State- and sex-specific prevalences of current cigarette smoking among adults were obtained from the Behavioral Risk Factor Surveillance System (BRFSS), a state-based, random-digit-dialed telephone survey of the noninstitutionalized U.S. population, aged ≥18 years. The 1999 BRFSS was conducted in the 50 states, the District of Columbia (DC), and Puerto Rico (PR). To determine current cigarette smoking, respondents were asked, “Have you ever smoked at least 100 cigarettes in your entire life?” and “Do you now smoke cigarettes every day, some days, or not at all?” Current smokers were defined as those who reported having smoked greater than or equal to 100 cigarettes during their lives and who currently smoked every day or some days. Because BRFSS data were state-specific, median values rather than a national average were reported. Estimates were weighted to the age, race, and sex distribution of each state’s population, and 95% confidence intervals were calculated by using SUDAAN.

To assess workplace smoking policies, respondents who work indoors most of the time were asked: “Which of the following best describes your place of work’s official smoking policy for indoor public or common areas, such as lobbies, rest rooms, and lunch rooms?” and “Which of the following best describes your place of work’s official smoking policy for work areas?” Possible responses included “not allowed in any work (or public/common) areas,” “allowed in some work (or public/common) areas,” “allowed in all work (or public/common) areas,” and “no official policy.” A smoke-free policy was defined as a policy that did not permit smoking in the common, public, or work areas of the workplace. The percentage of respondents who reported smoke-free workplace policies was calculated and reported by state and by respondents’ education level.

In 1999, the adult prevalence of current cigarette smoking differed more than twofold across the states (range: 13.9%-31.5%), with a median of 22.7%. Current cigarette smoking prevalence was highest in Nevada (31.5%), Kentucky (29.7%), and Ohio (27.6%) and lowest in Utah (13.9%), Hawaii (18.6%), California (18.7%), Massachusetts (19.4%), and Minnesota (19.5%). Smoking prevalence in PR (13.7%) was lower than the overall prevalence in the 50 states. The median smoking prevalence among men was 24.2% (range: 16.6%-33.9%) and among women was 20.9% (range: 11.4%-30.3%). Current smoking prevalence was highest among men in Kentucky (33.9%) and women in Nevada (30.3%); Utah had the lowest current smoking prevalence among both men (16.6%) and women (11.4%).

Respondents in 17 states and DC were asked questions on the protection provided by official workplace nonsmoking policies. Among respondents who primarily worked indoors (median: 75.2%), the proportion who reported an official workplace policy that addressed smoking in public, common, or work areas ranged from 87.1%-97.1% (median: 92.3%); the proportion who did not know the policies or refused to answer ranged from 0.1%-1.4% (median: 0.7%). The proportion of respondents who reported a smoke-free workplace policy ranged from 61.3% in Mississippi to 82.0% in DC (median: 73.0%). The proportion increased as the level of education increased: among high school graduates or less education, the range was 48.2%-82.4% (median: 63.2%); among those with some college education, the range was 60.7%-84.5% (median: 72.4%); and among college graduates or more education, the range was 68.9%-89.1% (median: 84.1%).

Reported by: the following BRFSS coordinators: S Reese, MPH, Alabama; P Owen, Alaska; B Bender, MBA, Arizona; G Potts, MBA, Arkansas; B Davis, PhD, California; M Leff, MSPH, Colorado; M Adams, MPH, Connecticut; F Breukelman, Delaware; I Bullo, District of Columbia; S Hoecherl, Florida; L Martin, MS, Georgia; F Reyes-Salvai, MS, Hawaii; J Aydelotte, MA, Idaho; B Steiner, MS, Illinois; L Stemnock, Indiana; J Daivila, Iowa; C Hunt, Kansas; T Sparks, Kentucky;
The prevalence of smoking among adults leveled off in the 1990s following a steady decline since the mid-1960s, and a wide range of smoking prevalence persists among states. Both Utah and PR have achieved smoking prevalence among persons of Puerto Rican descent living in the United States (CDC, unpublished data, 2000). Additional research is needed to clarify whether the twofold difference can be attributed to factors related to acculturation among persons from Puerto Rico or to other factors specific to the population sampled in PR. The exclusion of 25% of households that do not have telephones in PR could have contributed to the difference in prevalence estimates.

