Cancer-Related Risk Factors and Preventive Measures in US Hispanics/Latinos

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In this article, we provide prevalence data on major cancer-related risk factors, early detection testing, and vaccination among Hispanics using nationally representative surveys. Compared with non-Hispanic whites, Hispanic adults are less likely to be current smokers (13% vs 22%) or frequent alcohol drinkers, but they are more likely to be obese (32% vs 26%) and to have lower levels of mammography use within the past year (46% vs 51%), colorectal screening as per recommended intervals (47% vs 61%), and Papanicolaou (Pap) test use within the past 3 years (74% vs 79%). Within the Hispanic population, the prevalence of these risk factors and early detection methods substantially vary by country of origin. For example, Cuban men (20.7%) and Puerto Rican men (19%) had the highest levels of current smoking than any other Hispanic subgroups, while Mexican women had the lowest levels of mammogram use (44%) and Pap test use (71%). Hispanic migrants have a higher prevalence of hepatitis B virus and Helicobacter pylori, which cause liver and stomach cancer, respectively. Among Hispanic adolescents, tobacco use (eg, 20.8% use of any tobacco products), alcohol use (42.9%), and obesity (23.2%) remain highly prevalent risk factors. Although 56% of Hispanic adolescents initiate human papillomavirus vaccination, only 56% of them completed the 3-dose series. Differences in risk factors and early detection testing among Hispanic groups should be considered in clinical settings and for cancer control planning.

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Introduction

The Hispanic population has several distinguishing demographic characteristics, including its rapid growth rate, relative youth, diverse ancestry and immigrant status, and low educational and socioeconomic levels. Hispanics are the fastest growing demographic group in the United States, with a younger population structure (median age of 27 years compared with a median age of 42 years for non-Hispanic white individuals). Numbering 50.5 million, Hispanics constituted 16.3% of the US population in 2010 and by 2050 Hispanics may comprise 35% of the US population.1,2 Within the Hispanic population, there is variation by Latinoamerican ancestry, with Mexicans outnumbering most other subgroups, including Puerto Ricans, Central Americans, South Americans, and Cubans. About 40% of these individuals have been born outside the United States.1,2 Moreover, there are substantial differences with respect to socioeconomic measures and education status.3 For example, the socioeconomic status of Mexicans is lower than that of Cubans and this difference has in part been attributed to different immigration histories and sociocultural experiences.4 The majority of Hispanics also face barriers to health care access, including a lack of health insurance coverage, underrepresentation in health care fields, and cultural and language differences.5,6 For instance, Hispanics in the United States are the least likely to have health insurance of any racial or ethnic group, which in turn reduces the likelihood of accessing timely preventive medical services such as cancer-related immunizations and early detection examinations.7,8 Such barriers to medical care access, as well as the distinct sociodemographic characteristics, likely play a role in cancer risk and detection in Hispanics and in the development of cancer prevention and control strategies.

This report serves as a companion to the report on cancer statistics among Hispanics.9 Besides updating our previous report,10 we provide the most current profile of modifiable cancer risk factors and use of recommended early detection tests among Hispanic subgroups in the United States and include new information regarding the uptake of human papillomavirus (HPV) vaccination in girls, a promising prevention strategy for cervical cancer and other HPV-related cancers. The information in these 2 reports is intended to help clinicians and public health professionals recognize and address the myriad cancer-related issues in US Hispanics.

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Materials and Methods

Data on behavioral risk factors, screening, and vaccination were obtained from national population-based surveillance systems. For adults, we used the National Health Interview Survey (NHIS)\textsuperscript{11} and the National Health and Nutrition Examination Survey (NHANES)\textsuperscript{12} and for adolescents, we used the Youth Risk Behavior Surveillance System\textsuperscript{13} and the National Immunization Survey of Teens (NIS-Teen).\textsuperscript{14} We provide data for major risk factors (cigarette smoking, obesity, physical inactivity, and alcohol consumption) and receipt of HPV vaccines and cancer screening tests. These surveys were analyzed using SUDAAN statistical analysis software (Research Triangle Institute, Research Triangle Park, NC) to obtain weighted prevalence estimates, which are considered to be representative of the noninstitutionalized civilian population.\textsuperscript{15} Information on adults by country of origin from the NHIS allowed for estimates of risk factors and screening data for major Hispanic subgroups (specifically, Mexicans, Puerto Ricans, Cubans, Central/South Americans, and Dominicans). In contrast, information by country of origin is not collected in the surveys of adolescents and therefore the data on adolescents presented here represent aggregate estimates for Hispanics. We acknowledge the possibility that this limitation masks likely variability across Hispanic subgroups.

