

LANGUAGE PREFERENCE AS A PREDICTOR OF ACCESS TO AND USE OF HEALTHCARE SERVICES AMONG HISPANICS IN THE UNITED STATES

Objectives: The objective of this study was to determine if Spanish language preference was significantly associated with barriers to health-care services among a nationally representative sample of Hispanic persons in the United States.

Design: Cross-sectional analysis of secondary data. Differences in outcomes between those responding in Spanish and those responding in English were tested using chi-square analyses and multiple logistic regression models.

Setting: Nationally representative sample of US adults responding to the 2005 Behavioral Risk Factor Surveillance System survey.

Participants: Respondents identifying themselves as Hispanic ($n=20,400$).

Main Outcome Measures: Four health care outcomes including health insurance coverage, having a personal health care provider, forgoing care because of cost, and having a routine check-up within the past five years.

Results: Those responding in Spanish were less likely to have healthcare coverage, less likely to have a personal healthcare provider, and less likely to have had a routine check-up within the past five years. No difference was found for indicating that cost was a barrier to receiving care in this model.

Conclusions: Disparities in healthcare access exist between Hispanic persons in the United States whose language preference is Spanish and those whose language preference is English. In an effort to achieve Healthy People 2010 goals and to provide care to all persons in the United States, barriers to care, such as language preference, should be addressed more fully in our healthcare system. (*Ethn Dis.* 2008;18:93-97)

Key Words: Hispanic, Access, Disparities, Language, Barriers to Care

From the Division of Adult and Community Health, Centers for Disease Control and Prevention, Atlanta, Georgia, USA (WSP, IBA, ESF, AHM).

Address correspondence and reprint requests to: William S. Pearson, PhD; Division of Adult and Community Health; Centers for Disease Control and Prevention; 4770 Buford Highway, NE, MS-K66; Atlanta, GA 30341; wpearson@cdc.gov

William S. Pearson, PhD; Indu B. Ahluwalia, PhD; Earl S. Ford, MD; Ali H. Mokdad, PhD

INTRODUCTION

Reports from the Centers for Disease Control and Prevention (CDC) state that Hispanics in the United States experience disparities in the burden of disease that they bear¹ and also in their access to the healthcare system.² Previous studies have reported disparities in more detail, including decreased continuity of care,³ lower rates of preventive screening and treatment services,^{4,5} and decreased levels of health insurance coverage^{6,7} among Hispanics. Understanding these disparities among Hispanics is difficult because of the complex social systems involved and the diversity of the population.^{8,9}

Recent Census data indicate that Hispanics are the fastest growing group in the United States, with an estimated total population of 42.7 million persons in 2005.¹⁰ This increase is rapidly changing the diversity of the United States and creating a culture in which Spanish is spoken by one out of five US citizens.¹⁰ Non-fluency in English may contribute to difficulties in accessing preventive health services and medical care.¹¹⁻¹³ Furthermore, a systematic review of the literature on language barriers in health care has indicated that there is a need for further research in three broad categories including how language barriers reduce access, the efficacy of language interventions, and the costs of language barriers and how to overcome them.¹⁴

Given the reported health disparities among persons of Hispanic origin and the growth of the Hispanic population in the United States, coupled with the increasing prevalence of Spanish language use among this population, we undertook this study to examine the relationship between language prefer-

ence and use of healthcare services. The primary purpose of this study was to determine if Spanish language preference was significantly associated with decreased access to and use of healthcare services among a pooled national sample of Hispanic persons in the United States.

METHODS

Data for this study were taken from the 2005 Behavioral Risk Factor Surveillance Survey (BRFSS).¹⁵ The BRFSS is an ongoing, state-based, telephone survey that collects information on health risk behaviors, preventive health practices, and access to and use of healthcare services primarily related to chronic conditions among adults ≥ 18 years of age.

The sample for this study was limited to those who identified themselves as Hispanic and lived in the 50 United States or the District of Columbia ($n=20,400$, which represented $\approx 28,830,000$ persons in the United States). This sample was then stratified by their preference of language, which was determined by whether the survey was conducted in Spanish or English; 13,095 responded in English, and 7,305 responded in Spanish.

Four healthcare outcomes were determined for this sample. Respondents who chose "don't know/not sure" or

...we undertook this study to examine the relationship between language preference and use of healthcare services.

“refused” as a response to any of the following four questions were excluded from the analyses. To assess presence of any healthcare coverage, the respondents were asked, “Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs or government plans such as Medicare?” To assess the presence of a personal healthcare provider, the question, “Do you have one person you think of as your personal doctor or healthcare provider?” was asked. To assess whether or not the person had forgone seeking healthcare treatment because of cost, the question, “Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?” was asked. To assess the length of time since the last routine checkup, respondents were asked, “About how long has it been since you last visited a doctor for a routine check-up?” These choices were categorized into the dichotomous outcome of having had a routine checkup within the past five years or more than five years/never.

