

LEADING HEALTH INDICATORS: A COMPARISON OF HISPANICS WITH NON-HISPANIC WHITES AND NON-HISPANIC BLACKS, UNITED STATES 2003

Objective: One of the goals of Healthy People 2010 is to eliminate health disparities among racial/ethnic groups. This study compared Hispanics with non-Hispanic Whites and non-Hispanic Blacks on six leading health indicators (LHIs) by demographics characteristics, access to medical care, and general health status.

Setting: Data were gathered from 2003 Behavioral Risk Factor Surveillance System (BRFSS), a state based random-digit-dialed telephone survey.

Participants: Respondents were non-institutionalized adults age ≥ 18 years.

Methods: Respondents were compared by physical activity, smoking, binge drinking, obesity, health insurance coverage, specific source of ongoing care, influenza vaccination within last 12 months, and any pneumococcal vaccination. Logistic regression models were constructed to evaluate racial/ethnic differences in LHIs after adjusting for confounding variables.

Results: Responses from 235,784 participants were analyzed (Hispanic=18,929, non-Hispanic White=202,035, non-Hispanic Black=14,820). Hispanics did not meet the target of any LHIs. Regardless of educational attainment, and after adjusting for confounders, Hispanics were less likely than non-Hispanic Whites to be moderately physically active, to have healthcare coverage or a specific source of ongoing care, and to have received a pneumococcal vaccination. They were less likely to smoke but equally as likely to have received a flu shot. Hispanics with more than a high school education were equally likely to binge drink but more likely to be obese than non-Hispanic Whites after adjusting for confounding factors.

Conclusions: To eliminate the health disparities of Hispanics by 2010, culturally appropriate health education and accessible preventive services are needed. (*Ethn Dis.* 2006;16:534-541)

Key Words: BRFSS, Ethnicity, Healthy People 2010, Hispanics

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INTRODUCTION

The United States is known for its racial and ethnic diversity. In the last 30 years, racial/ethnic minority populations have increased at a faster rate than the non-Hispanic White population.¹ Specifically, Hispanics are the fastest growing minority group, representing 13.3%² of the US population, followed by non-Hispanic Blacks (13.0%).³ Although non-Hispanic Whites are the largest racial and ethnic group in the United States, Hispanics will continue to add the largest number of people to the US population each year and by 2050 will account for nearly one-quarter of the US population.¹

Healthy People 2010 (HP2010) is a national health promotion and disease prevention initiative that has identified health objectives for the United States to achieve by 2010.⁴ The goals are to prevent or delay disease, decrease mortality, and improve health-related quality of life for all Americans.⁴ One of the broadly defined goals is to reduce disparities in health among population

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*Compared with non-Hispanic Whites, Hispanics are more likely to be physically inactive and obese, and they are less likely to have health insurance, access to ongoing care, and adequate influenza and pneumococcal vaccination (for those age ≥ 65 years) coverage.*⁵

groups. Healthy People 2010 (HP2010) has identified 10 leading health indicators (LHIs) as the top health priorities for the US population. The LHIs were chosen because they are the preventable threats to health, and data are available to measure their progress.⁴ The LHIs are physical activity, overweight and obesity, tobacco use, substance use, responsible sexual behavior, mental health, injury and violence, environmental quality, immunization, and access to health care. By monitoring the LHIs, public health officials can spotlight the achievements and problems in the nation's health.

Current research suggests that disparities exist among population groups in terms of health behaviors, access to health care, and immunization coverage. Hispanics in particular bear a disproportionate burden of disease, injury, and premature death and disability.⁴ Compared with non-Hispanic Whites, His-

panics are more likely to be physically inactive and obese, and they are less likely to have health insurance, access to ongoing care, and adequate influenza and pneumococcal vaccination (for those age ≥ 65 years) coverage.⁵ To our knowledge, no study had looked at the health disparity in Hispanics with the LHIs as identified in Healthy People 2010.⁶ The main purpose of our study was to compare the prevalence of the LHIs among Hispanics, non-Hispanic Whites, and non-Hispanic Blacks by demographic characteristics, access to medical care, and health status. We also wanted to explore how Hispanic race/ethnicity is associated with LHIs after adjusting for confounding factors.

