

Weekly

November 12, 2004 / Vol. 53 / No. 44

# Great American Smokeout — November 18, 2004

In 2002, a total of 45.8 million U.S. adults (22.5%) were current smokers, a decrease from 24.1% in 1998, and an estimated 46 million adults were former smokers (1). For the first time, more adults had quit smoking than were still smoking (1). To assist in continuing this trend, the American Cancer Society (ACS) is sponsoring the 28th Great American Smokeout on November 18, 2004. Cigarette smokers are encouraged to quit smoking for at least 24 hours in the hope they might stop smoking.

The likelihood of permanently quitting smoking is increased when effective therapies are used, such as physician assistance, pharmacologic treatment, and behavioral counseling (2). In addition to individual methods, an environmental approach to reducing tobacco use involves increasing the excise tax for tobacco products, developing multicomponent mass media campaigns, fostering provider reminder systems, using telephone quitlines, reducing patient out-of-pocket costs for effective cessation therapies, and reducing exposure to secondhand smoke through smoking bans and restrictions (3). Additional information about the Great American Smokeout is available at http://www.cancer.org or by telephone, 800-227-2345.

#### References

- 1. CDC. Cigarette smoking among adults—United States, 2002. MMWR 2004;53:427–31.
- Fiore MC, Bailey WC, Cohen SJ, et al. Treating tobacco use and dependence: clinical practice guidelines. Rockville, MD: US Department of Health and Human Services, Public Health Service; 2000. AHQR publication 00-0032.
- 3. CDC. Strategies for reducing exposure to environmental tobacco smoke, increasing tobacco-use cessation, and reducing initiation in communities and health-care systems: a report on recommendations of the Task Force on Community Preventive Services. MMWR 2000;49(No. RR-12):2–9.

# State-Specific Prevalence of Current Cigarette Smoking Among Adults — United States, 2003

Cigarette smoking causes approximately 440,000 deaths annually in the United States (1). To assess the prevalence of current cigarette smoking among adults, CDC analyzed data from the 2003 Behavioral Risk Factor Surveillance System (BRFSS) survey. This report summarizes the results of that analysis, which indicated substantial variation in cigarette smoking prevalence in the 50 states, the District of Columbia (DC), Guam, Puerto Rico, and the U.S. Virgin Islands (USVI) (range: 10.0%–34.0%). To further reduce the prevalence of smoking, states/areas should implement comprehensive tobacco-control programs.

BRFSS is a state-based, random-digit–dialed, telephone survey of the U.S. civilian, noninstitutionalized population aged ≥18 years. In 2003, the median state/area response rate was 53.2% (range: 34.4%–80.5%). Estimates were weighted by age and sex distributions for each state's population, and 95% confidence intervals were calculated. BRFSS respondents were asked, "Have you smoked at least 100 cigarettes in your entire life?" and "Do you now smoke cigarettes every day, some

## INSIDE

- 1038 Indoor Air Quality in Hospitality Venues Before and After Implementation of a Clean Indoor Air Law — Western New York, 2003
- 1041 Vaccination Coverage Among Children Entering School United States, 2003–04 School Year
- 1044 Awareness of Family Health History as a Risk Factor for Disease — United States, 2004
- 1047 Preventive-Care Practices Among Adults with Diabetes Puerto Rico, 2000–2002
- 1050 West Nile Virus Activity United States, November 3–8, 2004
- 1051 Notices to Readers

## DEPARTMENT OF HEALTH AND HUMAN SERVICES CENTERS FOR DISEASE CONTROL AND PREVENTION

The *MMWR* series of publications is published by the Coordinating Center for Health Information and Service (Proposed), Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, GA 30333.

#### **SUGGESTED CITATION**

Centers for Disease Control and Prevention. [Article Title]. MMWR 2004;53:[inclusive page numbers].