Analyses were conducted using SUDAAN software to account for the complex sampling design of the survey.¹⁶ Descriptive statistics were performed on the two population groups to provide demographic information, including age, sex, marital status, level of education, region of country in which residing, and self-reported health status.

Bivariate comparisons were made between those completing the survey in English and those completing the survey in Spanish with chi-square analyses to determine if significant differences existed in the four outcomes. Multiple logistic regression models were used to control for age, sex, marital status, education, income, region of the country, and self-reported health status. All significance tests were conducted at the $\alpha=.05$ level.

RESULTS

Differences were found in all studied characteristics of these two groups. The

Table 1. Demographic characteristics

	English Primary Language % (% SE*)	Spanish Primary Language % (% SE*)
	n=13,095	n=7305
Age (years)		
18–35	49.6 (.91)	52.7 (1.2)
36–49	26.3 (.73)	29.0 (1.0)
50–64	15.8 (.59)	11.6 (.70)
≥65	8.3 (.49)	6.8 (.55)
Sex		
Male	49.3 (.91)	53.4 (1.1)
Female	50.7 (.91)	46.6 (1.1)
Marital status		
Married/part of couple	60.0 (.91)	70.5 (1.1)
Ever married	15.4 (.59)	12.9 (.73)
Never married	25.6 (.89)	16.8 (.97)
Education		
Less than high school	17.0 (.68)	58.4 (1.1)
High school graduate	33.3 (.86)	25.8 (1.0)
Some college	28.7 (.83)	10.4 (.70)
College graduate	21.0 (.70)	5.4 (.46)
Income		
<\$10,000	5.7 (.50)	14.2 (.66)
\$10,000–\$19,999	15.5 (.74)	32.1 (.86)
\$20,000–\$34,999	24.3 (.88)	27.5 (.89)
\$35,000–\$49,999	14.4 (.67)	6.6 (.54)
\$50,000–\$74,999	12.8 (.62)	2.0 (.43)
≥\$75,000	16.8 (.78)	1.3 (.29)
Unknown	10.6 (.59)	16.3 (.75)
Region of country		
Northeast	16.5 (.58)	13.5 (.61)
South	34.5 (.79)	28.4 (.90)
Midwest	9.9 (.43)	5.7 (.45)
West	39.0 (.89)	52.3 (1.1)
Self-reported health status		
Excellent	20.5 (.72)	10.5 (.68)
Very Good	28.8 (.83)	9.9 (.72)
Good	32.9 (.84)	41.9 (1.2)
Fair	12.9 (.61)	32.6 (1.1)
Poor	4.9 (.42)	5.1 (.47)

Source: 2005 Behavioral Risk Factor Surveillance System (BRFSS).

* SE = standard error.

group whose language preference was English was slightly older. A larger proportion of those who responded in English were women, but a larger proportion of those who responded in Spanish were married or lived with a partner. Those who responded in English reported more education, a much greater level of income and were twice as likely to report their health as excellent or very good (Table 1).

Significant differences were found between the two groups for all four outcomes (Table 2). A significantly smaller proportion of those responding in

Spanish reported having healthcare coverage than did those responding in English. A significantly smaller proportion of those responding in Spanish reported having a personal healthcare provider than did those responding in English. Smaller, but still significant, differences were found for not seeing a healthcare provider because of cost and having had a routine checkup in the past five years.

After controlling for age and sex in the first set of models, significant differences were found between the two groups for all four outcomes. Three outcomes remained significant after the

Table 2. Results of chi-square tests comparing healthcare outcomes by primary language

Outcomes	English Primary Language % (% SE*)	Spanish Primary Language % (% SE*)
	n=13,095	n=7305
Have healthcare coverage		
Yes	75.5 (.80)	45.0 (1.2)
No	24.5 (.80)	55.0 (1.2)
Have personal healthcare provider		
Yes	71.5 (.84)	42.8 (1.2)
No	28.5 (.84)	57.2 (1.2)
Could not see healthcare provider because of cost		
Yes	20.7 (.74)	28.3 (1.0)
No	79.3 (.74)	71.7 (1.0)
Length of time since last checkup		
≤5 years	90.1 (.57)	82.9 (.85)
>5 years/never	9.9 (.57)	17.1 (.85)

All *P* < .01. Source: 2005 Behavioral Risk Factor Surveillance System.
 * SE = standard error.

addition of marital status, education, income, region of country in which residing, and self-reported health status to the models. Those responding in Spanish remained less likely to have healthcare coverage, less likely to have a personal healthcare provider, and less likely to have had a routine check-up in the past five years. No significant difference existed between the two groups for indicating that cost was a barrier to receiving care in this model (Table 3).

