states and DC, with a focus on developing and sustaining population-based strategies that target an identified area of a state or segment of the population.[10] The goal of the program is to increase state capacity to address the issues related to control and prevention of heart disease, stroke, and related risk factors (e.g., hypertension and high levels of low-density lipoprotein cholesterol). Examples of preventive interventions include the enhancement of clinical-based management of treatment for hypertension and high cholesterol and the promotion of patient use of home blood pressure monitoring. The data from this report can help health planners develop more targeted prevention programs for states and populations with greater CHD prevalence (e.g., American Indian/Alaska Native men and black women). Development of effective prevention programs targeting populations with greater CHD prevalence should reduce risk factors and CHD incidence, which will continue the decline in both CHD prevalence and CHD deaths.

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*All respondents categorized by race were non-Hispanic. Hispanic respondents might be of any race.

Current Cigarette Smoking Prevalence Among Working Adults— United States, 2004-2010

MMWR. 2011;60:1305-1309

1 table omitted

CIGARETTE SMOKING IS AMONG THE MOST important modifiable risk factors for adverse health outcomes and a major cause of morbidity and mortality.[1] Current cigarette smoking prevalence among all adults aged ≥18 years has decreased 42.4% since 1965, but declines in current smoking prevalence have slowed during the past 5 years (declining from 20.9% in 2005 to 19.3% in 2010) and did not meet the *Healthy People 2010* (HP2010) objective to reduce cigarette smoking among adults to ≤12%.[1-3] Targeted workplace tobacco control interventions have been effective in reducing smoking prevalence and exposure to secondhand smoke[4,5]; therefore, CDC analyzed National Health Interview Survey (NHIS) data for 2004-2010 to describe current cigarette smoking prevalence among currently working U.S. adults by industry and occupation. This report describes the results of that analysis, which found that, overall, age-adjusted cigarette smoking prevalence among working adults was 19.6% and was highest among those with less than a high school education (28.4%), those with no health insurance (28.6%), those living below the federal poverty level (27.7%), and those aged 18-24 years (23.8%). Substantial differences in smoking prevalence were observed across industry and occupation groups. By industry, age-adjusted cigarette smoking prevalence among working adults ranged from 9.7% in education services to 30.0% in mining; by occupation group, prevalence ranged from 8.7% in education, training, and library to 31.4% in construction and extraction. Although some progress has been made in reducing smoking prevalence among working adults, additional effective employer interventions need to be implemented, including health insurance coverage for cessation treatments, easily accessible help for those who want to quit, and smoke-free workplace policies.

NHIS data are collected annually from a nationally representative sample of the noninstitutionalized U.S. population aged ≥18 years through a personal interview. One adult per family is selected randomly and asked to participate in the survey. The survey response rates ranged from 60.8% in 2010 to 72.5% in 2004. For this analysis, current cigarette smokers were defined as adults (aged ≥18 years) who reported having smoked ≥100 cigarettes during their lifetime and who currently smoke every day or some days. Survey participants were considered currently working if, when asked about their employment status during the week before their interview, they responded, "working at a job or business," "with a job or business but not at work," or "working, but not for pay, at a family-owned job or business."* Information on participants' current industry and occupation was coded by trained coders and grouped into 21 industry groups and 23 occupation groups.†

To improve the precision and reliability of the estimates, CDC combined 7 years of NHIS data collected during 2004-2010. Sample weights were used to account for the complex sample design. Estimates were age-adjusted to the 2000 U.S. standard

population consistent with HP2010 methodology.

During 2004-2010, of the estimated 223 million adults aged ≥18 years, 141 million (63.3%) were employed during the week before the interview. Current cigarette smoking prevalence among currently working adults decreased with increasing age ($p<0.05$), with 23.8% among those aged 18-24 years and 10.2% among those aged ≥65 years. Age-adjusted prevalence was 19.6% for all currently working adults and was highest among males (21.5%), non-Hispanic whites (21.5%), those whose level of education was less than a high school diploma (28.4%), those living below the federal poverty level‡ (27.7%), and those with no health insurance coverage (28.6%) (TABLE).

