5,256	-	18	-	3	8	3
Okla.	65	47	2,945	3,037	2	1	5	4	3	4
Tex.	762	1,281	19,677	22,113	9	22	12	10	21	13
MOUNTAIN	477	535	10,434	12,258	31	28	52	33	20	25
Mont.	6	4	571	509	3	2	8	2	-	-
Idaho	9	8	584	657	3	2	7	1	-	3
Wyo.	2	3	284	286	2	-	3	2	2	3
Colo.	99	102	1,198	2,463	9	4	17	13	7	5
N. Mex.	50	18	1,207	1,722	1	11	2	2	1	1
Ariz.	165	270	4,634	4,704	3	7	13	6	9	4
Utah	52	54	949	756	8	N	1	6	1	7
Nev.	94	76	1,007	1,161	2	2	1	1	-	2
PACIFIC	1,779	2,193	32,985	41,501	90	107	80	49	40	49
Wash.	202	115	4,556	4,503	N	N	14	12	22	19
Oreg.	47	50	1,799	2,284	3	10	12	12	13	12
Calif.	1,476	1,989	25,064	32,828	87	97	49	24	-	17
Alaska	5	6	897	723	-	-	1	-	-	-
Hawaii	49	33	669	1,163	-	-	4	1	5	1
Guam	13	1	-	176	-	-	N	N	U	U
P.R.	284	494	142	U	-	-	2	8	U	U
V.I.	18	13	-	U	-	U	-	U	U	U
Amer. Samoa	-	-	-	U	-	U	-	U	U	U
C.N.M.I.	-	-	-	U	-	U	-	U	U	U

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

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

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

§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update April 30, 2000.

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending May 13, 2000, and May 15, 1999 (19th Week)

Reporting Area	Gonorrhea		Hepatitis C; Non-A, Non-B		Legionellosis		Lyme Disease	
	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999
UNITED STATES	104,930	127,388	927	1,348	229	312	1,169	1,734
NEW ENGLAND	2,177	2,447	21	7	15	21	195	371
Maine	29	19	-	1	2	3	-	1
N.H.	34	23	-	-	2	2	18	-
Vt.	20	22	3	2	-	3	1	-
Mass.	970	961	18	1	8	5	83	98
R.I.	223	218	-	3	-	2	-	10
Conn.	901	1,204	-	-	3	6	93	262
MID. ATLANTIC	7,786	15,138	21	50	43	82	748	960
Upstate N.Y.	2,197	2,106	21	24	20	23	347	347
N.Y. City	824	5,686	-	-	-	10	4	29