DISCUSSION

This study used a nationally representative sample to demonstrate that

significant disparities in the access to and receipt of care exist between Hispanic persons in the United States whose language preference is Spanish, compared to those whose language preference is English. These differences remain even after controlling for geographic variation, socioeconomic variation, and demographic variation. In this study, respondents identifying themselves as Hispanic and choosing to complete the survey in Spanish were significantly less likely to have health insurance coverage, have a personal healthcare provider and to have had a routine health check-up in the past five years, compared to respondents identifying themselves as Hispanic and

choosing to complete the survey in English.

The findings from this study are similar to findings from other studies, which found differences in the use of health care services among subgroups of Hispanic populations. Among Hispanic women, those who reported low English proficiency were less likely to have had a Pap smear within the past three years than were women who reported high English proficiency.¹⁷ Another study found that lack of English language proficiency had a significant negative effect on the enrollment of children into publicly funded health insurance programs, even after controlling for marital status, family composition, place of residence, and employment status of the parents.¹⁸

English language proficiency is not the only barrier to receiving healthcare for many under-served populations. More recent work found that US citizenship and country of origin were significant predictors for the lack of healthcare access among Hispanic young adults.¹⁹ Other research found that Latino ethnicity was not associated with lack of health insurance coverage for children, but that parental immigrant status, age of the children, having both parents working, and low family income were predictors for lacking health insurance for both Whites and Latinos.²⁰ These results suggest that other factors related to time spent in the United States and acculturation into the host society, which are indicated by citizenship and being employed, also play roles in accessing healthcare services.

We suspect that adding income into the second set of models mitigated the effect of language preference on cost as a barrier to receiving health care. Other work conducted among Hispanics in Arizona demonstrated that in focus groups, financial difficulty was listed as a reason for delaying care when symptoms of a chronic disease arose.²¹ Although after removing financial difficulty from their models, these researchers found that remaining barriers to

Table 3. Adjusted logistic regressions for healthcare outcomes

Language	Health coverage	Have provider	Cost was a barrier to receiving care	Had routine check up ≤5 years ago
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Model 1*				
Spanish	.26 (.22-.29)	.28 (.25-.32)	1.52 (1.33-1.74)	.55 (.46-.65)
English	Referent	Referent	Referent	Referent
Model 2†				
Spanish	.40 (.34-.46)	.42 (.36-.49)	.92 (.79-1.08)	.81 (.65-.99)
English	Referent	Referent	Referent	Referent

OR= odds ratio; CI= confidence interval.

* Adjusted for age and sex.

† Adjusted for age, sex, marital status, education, income, region of country, and health status.

Source: 2005 Behavioral Risk Factor Surveillance System.

English language proficiency is not the only barrier to receiving healthcare for many under-served populations

receiving care included factors related to cultural norms within this ethnic group such as trust of the medical system and perceived seriousness of symptoms. Difficulty in speaking and understanding the language of a healthcare provider could be considered an impediment to developing trust and could result in decreased use of services.

In August of 2000, the president released Executive Order 13166 to address issues of limited English proficiency and decreased access to federal services. This executive order was established to help provide increased access to healthcare services, among other federal services, for persons who were limited in their English proficiency.²² As the federal government recognizes the need to increase access to services for vulnerable populations, researchers in the healthcare field have identified many problems and have studied the effects of language intervention services.

For example, one pilot study found that a culturally relevant Spanish-language program for Hispanic patients with diabetes increased knowledge scores about diabetes care, improved lipid profiles, and decreased HbA1C levels among most participants.²³ In another example, the use of interpreter services increased the receipt of recommended preventive services.²⁴

Several limitations should be noted in this study. All responses in the survey were self-reported. With this type of data collection, the possibility of bias is introduced into the results. Also, consideration needs to be given to the fact this survey is conducted using land-line telephones. Therefore, households which do not have land-line telephones

for reasons such as expense or preference for cellular phones were excluded from this survey. One other limitation of this study is that this survey had no way to determine the cultural differences among those that identified themselves as Hispanic. As noted earlier, Hispanics are a heterogeneous group that come from many different countries and have many different cultures.

Alternatively, this study has several strengths. The survey is nationally representative and has a large sample size, compared to other studies in this area. Second, this study took into account geographic variability; other studies have focused on smaller geographic areas. Finally, this study examined multiple indicators of health services access and use and was not limited to one specific outcome.

Healthy People 2010 has, as one of its goals, the elimination of health disparities among minority populations.²⁵ These disparities include barriers to care, which have been documented for minorities in the US healthcare system and result in decreased access to and use of services. Further examination of these barriers is required to overcome disparities among minority populations. This study provides additional information on language barriers among Hispanics in the United States, which is necessary to help achieve 2010 goals and to help provide quality care to all people.