Results and Discussion

Hispanic Adults

Smoking

Although public health efforts have dramatically reduced the prevalence of smoking in the past several decades, smoking remains the leading cause of preventable morbidity and mortality from cancer, cardiovascular diseases, stroke, and chronic obstructive pulmonary disease in the United States.\textsuperscript{16} Tobacco use accounts for about 30% of all cancer deaths in the United States, which include cancers of the lung, oral cavity, pharynx, esophagus, pancreas, cervix, bladder, and kidney.\textsuperscript{17}

Smoking prevalence has been steadily declining in the United States since the 1960s.\textsuperscript{17} According to NHIS data, the percentage of Hispanic adults who smoke is lower (13%) compared with non-Hispanic whites (22.3%). Furthermore, studies have shown Hispanics to be low-intensity smokers (consuming 5 or fewer cigarettes per day).\textsuperscript{18} Among Hispanics, smoking prevalence is higher in men (16.4%) than in women (9.3%) and in US-born (16.8%) than in foreign-born (10.7%) individuals.\textsuperscript{3} Among the major Hispanic subgroups, Cubans (20.7% in men and 15.1% in women) and Puerto Ricans (19.0% in men and 16.6% in women) are more likely to smoke than Mexicans (Fig. 1).

Smoking cessation conveys tremendous health and economic benefits that are greater for those who quit at a younger age,\textsuperscript{17,19} and Hispanic smokers are no less likely to want to quit than non-Hispanic whites.\textsuperscript{18,20,21} For many smokers, however, quitting may be difficult because of the addictive properties of nicotine in tobacco. A recent study showed that the role of social support is crucial to the success of quitting attempts in Latino smokers. In addition, social support among Latinos seems to buffer against depression, which is negatively associated with attempts to quit.\textsuperscript{22} Advice to quit by a health care provider is important in encouraging smokers to quit, and several medical interventions (combined behavioral counseling and pharmacological therapies) have been shown to be efficacious.\textsuperscript{23} However, recent reviews have noted several important research gaps: that Hispanic smokers have been underrepresented in smoking cessation research since fewer studies (12 studies) have targeted adult Hispanics compared with 22 studies targeting African American smokers and that among these studies of Hispanics smokers, only 5 were randomized controlled trials, thereby highlighting the need for further research to expand the evidence on short- and long-term efficacy studies in Hispanic smokers.\textsuperscript{20,24} In addition, the overall use of effective treatment to aid cessation is not optimal (range, 25%-40%) in the United States,\textsuperscript{25} and is particularly lower among racial and ethnic minority smokers, including Hispanics.\textsuperscript{18,20,21} Barriers to treatment include the availability of services, knowledge of smoking cessation resources, health care access, cost, and availability of language-specific resources.\textsuperscript{20,26} Therefore, in addition to identifying effective interventions, efforts are needed to increase the implementation of interventions, availability and awareness of treatment resources, and demand for treatment among minority smokers.\textsuperscript{20,27} Smoking cessation programs for Hispanics may be more effective if they include outreach by lay health advisors (“promotoras”). These advisors, who are trained to attend to the specific health and medical needs of community members, assist medically underserved Hispanic smokers in accessing tobacco cessation services.\textsuperscript{28,29}
The recent epidemic of obesity in the United States. Obesity, defined in adults as a body mass index (BMI) of 30 kg/m² or greater, is associated with an increased risk of several cancers, including breast cancer (postmenopausal); adenocarcinoma of the esophagus; and cancers of the colon and rectum, endometrium, kidney, and pancreas. Obesity also increases the risk of type 2 diabetes, high blood pressure, heart disease, and premature death. The growing burden of diabetes (especially in Hispanics) and cancers of the heart disease, and premature death. The growing burden also increases the risk of type 2 diabetes, high blood pressure, heart disease, and premature death.30