## **Centers for Disease Control and Prevention**

Julie L. Gerberding, M.D., M.P.H. Director

Dixie E. Snider, M.D., M.P.H. (Acting) Chief of Science

Tanja Popovic, M.D., Ph.D. (Acting) Associate Director for Science

#### Coordinating Center for Health Information and Service (Proposed)

James S. Marks, M.D., M.P.H. (Acting) Director

> John W. Ward, M.D. Editor, MMWR Series

Suzanne M. Hewitt, M.P.A. Managing Editor, MMWR Series

Douglas W. Weatherwax (Acting) Lead Technical Writer/Editor

> Stephanie M. Malloy Jude C. Rutledge Teresa F. Rutledge *Writers/Editors*

Lynda G. Cupell Malbea A. LaPete *Visual Information Specialists* 

Kim L. Bright, M.B.A. Quang M. Doan, M.B.A. Erica R. Shaver Information Technology Specialists

#### Notifiable Disease Morbidity and 122 Cities Mortality Data

Robert F. Fagan Deborah A. Adams Felicia J. Connor Lateka Dammond Rosaline Dhara Donna Edwards Patsy A. Hall Pearl C. Sharp days, or not at all?" Current smokers were defined as those who reported having smoked  $\geq 100$  cigarettes during their lifetimes and who currently smoke every day or some days.

In 2003, the median prevalence of current cigarette smoking among adults was 22.1% in the 50 states and DC (range: 12.0% [Utah]–30.8% [Kentucky]) (Table). Smoking prevalence was higher among men (median: 24.8%; range: 14.0%– 33.8%) than women (median: 20.3%; range: 9.9%–28.1%) in the 50 states and DC. Smoking prevalence for both men and women was highest in Kentucky (men: 33.8%; women: 28.1%) and lowest in Utah (men: 14.0%; women: 9.9%). In areas other than the 50 states and DC, the median prevalence of current cigarette smoking among adults was 13.6% (range: 10.0% [USVI]–34.0% [Guam]).

**Reported by:** J Bombard, MSPH, A Malarcher, PhD, M Schooley, MPH, A MacNeil, MPH, Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

**Editorial Note:** Although the prevalence of current cigarette smoking among U.S. adults has declined, the rate of decline has not been rapid enough for the nation to achieve the 2010 national health objective of  $\leq$ 12% of adults smoking cigarettes (objective 27-1) (2,3). The median prevalence of adult smoking decreased 1 percentage point from 2002 to 2003, and the national objective for 2010 was achieved in Utah and the USVI. The high prevalence of current cigarette smoking in most of the remaining states/areas underscores the need for increased efforts to reduce tobacco use.

The findings in this report are subject to at least three limitations. First, the BRFSS survey does not sample persons in households without telephones, a population that might be more likely to smoke (4). Second, data for cigarette smoking are based on self-reports and are not validated with biochemical tests. However, self-reported data on current smoking status have high validity (4). Third, the median response rate was 53.2% (range: 34.4%-80.5%); lower response rates indicate a potential for response bias. However, BRFSS estimates for cigarette smoking are comparable with current smoking estimates from other surveys with higher response rates (5).

Comprehensive tobacco control is effective in preventing and reducing tobacco use (6). CDC recommends the following evidence-based interventions as strategies within comprehensive tobacco-control programs: clean indoor air laws, telephone support quitlines, media campaigns, increased excise taxes on tobacco products, insurance coverage for cessation counseling and pharmaceuticals, and health-care system changes that support cessation (7). Substantial variation exists across states in their use of these strategies. For example, in 2002, two states offered Medicaid coverage for all recommended medication and counseling treatments for tobacco dependence, whereas 11 states covered no tobacco-dependence

TABLE. Prevalence of current cigarette smoking among adults\*, by state/area and sex — Behavioral Risk Factor Surveillance System, 50 states, District of Columbia, Guam, Puerto Rico, and U.S. Virgin Islands, 2003

