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 asymptom-
atic 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 under-vaccinated 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 immunodefi-
ciency. Given the prolonged booster dose deferral and reduced primary series
coverage in the state, the increase in the number of Hib cases likely reflects in-
creasing 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 plan-
ing evaluations to describe the extent of Hib carriage in the affected commu-
nities and understand reasons why some children are not vaccinated. While the
shortage continues, completion of the primary series in all children is essen-
tial to safeguard individual protection as well as to strengthen herd immunity.

The current Hib vaccine supply in the United States is sufficient to ensure comple-
tion of the primary series for all children, but not yet to resume the booster dose. However, vaccine short-
ages are difficult to manage. Health-care providers must maintain sufficient
stocks on hand for every child brought for vaccination each day. During short-
ages, local supply/demand mismatches can occur, resulting in missed doses. Hib vaccine supply problems can be fur-
ther 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. Re-
gardless of brand or product used, full vaccination with the primary series of Hib vaccine by age 7 months is critical to pro-
tect 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 an-
other antigen. In response to the findings described in this report, MDH is work-
ing 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 con-
dition. Health-care providers should promptly report all suspected cases of Hib
to their local health department. CDC routinely analyzes national surveil-
ance data for invasive Hib disease in children aged <5 years. As of Janu-
ary 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 de-
partments to identify areas of suboptimal primary Hib series coverage that
might lead to increased transmission and disease. Prompt recognition and re-
porting of Hib cases is important both in understanding the impact of the Hib
vaccine shortage and in guiding recom-

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ir, S Ersted, J Triden, J Harper, MS, K Como-Sabetti,
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REFERENCES

10 Available.

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

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

MMWR. 2008;57:1229-1232

2 figures, 2 tables omitted

CHRONIC OBSTRUCTIVE PULMONARY DIS-

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CHRONIC OBSTRUCTIVE PULMONARY DIS-

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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 (Nevada) in women.

Reported by: DW Brown, JB Croft, PhD, KJ Greenland, PhD, WH Giles, MD, Div of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

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

MMWR. 2009;58:161-165

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 15.3 in 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

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