The NHANES is the most accurate source of population-based data on obesity trends in the United States and have been attributed to changes in the social environment, including the availability and promotion of high-calorie and low-nutrient foods and reduced opportunities to engage in physical activity at work, while commuting, in school, and during leisure time. Overall, these environmental changes have led to increased caloric consumption and decreased energy expenditure in the population. The NHANES is the most accurate source of population-based data on obesity trends in the United States and have been attributed to changes in the social environment, including the availability and promotion of high-calorie and low-nutrient foods and reduced opportunities to engage in physical activity at work, while commuting, in school, and during leisure time. Overall, these environmental changes have led to increased caloric consumption and decreased energy expenditure in the population.30

The prevalence of leisure-time physical activity in Hispanics is generally much lower than levels seen in non-Hispanic white adults; moreover, Hispanic/Latino women report lower levels of physical activity than men (Fig. 3). However, it should be noted that these self-reported measures reflect only physical activity participation at leisure and may considerably underestimate total physical activity. Hence, for segments of the populations who are employed in industries with physically demanding occupations (eg, construction, farming, or service cleaning professions), a more comprehensive assessment of total activity (work and leisure-time physical activities) should be considered when planning initiatives targeted at minority groups.37

Behavior practices such as maintaining a healthy weight, adopting a physically active lifestyle, and consuming a healthy diet are the most important approaches to reducing the risk of cancer, as well as many other chronic diseases.30 The American Cancer Society (ACS) guidelines on nutrition and physical activity for cancer prevention, which were most recently updated in 2012, recommend achieving and maintaining a healthy weight throughout life; adopting a physically active lifestyle; consuming a healthy diet, with an emphasis on plant sources; and limiting the consumption of alcoholic beverages.30 The US Department of Agriculture (USDA) recommendations on nutrition and physical activity...

Another national source of information on obesity data is based on the self-reported NHIS surveys. Although these data have generally been known to underestimate BMI compared with data from NHANES, it is the only national source to help identify possible variations in obesity levels by Hispanic subgroups. The recent NHIS data show that Mexicans and Puerto Ricans are more likely to be obese than Cubans, Central/South Americans, or Dominicans (Fig. 2).

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for Americans are consistent with those of the ACS and are available in Spanish (for additional information, health care professionals interested in providing the Spanish-based guidelines to their patients may go to choosemyplate.gov/print-materials-ordering/DGbrochure-spanish.pdf).

**Alcohol Consumption**

Alcohol consumption is an established cause of cancers of the mouth, pharynx, larynx, esophagus, liver, colorectum, and female breast, and there is some evidence of an association with pancreatic cancer.\(^{30,31,38,39}\) Alcohol consumption interacts with tobacco use to increase the risk of cancers of the mouth, larynx, and esophagus considerably more than the effect of either drinking or smoking alone.\(^{30,31}\) High levels of alcohol consumption are also a cause of cirrhosis, a disease process that predisposes certain individuals to develop liver cancer.\(^{31,40,41}\) Other consequences of drinking in excess that leads to intoxication are an increased risk of accidents, suicide and/or violence, sexually transmitted infections, and alcohol use disorders, among others.\(^{42}\)

According to NHIS data, the self-reported estimate of frequent alcohol consumption (3 or more drinks per week) is lower in Hispanics than in non-Hispanic whites, although in some studies the prevalence of binge drinking (5 or more drinks per occasion) in Hispanics males is higher compared with non-Hispanic whites.\(^{43}\) Moreover, there is variation in consumption levels by gender (5% in Hispanic women vs 21% in Hispanic men) and country of origin (eg, highest rates of consumption in Cuban [21%] and Mexican men [22%] and lowest rates of consumption in Dominican men [11.6%]) (Fig. 4). The ACS guidelines on nutrition and physical activity for cancer prevention state that individuals should limit their alcohol consumption to no more than 2 drinks per day for men and no more than 1 drink per day for women.\(^{30}\)

**Infectious Agents**

Infectious agents contribute to about 23% of the total incident cancer cases in less developed regions and 7.4% of the cases in more developed regions, with *Helicobacter pylori* (H. pylori), hepatitis B virus (HBV), hepatitis C virus (HCV), and HPV accounting for nearly 95% of the total infection-related cancers.\(^{44}\)

In the United States, the cancer burdens associated with these infections are much higher in Hispanics than non-Hispanic whites.\(^9\) Below, we briefly describe studies regarding exposure patterns using US national prevalence data for Mexicans, the only Hispanic subpopulation for whom these estimates are available.