_	Men		V	Women		Total	
State/Area	%	(95% CI†)	%	(95% CI)	%	(95% CI)	
Alahama	28 5	(+3.1)	22.4	(+2 0)	25.3	(+1.8)	
Alaska	30.3	(±3.6)	21.9	(+3.0)	26.3	(+2.4)	
Arizona	23.8	(±3.0)	18.2	$(\pm 0.0)$	21.0	(+2.4)	
Arkansas	27.6	(+2.5)	22.3	$(\pm 2.7)$	24.8	(±±.+) (+1.5)	
California	20.5	(+2.3)	13.2	(+1.5)	16.8	(+1.4)	
Colorado	19.6	$(\pm 2.0)$	17.5	$(\pm 1.0)$ $(\pm 1.7)$	18.5	(+1.4)	
Connecticut	19.7	$(\pm 1.9)$	17.9	$(\pm 1.7)$	18.7	(+1.2)	
Delaware	26.0	$(\pm 1.0)$	18.2	$(\pm 1.0)$	21.9	(+1.8)	
District of Columbia	26.2	(+4.2)	19.0	(+2.9)	22.3	(+2.5)	
Florida	26.0	$(\pm 3.1)$	22.1	$(\pm 2.3)$	23.9	(±1.9)	
Georgia	25.8	$(\pm 2.3)$	20.0	$(\pm 1.5)$	22.8	(±1.4)	
Hawaii	20.1	(±2.5)	14.4	$(\pm 1.7)$	17.3	(±1.5)	
Idaho	19.5	$(\pm 2.1)$	18.5	$(\pm 1.7)$	19.0	(±1.3)	
Illinois	28.3	(±2.8)	20.5	$(\pm 1.9)$	24.3	(±1.7)	
Indiana	28.6	(±2.2)	23.8	(±1.6)	26.1	(±1.3)	
lowa	22.8	(±2.2)	20.7	$(\pm 1.9)$	21.7	(±1.5)	
Kansas	21.0	(±2.3)	19.7	$(\pm 1.7)$	20.4	(±1.4)	
Kentucky	33.8	(±2.7)	28.1	(±1.9)	30.8	(±1.7)	
Louisiana	30.3	(±2.5)	23.2	$(\pm 1.7)$	26.6	(±1.5)	
Maine	23.1	(±3.1)	24.0	(±2.5)	23.6	(±2.0)	
Marvland	23.0	(±2.6)	17.7	$(\pm 1.8)$	20.2	(±1.6)	
Massachusetts	20.0	(±1.8)	18.4	$(\pm 1.4)$	19.2	(±1.2)	
Michigan	30.2	$(\pm 3.0)$	22.3	(±2.1)	26.2	(±1.8)	
Minnesota	22.4	(±2.4)	19.9	$(\pm 1.9)$	21.1	(±1.5)	
Mississippi	31.1	(±2.7)	20.7	$(\pm 1.7)$	25.6	(±1.6)	
Missouri	31.2	(±3.1)	23.8	(±2.5)	27.3	(±2.0)	
Montana	19.5	(±2.5)	20.3	(±2.2)	19.9	(±1.7)	
Nebraska	23.6	(±2.2)	19.0	(±1.6)	21.3	(±1.4)	
Nevada	29.0	(±3.5)	21.3	(±2.9)	25.2	(±2.3)	
New Hampshire	22.4	(±2.2)	20.2	(±1.8)	21.2	(±1.4)	
New Jersey	21.2	(±1.5)	17.9	(±1.1)	19.5	(±0.9)	
New Mexico	23.6	(±2.2)	20.5	(±1.7)	22.0	(±1.4)	
New York	24.8	(±2.2)	18.8	(±1.6)	21.6	(±1.3)	
North Carolina	28.0	(±2.4)	21.9	(±1.7)	24.8	(±1.5)	
North Dakota	22.0	(±2.5)	19.0	(±2.2)	20.5	(±1.7)	
Ohio	26.9	(±2.8)	24.0	(±2.2)	25.4	(±1.8)	
Oklahoma	27.8	(±2.0)	22.7	(±1.4)	25.2	(±1.2)	
Oregon	23.1	(±2.4)	18.9	(±1.8)	21.0	(±1.5)	
Pennsylvania	27.1	(±2.7)	24.1	(±2.1)	25.5	(±1.7)	
Rhode Island	23.8	(±2.7)	21.1	(±2.0)	22.4	(±1.6)	
South Carolina	28.5	(±2.3)	22.8	(±1.6)	25.5	(±1.4)	
South Dakota	24.7	(±2.3)	20.7	(±1.8)	22.7	(±1.4)	
Tennessee	27.3	(±3.3)	24.2	(±2.4)	25.7	(±2.0)	
Texas	26.7	(±2.2)	17.6	(±1.4)	22.1	(±1.3)	
Utah	14.0	(±2.2)	9.9	(±1.6)	12.0	(±1.4)	
Vermont	19.8	(±2.3)	19.4	(±1.9)	19.6	(±1.5)	
Virginia	26.4	(±2.5)	18.0	(±1.6)	22.1	(±1.5)	
Washington	20.9	(±1.2)	18.2	(±0.9)	19.5	(±0.7)	
West Virginia	27.6	(±2.8)	27.2	(±2.3)	27.4	(±1.8)	
Wisconsin	24.0	(±2.6)	20.3	(±2.0)	22.1	(±1.6)	
Wyoming	25.2	(±2.4)	24.1	(±2.0)	24.6	(±1.6)	
Median	24.8		20.3		22.1		
Guam	42.0	(±5.9)	25.8	(±4.6)	34.0	(±3.8)	
Puerto Rico	19.3	(±2.6)	8.5	(±1.3)	13.6	(±1.5)	
U.S. Virgin Islands	14.2	(±3.2)	6.6	(±1.6)	10.0	(±1.7)	
Median	19.3		8.5		13.6		