N.J.	1,037	2,671	-	-	-	6	-	144
Pa.	3,728	4,675	-	26	23	43	397	440
E.N. CENTRAL	20,052	22,836	91	776	62	95	12	77
Ohio	4,577	6,005	3	-	30	28	11	13
Ind.	2,020	2,394	1	-	13	8	-	3
Ill.	6,329	7,297	5	19	4	12	1	2
Mich.	5,811	5,606	82	260	10	28	-	1
Wis.	1,315	1,534	-	497	5	19	U	58
W.N. CENTRAL	5,162	5,742	214	54	15	15	44	34
Minn.	873	1,057	1	-	1	1	11	8
Iowa	351	348	1	-	3	5	1	3
Mo.	2,657	2,752	197	51	8	6	9	16
N. Dak.	4	33	-	-	-	-	-	1
S. Dak.	92	55	-	-	1	1	-	-
Nebr.	349	612	1	3	-	2	-	2
Kans.	836	885	14	-	2	-	23	4
S. ATLANTIC	30,496	38,042	38	75	47	34	134	203
Del.	604	634	-	-	4	2	11	11
Md.	2,907	4,579	5	21	13	4	93	153
D.C.	805	2,435	-	-	-	-	-	1
Va.	3,678	3,501	1	7	3	8	13	9
W. Va.	118	236	3	11	N	N	4	4
N.C.	6,271	7,092	10	18	6	7	4	22
S.C.	3,879	3,979	-	12	2	6	-	2
Ga.	4,462	7,812	-	1	2	-	-	-
Fla.	7,772	7,774	19	5	17	7	9	1
E.S. CENTRAL	12,811	12,728	139	100	6	15	1	23
Ky.	1,177	1,243	16	5	4	7	-	2
Tenn.	4,019	4,018	32	37	1	6	1	8
Ala.	4,456	3,527	6	1	1	2	-	6
Miss.	3,159	3,940	85	57	-	-	-	7
W.S. CENTRAL	16,354	18,215	260	154	4	1	1	5
Ark.	1,065	945	3	9	-	-	-	-
La.	4,735	4,514	162	108	2	1	1	3
Okla.	1,284	1,564	2	3	1	-	-	2
Tex.	9,270	11,192	93	34	1	-	-	-
MOUNTAIN	3,588	3,357	81	77	15	22	-	4
Mont.	14	17	1	4	-	-	-	-
Idaho	26	33	-	4	1	-	-	-
Wyo.	25	10	50	29	1	-	-	1
Colo.	1,204	782	12	11	7	2	-	-
N. Mex.	263	295	5	12	1	1	-	1
Ariz.	1,535	1,694	10	13	2	3	-	-
Utah	102	80	-	2	3	10	-	1
Nev.	419	446	3	2	-	6	-	1
PACIFIC	6,504	8,883	62	55	22	27	34	57
Wash.	800	802	8	5	8	7	-	1
Oreg.	216	333	15	6	N	N	2	3
Calif.	5,295	7,458	39	44	14	19	32	53
Alaska	110	131	-	-	-	1	-	-
Hawaii	83	159	-	-	-	-	N	N
Guam	-	26	-	-	-	-	-	-
P.R.	170	141	1	-	-	-	N	N
V.I.	-	U	-	U	-	U	-	U
Amer. Samoa	-	U	-	U	-	U	-	U
C.N.M.I.	-	U	-	U	-	U	-	U