Chronic infection with *H. pylori* is a major risk factor for stomach cancer.\(^{45,46}\) Although the prevalence of *H. pylori* continues to decline due to improved sanitation and living conditions as well as the increased use of antibiotics, particularly in developed countries, approximately one-half of the world's population is still infected with *H. pylori*. According to data from the NHANES (1999-2000), seroprevalence of *H. pylori* infection in US adults was higher in Mexicans (64%) and non-Hispanic blacks (52%) than in non-Hispanic whites (21%).\(^{46,47}\) Among Hispanics, the infection prevalence decreases with each successive generation.\(^{48}\) Specific primary prevention strategies have not been recommended for *H. pylori* infection because the sources and transmission routes are uncertain; transmission is thought to occur from person to person through fecal-or oral and oral-oral routes, facilitated by the crowded living conditions and relatively poor sanitation common in the countries of origin of many Hispanic immigrants. However, *H. pylori*-infected individuals who experience symptoms or who have a family history of stomach cancer can be successfully treated with antibiotics.\(^{49,50}\)

Chronic infection with HBV and HCV is strongly associated with the development of cirrhosis and liver cancer.\(^{51}\) The prevalence of HBV infection (past or present) has also decreased among Mexicans, from 5.1% between 1988 and 1994 to 2.9% between 1999 and 2006.\(^{52}\) In contrast, the prevalence of HBV infection remained relatively unchanged among non-Hispanic whites (from 3.0% to 2.8%) in the United States during this time period. A history of HBV infection is more common among foreign-born (12.2%) than US-born (3.5%) individuals.\(^{52}\) It has been estimated that immigrants to the United States, many of whom come from high-prevalence countries, account for 95% of new cases of HBV infection.\(^{53}\) There has been a vaccine available for the primary prevention of HBV infection since 1982, which has resulted in a substantial reduction in HBV infection rates among children.\(^{52,54}\) The Centers for Disease Control and Prevention recommends receipt of the 3-dose HBV vaccine series for all infants at

![FIGURE 4. Frequent Alcohol Consumption in Adults by Ethnicity and Sex, United States, 2009 Through 2010.](Image 320x606 to 536x728)
birth, children ages birth to 18 years who were not previously vaccinated, and high-risk adults (eg, health care workers, intravenous drug users, individuals with multiple sexual partners, and individuals ages 19 years to 59 years with diabetes mellitus).53-55,57 Pregnant women should be screened for evidence of HBV infection and, if positive, newborn infants should receive both hepatitis B immune globulin and HBV vaccine within 12 hours of birth.56

HCV infection is the most common blood-borne infection in the United States, although many people are unaware that they are infected because they do not have symptoms.58 The virus is spread through blood-to-blood or sexual contact (ie, the use of intravenous drugs, receipt of unscreened blood transfusion or organ transplant, or kidney dialysis). Data from 1999 through 2002 showed a similar prevalence of HCV infection among Mexicans (1.3%) and non-Hispanic whites (1.5%).59 However, Mexican-born individuals are about one-third as likely as those born in the United States (0.5% vs 1.8%) to have a history of HCV infection.59 Similarly, US-born Hispanics are much more likely than foreign-born Hispanics to have risk factors for HCV infection (eg, intravenous drug use, kidney dialysis, or tattoos).60 In contrast to HBV infection, there is no vaccine to protect against HCV infection. Primary prevention strategies include counseling both uninfected individuals at high risk for infection about how to prevent exposure and infected individuals about how to avoid transmission to others.58