\* Persons aged ≥18 years who reported having smoked ≥100 cigarettes during their lifetimes and who currently smoke every day or some days. Confidence interval.

treatments (8). In addition, the average cost of a single pack of cigarettes (which includes state-based excise taxes) ranged from \$3.10 in Kentucky to \$5.54 in New York in 2003 (9). The majority of states offer telephone support quitlines, and residents of all states soon will have access to a nationwide network of quitlines. Finally, only six states (California, Connecticut, Delaware, Maine, Massachusetts, and New York) have comprehensive statewide bans in effect on smoking in indoor workplaces and public places.

The more funds that states spend on comprehensive tobaccocontrol programs, the greater the reduction in smoking (6). However, the amount of money that states spend for tobacco control decreased 28% during the preceding 2 years to \$541.1 million, which is less than 3% of the estimated \$19 billion states expected to receive from tobacco excise taxes and tobacco settlement money in 2003 (10). For fiscal year 2004 (i.e., July 1, 2003–June 31, 2004), only four states (Arkansas, Delaware, Maine, and Mississippi) were investing at least the minimum per capita amount that CDC recommends for tobacco-control programs (10). Efforts and resources must be expanded if more states are to reduce smoking prevalence to  $\leq 12\%$  by 2010.

#### References

- CDC. Annual smoking-attributable mortality, years of potential life lost, and economic costs—United States 1995–1999. MMWR 2002;51:300–3.
- CDC. Cigarette smoking among adults—United States, 2002. MMWR 2004;53:427–31.
- US Department of Health and Human Services. Healthy people 2010 (conference ed, in 2 vols). Washington, DC: US Department of Health and Human Services; 2000. Available at http://www.health.gov/ healthypeople.
- Nelson DE, Holtzman D, Bolen J, Stanwyck CA, Mack KA. Reliability and validity of measures from the Behavioral Risk Factor Surveillance System (BRFSS). Social Prev Med 2001;46:S3–S42.
- 5. US Department of Health and Human Services. Women and smoking: a report of the Surgeon General. Rockville, MD: US Department of Health and Human Services, Public Health Service, Office of the Surgeon General; 2001:24–25.
- Farrelly MC, Pechacek TP, Chaloupka FJ. The impact of tobacco control program expenditures on aggregate cigarette sales: 1981–2000. Health Econ 2003;22:843–59.
- Task Force on Community Preventive Services. Guide to community preventive services: tobacco use prevention and control. Am J Prev Med 2001;20(2 Suppl 1):1–87.
- CDC. State Medicaid coverage for tobacco-dependence treatments— United States, 1994–2002. MMWR 2004;53:54–7.
- 9. Orzechowski W, Walker RC. The tax burden on tobacco, volume 38. Arlington, VA: Orzechowski and Walker; 2003.
- Campaign for Tobacco-Free Kids, American Heart Association, American Cancer Society, American Lung Association. A broken promise to our children: the 1998 state tobacco settlement five years later. Washington, DC: Campaign for Tobacco-Free Kids; 2003. Available at http://www.tobaccofreekids.org/reports/settlements/2004/fullreport.pdf.