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

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending May 13, 2000, and May 15, 1999 (19th Week)

Reporting Area	Malaria		Rabies, Animal		Salmonellosis*			
					NETSS		PHLIS	
	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999
UNITED STATES	311	402	1,748	2,038	8,499	9,312	5,388	8,431
NEW ENGLAND	8	16	230	321	555	541	517	558
Maine	1	1	57	58	43	38	25	25
N.H.	-	-	3	18	40	26	39	26
Vt.	2	1	15	52	40	21	42	24
Mass.	3	6	77	72	314	316	288	314
R.I.	-	-	5	35	24	29	26	43
Conn.	2	8	73	86	94	111	97	126
MID. ATLANTIC	44	120	341	376	1,032	1,302	987	1,000
Upstate N.Y.	19	27	241	253	292	279	291	303
N.Y. City	15	55	U	U	252	370	401	385
N.J.	4	27	56	74	242	320	124	291
Pa.	6	11	44	49	246	333	171	21
E.N. CENTRAL	31	48	13	19	1,197	1,413	649	1,252
Ohio	4	8	3	6	302	281	204	241
Ind.	2	7	-	-	153	118	129	116
Ill.	13	21	-	-	388	442	1	461
Mich.	10	8	10	13	219	300	228	289
Wis.	2	4	-	-	135	272	87	145
W.N. CENTRAL	14	14	185	270	465	581	482	651
Minn.	4	2	28	36	46	161	154	211
Iowa	-	4	27	44	70	61	25	55
Mo.	1	7	5	10	192	185	167	220
N. Dak.	2	-	52	54	14	9	18	20
S. Dak.	-	-	40	80	25	23	24	30
Nebr.	1	-	-	1	36	57	37	45
Kans.	6	1	33	45	82	85	57	70
S. ATLANTIC	86	92	737	734	1,620	1,685	961	1,487
Del.	2	-	13	20	29	38	30	46
Md.	33	30	147	161	227	223	211	253
D.C.	2	8	-	-	1	34	U	U
Va.	18	19	197	173	195	205	160	172
W. Va.	-	1	45	42	43	29	33	28
N.C.	9	8	145	161	241	302	155	305
S.C.	1	-	49	56	133	96	84	104
Ga.	2	7	91	61	283	297	282	410
Fla.	19	19	50	60	468	461	6	169
E.S. CENTRAL	12	8	68	98	438	507	293	340
Ky.	2	2	10	20	92	114	55	83
Tenn.	3	3	39	32	113	129	131	133
Ala.	6	3	19	46	148	151	91	108
Miss.	1	-	-	-	85	113	16	16
W.S. CENTRAL	4	11	28	43	694	882	594	681
Ark.	1	2	-	-	92	93	22	73
La.	2	7	-	-	59	125	79	132
Okla.	1	1	28	43	87	98	63	68
Tex.	-	1	-	-	456	566	430	408
MOUNTAIN	18	16	69	66	890	827	559	778
Mont.	1	2	23	23	34	16	-	1
Idaho	-	1	-	-	45	29	-	35
Wyo.	-	-	22	25	18	9	3	11
Colo.	10	5	-	1	266	271	231	276
N. Mex.	-	2	4	-	65	95	50	98
Ariz.	2	4	19	17	245	231	176	180
Utah	3	1	1	-	133	112	99	124
Nev.	2	1	-	-	84	64	-	53
PACIFIC	94	77	77	111	1,608	1,574	346	1,684
Wash.	7	5	-	-	135	130	157	239
Oreg.	19	9	-	1	114	126	128	165
Calif.	66	58	63	105	1,272	1,204	-	1,180
Alaska	-	-	14	5	23	12	8	7
Hawaii	2	5	-	-	64	102	53	93
Guam	-	-	-	-	-	20	U	U
P.R.	-	-	16	34	24	158	U	U
V.I.	-	U	-	U	-	U	U	U
Amer. Samoa	-	U	-	U	-	U	U	U
C.N.M.I.	-	U	-	U	-	U	U	U