Persistent infection with HPV causes nearly all cervical and anal cancers, about 40% of other genital cancers (ie, vaginal, vulvar, and penile cancers), and an increasing proportion of head and neck cancers.61-63 HPV is the most common sexually transmitted infection in the United States, and adolescents and young adults have the highest prevalence of all age groups; almost one-half of women aged 20 years to 24 years are infected.64 The prevalence of HPV infection among females aged 14 years to 59 years is similar among Hispanics (24.3%) and non-Hispanic whites (24.2%).64; however, first-generation Mexican immigrants have a higher prevalence of HPV infection than US-born Mexican women.65 It is important to note that most cervical HPV infections are successfully cleared by the body within one year and do not result in the persistent infection required for progression to cancer.66

HPV vaccination is recommended for adolescent girls (ages 11 years-12 years) and females (ages 13 years-26 years) who have not been previously vaccinated. Both vaccines are administered in 3 doses over the course of 6 months. The vaccines are covered under the Centers for Disease Control and Prevention’s Vaccines for Children Program, a national subsidy program that provides vaccines free of charge to children younger than 18 years of age who are under- or uninsured. Most private health insurers also cover the vaccine.19 According to the annual NIS-Teen survey (girls aged 13 years-17 years), the rate of initiation (received ≥1 dose of the vaccine series) increased from 25% in 2007 to 48% in 2010. Although more Hispanic girls aged 13 years to 17 years (56.2%) had initiated vaccination compared with non-Hispanic whites (45.8%), the rate of completion of the recommended 3-dose series was lower in Hispanics (56.1% vs 74.7%) (Table 1).13,67-69 Continued efforts are needed to address barriers and expand coverage for HPV vaccination in adolescents and other early prevention/detection measures (eg, cervical cancer screening) in Hispanics, as well as other disadvantaged segments of the US population.68,70

Of note, men are also at risk for HPV infections, which can lead to developing HPV-related conditions (ie, genital warts) and other types of HPV-related cancers (ie, those of the penis, anus, or oropharynx).71,72 The most recent updated recommendations from the Advisory Committee on Immunization Practices include expanded vaccination coverage, such as the routine vaccination of adolescent boys (aged 11 years or 12 years) and men (through age 26 years), as well as men with a weakened immune system (eg, due to human immunodeficiency virus infection) with all 3 doses of the quadrivalent vaccine (ie, Gardasil).71,72

Cervical, Breast, and Colorectal Cancer Screening

Screening tests can detect some types of cancer early, at a stage when the disease is more likely to be treated successfully, and thereby greatly improve the chances of a cure, extend life, reduce the extent of treatment needed, and improve the quality of life for cancer patients.73 For some cancers, early detection can actually prevent cervical and colorectal cancers from occurring, through the identification and removal of precancerous lesions.73 Increasing prevalence of evidence-based screening throughout the population, especially among racial and ethnic subgroups and those with lower socioeconomic status who lack health insurance, is important to reduce the rate of late-stage or advanced cancers that affect cancer prognosis and survival.7 The ACS screening guidelines for average-risk individuals recommend tests for the early detection of colorectal, breast, and cervical cancers. Adults aged 50 years and older should be screened for colorectal cancer at intervals that depend on which of the testing options is chosen: annually for guaiac-based or immunochemical fecal occult blood testing; every 5 years for...
flexible sigmoidoscopy, computed tomography colonography, or double-contrast barium enema; or every 10 years for colonoscopy. Women aged 40 years and older should undergo annual mammography and clinical breast examination. Women between the ages of 21 years and 29 years should have a Papanicolaou (Pap) test every 3 years, and women aged 30 years to 65 years should undergo a Pap test and HPV test every 5 years or a Pap test alone every 3 years.61,68