# Indoor Air Quality in Hospitality Venues Before and After Implementation of a Clean Indoor Air Law — Western New York, 2003

Secondhand smoke (SHS) contains more than 50 carcinogens (1). SHS exposure is responsible for an estimated 3,000 lung cancer deaths and more than 35,000 coronary heart disease deaths among never smokers in the United States each year (2), and for lower respiratory infections, asthma, sudden infant death syndrome, and chronic ear infections among children (3). Even short-term exposures to SHS, such as those that might be experienced by a patron in a restaurant or bar that allows smoking, can increase the risk of experiencing an acute cardiovascular event (4). Although population-based data indicate declining SHS exposure in the United States over time (5), SHS exposure remains a common but preventable public health hazard. Policies requiring smoke-free environments are the most effective method of reducing SHS exposure (6). Effective July 24, 2003, New York implemented a comprehensive state law requiring almost all indoor workplaces and public places (e.g., restaurants, bars, and other hospitality venues) to be smoke-free. This report describes an assessment of changes in indoor air quality that occurred in 20 hospitality venues in western New York where smoking or indirect SHS exposure from an adjoining room was observed at baseline. The findings indicate that, on average, levels of respirable suspended particles (RSPs), an accepted marker for SHS levels, decreased 84% in these venues after the law took effect. Comprehensive clean indoor air policies can rapidly and effectively reduce SHS exposure in hospitality venues.

The specific class of RSP monitored was  $PM_{2.5}$  (i.e., particulate matter that is <2.5 microns in diameter). Particles of this size are released in substantial amounts from burning cigarettes and are easily inhaled deep into the lungs. Baseline measurements were made during July 11–23 in a purposeful sample of 22 hospitality venues in three counties in western New York. Sites were selected to provide a range of venue types, sizes, and locations. The sample consisted of seven bars, six bar/ restaurants, five restaurants, two bowling alleys, a pool hall, and a bingo hall. The venues were located in popular downtown entertainment districts and suburban areas and ranged from small neighborhood bars to large bar/restaurant chains.

At baseline, smoking was occurring in 14 bars and restaurants and four large recreation venues. Two bar/restaurant combinations allowed smoking in the bar section but not in the adjoining restaurant section. In these two venues, air quality was monitored separately in the restaurant and bar areas. In two restaurants, no smoking was occurring at baseline because restaurants were already required to be smoke-free by local clean indoor air ordinances. Follow-up measurements of air quality were made in all 22 venues during September 9–November 1. The follow-up measurements were taken on the same day of the week and at approximately the same time of day as the measurements taken before the smoke-free law was implemented.

The median time spent in each venue for all 44 baseline and follow-up observations combined was 38 minutes (range: 22–140 minutes). Measurements were taken at 1-second intervals. The number of persons and the number of burning cigarettes in each venue were recorded every 10 minutes during sampling, and the average number of persons and the average number of burning cigarettes in each venue were calculated. The volume of each venue also was measured\*, and the cigarette density was calculated by dividing the average number of burning cigarettes by the room volume.

An air monitor<sup>†</sup> was used to sample and record RSP levels. The monitor was placed in a central location on a table or bar near the height at which a person breathes air. The monitor recorded continuous measurements, which were averaged over time. The first and last minute of logged data were removed, and the remaining data points were averaged to provide an average concentration of  $PM_{2.5}$  within the venue. The percentage change in  $PM_{2.5}$  levels was then determined by comparing average  $PM_{2.5}$  levels in each venue before the law went into effect with levels after the law was implemented. The Wilcoxon signed-rank test was used to assess changes between pre-law and post-law  $PM_{2.5}$  levels, stratified by type of venue.