Age-adjusted prevalence of current smoking in 18 of 21 industry groups and 17 of 23 occupation groups was higher than the HP2010 target of ≤12% for smoking prevalence among all adults. Age-adjusted prevalence of current cigarette smoking was >29% among workers in mining (30.0%), accommodation and food services (30.0%), and construction (29.7%) industry groups and among workers in construction and extraction (31.4%) and food preparation and serving-

TABLE. Current cigarette smoking* prevalence among currently working† adults aged ≥18 years, by selected characteristics — National Health Interview Survey, 2004–2010

	Currently working adults		Cigarette smoking prevalence§	
Characteristic	Unweighted no.	Estimated no. (in millions)	%	(95% CI)
Age group (yrs)				
18–24	12,045	18.1	23.8	(22.8–24.9)
25–34	26,015	31.1	23.5	(22.8–24.2)
35–44	27,757	33.4	21.0	(20.3–21.6)
45–64	42,367	53.0	19.8	(19.2–20.3)
≥65	5,082	5.3	10.2	(9.2–11.1)
Sex				
Male	56,070	75.5	21.5	(21.0–22.0)
Female	57,196	65.4	17.4	(17.0–17.8)
Race/Ethnicity				
White, non-Hispanic	69,035	98.3	21.5	(21.1–22.0)
Black, non-Hispanic	16,645	15.8	17.9	(17.0–18.8)
Hispanic	21,017	19.3	14.2	(13.4–15.0)
Other	6,569	7.5	14.2	(13.0–15.4)
Education				
Less than high school diploma	13,868	15.1	28.4	(27.3–29.5)
High school/GED	29,164	37.3	27.1	(26.4–27.8)
Some college	34,807	43.5	21.0	(20.3–21.6)
Bachelor, masters, or higher degree	34,586	44.1	9.1	(8.7–9.6)
Unknown	841	1.0	20.4	(16.1–24.8)
Poverty status¶				
Poor	8,628	8.1	27.7	(26.2–29.1)
Near poor	15,411	16.5	26.3	(25.3–27.3)
Not poor	73,404	97.4	18.1	(17.7–18.5)
Unknown	15,823	19.0	19.1	(18.3–19.9)
Health insurance status				
Insured	91,240	115.7	17.5	(17.2–17.9)
Uninsured	21,673	24.7	28.6	(27.4–29.9)
Unknown	353	0.5	17.6	(12.2–22.9)
U.S. census region**				
Northeast	18,719	25.1	18.7	(17.7–19.6)
Midwest	26,151	34.8	21.7	(21.0–22.4)
South	41,422	50.3	20.8	(20.2–21.4)
West	26,974	30.7	15.9	(15.2–16.6)
Total	**113,266**		**19.6**	**(19.2–20.0)**

Abbreviations: CI = confidence interval; GED = General Educational Development certificate or diploma.

* Reported having smoked ≥100 cigarettes during their lifetime and currently smoking every day or some days. Current smoking prevalence in all adults (working and nonworking) was 19.3%.

† Estimated average annual number of adults who were employed during the week before interview.

§ Estimates were age-adjusted using the 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and ≥65 years. Estimates by education status were adjusted using four age groups: 18–24, 25–44, 45–64, and ≥65 years.

¶ Poverty status is based on family income and family size using the U.S. Census Bureau's poverty thresholds for the previous calendar year. "Poor" persons are defined as below the poverty threshold. "Near poor" persons have family incomes of 100% to less than 200% of the poverty threshold. "Not poor" persons have family incomes that is 200% of the poverty threshold or greater. Additional information available at ftp://ftp.cdc.gov/pub/health_statistics/nchs/dataset_documentation/nhis/2008/srvydesc.pdf.

** *Northeast:* Connecticut, Maine, Massachusetts, New Jersey, New Hampshire, New York, Pennsylvania, Rhode Island, and Vermont; *Midwest:* Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *South:* Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; *West:* Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming.

related (30.0%) occupation groups. The age-adjusted prevalence of current smoking was lowest among workers in the education services industry (9.7%) and among workers in the education, training, and library occupation (8.7%).