In the United States, there has been considerable progress in fostering the appropriate use of screening tests for cervical, breast, and colorectal cancer screening procedures among age-eligible US adults within the past few decades, yet disparities remain.19,68 According to the most recent NHIS data in 2010, compared with non-Hispanic whites, Hispanics overall are less likely to have been recently screened for cervical, breast, or colorectal cancer. For instance, in Hispanics aged 50 years and older, the prevalence of colorectal cancer screening tests is significantly lower (51% and 42% in women and men, respectively) compared with their non-Hispanic white counterparts (60% in women and 63% in men). Approximately 46.5% of Hispanic women report having had a mammogram in the past year compared with 51.5% of non-Hispanic white women, while 74.7% of Hispanic women aged 21 years and older reported having had a recent Pap test within the past 3 years compared with 79.1% of non-Hispanic white women (Figs. 5 and 6). Furthermore, certain subgroups of Hispanics are far less likely to be up-to-date on these recommended cancer screenings than other groups, with Mexicans reporting the lowest levels of cancer screening compared with Cubans or Puerto Ricans (Figs. 5 and 6). Notwithstanding the fact that less precise estimates were available for Cubans, Puerto Ricans, Central/South Americans, and Dominicans, it is interesting to note that women in these subgroups report better use of colorectal cancer screening than their male counterparts (Fig. 6). Hispanic men, regardless of country of origin, show lower participation in colorectal cancer screening uptake, calling attention to the need for screening programs to improve the targeting and outreach efforts to this underscreened group.74

Hispanic Adolescents

Adolescents establish patterns of behavior and make lifestyle choices that affect both their current and future health, including the risk of developing chronic diseases.
Research studies provide evidence that promoting and establishing healthy behaviors for younger people are more effective, and often easier, than efforts to change unhealthy behaviors already established in adult populations. In this section, we briefly describe the 4 most important cancer-related prevention issues for Hispanic adolescents: smoking, obesity, alcohol use, and use of vaccines to prevent cervical cancer (Table 1).

Smoking
The recent US Surgeon General’s Report noted that every day, over 3800 children in the United States smoke their first cigarette, putting themselves at risk for nicotine addiction and the many diseases associated with smoking. Among Hispanic high school students, 16.7% of females and 19.4% of males smoked cigarettes (at least 1 or more cigarettes within the past 30 days) in 2009 (Table 1). Preventing smoking and tobacco use among young people is critical to ending the epidemic of tobacco use because if young people do not start using tobacco by age 26 years, they almost certainly will never start. The latest 2012 report from the Surgeon General on preventing tobacco use among the young calls for the implementation and maintenance of comprehensive tobacco control measures (such as counter-mass media campaigns and tobacco price increases) and community-level policies to reduce secondhand smoke exposure, which are known to be effective in reducing the initiation of tobacco use in young individuals.

Obesity, Nutrition, and Physical Activity
Childhood obesity has both immediate and long-term effects on health and well-being, for example, obese adolescents are more likely to have prediabetes, a condition in which blood glucose levels indicate a high risk for the development of diabetes. Trends data from objectively measured height and weight collected in the NHANES between the late 1980s and 2008 showed that the percentage of US adolescents aged 12 years to 19 years who were obese tripled from 5% to 18%. For the most recent time period (2009-2010), Hispanic adolescents were more likely

| TABLE 1. Prevalence of Smoking, Alcohol Use, Obesity, and Use of HPV Vaccines by Ethnicity in US Adolescents, 2009 to 2010 |
|-------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Risk behaviors                                  | HISPANIC        |                  |                  |                  |                  |                  |
|                                                 | TOTAL, %        | FEMALE, %        | MALE, %          | TOTAL, %        | FEMALE, %        | MALE, %          |
| Current smoking                                 |                  |                  |                  |                  |                  |                  |
| Any tobacco usea                                | 20.8            | 18.1             | 23.6             | 30.3            | 24.9             | 35.1             |
| Cigarette useb                                  | 18.0            | 16.7             | 19.4             | 22.5            | 22.8             | 22.3             |
| Obesityc                                        | 23.2            | 19.8             | 26.5             | 16.1            | 14.7             | 17.5             |
| Alcohol                                        |                  |                  |                  |                  |                  |                  |
| Current alcohol used                           | 42.9            | 43.5             | 42.4             | 44.7            | 45.9             | 43.6             |
| Binge drinkinge                                | 24.1            | 23.3             | 25.1             | 27.8            | 27.5             | 28.0             |
| HPV vaccine usef                               |                  |                  |                  |                  |                  |                  |
| ≥1 dose                                        |                  | 56.2             |                  |                  |                  | 45.8             |
| ≥3 doses                                       |                  | 29.5             |                  |                  |                  | 32.4             |
| 3-dose series, completiong                     |                  | 56.1             |                  |                  |                  | 74.7             |
| HPV indicates human papillomavirus.            |                  |                  |                  |                  |                  |                  |
aSmoked cigarettes, cigars, or cigarillos (“little cigars”) or used chewing tobacco, snuff, or dip on 1 or more of the 30 days preceding the survey.
bSmoked cigarettes on 1 or more of the 30 days preceding the survey.
cObesity was defined as a body mass index (BMI) greater than or equal to the 95th percentile of the BMI cutoff points from the 2000 sex-specific BMI-for-age growth charts in adolescents aged 12 years to 19 years.
dHad 1 or more drinks of alcohol on 1 or more of the 30 days preceding the survey.
eHad 5 or more drinks of alcohol in a row within a few hours on 1 or more of the 30 days preceding the survey.
fGirls aged 13 years to 17 years received 1 or more doses of HPV vaccine, either quadrivalent or bivalent.
gThe proportion of girls who completed the 3-dose series among those who received at least one dose and at least 24 weeks elapsed between the first dose and the interview date in girls aged 13 years to 17 years.