METHODS

Behavioral Risk Factor Surveillance System

We used data from the 2003 Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is an annual, state-based, random-digit-dialed telephone survey of the non-institutionalized civilian population age ≥ 18 years.⁶ The largest continuously conducted telephone survey in the world, the BRFSS completes $\approx 200,000$ adult interviews each year. The survey is designed to compare health and behavioral characteristics at the population level, to identify emerging health issues, and to document health and behavioral trends. It is a useful tool to measure the progress of HP2010 objectives.⁶ Interviews are conducted in English or Spanish. Standard questions on the BRFSS include demographic characteristics, health status, access to care, health habits (eg, smoking, physical activity), selected chronic conditions (eg, diabetes, hypertension), and clinical preventive health practices (eg, mammography, blood stool test). Each sample is weighted to the respondent's probability of selection and to the age- and sex-specific population or age-, sex-, and

race-specific population of each state. Prevalence of risk factors is calculated by using weighted data. Design, random sampling procedures, and validation of the BRFSS survey are described in detail elsewhere.⁷

Leading Health Indicators

Our study focused on six LHIs that can be examined with the BRFSS: physical activity, obesity among those age ≥ 20 years, tobacco use, binge drinking, influenza and pneumococcal vaccination coverage among adults age ≥ 65 years, and proportion of persons with a specific source of ongoing care and those with healthcare coverage age 18–64 years.

Respondents were asked to recall the overall frequency and time they spent engaging in moderate physical activities outside their work (eg, brisk walking, bicycling, vacuuming, gardening, or activities that causes some increase in breathing or heart rate) in a typical week. Respondents who participated in moderate physical activity for ≥ 30 minutes for ≥ 5 days per week were classified as engaging in moderate physical activity. Self-reported weight and height were used to calculate body mass index ($BMI = \text{weight [kg]} / \text{height [m}^2\text{]}$). Participants were classified as obese if their BMI was $\geq 30 \text{ kg/m}^2$. Obesity analyses were restricted to participants' age ≥ 20 years in accordance with the HP2010 LHI. Respondents who smoked ≥ 100 cigarettes in their lifetime and smoked every day or some days were classified as current smokers. Binge drinking was defined as having ≥ 5 drinks on at least one occasion during the past month. Respondents age ≥ 65 years were evaluated to estimate the receipt of influenza vaccination in the past 12 months and any receipt of pneumococcal vaccination. Respondents age 18–64 years were considered to have healthcare coverage if they had any kind of healthcare plan, including health insurance, prepaid plans such as HMOs, or government

plans such as Medicare. Respondents were considered to have a specific source of ongoing care if they reported having one or more personal doctors or healthcare providers.

Demographic and Health Status Measures

Demographic factors included were sex, education, employment status, marital status, age, and access to medical care. Education had four levels: not a high school graduate, high school graduate, some college/technical college, and college graduate. Employment was dichotomized into employed (ie, employed for wage, self-employed) and not employed (ie, homemakers, students, retired persons, persons unable to work, or persons unemployed). Marital status contained three levels: married (ie, married, member of an unmarried couple), previously married (ie, divorced, widowed, separated), and never married. Age had six categories: 18–24 years, 25–34 years, 35–44 years, 45–54 years, 55–64 years, and ≥ 65 years. Respondents who did not have any health plan (including health insurance, prepaid plans such as HMOs, or government plans such as Medicare) or who had a health plan but could not see the doctor because of cost in the past 12 months were considered not to have access to medical care. Self-rated general health was dichotomized into good health (excellent, very good, or good health) and fair or poor health.