The average  $PM_{2.5}$  concentration was substantially lower after the law went into effect in every venue where smoking or indirect SHS exposure had been observed at baseline, with a grand mean reduction in  $PM_{2.5}$  concentration of 84% (324  $\mu g/m^3$  to 25  $\mu g/m^3$ ; p<0.001) (Table). When stratified by the type of venue sampled, the average  $PM_{2.5}$  concentration decreased 90% (412  $\mu g/m^3$  to 27  $\mu g/m^3$ ; p<0.001) in the 14 bars and restaurants in which smoking was occurring at baseline (including bar/restaurant J, which was the only venue where smoking was observed during the post-law sampling). The restaurant portions of the two bar/restaurants that allowed smoking in the bar section but not in the restaurant section experienced an average 58% decrease in  $PM_{2.5}$ 

<sup>\*</sup>The Zircon DM S50 Sonic Measure<sup>®</sup> (Zircon Corporation, Campbell, California) was used to perform this measurement.

<sup>&</sup>lt;sup>†</sup> The air monitor used was a TSI SidePak AM510 Personal Aerosol Monitor<sup>®</sup> (TSI, Inc., St. Paul, Minnesota). The SidePak uses a built-in sampling pump to draw air through the device, which then measures the real-time concentration in milligrams per cubic meter of PM<sub>2.5</sub>. The SidePak was calibrated against a SHS-calibrated nephelometer, which had been previously calibrated and used in similar studies. The SidePak was zero-calibrated before each use according to the manufacturer's specifications.

	Size (m³)	Cigarette density*		Average PM <sub>25</sub> <sup>†</sup> level (µg/m³)		
Venue		Before July 24, 2003	After July 24, 2003	Before July 24, 2003	After July 24, 2003	% reduction in PM <sub>2.5</sub>
Bars and restaurants in which						
smoking was occurring						
Bar A	349	0.86	0	353	56	84.1
Bar B	453	1.32	0	375	20	94.7
Bar C	225	1.34	0	1,375	52	96.2
Bar D	319	0.94	0	386	35	90.9
Bar E	245	0.86	0	104	28	73.1
Bar F	339	3.25	0	569	26	95.4
Bar G	335	1.79	0	681	13	98.1
Bar/Restaurant H	299	1.34	0	425	10	97.6
Bar/Restaurant I	321	1.56	0	198	21	89.3
Bar/Restaurant J	551	1.45	0.09	597	83	86.1
Bar/Restaurant K	479	0.42	0	62	10	83.9
Bar/Restaurant L	318	0.52	0	352	6	98.0
Bar/Restaurant M	786	0.25	0	54	11	79.6
Restaurant N	95	3.15	0	233	6	97.4
Mean <sup>§</sup>	365	1.36	0.01	412	27	90.3
Restaurant portions of						
bar/restaurant combinations						
with indirect secondhand						
smoke (SHS) exposure <sup>¶</sup>						
Restaurant Ó	438	0	0	273	34	87.5
Restaurant P	381	0	0	38	27	28.9
Mean <sup>§</sup>	410	0	0	156	31	58.2
Other venues in which						
smoking was occurring						
Bowling alley Q	5,930	0.03	0	35	13	62.9
Bowling alley R	2.916	0.17	0	87	26	70.1
Pool hall S	1.570	0.26	0	176	6	96.6
Bingo hall T	3.704	0.40	0	105	26	75.2
Mean <sup>§</sup>	3.530	0.22	0	101	18	76.2
Grand mean**	1,003	1.01	0.01	324	25	84.3
Restaurants in which no smoking and no indirect SHS exposure was occurring						
Restaurant U	446	0	0	6	6	0.0
Restaurant V	337	0	0	41	40	2.4
Mean <sup>§</sup>	392	0	0	24	23	1.2

TABLE. Change in concentrations of respirable suspended particles after the implementation of a clean indoor air law, by venue — western New York, 2003

\* Average number of burning cigarettes per 100 m<sup>3</sup>.

<sup>†</sup> Particulate matter <2.5 microns in diameter.

§ Results represent the average of the values for the venues listed in each category.

<sup>¶</sup> Restaurant O is attached to Bar A with little physical separation between the two spaces; Restaurant P is attached to Bar B but with substantial physical separation between the two spaces.

