100,000 children aged <5 years in 1987 to approximately 0.11 cases per 100,000 in 2007. As with other bacterial diseases in which acquisition of carriage is necessary for development of invasive disease, reductions in asymptomatic carriage and transmission are substantial contributors to the reduction in Hib disease achieved through vaccination programs. This herd immunity provided by high vaccination coverage provides additional protection both for fully vaccinated and unvaccinated persons.

Three of the five Hib cases in Minnesota occurred in children who had not been vaccinated. One case occurred in a child who was too young to complete the primary series, and a fifth case occurred in a child with an immunodeficiency. Given the prolonged booster dose deferral and reduced primary series coverage in the state, the increase in the number of Hib cases likely reflects increasing carriage and transmission affecting those with suboptimal primary series vaccination coverage, or a weakening of herd immunity. None of the children failed to receive vaccine because of the vaccine shortage. However, MDH is planning evaluations to describe the extent of Hib carriage in the affected communities and understand reasons why some children are not vaccinated. While the shortage continues, completion of the primary series in all children is essential to safeguard individual protection as well as to strengthen herd immunity.

The current Hib vaccine supply in the United States is sufficient to ensure completion of the primary series for all children, but not yet to resume the booster dose. However, vaccine shortages are difficult to manage. Health-care providers must maintain sufficient stocks on hand for every child brought for vaccination each day. During shortages, local supply/demand mismatches can occur, resulting in missed doses. HIB vaccine supply problems can be further complicated because the primary series for the recalled products consists of 2 doses, but the primary series for the available products consists of 3 doses. Regardless of brand or product used, full vaccination with the primary series of Hib vaccine by age 7 months is critical to protect children from disease. Providers who have questions regarding Hib vaccine supply needed to complete the primary vaccine series should contact their state health departments. Combination products may be used for any or all doses of the Hib primary series. Further, if combination vaccines are the only vaccines available to providers, a combination product should be used to complete the primary Hib series, even when this results in receipt of additional doses of another antigen. In response to the findings described in this report, MDH is working with vaccination providers and other partners to resolve any local supply problems. As the vaccine supply resolves, MDH will expedite resumption of the booster dose in communities where Hib cases have been reported.

Invasive Hib disease in children aged <5 years is a nationally notifiable condition. Health-care providers should promptly report all suspected cases of Hib to their local health department. CDC routinely analyzes national surveillance data for invasive Hib disease in children aged <5 years. As of January 13, 2009, no other increases in Hib cases in children aged <5 years had been reported from other states or territories. CDC is working with health departments to identify areas of suboptimal primary Hib series coverage that might lead to increased transmission and disease. Prompt recognition and reporting of Hib cases is important both in understanding the impact of the Hib vaccine shortage and in guiding recommendations for resuming routine booster vaccination and catch-up of undervaccinated children.

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10 Available.

*Capsular polysaccharide polyribosomal phosphate (PRP)–outer membrane protein (OMP).
†PRP–tetanus toxoid.

Deaths From Chronic Obstructive Pulmonary Disease—United States, 2000-2005

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2 figures, 2 tables omitted

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) is a heterogeneous group of slowly progressive diseases characterized by airflow obstruction that interferes with normal breathing. In 2005, approximately one in 20 deaths in the United States had COPD as the underlying cause. Smoking is estimated to be responsible for at least 75% of COPD deaths. Excess health-care expenditures are estimated at nearly $6,000 annually for every COPD patient in the United States. To update national estimates of deaths from COPD for the period 2000-2005 (the most recent years for which data are available), CDC analyzed data from the National Vital Statistics System (NVSS). Results of that analysis indicated that an estimated 126,005 deaths of persons aged ≥25 years occurred in 2005 with COPD as the underlying cause, an increase of 8% from 116,494 deaths in 2000. Age-standardized COPD mortality rates remained fairly stable during the period overall but decreased among men and increased among women. To decrease the number and rate of COPD deaths, public health programs should continue efforts to reduce all personal exposure to (1) tobacco smoke, including passive smoke exposure; (2) occupational dusts and chemicals; and (3) other indoor and outdoor air pollutants linked to COPD. Once COPD is diagnosed, chronic disease management programs should work to prevent further deterioration in lung function and reduce COPD mortality.