Race/ethnicity was classified on the basis of two questions. The first question asked respondents if they were Hispanic or Latino. The following question asked respondents to select one or more race category. Respondents who reported that they were Hispanic or Latino were classified as Hispanic regardless of their answer to the second question. Respondents who did not classify themselves as Hispanic and then reported themselves to be White were classified as non-Hispanic White, and in the same way, respondents who reported themselves to

Table 1. Age-adjusted demographic characteristics of Hispanic, non-Hispanic White, and non-Hispanic Black adults age ≥18 years, Behavioral Risk Factor Surveillance System, 2003

Characteristics	Hispanic		Non-Hispanic White		Non-Hispanic Black	
	Percent	95% CI	Percent	95% CI	Percent	95% CI
Sex						
Male	47.8	46.1–49.5	48.7	48.3–49.1	43.3	42.0–44.5
Female	52.2	50.5–53.9	51.3	50.9–51.7	56.8	55.5–58.0
Education						
At most high school graduate	64.8	63.2–66.3	37.9	37.5–38.2	52.5	51.3–53.7
Not a high school graduate	36.1	34.4–37.7	7.7	7.5–7.9	17.0	16.1–17.9
High school graduate	28.7	27.3–30.2	30.2	29.8–30.5	35.5	34.3–36.7
More than high school	35.2	33.7–36.8	62.1	61.8–62.5	47.5	46.4–48.7
Some college/technical college	19.6	18.4–20.9	28.2	27.9–28.6	26.9	25.8–27.9
College graduate	15.6	14.5–16.8	33.9	33.5–34.2	20.6	19.7–21.7
Employment						
Employed*	56.6	55.2–57.9	62.8	62.5–63.1	56.0	55.0–57.0
Not employed	43.4	42.1–44.8	37.2	36.9–37.5	44.0	43.0–45.0
Marital status						
Married†	63.7	62.1–65.2	64.9	64.6–65.2	43.0	41.8–44.2
Previously married	20.0	18.6–21.4	17.4	17.2–17.7	27.6	26.6–28.6
Never married	16.3	15.5–17.3	17.7	17.4–17.9	29.4	28.5–30.3
Access to medical care						
Yes	60.7	59.2–62.2	82.3	82.0–82.6	71.9	70.8–73.0
No‡	39.3	37.8–40.8	17.7	17.4–18.0	28.1	27.0–29.2
General health status						
Good health§	71.2	69.7–72.7	87.2	86.9–87.4	77.8	76.8–78.9
Fair or poor health	28.8	27.3–30.3	12.8	12.6–13.1	22.2	21.2–23.2

* Employed for wage or self-employed.

† Currently married or unmarried but living as a couple.

‡ No health plan or had any health plan but could not see a doctor because of cost.

§ Reported excellent, very good, or good general health.

be Black were classified as non-Hispanic Black. Respondents other than Hispanic, non-Hispanic White, and non-Hispanic Black race were excluded from the analyses.

Statistical Analyses

The prevalence of LHIs for Hispanics was compared with those of non-Hispanic Whites and non-Hispanic Blacks by the demographics, access to medical care, and general health status. The comparisons were adjusted for the 2000 US Census.⁸ SUDAAN (release 9.0.0, Research Triangle Institute, Research Triangle Park, NC) was used for all analyses to account for the complex sample design. Respondents who did not answer, refused, or answered “do not know/not sure” to any demographic factors, access to medical care, or health status question were excluded from

analyses. Prevalence estimates with standard errors and 95% confidence intervals were calculated.

Logistic regression models were constructed to evaluate racial differences by LHIs after adjusting for confounding variables. Since behaviors such as physical activity, smoking, and obesity were highly correlated with educational attainment,^{4,9} and since in our sample 65% of Hispanics were at most high school graduates, the regression models were stratified by two levels of education—at most high school graduate and greater than a high school education.