The proportion of respondents who reported that smoking was not permitted in either the public or work areas in the Current Population Survey (CPS) increased from 46.5% in 1992-1993 to 63.7% in 1995-1996. The 1999 BRFSS findings suggest that the proportion of respondents who report a smoke-free environment continues to increase. In addition, the association between increasing level of education and working in a smoke-free workplace is consistent with findings from CPS. Findings from the 1992-1993 CPS also showed substantial differences in the proportion of workers who reported smoke-free policies among various occupational groups.

The findings in this report are subject to at least four limitations. First, smoking data are based on self-reports without biochemical verification. Second, previous studies have shown that persons with less than a high school education have higher rates of smoking; however, sample size considerations led to the combining of respondents with less than a high school education and high school graduates. Third, respondents’ definitions of “official policy” may vary, and the validity of self-report of workplace policies is unknown. Fourth, PR’s smoking prevalence was determined from a sample of households with telephones, which represents approximately 75% of the population (D. Zavala, MD, Puerto Rico Department of Health, personal communication, 2000).

Momentum to regulate public smoking began to increase in 1990 when the Environmental Protection Agency released its publication draft Risk Assessment on Environmental Tobacco Smoke (ETS), classifying ETS as a Group A carcinogen that can cause lung cancer in nonsmokers. Government and private business policies that limit smoking in public workplaces have become increasingly common and restrictive. In 1999, laws restricting smoking in government work sites were in effect in 43 states and DC. I prohibit smoking, and two require either no smoking or designated smoking areas with separate ventilation. Twenty-one states have laws restricting smoking in private work sites, but only one requires either no smoking or separate ventilation for smoking areas. During 1998-1999, 79% of work sites with ≥50 employees had formal policies that prohibited smoking or limited it to separately ventilated areas. Information on the prevalence of smoking policies in workplaces with <50 employees, where most U.S. adults work, is not readily available.

In addition to reducing smoking by adolescents and adults, public health initiatives should reduce exposure to ETS. Healthy People 2010 contains objectives related to reducing the proportion of nonsmokers exposed to environmental smoke, increasing the proportion of work sites with restrictive policies, and increasing the number of states with smoke-free indoor air laws. Policy approaches, including the voluntary adoption of work site restrictions, enactment of restrictive clean indoor air laws, and enforcement of restrictions are effective in reducing the number of persons exposed to ETS. Smoke-free workplace policies reduce exposure of nonsmokers to ETS and increase the likelihood that smokers in these settings will smoke fewer cigarettes or quit. Persistent disparities in exposure to ETS at the work place must be addressed. To meet the national ETS-related objectives for 2010, states need to implement comprehensive programs that protect nonsmokers from ETS and follow the recommendations in the CDC report Best Practices for Comprehensive Tobacco Control Programs and the 2000 Surgeon General’s report on reducing tobacco use.

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1 table, 1 figure omitted

In 1994, COUNTRIES IN THE REGION OF the Americas set a goal of interrupting indigenous measles transmission by the end of 2000.1 From 1990 to 1996, measles cases declined from approximately 250,000 to an all-time low of 2109 confirmed cases.2 However, a resurgence began in 1997, with 52,284 confirmed cases reported from Brazil 3 and in 1998, with 14,330 confirmed cases reported from 16 (39%) of the 41 countries that report to the Pan American Health Organization (PAHO). This report summarizes the measles control strategies implemented in the region and measles incidence during 1999-2000 and indicates that the region has made important progress toward interrupting indigenous measles transmission and that achieving this goal is within reach.