N: Not notifiable. U: Unavailable. -: No reported cases.
*Individual cases can be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending May 13, 2000, and May 15, 1999 (19th Week)

Reporting Area	Shigellosis*				Syphilis (Primary & Secondary)		Tuberculosis	
	NETSS		PHLIS					
	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999†
UNITED STATES	5,064	4,467	2,286	2,496	2,192	2,430	3,410	5,045
NEW ENGLAND	102	112	83	106	25	24	127	123
Maine	4	2	-	-	-	-	2	6
N.H.	1	6	4	5	-	-	2	1
Vt.	1	4	-	3	-	1	-	-
Mass.	67	70	55	64	21	14	81	59
R.I.	9	12	7	9	1	1	12	16
Conn.	20	18	17	25	3	8	30	41
MID. ATLANTIC	613	345	461	184	69	106	735	821
Upstate N.Y.	312	74	130	25	5	7	76	105
N.Y. City	254	112	264	86	23	44	409	401
N.J.	4	102	35	73	12	25	185	168
Pa.	43	57	32	-	29	30	65	147
E.N. CENTRAL	877	763	285	387	459	399	414	511
Ohio	70	221	41	44	28	32	94	75
Ind.	230	28	18	10	181	118	19	41
Ill.	250	279	2	248	111	164	229	261
Mich.	270	110	212	70	119	70	41	101
Wis.	57	125	12	15	20	15	31	33
W.N. CENTRAL	391	264	230	208	31	55	162	173
Minn.	49	34	82	40	2	6	56	70
Iowa	87	2	21	5	10	3	13	14
Mo.	210	184	106	135	14	39	68	63
N. Dak.	2	2	1	2	-	-	-	1
S. Dak.	1	7	-	4	-	-	8	3
Nebr.	18	21	9	11	2	4	6	8
Kans.	24	14	11	11	3	3	11	14
S. ATLANTIC	709	743	124	185	725	855	708	975
Del.	5	7	3	2	2	2	-	11
Md.	37	47	10	9	115	171	83	85
D.C.	-	24	U	U	20	46	2	15
Va.	38	27	26	7	52	63	57	83
W. Va.	2	4	2	1	1	2	15	16
N.C.	42	74	16	41	220	197	102	152
S.C.	18	37	7	13	73	97	26	122
Ga.	87	82	28	28	116	150	137	196
Fla.	480	441	32	84	126	127	286	295
E.S. CENTRAL	248	399	174	223	350	442	230	306
Ky.	46	40	28	26	34	44	35	42
Tenn.	136	281	134	177	224	227	102	93
Ala.	13	46	9	19	44	112	93	116
Miss.	53	32	3	1	48	59	-	55
W.S. CENTRAL	634	846	515	307	310	349	99	763
Ark.	74	41	3	21	44	27	61	55
La.	54	65	38	47	77	77	1	U
Okla.	13	181	8	55	64	75	37	35
Tex.	493	559	466	184	125	170	-	673
MOUNTAIN	349	246	132	143	74	70	144	151
Mont.	2	4	-	-	-	-	4	5
Idaho	28	4	-	3	-	-	3	-
Wyo.	1	2	1	1	1	-	-	1
Colo.	58	44	29	32	2	1	12	U
N. Mex.	38	35	17	20	8	5	19	21
Ariz.	134	128	61	64	61	61	66	76
Utah	28	16	24	17	-	1	12	16
Nev.	60	13	-	6	2	2	28	32
PACIFIC	1,141	749	282	753	149	130	791	1,222
Wash.	224	33	222	43	20	28	72	56
Oreg.	87	25	51	24	2	2	6	38
Calif.	807	672	-	667	127	98	648	1,047
Alaska	7	-	1	-	-	1	27	24
Hawaii	16	19	8	19	-	1	38	57
Guam	-	4	U	U	-	-	-	-
P.R.	1	32	U	U	49	75	-	61
V.I.	-	U	U	U	-	U	-	U
Amer. Samoa	-	U	U	U	-	U	-	U
C.N.M.I.	-	U	U	U	-	U	-	U