RESULTS

Data from 257,659 respondents were collected in the 2003 BRFSS for the 50 US states and District of

Columbia. After exclusion of persons with missing information for demographic characteristics ($n=3,557$), race ($n=16,763$), access to medical care ($n=958$), and health status ($n=597$), data from 235,784 respondents were available for analysis; 48% were men and 52% were women. Of these respondents, 76% were non-Hispanic White, 10% were non-Hispanic Black, and 14% were Hispanic.

Demographics and general health status (age-adjusted to the 2000 US Census) of the study population are shown in Table 1. Hispanics were more likely to be at most high school graduates (65%) than were non-Hispanic Whites (38%) and non-Hispanic Blacks (53%). Hispanics and non-Hispanic Blacks were significantly more likely than non-Hispanic Whites (43% and 44%, respectively, vs 37%) to be

Table 2. Comparison of six leading health indicators of Healthy People 2010 objectives among Hispanic, non-Hispanic White, and non-Hispanic Black adults age ≥18 years, Behavior Risk Factor Surveillance System, 2003

Leading Health Indicators*	2010 Target	Results from BRFSS† 2003		
		Hispanic‡	Non-Hispanic White‡	Non-Hispanic Black‡
Physical activity:				
22-2. Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day.	30%	24.7% (23.3–26.2)	37.3%§ (36.9–37.7)	23.9% (22.8–25.0)
Obesity:				
19-2. Reduce the proportion of adults (age 20 or more) who are obese.	15%	27.3% (25.6–29.0)	21.6% (21.3–21.9)	34.2% (33.0–35.5)
Tobacco use:				
27-1a. Reduce cigarette smoking by adults.	12%	17.2% (16.0–18.4)	23.4% (23.0–23.7)	23.4% (22.3–24.4)
Substance abuse:				
26-11c. Reduce the proportion of adults engaging in binge drinking of alcoholic beverages during the past month.	6%	15.5% (14.4–16.8)	17.6% (17.3–17.9)	10.1% (9.4–10.9)
Immunization:				
14-29 a. Increase the proportion of non-institutionalized adults (65 or more) who are vaccinated annually against influenza.	90%	65.3% (59.8–70.3)	72.1% (71.4–72.8)	50.6% (46.9–54.2)
14-29 b. Increase the proportion of non-institutionalized adults (65 or more) who are ever vaccinated against pneumococcal disease.	90%	51.2% (45.5–56.9)	67.4% (66.6–68.1)	44.8% (41.2–48.5)
Access to health care:				
1-1. Increase the proportion of persons with health insurance (persons under 65 years).	100%	64.0% (62.4–65.5)	85.9% (85.6–86.3)	79.1% (78.0–80.1)
1-4a. Increase the proportion of persons who have a specific source of ongoing care.	96%	65.7% (64.2–67.2)	82.5% (82.2–82.9)	79.2% (78.2–80.3)

* Leading Health Indicators as described in Healthy People 2010 objectives.

† Behavior Risk Factor Surveillance System.

‡ Data expressed as percent (95% confidence interval) and age-adjusted to US 2000 population.

§ Meets Healthy People 2010 target.

not employed. Hispanics and non-Hispanic Whites were equally likely to be married. Hispanics were significantly more likely to lack access to medical care (39%) as compared with non-Hispanic Whites (18%) and non-Hispanic Blacks (28%), and they were significantly (29%) more likely to report fair or poor general health as compared to non-Hispanic Whites (13%) and non-Hispanic Blacks (22%).

Leading health indicators (LHIs) were compared among Hispanics, non-Hispanic Whites, and non-Hispanic Blacks (Table 2). Among the three racial/ethnic groups, only non-Hispanic Whites met the HP2010 LHI target for physical activity. Data comparing LHIs of the three racial/ethnic groups by demographic factors, access to medical

care, and general health status were not shown in the table but are described in the following sections.