The numbers of deaths for which COPD was the underlying cause and population estimates for calculation of rates were obtained from the CDC Wonder compressed mortality data.
base† of the National Vital Statistics System. International Classification of Diseases, Tenth Revision (ICD-10) codes were used to identify cases of COPD.‡ Annual age-, sex-, and race-specific rates (per 100,000 population) of death from COPD during 2000-2005 were computed by dividing the number of COPD deaths by midyear population estimates, using the 2000 U.S. standard population aged ≥25 years for direct age standardization. Rate calculations were restricted to adults aged ≥25 years because this group accounted for 99.9% of all COPD deaths.

During 2000-2005, COPD was the underlying cause of death for 718,077 persons overall aged ≥25 years in the United States. The number of deaths from COPD increased from 116,494 in 2000 to 121,267 in 2003, decreased to 117,134 in 2004, and increased to 126,005 in 2005. Age-standardized death rates per 100,000 population decreased during 2000-2004; the rate in 2005 was similar to that for 2003.

From 2000 to 2005, the annual number of deaths from COPD increased 5% among men, and the number of deaths was higher in 2005 than in 2004. The death rate for men declined during 2000-2005 and was lower in 2004 than in 2005. Among women, the annual number of deaths increased 11% from 2000 to 2005 and was lower in 2005 than in 2004. The death rate for women increased from 2000 to 2003, decreased in 2004, and increased in 2005. The death rate was higher for men compared with the rate for women in each year, but the number of deaths was greater for women.

For each year during 2000-2005, COPD mortality rates were higher among whites than among blacks or persons of all other races. During this period, the rate for blacks remained stable, except for 2004, when the rate was lower. In 2005, the death rate among white men was 80.2 (95% confidence interval [CI]=79.5-80.9) compared with 63.8 (CI=61.8-65.8) among black men, 60.3 (CI=59.8-60.8) among white women, and 29.9 (CI=28.9-30.9) among black women. By state, in 2005, age-standardized death rates from COPD for adults aged ≥25 years ranged from 27.1 per 100,000 in Hawaii to 93.6 per 100,000 population in Oklahoma. States with COPD death rates in the highest quartile were as follows: Idaho, Indiana, Kansas, Kentucky, Maine, Montana, Nevada, Ohio, Oklahoma, Vermont, West Virginia, and Wyoming. Among adults aged 25-64 years, rates ranged from 6.2 (Massachusetts and New Jersey) to 19.2 (Oklahoma) per 100,000 population for men and from 3.8 (New Jersey) to 16.5 (West Virginia) in women. Among adults aged ≥65 years, rates ranged from 169.0 (Hawaii) to 540.4 (Vermont) per 100,000 population in men and from 94.7 (Hawaii) to 394.9 (Nebraska) in women.

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CDC Editorial Note: From 1980 to 2000, the COPD death rate in the United States among women aged ≥25 years increased from 20.1 to 56.7 per 100,000 population, while the rate for men aged ≥25 years increased from 73.0 to 82.6 per 100,000 population. The findings in this report indicate that, during 2000-2005, the overall age-standardized mortality rate from COPD in the United States was fairly stable, but the absolute number of COPD deaths increased 8% from 2000 to 2005. During the period, more women than men died from COPD, and death rates from COPD increased among women while rates decreased among men. The difference in mortality rates between men and women might reflect a delay in mortality related to smoking exposure among women relative to men in the United States in the second half of the 20th century. In addition, women might be more susceptible to COPD as a result of sex differences in xenobiotic metabolism, hormones that modify detoxifying enzymes, airway inflammation and responsiveness, and particle deposition. The changes in death rates observed in 2004 and 2005 for men, women, and overall suggest a need for continued monitoring to assess whether changes are trending in a more favorable or less favorable pattern.

State-specific variations in COPD mortality might reflect differences in smoking histories and/or differences in other exposures such as occupational exposure across states. Occupational exposure to dust, fumes, and gases accounts for approximately 15% of COPD cases.

The findings in this report are subject to at least two limitations. First, data are subject to misclassification of race both in the population census and on death certificates, which might result in overreporting or underreporting of deaths or rates for certain racial groups. Second, data on underlying cause of death might be subject to errors in diagnosis and reporting on the death certificate.