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CDC Editorial Note: Current smoking prevalence (unadjusted) among currently working adults aged ≥18 years declined from 27.8% during 1987-1994 to 24.5% during 1997-2004.[6] This report indicates that although slight declines in smoking prevalence have occurred since 1997-2004 among currently working adults, the prevalence of smoking remains higher (21.0% [crude rate] and 19.6% [age-adjusted rate]) than the HP2010 target of ≤12% for all U.S. adults. In the majority of the occupation and industry groups examined in this report, the age-adjusted prevalence of current smoking among currently working adults also exceeded the HP2010 target of ≤12%. Workers in construction and extraction trades and food service occupations continue to have the highest smoking prevalence.[6] Higher levels of smoking were observed among workers aged 18-24 years, male workers, those with high school or less education, those with no health insurance coverage, and those living below the federal poverty level. Similar findings of higher cigarette smoking prevalences in these specific groups have been reported among the overall U.S. adult population.[2]

During 2000-2004, cigarette smoking and exposure to tobacco smoke resulted in approximately 443,000 premature deaths, $97 billion in productivity losses, and $96 billion in healthcare costs annually.[7] Smoking increases the adverse health risks of occupational exposure; for example, a 50-fold increase in lung cancer incidence was reported among smokers who were exposed to asbestos.[6] Smoking in the workplace not only affects the individual's health but also exposes coworkers to secondhand smoke. Homes and workplaces are the predominant locations for exposure to secondhand smoke.[7] Exposure to secondhand smoke causes lung cancer, heart disease, and respiratory illnesses.[7,8] Although workplace policies or exposures to secondhand smoke were not assessed in this study, national surveys have shown that the proportion of smoke-free worksites was lower in agriculture, forestry, fishing, mining, and construction and higher in professional and related services.[7]

Several intervention and prevention measures have been shown to be effective in reducing smoking prevalence and exposure to secondhand smoke.[1,4,8] Such measures include smoke-free workplace policies; individual, group, and telephone-based smoking cessation counseling; cessation medications; tailored print or web-based cessation materials; and comprehensive insurance coverage for effective cessation treatments.[1,4,8,9] These proven effective interventions should be strengthened, specifically in workplaces with higher smoking prevalences. To reduce smoking among their workers, employers should ensure that effective tobacco dependence treatments (counseling and medication) are a part of the basic benefits package for all health insurance plans that cover their employees.[9] The benefits should include all seven of the cessation medications approved by the Food and Drug Administration (FDA) as well as group, individual, and telephone counseling, with no copayments or other utilization restrictions.[9] The Patient Protection and Affordable Care Act of 2010 requires new private health insurance plans to offer their members evidence-based smoking cessation services without cost-sharing and should result in increased cessation among working adults.§ Employers should educate all employees about the availability of these treatments and encourage their use. In addition, employers, businesses, trade associations, and worker representatives should work together with their state and local health departments in implementing policies and programs to reduce smoking prevalence among the working population.

Providing coverage for tobacco dependence treatment will increase access to services, which will improve the health of employees and result in lower rates of absenteeism and lower utilization of health care resources.[9] Workplace interventions also can be tailored

What is already known on this topic?

Smoking prevalence varies by occupation among U.S. working adults. Targeted workplace tobacco control interventions have been effective in reducing smoking prevalence and exposure to secondhand smoke.

What is added by this report?

This report provides information on age-adjusted cigarette smoking prevalence among currently working adults aged ≥18 years for 2004-2010. Age-adjusted current smoking prevalence varied by industry and occupation group. The highest prevalence of smoking was observed among workers in mining, accommodation and food services, and construction industries, and among workers in construction and extraction occupation groups. The age-adjusted prevalences among specific occupations and industries were nearly two and a half times higher than the target of the *Healthy People 2010* objective to reduce cigarette smoking among adults to ≤12%.

What are the implications for public health practice?

Employers, businesses, trade associations, and worker representatives need to work in partnership with their state and local health departments in implementing evidence-based policies and programs to reduce the prevalence of smoking among the working population.

to the interests, challenges, and needs of particular industry or occupation groups, and these can be combined with incentives to reduce tobacco use among workers (e.g., by offering rewards to individual workers and to teams as a motivation to participate in a cessation program).[1,4,8] Results from this report help identify industry and occupation groups with high smoking prevalence that are in need of targeted smoking cessation programs, especially among those industry and occupation groups with a relatively large population of workers that otherwise might not be reached (e.g., younger men, who generally are less likely to visit a physician or participate in health promotion activities available at primary-care centers).[4]