Health Behaviors

Hispanics were significantly less likely to participate in moderate physical activity than non-Hispanic Whites, regardless of sex, educational attainment, employment status, marital status, access to medical care, and general health status. No significant differences were seen between Hispanics and non-Hispanic Blacks regarding moderate physical activity across demographic factors, access to medical care, and general health status.

Hispanic men and women, Hispanics who were not employed, or Hispanics who had access to medical care were

significantly more likely to be obese than were non-Hispanic Whites. However, Hispanics were significantly less likely to be obese than non-Hispanic Blacks regardless of education, employment status, access to medical care, and general health status.

Hispanics were significantly less likely to be current smokers than non-Hispanic Whites and non-Hispanic Blacks regardless of employment status, access to medical care and general health status. However, no differences were found in smoking prevalence between Hispanic men and non-Hispanic White men. No racial/ethnic difference was found in smoking for respondents who were college graduates.

Hispanic men, Hispanics with more than high school education, Hispanics

Table 3. Logistic regression models for the association between race/ethnicity and health behaviors, healthcare access, and immunization coverage, adults age ≥18 years, Behavior Risk Factor Surveillance System, 2003

	Adjusted Odds Ratio (95% Confidence Interval)					
	At Most High School Graduate			More Than High School Education		
	Non-Hispanic White	Hispanic	Non-Hispanic Black	Non-Hispanic White	Hispanic	Non-Hispanic Black
Health behaviors						
Moderately physically active*	Referent	.54 (.48–.60)	.52 (.47–.58)	Referent	.68 (.61–.76)	.61 (.56–.66)
Obese, age ≥20 years*	Referent	1.08 (.97–1.21)	1.66 (1.52–1.81)	Referent	1.21 (1.06–1.37)	1.84 (1.69–2.00)
Current smoker*	Referent	.32 (.29–.36)	.67 (.62–.74)	Referent	.70 (.61–.81)	.84 (.76–.93)
Binge drinking in past 30 days*	Referent	.76 (.67–.87)	.57 (.49–.65)	Referent	.91 (.79–1.05)	.43 (.38–.49)
Immunization coverage						
Had flu shot in last 12 months, age ≥65 years†	Referent	.80 (.60–1.05)	.43 (.36–.52)	Referent	.74 (.48–1.16)	.41 (.31–.54)
Ever had pneumococcal vaccination, age ≥65 years†	Referent	.49 (.37–.65)	.33 (.28–.40)	Referent	.49 (.31–.76)	.50 (.39–.65)
Healthcare access						
Had healthcare coverage, age 18–64 years‡	Referent	.36 (.33–.40)	.86 (.78–.96)	Referent	.40 (.35–.46)	.70 (.62–.78)
Had specific source of on-going care‡	Referent	.32 (.29–.36)	.79 (.72–.88)	Referent	.57 (.50–.64)	.91 (.81–1.01)

* Adjusted for sex, age, employment, marital status, access to medical care, and general health status.

† Adjusted for sex, employment, marital status, access to medical care, and general health status.

‡ Adjusted for sex, age, employment, marital status, and general health status.

with any marital status, and Hispanics with or without access to medical care were significantly more likely to binge drink than were non-Hispanic Blacks. Hispanic men, Hispanics who had more than high school education, Hispanics who were employed, and Hispanics who had no access to medical care were equally likely to binge drink as non-Hispanic Whites.

Immunization Coverage

Influenza and pneumococcal vaccination status was assessed among respondents age ≥65 years. No racial/ethnic differences were found regarding flu shots among respondents who were employed and respondents who had more than a high school education. However, non-Hispanic Blacks who had access to medical care, who were married, and who reported their health as fair or poor were still significantly less likely than Hispanics to receive a flu shot in the past 12 months.

Pneumococcal vaccination status did not differ significantly between Hispanics and non-Hispanic Blacks by demographic factors, access to medical

care, and health status. But Hispanic men and women, Hispanics who had access to medical care, Hispanics with some high school education, and those who reported fair or poor general health were significantly less likely than non-Hispanic Whites to have received a pneumonia vaccination.