REFERENCES

1. Centers for Disease Control and Prevention. Health disparities experienced by Hispanics—United States. *MMWR*. 2004;53:935–937.
2. Balluz LS, Okoro CA, Strine TW. Access to health-care and preventive services among Hispanics and Non-Hispanics—United States, 2002–2002. *MMWR*. 2004;53:937–941.
3. Doescher MP, Saver BG, Fiscella K, Franks P. Racial/ethnic inequalities in continuity and site of care: location, location, location. *Health Serv Res*. 2001;36:78–89.
4. Pollack LA, Blackman DK, Wilson KM, Seeff LC, Nadel MR. Colorectal cancer test use among Hispanic and non-Hispanic U.S. populations. *Prev Chronic Dis*. 2006;3:1–10.
5. Stewart SH, Silverstein MD. Racial and ethnic disparity in blood pressure and cholesterol

- management. *J Gen Intern Med*. 2002;17:405–411.
6. Harrell J, Carrasquillo O. The Latino disparity in health coverage. *JAMA*. 2003;289:1167.
7. Angel RJ, Angel JL, Markides KS. Stability and change in health insurance among older Mexican Americans: longitudinal evidence from the Hispanic established populations for epidemiologic study of the elderly. *Am J Public Health*. 2002;92:1264–1271.
8. Kirby JB, Taliaferro G, Zuvekas SH. Explaining racial and ethnic disparities in health care. *Med Care*. 2006;44:164–172.
9. Weinick RM, Jacobs EA, Stone LC, Ortega AN, Burstin H. Hispanic healthcare disparities: challenging the myth of a monolithic Hispanic population. *Med Care*. 2004;42:313–320.
10. US Census Bureau. Race and Hispanic or Latino origin of the population for the United States: 2004 and 2005. Available at: <http://www.census.gov/Press-Release/www/2006/nationalracetable1.pdf>.
11. Cohen AL, Christakis DA. Primary language of parent is associated with disparities in pediatric preventive care. *J Pediatr*. 2006;148:254–258.
12. Franzini L, Fernandez-Esquer ME. The association of subjective social status and health in low-income Mexican-origin individuals in Texas. *Soc Sci Med*. 2006;63:788–804.
13. Weech-Maldano R, Morales LS, Elliott M, Spritzer K, Marshall G, Hays RD. Race/ethnicity, language, and patients' assessments of care in Medicaid managed care. *Health Serv Res*. 2003;38:789–808.
14. Jacobs E, Chen AH, Karliner LS, Agger-Gupta N, Mutha S. The need for more research on language barriers in health care: a proposed research agenda. *Milbank Q*. 2006;84:111–133.
15. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System (BRFSS). Available at: <http://www.cdc.gov/brfss>
16. SUDAAN Software. Raleigh (NC): RTI, International. Available at: <http://www.rti.org/sudaan>
17. De Alba I, Sweningson JM, Chandy C, Hubbell FA. Impact of English language proficiency on receipt of Pap smears among Hispanics. *J Gen Intern Med*. 2004;19:967–970.
18. Feinberg E, Swartz K, Zaslavsky AM, Gardner J, Walker DK. Language proficiency and the enrollment of Medicaid-eligible children in publicly funded health insurance programs. *Matern Child Health J*. 2002;6:5–18.
19. Callahan ST, Hickson GB, Cooper WO. Health care access of Hispanic young adults in the United States. *J Adolesc Health*. 2006;39:627–633.

20. Flores G, Abreu M, Tomany-Korman SC. Why are Latinos the most uninsured racial/ethnic group of US children? A community-based study of risk factors for and consequences of being and uninsured Latino child. *Pediatrics*. 2006;118:730–740.
21. Larkey LK, Hecht ML, Miller K, Alatorre C. Hispanic cultural norms for health-seeking behaviors in the face of symptoms. *Health Educ Behav*. 2001;21:65–80.
22. Executive Order 13166. Federal Register. 2000;55:50121–50122.
23. Mauldin M, Melkus GD, Cagganello M. A culturally appropriate diabetes education program for Spanish-speaking individuals with type 2 diabetes mellitus—evaluation of a pilot project. *Diabetes Educ*. 2006;32:751–760.
24. Jacobs EA, Shepard D, Suaya JA, Stone EL. Overcoming language barriers in health care: costs and benefits of interpreter services. *Am J Public Health*. 2004;94:866–869.
25. Department of Health and Human Services. Healthy People 2010. Available at: <http://www.healthypeople.gov>

AUTHOR CONTRIBUTIONS

Design concept of study: Pearson
Acquisition of data: Pearson
Data analysis and interpretation: Pearson, Ahluwalia, Ford, Mokdad
Manuscript draft: Pearson, Ahluwalia, Ford, Mokdad
Statistical expertise: Pearson
Acquisition of funding: Mokdad
Administrative, technical, or material assistance: Pearson
Supervision: Pearson