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

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

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending May 13, 2000, and May 15, 1999 (19th Week)

Reporting Area	*H. influenzae*, Invasive		Hepatitis (Viral), By Type				Measles (Rubeola)					
			A		B		Indigenous		Imported*		Total	
	Cum. 2000†	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	2000	Cum. 2000	2000	Cum. 2000	Cum. 2000	Cum. 1999
UNITED STATES	437	471	4,057	6,888	1,843	2,360	-	12	-	4	16	50
NEW ENGLAND	31	35	93	78	17	55	-	-	-	-	-	9
Maine	1	3	6	2	3	-	-	-	-	-	-	-
N.H.	6	6	11	7	8	4	-	-	-	-	-	1
Vt.	2	4	3	1	3	1	-	-	-	-	-	-
Mass.	15	15	39	25	3	24	-	-	-	-	-	6
R.I.	1	-	1	7	-	10	-	-	-	-	-	-
Conn.	6	7	33	36	-	16	-	-	-	-	-	2
MID. ATLANTIC	61	71	170	444	185	343	-	-	-	-	-	2
Upstate N.Y.	29	29	84	91	41	73	-	-	-	-	-	2
N.Y. City	13	23	86	116	144	114	-	-	-	-	-	-
N.J.	15	18	-	57	-	39	-	-	-	-	-	-
Pa.	4	1	-	180	-	117	-	-	-	-	-	-
E.N. CENTRAL	57	72	519	1,317	232	205	-	3	-	-	3	1
Ohio	26	25	122	301	37	38	-	2	-	-	2	-
Ind.	8	11	20	47	20	10	-	-	-	-	-	1
Ill.	19	29	183	256	38	-	-	-	-	-	-	-
Mich.	4	7	181	674	136	140	-	1	-	-	1	-
Wis.	-	-	13	39	1	17	-	-	-	-	-	-
W.N. CENTRAL	16	22	437	292	164	105	-	1	-	-	1	-
Minn.	7	12	49	21	7	13	-	-	-	-	-	-
Iowa	-	1	39	61	19	19	-	-	-	-	-	-
Mo.	4	2	246	167	112	61	-	-	-	-	-	-
N. Dak.	1	-	-	1	2	-	-	-	-	-	-	-
S. Dak.	-	1	-	8	-	-	-	-	-	-	-	-
Nebr.	1	3	11	27	9	10	U	-	U	-	-	-
Kans.	3	3	92	7	15	2	-	1	-	-	1	-
S. ATLANTIC	125	102	489	581	402	354	-	-	-	-	-	4
Del.	-	-	-	2	-	-	-	-	-	-	-	-
Md.	26	30	63	127	40	76	-	-	-	-	-	-
D.C.	-	2	2	30	6	10	U	-	U	-	-	-
Va.	24	10	54	51	54	39	-	-	-	-	-	3
W. Va.	3	2	35	7	2	10	-	-	-	-	-	-
N.C.	10	19	82	49	109	83	-	-	-	-	-	-
S.C.	6	2	14	10	3	35	-	-	-	-	-	-
Ga.	37	25	58	174	54	40	-	-	-	-	-	-
Fla.	19	12	181	131	134	61	-	-	-	-	-	1
E.S. CENTRAL	23	35	135	169	109	174	-	-	-	-	-	2
Ky.	9	5	18	32	30	12	-	-	-	-	-	2
Tenn.	11	17	21	73	28	76	-	-	-	-	-	-
Ala.	3	11	25	31	17	44	-	-	-	-	-	-
Miss.	-	2	71	33	34	42	-	-	-	-	-	-
W.S. CENTRAL	26	33	738	1,764	121	376	-	-	-	-	-	3
Ark.	-	1	73	17	35	26	-	-	-	-	-	-
La.	6	9	26	62	45	72	-	-	-	-	-	-
Okla.	19	21	125	217	36	46	-	-	-	-	-	-
Tex.	1	2	514	1,468	5	232	-	-	-	-	-	3
MOUNTAIN	53	50	338	603	161	222	-	8	-	1	9	-
Mont.	-	1	1	9	3	10	-	-	-	-	-	-
Idaho	2	1	13	21	4	12	-	-	-	-	-	-
Wyo.	-	1	6	3	-	2	-	-	-	-	-	-
Colo.	11	6	65	103	34	36	-	1	-	1	2	-
N. Mex.	10	10	32	20	37	78	-	-	-	-	-	-
Ariz.	25	26	175	374	61	50	-	-	-	-	-	-
Utah	4	4	21	23	5	10	-	3	-	-	3	-
Nev.	1	1	25	50	17	24	-	4	-	-	4	-
PACIFIC	45	51	1,138	1,640	452	526	-	-	-	3	3	29
Wash.	3	1	105	98	22	21	-	-	-	-	-	5
Oreg.	13	18	91	108	36	46	-	-	-	-	-	10
Calif.	15	27	937	1,424	386	447	-	-	-	3	3	14
Alaska	1	4	5	4	3	7	-	-	-	-	-	-
Hawaii	13	1	-	6	5	5	-	-	-	-	-	-
Guam	-	-	-	2	-	2	U	-	U	-	-	1
P.R.	-	1	40	110	24	105	-	-	-	-	-	-
V.I.	-	U	-	U	-	U	U	-	U	-	-	U
Amer. Samoa	-	U	-	U	-	U	U	-	U	-	-	U
C.N.M.I.	-	U	-	U	-	U	U	-	U	-	-	U

N: Not notifiable. U: Unavailable. - : No reported cases.
*For imported measles, cases include only those resulting from importation from other countries.
†Of 99 cases among children aged <5 years, serotype was reported for 42 and of those, 9 were type b.