Healthcare Access

Hispanics were significantly less likely to have any healthcare coverage and specific source of ongoing care than non-Hispanic Whites and non-Hispanic Blacks regardless of sex, employment status, marital status, and general health status. Similarly, Hispanics who were college graduates were significantly less likely to have any healthcare coverage or specific source of ongoing care than non-Hispanic Whites and non-Hispanic Blacks.

Multivariate Analyses

Logistic regression models were built to examine whether race/ethnicity was associated with LHIs after adjusting for confounding variables. Non-Hispanic Whites were used as the reference

group. Results from the multivariate analyses were stratified by levels of education and are shown in Table 3.

Regardless of educational attainment, Hispanics and non-Hispanic Blacks were significantly less likely than non-Hispanic Whites to participate in moderate physical activity. Hispanics with greater than a high school education were 21% more likely to be obese than were non-Hispanic Whites. On the other hand, Hispanics and non-Hispanic Blacks at each education level were less likely to smoke than non-Hispanic Whites. Hispanics who were at most high school graduates were 24% less likely to binge drink than were non-Hispanic Whites.

Among respondents age ≥65 years, at either level of education, no significant difference was seen between Hispanics and non-Hispanic Whites regarding receipt of a flu shot in the last 12 months. Compared with non-Hispanic Whites, both Hispanics and non-Hispanic Blacks were significantly less likely to have ever received a pneumococcal vaccination regardless of their educational attainment.

Among respondents age 18–64 years, Hispanics and non-Hispanic Blacks at each level of education were significantly less likely to have healthcare coverage than non-Hispanic Whites of the same age. Regardless of educational attainment, Hispanics were less likely than non-Hispanic Whites to have a specific source of ongoing care.

DISCUSSION

Our study demonstrated significant disparity in LHIs for the Hispanic population. These health disparities persist along demographic factors, access to medical care, and general health status.

A government report suggested that moderate physical activity of ≥ 30 minutes on ≥ 5 days of the week provides significant health benefits.¹⁰ Moderate physical activity substantially reduces the risk of many chronic diseases, cancers, and adverse health conditions.¹³ Our study indicated that Hispanics with any level of education were less likely than non-Hispanic Whites to meet the recommendation for moderate physical activity, even after the analysis controlling for confounding factors. This finding may be because of cultural differences that influence the behaviors of Hispanic people regarding physical activity. Public health professionals and researchers need to target the recommendations of the Task Force on Community Preventive Services for physical activity toward the Hispanic population.¹¹ Increasing physical activity among Hispanics may also reduce the prevalence of obesity in this group.

Obesity is a major contributor to type 2 diabetes and confers a high risk for cardiovascular events.¹² Other health implications of obesity include hypertension, sleep disorder, nonalcoholic steato-hepatitis, arthritis, depression, and cancer. Like other reports,¹² our study indicated a higher prevalence of obesity among Hispanics than among non-Hispanic Whites. However, our

Hispanics with more than a high school education were more likely to be obese than were non-Hispanic Whites even after the analysis controlled for confounding variables.

stratified analysis did not find any difference in obesity between non-Hispanic Whites and Hispanics who were at most high school graduates. Rather, Hispanics with more than a high school education were more likely to be obese than were non-Hispanic Whites even after the analysis controlled for confounding variables. Therefore, special preventive measures may be necessary to control obesity among Hispanics with higher levels of education.

Findings from our study are consistent with those of previous studies that showed a lower prevalence of smoking among Hispanics.^{13,14} The prevalence of smoking was lower among Hispanics than among non-Hispanic Whites across demographic factors, access to medical care, and general health status. However, Hispanic males and Hispanics with at least a college education had a similar smoking prevalence as non-Hispanic Whites. Smoking cessation programs should target Hispanic men and Hispanics with more education.