Data sources: Centers for Disease Control and Prevention (CDC). Youth Risk Behavior Surveillance System. cdc.gov/ncddphp/dash/yrbs/index.htm. Accessed May 2012.

HPV vaccine use data are from the Centers for Disease Control and Prevention (CDC). National and state vaccination coverage among adolescents aged 13 through 17 years-United States, 2010. MMWR Morb Mortal Wkly Rep. 2011;60:1117-1123.

Obesity data were obtained from National Health and Nutrition Examination Survey (NHANES) 2009-2010. Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of obesity and trends in body mass index among US children and adolescents, 1999-2010. JAMA. 2012;307:483-490.
to be obese than their non-Hispanic white counterparts; moreover, Hispanic males showed higher levels of obesity than Hispanic females (26.5% vs 19.8%) (Table 1).67-69 The higher rates of obesity in Hispanic adolescents is of concern and suggest that, unless policy-makers take action, this and subsequent generations will be less healthy as they age, affecting, among other things, future chronic disease morbidity and health care costs.19,78

To mitigate the problems of childhood obesity and overweight, preventive measures and nutritional care should start at an early age. Experts recommend that obesity prevention strategies be multipronged: at the community, school, and family level.19,30 For example, school environments could address physical activity and healthy diet in adolescents through the implementation of school-based policies.36 A federal policy initiative addressing childhood obesity involves the USDA’s National School Lunch Program, which provides nutritious and low-cost or free meals to schools across the country. Approximately 31.2 million children (from 101,000 schools and residential child care institutions) participated in the program between 2008 and 2009. The program supports the critical role of enabling access to nutritionally balanced meals to most children and particularly those from low-income households.79 With respect to increasing physical activity in Hispanic/Latino children, experts recommend that interventions should target Latino parents and children with culturally relevant information (eg, it should be provided in English and Spanish, promoting sports and recreational activities favored by Latinos). Such interventions also should involve family members, including parents and siblings, to engage the full family unit and harness the power of positive role-modeling.36

Alcohol Consumption
In 2009, Hispanic high school students reported nearly similar alcohol consumption levels as non-Hispanic whites and in both groups the rates of consumption are considerable. About 43% of Hispanic females and males reported consuming alcohol on at least 1 of the preceding 30 days; 23% of girls and 25% of boys reported consuming 5 or more drinks on a single occasion (Table 1).67-69 There is an extensive literature on the social, health, and economic consequences of underage drinking and binge drinking.80,81 The prevalence rates and problematic consequences of underage drinking warrant a comprehensive public health approach, grounded in preventive interventions and policy. The prevention of underage drinking is aimed at reducing a young person’s risk of using alcohol or increasing those factors that help protect them against alcohol use. School-based interventions that support the development of life skills and social competencies have been shown to be effective. Other recommended strategies from the Centers for Disease Control and Prevention Task Force on Community Preventives Services include the regulation of the availability of alcohol in communities (eg, maintaining limits on the days and hours of sales or the enforcement of laws prohibiting sales to minors).81 In addition, evidence-based tools for health care professionals (such as the National Institute on Alcohol Abuse and Alcoholism’s “Alcohol Screening and Brief Intervention for Youth: A Practitioner’s Guide”) are available to assist providers in identifying those adolescents at risk for alcohol-related problems.82