\*\* For all venues where any smoking or indirect SHS exposure was occurring at baseline (i.e., venues A-T).

concentrations (156  $\mu$ g/m<sup>3</sup> to 31  $\mu$ g/m<sup>3</sup>; p<0.001) after the law was implemented, even though they had only indirect SHS exposure at baseline. In the four other large recreation venues, which had larger volumes and lower smoker densities, the average PM<sub>2.5</sub> concentration decreased 76% (101  $\mu$ g/m<sup>3</sup> to 18  $\mu$ g/m<sup>3</sup>). In contrast, the PM<sub>2.5</sub> concentration remained low and virtually constant in the two restaurants that were already smoke-free at baseline; these venues were not included in the grand mean calculation. **Reported by:** *MJ Travers, KM Cummings, PhD, A Hyland, PhD, Dept of Health Behavior, Roswell Park Cancer Institute, Buffalo, New York. J Repace, MSc, Repace Associates, Bowie, Maryland. S Babb, MPH, T Pechacek, PhD, R Caraballo, PhD, Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.* 

**Editorial Note:** The findings in this report indicate that a statewide law to eliminate smoking in enclosed workplaces and public places substantially reduced RSP levels in western New York hospitality venues. RSP levels were reduced in

every venue that permitted smoking before the law was implemented, including venues in which only SHS from an adjacent room was observed at baseline.

These findings are consistent with those of previous studies. In Delaware, a similar decline in RSP levels was observed in eight hospitality venues after smoking was prohibited there by state law (7). Previous studies also have assessed the health effects of smoke-free laws. One study indicated that respiratory health improved rapidly among a sample of bartenders after a state smoke-free workplace law was implemented in California (8), and another study reported a 40% reduction in acute myocardial infarction admissions to a regional hospital during the 6 months that a local smoke-free ordinance was in effect in Helena, Montana (9). The results of these studies (both those assessing changes in indoor air quality and those assessing changes in health) suggest that improvements can occur within months of policy implementation.

The findings in this report are subject to at least two limitations. First, the venues sampled were not necessarily representative of venues in western New York. However, they did provide a range of venue types, sizes, and locations. Second, SHS is not the only source of indoor particulate matter. However, although ambient particle concentrations and cooking are additional sources of indoor particle levels, secondhand smoke is the largest contributor to indoor RSP pollution (*3*).

Eliminating nonsmoker exposure to SHS is one of the four goals of comprehensive state tobacco-control programs, as set forth in CDC's Best Practices for Comprehensive Tobacco Control Programs (10). The results of the study described in this report indicate that a comprehensive statewide ban on smoking in indoor workplaces and public places can substantially reduce SHS exposure in these settings. Six states (California, Connecticut, Delaware, Maine, Massachusetts, and New York) currently meet the national health objective for 2010 calling for implementation of such laws. These six states account for approximately 23% of the U.S. population. Rhode Island also has adopted such a law, but the law does not take full effect until 2006. To further reduce the nearly 40,000 deaths among never smokers caused by SHS exposure each year, similar comprehensive laws are needed in the other 43 states and the District of Columbia.

#### References

- National Toxicology Program. 9th report on carcinogens. Research Triangle Park, NC: US Department of Health and Human Services, National Institute of Environmental Health Sciences; 2000.
- CDC. Annual smoking-attributable mortality, years of potential life lost, and economic costs—United States, 1995–1999. MMWR 2002;51:300–3.

- National Cancer Institute. Health effects of exposure to environmental tobacco smoke: the report of the California Environmental Protection Agency. Bethesda, MD: US Department of Health and Human Services, National Institutes of Health, National Cancer Institute; 1999.
- 4. Pechacek TF, Babb S. Commentary: how acute and reversible are the cardiovascular risks of secondhand smoke? BMJ 2004;328:980–3.
- CDC. Second national report on human exposure to environmental chemicals. Atlanta, GA: US Department of Health and Human Services, CDC; 2003.
- 6. CDC. Reducing tobacco use: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, CDC; 2000.
- Repace J. Respirable particles and carcinogens in the air of Delaware hospitality venues before and after a smoking ban. J Occup Environ Med 2004;46:887–905.
- Eisner MD, Smith AK, Blanc PD. Bartenders' respiratory health after establishment of smoke-free bars and taverns. JAMA 1998;280:1909–14.
- 9. Sargent RP, Shepard RM, Glantz SA. Reduced incidence of admissions for myocardial infarction associated with public smoking ban: before and after study. BMJ 2004;328:977–80.
- CDC. Best practices for comprehensive tobacco control programs— August 1999. Atlanta, GA: US Department of Health and Human Services, CDC; 1999. Available at http://www.cdc.gov/tobacco/ bestprac.htm.