Measles Vaccination

PAHO recommends a three-part vaccination strategy for interrupting indigenous measles transmission: (1) a one-time nationwide “catch-up” campaign targeting all persons aged 1-14 years; (2) routine, “keep-up” vaccination among 1-year-olds; and (3) nationwide “follow-up” campaigns conducted every 4 years, targeting all children aged 1-4 years, regardless of previous measles vaccination status.4 Thirty-nine (95%) of 41 countries in the region conducted catch-up campaigns during 1989-1995 and conducted follow-up campaigns since 1994; routine keep-up coverage in the region increased from 80% in 1994 to 91% in 1999.2

Measles Cases

From January 1999 through September 16, 2000, 28 (68%) of 41 countries in the region reported no measles cases, including Cuba, the English-speaking Caribbean countries, and most of Central and South American countries. In 1999, 3091 confirmed cases were reported from 11 countries, 78% fewer cases than in 1998 and 94% fewer than in 1997. In 1999, ongoing endemic transmission occurred in four countries (Bolivia [1441 cases], Brazil [797], Argentina [313], and the Dominican Republic [274]). In 1999 and 2000, Canada, Chile, Costa Rica, Mexico, Peru, Uruguay, and the United States reported measles importations; spread was limited by high vaccination coverage.5-7

From January 1 through September 16, 880 confirmed measles cases were reported in the region, the lowest number recorded in any year during those weeks. Endemic transmission occurred in Argentina, Bolivia, Brazil, the Dominican Republic, and Haiti. Forty (<1%) of the approximately 12,000 reporting municipalities reported confirmed measles cases during this period.

Since December 1997, virus isolates were obtained from nine outbreaks in the region (including urine specimens from Argentina, Bolivia, Brazil, Chile, the Dominican Republic, Haiti, and Uruguay) and were analyzed by the measles laboratories of the CDC and Fundacao Oswaldo Cruz in Brazil. All virus were genotype D6, which indicates its continued endemic circulation in the region.

Argentina. The 1997 measles epidemic in Sao Paulo, Brazil, spread to Argentina, where 10,667 confirmed cases were reported during 1997-1999. Of these, 10,229 (96%) occurred in 1998 and 313 (3%) in 1999. Cases decreased after a follow-up vaccination campaign was implemented in 1998, with 98% reported measles vaccination coverage among children aged 1-4 years. From January 1 through September 16, 2000, six confirmed cases were reported, a 99% decrease from 1999. These cases all occurred during February 21-March 13, 2000 in the central province of Cordoba, and all but one occurred among unvaccinated persons. Three cases occurred in young adults and two in health-care workers.

Brazil. Following the 1997 epidemic, a national follow-up vaccination campaign was conducted.3 In 1999, 797 cases were reported compared with 2781 confirmed cases in 1998. From January 1 through September 16, 47 (1%) confirmed cases were reported. Of these, 15 (32%) were from an outbreak in the western Amazon region, possibly related to an outbreak in Bolivia, 27 (57%) were sporadic laboratory-confirmed cases from Sao Paulo, and six cases were sporadic cases from other States. In June 2000, a national follow-up vaccination campaign was conducted targeting children aged 1-11 years; reported nationwide coverage was 97%.

Bolivia. In 1999, 1441 confirmed measles cases were reported, an increase from the 1004 cases reported in 1998. A measles epidemic began in May 1998, spreading from Yacuiba on the Argentinean border to all regions. A follow-up vaccination campaign was conducted during November-December 1999, with reported national coverage of 98%. However, outbreaks continued during 2000, and house-to-house monitoring indicated that many areas had not achieved 95% coverage during the 1999 campaign. From January through September 16, 118 confirmed cases were reported; 110 were associated with five outbreaks affecting rural, unvaccinated children and young unvaccinated adults who had immigrated from rural areas. The largest outbreak (66 cases) occurred during March-June in a Mennonite community in Santa Cruz that objects to vaccination; this outbreak was identified after a measles outbreak was reported from a related community in Alberta, Canada, linked to travel to the Bolivia’s Mennonite community.8 A nationwide, house-to-house vaccination campaign was initi-
ated in September to administer all vaccines used in the routine infant vaccination schedule (diphtheria and tetanus toxoids and pertussis vaccine [DTP], measles, mumps, and rubella vaccine, and oral poliovirus vaccine).