TABLE III. (Cont'd) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending May 13, 2000, and May 15, 1999 (19th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 2000	Cum. 1999	2000	Cum. 2000	Cum. 1999	2000	Cum. 2000	Cum. 1999	2000	Cum. 2000	Cum. 1999
UNITED STATES	924	1,065	10	143	152	79	1,602	2,176	15	43	57
NEW ENGLAND	55	54	-	2	3	8	412	209	-	5	7
Maine	3	3	-	-	-	1	11	-	-	-	-
N.H.	4	9	-	-	1	2	54	36	-	1	-
Vt.	2	4	-	-	-	2	85	9	-	-	-
Mass.	36	30	-	-	2	2	237	153	-	3	7
R.I.	3	2	-	1	-	1	7	3	-	-	-
Conn.	7	6	-	1	-	-	18	8	-	1	-
MID. ATLANTIC	85	107	1	9	18	2	131	478	-	2	7
Upstate N.Y.	21	28	1	6	3	2	76	417	-	2	3
N.Y. City	21	36	-	-	3	-	-	10	-	-	-
N.J.	21	17	-	-	-	-	-	12	-	-	1
Pa.	22	26	-	3	12	-	55	39	-	-	3
E.N. CENTRAL	160	190	1	17	19	6	205	171	-	-	-
Ohio	33	70	1	7	6	4	146	94	-	-	-
Ind.	22	22	-	-	2	2	19	9	-	-	-
Ill.	35	54	-	3	4	-	18	27	-	-	-
Mich.	56	22	-	7	7	-	12	17	-	-	-
Wis.	14	22	-	-	-	-	10	24	-	-	-
W.N. CENTRAL	72	115	-	10	6	4	65	61	-	2	21
Minn.	3	26	-	-	1	4	36	18	-	-	-
Iowa	15	22	-	4	3	-	11	13	-	-	1
Mo.	46	40	-	1	1	-	9	14	-	-	-
N. Dak.	1	3	-	-	-	-	1	-	-	-	-
S. Dak.	4	5	-	-	-	-	1	2	-	-	-
Nebr.	1	7	U	2	-	U	2	1	U	-	20
Kans.	2	12	-	3	1	-	5	13	-	2	-
S. ATLANTIC	150	146	2	24	27	10	143	101	13	28	2
Del.	-	2	-	-	-	-	1	-	-	-	-
Md.	15	26	-	5	4	3	35	36	-	-	1
D.C.	-	1	U	-	2	U	-	-	U	-	-
Va.	26	22	-	4	8	-	13	13	-	-	-
W. Va.	3	2	-	-	-	-	-	1	-	-	-
N.C.	26	21	-	3	5	1	39	25	12	20	1
S.C.	10	20	-	6	2	-	16	7	-	6	-
Ga.	24	27	1	2	-	2	18	9	-	-	-
Fla.	46	25	1	4	6	4	21	10	1	2	-
E.S. CENTRAL	64	84	-	4	3	-	29	46	-	4	1
Ky.	13	16	-	-	-	-	16	12	-	1	-
Tenn.	31	30	-	2	-	-	4	23	-	-	-
Ala.	17	21	-	1	1	-	8	9	-	3	1
Miss.	3	17	-	1	2	-	1	2	-	-	-
W.S. CENTRAL	79	98	2	7	20	6	37	60	1	1	5
Ark.	6	19	-	1	-	-	8	4	-	-	-
La.	25	37	-	3	2	-	3	2	-	-	-
Okla.	18	18	-	-	1	3	3	8	-	-	-
Tex.	30	24	2	3	17	3	23	46	1	1	5
MOUNTAIN	52	75	2	11	8	21	310	238	1	1	12
Mont.	1	-	-	1	-	-	6	1	-	-	-
Idaho	6	8	-	-	-	1	37	88	-	-	-
Wyo.	-	2	1	1	-	-	-	2	-	-	-
Colo.	13	20	-	1	3	15	169	60	1	1	-
N. Mex.	7	9	-	1	N	3	57	15	-	-	-
Ariz.	16	26	-	-	-	1	32	42	-	-	10
Utah	7	5	-	4	4	1	6	28	-	-	1
Nev.	2	5	1	3	1	-	3	2	-	-	1
PACIFIC	207	196	2	59	48	22	270	812	-	-	2
Wash.	22	26	1	3	1	20	98	413	-	-	-
Oreg.	27	37	N	N	N	2	28	14	-	-	-
Calif.	151	124	-	51	41	-	135	365	-	-	2
Alaska	3	5	1	4	1	-	5	3	-	-	-
Hawaii	4	4	-	1	5	-	4	17	-	-	-
Guam	-	-	U	-	1	U	-	1	U	-	-
P.R.	2	7	-	-	-	-	-	5	-	-	-
V.I.	-	U	U	-	U	U	-	U	U	-	U
Amer. Samoa	-	U	U	-	U	U	-	U	U	-	U
C.N.M.I.	-	U	U	-	U	U	-	U	U	-	U