## Vaccination Coverage Among Children Entering School — United States, 2003–04 School Year

One of the national health objectives for 2010 is to sustain ≥95% vaccination coverage among children in kindergarten through first grade (objective 14-23) (1). To determine the percentage of vaccination coverage among children entering kindergarten, data on vaccination coverage were analyzed from reports submitted to the National Immunization Program by states, the District of Columbia (DC)\*, and eight current or former U.S. territories for the 2003-04 school year. This report summarizes the results of that analysis, which determined that coverage for all vaccines except hepatitis B (HepB) and varicella was reported at >90% in 45 areas. However, the vaccines required in each reporting area and the methods for surveying kindergarten-aged children vary substantially; in seven states, <20% of eligible children were surveyed. The wide variations in survey populations underscore the need for CDC to continue working with immunization programs in states, DC, and current or former territories to improve survey methods and automate reporting of data.

For the 2003–04 school year, all states except one submitted reports of vaccination coverage levels for children entering kindergarten. Fifty reports included coverage for poliovirus vaccine, diphtheria and tetanus toxoids and pertussis vaccine, diphtheria and tetanus toxoids and acellular pertussis vaccine,

<sup>\*</sup> For this report, DC is included in state totals.

or diphtheria and tetanus toxoids (DTP/DTaP/DT), measles vaccine, and rubella vaccines; 49 reports included coverage for mumps vaccine (Table 1). Coverage for HepB vaccine was included in 43 reports, and coverage for varicella vaccine was included in 33 state reports. DC reported on all of the vaccination coverages. When determining coverage, up-to-date (UTD) status was used rather than number of doses because the doses required to be UTD vary depending on timing of vaccinations, area requirements regarding number of doses, and brand of vaccines.

The number of state reports based on 100% of children entering kindergarten increased from 18 in the 2002–03 school year to 22 in 2003–04 (2). In an additional 21 states, coverage was assessed in surveys of >80% of eligible children. In the remaining seven states, coverage was assessed in surveys of <20% of eligible children (range: 0.5%–18.5%). National estimates of coverage were calculated by weighting each state's coverage estimate by the size of the state's kindergarten enrollment.

Coverage for all vaccines except HepB and varicella was reported at 90%–95% in 16 (31.3%) states and at >95% in 29 (56.9%) states (Table 1). Nationally, coverage was reported at >95% for all vaccines except varicella, for which coverage was 93.3%.

Five (63%) of the eight current or former U.S. territories reported data for the 2003–04 school year. All five reports included coverage for poliovirus vaccine, DTP/DTaP/DT vaccine, and vaccines for measles, mumps, rubella, and HepB (Table 2). Two territories reported coverage for 1 dose of varicella vaccine. The percentage of children surveyed by the current or former U.S. territories ranged from 10.0% to 100.0%. Coverage for all vaccines except DTP/DTaP/DT vaccine was reported to be >86%.

**Reported by:** *B Lyons, MPH, C Stanwyck, PhD, Immunization Svcs Div; M McCauley, MTSC, National Immunization Program, CDC.* 

**Editorial Note:** CDC has increased efforts to help states and current or former U.S. territories collect and report data on vaccination coverage among children entering school by providing a new online reporting system, available since the 2002–03 school year. Anecdotal reports from states indicate that the online reporting system, which automates data management and calculation tasks, has made it easier for states to report their coverage. CDC also has encouraged greater standardization of reporting; unlike previous reports, this report is based only on coverage among children entering kindergarten, rather than on a mix of those children and first graders.

# e ncore.

Week after week, MMWR Online plays an important role in helping you stay informed. From the latest CDC guidance to breaking health news, count on MMWR Online to deliver the news you need, when you need it.

Log on to cdc.gov/mmwr and enjoy MMWR performance.

know what matters.