Binge drinking has substantial adverse effects on the health of individuals. Binge drinking results in acute impairment and causes a substantial fraction of all alcohol-related deaths.¹⁵ Adverse effects of binge drinking include unintentional injuries, violence, sudden infant death syndrome, cardiovascular diseases, and poor control of diabetes. Binge drinkers were 14 times more likely than non-binge drinkers to report alcohol-impaired driving.¹⁶ Unlike pre-

vious studies,¹⁶ ours found that Hispanics overall were less likely than non-Hispanic Whites to engage in binge drinking. Our prevalence estimates were age-adjusted and were derived from all US adults. From our stratified analyses, we noted that Hispanics with more than a high school education were equally likely to engage in binge drinking as non-Hispanic Whites. Prevention programs to reduce binge drinking should target Hispanics with higher levels of education.

Like other studies,¹⁷ our study documented a lower prevalence of influenza and pneumococcal vaccination among Hispanics than among non-Hispanic Whites. However, Hispanics who were employed and who had access to health care had lower immunization coverage than non-Hispanic Whites. Like previous studies,¹⁸ our stratified analyses found no difference between Hispanics and non-Hispanic Whites in the receipt of an influenza vaccination, but significant difference persisted for receipt of a pneumococcal vaccination. The reasons commonly cited for reduced coverage are lack of knowledge, misconceptions about vaccines, vaccine-associated illness, and lack of recommendation by physicians.^{19,20} Hispanics were more likely than non-Hispanic Whites to report lack of access to vaccination sites and inability to afford vaccination.²⁰ Further, Hispanics may experience more difficulties in the provider-patient encounter than non-Hispanic Whites because of lack of fluency in English. The Task Force on Community Preventive Services²¹ has recommended several strategies to improve immunization among adults such as client (patient) reminder/recall, enhancing access to vaccination services, reducing client out-of-pocket cost (by paying for vaccination, reducing copayment), and improving procedures at the healthcare provider's level (provider's reminder/recall, standing orders, and provider's assessment and feedback).

Health insurance and a regular source of health care are strongly associated with the receipt of preventive care services like cardiovascular screening (eg, blood pressure, cholesterol) and cancer screenings (eg, mammography, Pap test).²² Like other studies,²³ we found that Hispanics were less likely than their non-Hispanic White counterparts to have healthcare coverage or a specific source of ongoing care, even after adjusting for confounding factors. The difference may mean that Hispanics are employed in jobs that do not provide health insurance coverage. Cultural differences with healthcare providers, language barriers, and the administrative complexity of health plans may prevent Hispanics from accessing healthcare services.

Our findings are subject to some limitations. First, we excluded persons who resided in institutions, like nursing homes or long term care facilities. Second, BRFSS is a telephone survey and therefore excludes persons of low socioeconomic status who do not have residential telephone service, as well as households with only cellular telephones. Third, as a self-reported study, BRFSS is subject to recall bias. However, our study is of a representative sample of US population with a good sample size. Our dataset comes from BRFSS, which is one of the best population-representative datasets available on health of the US population. The BRFSS questionnaire showed acceptable to high reliability in all three racial/ethnic groups.²⁴ The novel strength of our study is our focus on Hispanic population and LHIs. Our study documented Hispanic disparity in the six top health priorities for the United States.

In conclusion, health disparities are common in the Hispanic population. Poor health indicators in this population may reduce their productivity, will raise their healthcare cost, and will subject them to social inequality. If this population continues to experience poorer health than other racial/

ethnic groups, then the future US economy, social conditions, and the healthcare system may be adversely affected. Although the prevalence of some risk behaviors such as smoking and binge drinking was lower among Hispanics than among non-Hispanic Whites, Hispanics did not meet the HP2010 target of any LHIs, including health behaviors, access to health care, and immunization status. To eliminate health disparities in the Hispanic population, public health professionals need to focus on conducting health education at the community level, implementing culturally appropriate and accessible preventive programs.

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