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

TABLE IV. Deaths in 122 U.S. cities,* week ending May 13, 2000 (19th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	598	432	103	40	13	10	58
Boston, Mass.	168	106	41	11	3	7	25
Bridgeport, Conn.	47	31	12	4	-	-	-
Cambridge, Mass.	9	6	2	1	-	-	-
Fall River, Mass.	27	23	3	-	-	1	3
Hartford, Conn.	42	28	8	3	2	1	6
Lowell, Mass.	23	18	1	4	-	-	2
Lynn, Mass.	12	11	1	-	-	-	-
New Bedford, Mass.	31	26	3	1	1	-	3
New Haven, Conn.	47	27	12	7	1	-	5
Providence, R.I.	64	54	5	1	4	-	1
Somerville, Mass.	6	3	1	2	-	-	-
Springfield, Mass.	38	31	4	2	1	-	2
Waterbury, Conn.	33	26	4	2	-	1	2
Worcester, Mass.	51	42	6	2	1	-	9
MID. ATLANTIC	2,280	1,620	432	173	26	28	127
Albany, N.Y.	55	40	10	4	-	1	4
Allentown, Pa.	U	U	U	U	U	U	U
Buffalo, N.Y.	77	60	12	4	-	1	14
Camden, N.J.	39	27	6	4	1	1	5
Elizabeth, N.J.	16	12	3	1	-	-	-
Erie, Pa.§	37	28	8	1	-	-	3
Jersey City, N.J.	50	35	11	4	-	-	-
New York City, N.Y.	1,195	836	241	92	11	14	53
Newark, N.J.	67	34	18	8	4	3	3
Paterson, N.J.	14	7	2	2	1	2	-
Philadelphia, Pa.	362	264	65	25	3	5	19
Pittsburgh, Pa.§	54	33	13	5	3	-	3
Reading, Pa.	30	24	4	1	1	-	1
Rochester, N.Y.	145	114	20	9	2	-	12
Schenectady, N.Y.	20	14	5	1	-	-	2
Scranton, Pa.§	24	21	1	1	-	1	2
Syracuse, N.Y.	62	46	9	7	-	-	5
Trenton, N.J.	20	15	3	2	-	-	1
Utica, N.Y.	13	10	1	2	-	-	-
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	2,064	1,443	379	142	43	57	141
Akron, Ohio	54	37	8	4	2	3	5
Canton, Ohio	30	24	6	-	-	-	3
Chicago, Ill.	398	256	80	43	8	11	39
Cincinnati, Ohio	109	83	18	3	2	3	10
Cleveland, Ohio	132	95	16	16	4	1	5
Columbus, Ohio	184	131	33	12	1	7	12
Dayton, Ohio	117	85	22	6	3	1	15
Detroit, Mich.	204	119	58	16	3	8	11
Evansville, Ind.	50	33	13	2	1	1	3
Fort Wayne, Ind.	62	43	9	4	2	4	4
Gary, Ind.	29	15	11	1	1	1	2
Grand Rapids, Mich.	46	31	7	2	1	5	3
Indianapolis, Ind.	212	144	40	16	9	3	6
Lansing, Mich.	42	32	7	1	1	1	5
Milwaukee, Wis.	129	101	20	4	1	3	3
Peoria, Ill.	46	38	3	2	-	3	2
Rockford, Ill.	48	36	10	2	-	-	2
South Bend, Ind.	29	24	2	-	3	-	1
Toledo, Ohio	105	84	11	7	1	2	7
Youngstown, Ohio	38	32	5	1	-	-	3
W.N. CENTRAL	769	559	131	41	24	14	54
Des Moines, Iowa	61	44	14	-	-	3	7
Duluth, Minn.	U	U	U	U	U	U	U
Kansas City, Kans.	43	31	7	4	1	-	5
Kansas City, Mo.	80	55	18	4	3	-	3
Lincoln, Nebr.	35	28	4	1	2	-	2
Minneapolis, Minn.	181	136	29	11	4	1	15
Omaha, Nebr.	75	52	14	4	3	2	6
St. Louis, Mo.	95	64	16	5	5	5	-
St. Paul, Minn.	96	78	11	5	2	-	9
Wichita, Kans.	103	71	18	7	4	3	7