Public health programs that focus on reducing total personal exposure to tobacco smoke, occupational dusts and chemicals, and other indoor and outdoor air pollutants are critically important. Although current evidence does not support population screening using office spirometry to detect COPD, patients should be identified and treated as early as possible in the course of the disease. Disease prevention is the ultimate goal, but once COPD has been diagnosed, effective management should be aimed at relieving symptoms; preventing disease progression; improving exercise tolerance, daily activity, and health status; preventing and treating complications and exacerbations; and reducing mortality. No treatment has been shown to effectively modify the rate of decline in lung function; however, evidence supports the use of bronchodilators as the primary pharmacologic therapy to prevent and control symptoms, reduce the frequency and severity of acute exacerbations, and improve quality of life. Physicians should be aware of the availability of clinical practice guidelines for the diagnosis and management of COPD and guidelines on smoking cessation among COPD patients.

COPD represents an important public health challenge that is both preventable and treatable. Globally, the COPD burden is projected to increase...
in coming decades because of continued exposure to COPD risk factors and aging of the population. Further efforts to improve public recognition of COPD as a public health problem and to increase awareness of COPD symptoms are needed.

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Motor Vehicle-Related Death Rates—United States, 1999-2005

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3 tables omitted

In 2005, the most recent year for which data are available, 45,520 deaths in the United States were related to motor vehicles. A Healthy People 2010 objective calls for reducing the rate of deaths related to motor vehicles to 9.2 per 100,000 population from a baseline of 15.6 in 1998. To assess progress toward the Healthy People objective and to examine characteristics of motor vehicle-related death rates, CDC analyzed data from the National Vital Statistics System (NVSS) for the period 1999-2005. This report summarizes the results of that analysis, which determined that, during 1999-2005, although annual age-adjusted motor vehicle-related death rates overall were nearly unchanged (range: 15.2-15.7 per 100,000 population), substantial differences were observed by state, U.S. Census region, sex, race, and age group. Among states, the average annual death rate ranged from 7.9 per 100,000 population in Massachusetts to 31.9 in Mississippi. Among regions, the rate ranged from 9.8 per 100,000 population in the Northeast to 19.5 in the South. The rate for men (21.7 per 100,000 population) was more than double the rate for women (9.4); the rate for American Indians/Alaska Natives (27.2) was nearly twice the rate for whites (15.7) and blacks (15.2), and the rate for persons aged 15-24 years (26.8) was 74% higher than the average annual rate overall (15.4). Additional analysis and research to determine the causes of geographic and demographic variations in motor vehicle-related deaths might result in more effective targeted interventions among the states, regions, and populations at greatest risk.

NVSS data were obtained from CDC's Web-based Injury Statistics and Query System, an interactive surveillance system that provides customized reports of injury-related deaths based on death certificate records from state vital statistics offices. CDC analyzed data on motor vehicle-related deaths for the period 1999-2005, the most recent years for which data were available, using codes from the International Classification of Diseases, 10th Revision (ICD-10). Because the mortality coding system in the United States changed significantly from ICD-9 to ICD-10 in 1999, analysis was limited to data for the period 1999-2005 to ensure appropriate comparisons of data from year to year. Bridged-race population estimates from the U.S. Census were used to calculate death rates. Rates were age adjusted to the 2000 standard U.S. population. Negative binomial regression was used to determine the statistical significance (p<0.05) of changes in rates from 1999 to 2005. Data were analyzed by state, census region, sex, race (regardless of Hispanic ethnicity), and age group.

During 1999-2005, a total of 311,356 motor vehicle-related deaths occurred in the United States. The overall average annual age-adjusted rate for this period was 15.4 deaths per 100,000 population (range: 15.2-15.7 per 100,000 population); the annual death rate decreased by 1% from 1999 to 15.2 in 2005. Of the motor vehicle-related deaths in the United States during 1999-2005, a total of 141,780 (46%) occurred in the South census region. The average annual death rate was highest in the South (19.5 per 100,000 population), followed by the Midwest (14.7), West (14.2), and Northeast (9.8). By state, the average annual death rate was highest in Mississippi (31.9 per 100,000 population), followed by Wyoming (27.7), Arkansas (25.6), Montana (25.6), and Alabama (25.1). In four states and the District of Columbia (DC), the average annual death rate was below the Healthy People target of 9.2 per 100,000 population: Massachusetts (7.9), New York (8.4), Rhode Island (8.5), DC (8.4), and New Jersey (9.0). During 1999-2005, the average annual death rate for males (21.7 deaths per 100,000 population) in the United States was more than twice the rate for females (9.4). By race, the average annual death rate was highest among