The findings in this report are subject to at least three limitations. First, the collected employment information applied only to the week before the interview. Some workers might have changed jobs and thus might have been in a different occupation or industry before the time of the survey. However, CDC conducted additional analyses examining longest held job and found similar results (i.e., higher smoking prevalences in mining and construction industries and in construction and extraction occupations). Second, the data in this report represent major industry/occupation groups, which limits identification of specific industries and occupations associated with cigarette smoking. Finally, the extent of underreporting or overreporting of cigarette smoking could not be determined because smoking information was self-reported and was not validated by biochemical tests. However, comparison of self-reported smoking status with results of measured serum cotinine levels suggests generally high levels of validity and results in similar population estimates.[10]

To maximize the health of employees, employers need to integrate comprehensive and effective smoking cessation programs with other worksite programs including health promotion programs in their workplace.[8] Smoke-free workplace policies also increase cessation among employees who smoke.[8] Comprehensive smoking cessation program benefits should be offered and promoted to increase awareness and program utilization by employees and other enrollees, and the benefits of use of such programs should be monitored and evaluated. CDC's *A Practical Guide to Working with Health-Care Systems on Tobacco-Use Treatment*‖ provides key information and practical advice to help public health professionals and employers improve their understanding of health-care systems, improve availability and use of evidence-based tobacco dependence treatments by employees, and increase smoking cessation. In January 2011, the Federal Employees Health Benefits (FEHB) Program began offering expanded tobacco cessation interventions to nearly 8 million federal employees, retirees, dependents, and spouses.¶ The program includes all seven FDA-approved cessation medications as well as individual, group, and telephone counseling, with no copayments, coinsurance, or deductibles. It will cover at least two quit attempts per year, with a minimum of four counseling sessions of at least 30 minutes for each attempt. The FEHB coverage requirements can be used as a model for other public and private insurance plans for implementation of comprehensive cessation coverage.

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10 Available.

*Additional information about the NHIS questionnaire is available at http://www.cdc.gov/nchs/nhis/quest_data_related_1997_forward.htm.

†Additional information about industry and occupation groups and codes are available at ftp://ftp.cdc.gov/pub/health_statistics/nchs/dataset_documentation/nhis/2009/samadult_layout.pdf and ftp://ftp.cdc.gov/pub/health_statistics/nchs/dataset_documentation/nhis/2008/naics_sectors_and_subsectors08.pdf.

‡Poverty status is based on family income and family size using the U.S. Census Bureau's poverty thresholds for the previous calendar year. In NHIS, "poor" persons are defined as having incomes below the poverty threshold, "near poor" are defined as having incomes of 100% to less than 200% of the poverty threshold, and "not poor" are defined as having incomes that are 200% of the poverty threshold or greater. Additional information available at ftp://ftp.cdc.gov/pub/health_statistics/nchs/dataset_documentation/nhis/2008/srvydesc.pdf.

§Additional information available at http://www.dol.gov/ebsa/healthreform.

‖Available at http://www.cdc.gov/tobacco/quit_smoking/cessation/practical_guide/index.htm.

¶ Additional information available at http://www.opm.gov/carrier/carrier_letters/2010/2010-06.pdf.

Notes From the Field: Q Fever Outbreak Associated With Goat Farms—Washington and Montana, 2011

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ON APRIL 22, 2011, THE Q FEVER BACTERIUM *Coxiella burnetii* was detected in a goat placenta collected from a farm in Washington, where 14 of 50 (28%) pregnant does had aborted since January. A county health alert advised health-care providers to ask patients with symptoms compatible with Q fever (e.g., fever, headache, chills, and myalgia) about exposure to goats, and the owners of the farm informed purchasers of their goats that *C. burnetii* had been detected in their herd. On May 25, the county health department reported a symptomatic patient with antibodies to *C. burnetii* who had purchased goats from the farm in February. On May 27, a report from Montana identified a child seropositive for *C. burnetii* whose family had purchased goats from the Washington farm in October 2010; one of the goats aborted triplets 2 weeks before the child's May 12, 2011, illness onset. On May 31, five more persons reported onset of symptoms compatible with Q fever from late March to mid-May, following exposure at a Montana farm to goats purchased from the Washington farm at various times during October 2010–January 2011. On June 10, the Washington State Depart-