S. ATLANTIC	1,136	722	236	113	33	32	75
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	238	152	48	30	6	2	15
Charlotte, N.C.	109	73	19	7	3	7	8
Jacksonville, Fla.	139	91	22	15	7	4	6
Miami, Fla.	103	56	25	16	2	4	3
Norfolk, Va.	58	38	12	5	2	1	3
Richmond, Va.	63	33	16	8	3	3	5
Savannah, Ga.	70	48	13	4	3	2	11
St. Petersburg, Fla.	52	39	8	4	-	1	6
Tampa, Fla.	180	122	36	12	4	6	13
Washington, D.C.	104	62	25	12	3	2	5
Wilmington, Del.	20	8	12	-	-	-	-
E.S. CENTRAL	851	570	167	76	21	15	76
Birmingham, Ala.	162	116	28	13	-	3	14
Chattanooga, Tenn.	72	34	17	14	7	-	4
Knoxville, Tenn.	93	71	12	7	1	2	4
Lexington, Ky.	62	45	14	2	1	-	9
Memphis, Tenn.	228	150	49	16	7	6	15
Mobile, Ala.	55	34	13	5	1	2	6
Montgomery, Ala.	43	33	7	2	-	1	8
Nashville, Tenn.	136	87	27	17	4	1	16
W.S. CENTRAL	1,401	885	294	114	60	47	92
Austin, Tex.	60	37	12	9	-	1	2
Baton Rouge, La.	40	27	10	2	1	-	1
Corpus Christi, Tex.	39	26	7	2	-	4	4
Dallas, Tex.	164	96	35	20	5	8	6
El Paso, Tex.	114	81	18	6	6	3	6
Ft. Worth, Tex.	124	77	29	10	3	5	10
Houston, Tex.	325	203	81	18	12	11	23
Little Rock, Ark.	62	38	12	7	3	2	3
New Orleans, La.	79	42	5	10	20	2	-
San Antonio, Tex.	210	130	47	22	6	5	22
Shreveport, La.	52	33	12	3	2	2	8
Tulsa, Okla.	132	95	26	5	2	4	7
MOUNTAIN	900	599	168	82	24	27	64
Albuquerque, N.M.	89	61	15	8	2	3	7
Boise, Idaho	49	33	10	3	1	2	4
Colo. Springs, Colo.	57	47	5	3	1	1	2
Denver, Colo.	U	U	U	U	U	U	U
Las Vegas, Nev.	209	119	50	30	4	6	19
Ogden, Utah	30	23	5	1	1	-	3
Phoenix, Ariz.	191	126	33	19	5	8	16
Pueblo, Colo.	26	19	6	1	-	-	-
Salt Lake City, Utah	115	67	26	10	6	6	10
Tucson, Ariz.	134	104	18	7	4	1	3
PACIFIC	1,003	736	163	71	16	16	94
Berkeley, Calif.	19	12	3	4	-	-	3
Fresno, Calif.	111	83	19	9	-	-	10
Glendale, Calif.	U	U	U	U	U	U	U
Honolulu, Hawaii	64	38	19	5	-	2	3
Long Beach, Calif.	80	61	12	5	1	1	9
Los Angeles, Calif.	U	U	U	U	U	U	U
Pasadena, Calif.	23	16	3	3	1	-	5
Portland, Oreg.	104	76	18	5	3	2	8
Sacramento, Calif.	150	116	19	9	5	1	16
San Diego, Calif.	169	127	18	16	2	6	11
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	U	U	U	U	U	U	U
Santa Cruz, Calif.	27	19	6	2	-	-	3
Seattle, Wash.	122	84	23	9	2	4	17
Spokane, Wash.	55	45	8	2	-	-	6
Tacoma, Wash.	79	59	15	2	2	-	3
TOTAL	11,002¶	7,566	2,073	852	260	246	781

U: Unavailable. -:No reported cases.

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

†Pneumonia and influenza.

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

¶Total includes unknown ages.

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