Issues and Opportunities in Cancer Control for Hispanics
Effective cancer control focuses not only on individual factors that determine cancer risk but also on the synergy of the combined personal, environmental, occupational, and other sociocultural determinants that impact cancer-related morbidity and mortality. In this context, it remains critically important to recognize and address the barriers experienced by Hispanics resulting from the disproportionately higher levels of poverty, lower educational attainment and health literacy, and lower levels of health care coverage in the population.1,2,83 It is estimated that over one-third of Hispanics/Latinos in the United States do not have health insurance, which likely affects both health care access and quality of care.1,2 Numerous studies have documented that the low use of medical and preventive services (including cancer screening) has been associated with a lack of insurance coverage and other related access measures (ie, lack of a usual source of care or report of cost-related access-to-care problems).7,26,83,84 In addition, a lack of health insurance may impede choices in providers; hamper continuity of care, including access to specialty providers; and contribute to inconsistent treatment adherence.83,85 Public health policies that address the needs of uninsured, low-income Hispanics are needed. Although still in the implementation phase, the Patient Protection and Affordable Care Act (PPACA) includes numerous provisions that are expected to significantly expand health insurance coverage. For example, some PPACA provisions are intended to expand Medicaid enrollment to previously uninsured, low-income individuals and create new health insurance exchanges that will significantly increase coverage options for the uninsured.86

The increased diversity of the immigrant population in the United States in terms of countries of origin emphasizes the need for the cross-cultural adaptation of cancer prevention and control strategies and the role of health care providers in facilitating the integration of the foreign-born Latino population into the US health care system.87 In addition, cancer control programs should be targeted (such as through the use of vaccination and/or infection control
strategies against infectious agents associated with cancers in specific immigrant communities) as well as focused toward including evidence-based early disease detection; addressing health literacy issues with culturally and linguistically appropriate sources of information about health and health care; improving the effectiveness of disease management and the ability to navigate the health care systems; increasing continuity and coordination of care; and responding effectively to patient perceptions regarding poor quality of interpersonal communication, satisfaction, and effectiveness of care.29,88,89

Conclusions

Based on the findings from the survey data presented in this report and additional data from the published literature, we highlight the following summary observations for Hispanic adults. Despite a somewhat lower prevalence of smoking and frequent alcohol consumption compared with non-Hispanic whites, higher rates of these risk factors were observed in Cuban men (20.7%) and Puerto Rican men (19%). With respect to breast and cervical cancer screening, Mexican women had the lowest levels of mammogram use (44.3%) and Pap test use (71.6%). In the case of colorectal cancer screening, Hispanics overall (and especially men regardless of country of origin) showed low levels in their use of colorectal cancer screening tests compared with non-Hispanic whites. Recognizing the variations in prevalence across Hispanics’ countries of origin should assist in developing priorities and guiding the development of targeted cancer control strategies and programs to address the diverse cancer-related needs of this population.

Among Hispanic adolescents, we highlight the following findings. High rates of tobacco and alcohol use remain prevalent risk factors (eg, 20.8% report the use of any tobacco products and 42.9% report consuming alcoholic drinks), as well as a high prevalence of obesity (with levels in males and females of 26.5% and 19.8%, respectively), and a low use of the HPV vaccination among females (only 56% of those who initiated the series have completed the HPV vaccination as recommended). Attention to these cancer-related risk factors is an increasingly important public health concern because of their future implications regarding the burden of certain cancers.

Educational programs and material tailored to Latinos can increase the awareness and use of cancer screening.90 In addition, educational campaigns should consider using multiple media, including television, radio, and newspapers and magazines, in both English and Spanish, to expand their reach to diverse Hispanic/Latino communities. Clinicians and health care professionals interested in more information about programs available through the ACS and its partners can access “Cancer Facts & Figures for Hispanics/Latinos, 2012-2014” (cancer.org/statistics). Lastly, clinicians and health care systems can play an important role in motivating Latino populations to participate in community-based screening programs and/or advocate for the enhancement of outreach public health programs (eg, enhance or support access to HPV vaccination and smoking cessation interventions and services) that ameliorate the risk of cancer in the Hispanic communities.

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