**Dominican Republic.** In 1999, 274 confirmed measles cases were reported. From January 1 through September 16, 162 confirmed cases (18% of the region’s total) were reported. Of these, 104 (64%) occurred among unvaccinated persons. The highest age-specific incidence rates were among infants aged <9 months (14 cases per 100,000), children aged 9 months-4 years (live), and adults aged 20-29 years (three per 100,000). Investigations of cases from 2000 indicated that outbreaks occurred in large cities among young factory workers where factories that attract workers from rural areas are located.

**Haiti.** No confirmed cases were reported in 1999. In 2000, an outbreak began in Artibonite; through September 16, 351 confirmed cases (40% of the region’s total) have been reported, most from this area (241) and metropolitan Port au Prince (72). Attack rates were highest for children aged 12-23 months (1.5 per 10,000), aged 2-4 years (1.2 per 10,000), and aged 5-9 years (0.8 per 10,000). In June, house-to-house vaccination was initiated for all children aged 6 months-15 years.

**CDC Editorial Note:** Countries in the Region of the Americas have made important progress in interrupting measles transmission. Countries have dedicated health-care personnel, resources, and political support to both vaccination programs and intensified disease surveillance. Countries that have adequately implemented all of the PAHO-recommended strategies have successfully interrupted measles transmission.²⁴

Effective measles control relies on achieving and sustaining a high level of vaccine-induced measles immunity. Although Haiti and the Dominican Republic have conducted nationwide vaccination campaigns, endemic transmission continues, mainly because measles coverage in the campaigns did not reach 95%.³ Reasons for suboptimal coverage included insufficient supervision and monitoring of house-to-house vaccination and delayed case investigations that prevented rapid assessment of the situation in areas with poor coverage. Sustaining a high level of vaccine-induced immunity to prevent spread of measles from importations is the most effective measles-control strategy.

PAHO recommends the appropriate and timely implementation of the following strategies to achieve, maintain, and monitor the interruption of endemic measles transmission in the region: (1) Obtaining greater than or equal to 95% routine coverage with measles-containing vaccine in all municipalities. Countries should validate coverage regularly through house-to-house monitoring and/or comparing the number of measles vaccine doses administered to the number of first doses of DTP or the number of doses of Bacille Calmette-Guerin vaccine; (2) Performing follow-up campaigns at least every 4 years and achieving greater than or equal to 95% vaccination coverage in all municipalities. Supervisors should verify the vaccination coverage daily during the campaign through house-to-house monitoring; (3) Vaccinating and monitoring coverage among groups at high risk for acquiring or transmitting the disease (i.e., health-care workers, migrant workers, groups philosophically opposed to vaccination, military recruits, and other young adults of rural origin); (4) Conducting reliable, routine surveillance for disease and actively validating data by looking for disease during all house-to-house vaccinations, regular visits to schools and health-care centers by each district’s supervisor, including monthly visits to high-risk areas (those where coverage is low, that do not submit weekly reports, with limited access to health services, where tourism or immigration are high, or that have had cases during the preceding weeks); and (5) Investigating all outbreaks, including (a) conducting household visits within 48 hours of identifying a suspected case and investigating all contacts and settings where case-patients were during both their exposure periods (7-18 days preceding rash onset) and their infectious periods (from the first respiratory symptoms until 4 days after rash onset); (b) collecting blood and either throat or nasopharyngeal swabs or urine specimens at the first contact with the suspected case-patients, sending them to the country’s measles reference laboratory within 5 days of taking them and analyzing the serum specimen, and reporting results within 4 days after the laboratory received the specimen; (c) identifying the epidemiological links of confirmed cases and evaluating the risk factors involved in every outbreak; and (d) verifying the absence of measles exportations/imports between countries within the region, including determining the viral genotypes to identify endemic or imported viruses.

**REFERENCES**

9 available