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ORIGINAL ARTICLES

Perceived Quality of Care, Receipt of Preventive Care, and Usual Source of Health Care Among Undocumented and Other Latinos

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BACKGROUND: Latinos are the largest minority group in the United States and experience persistent disparities in access to and quality of health care.

OBJECTIVES: (1) To determine the relationship between nativity/immigration status and self-reported quality of care and preventive care. (2) To assess the impact of a usual source of health care on receipt of preventive care among Latinos.

DESIGN: Using cross-sectional data from the 2007 Pew Hispanic Center/Robert Wood Johnson Foundation Hispanic Healthcare Survey, a nationally representative telephone survey of 4,013 Latino adults, we compared US-born Latinos with foreign-born Latino citizens, foreign-born Latino permanent residents and undocumented Latinos. We estimated odds ratios using separate multivariate ordered logistic models for five outcomes: blood pressure checked in the past 2 years, cholesterol checked in the past 5 years, perceived quality of medical care in the past year, perceived receipt of no health/health-care information from a doctor in the past year, and language concordance.

RESULTS: Undocumented Latinos had the lowest percentages of insurance coverage (37% vs 77% US-born, $P<0.001$), usual source of care (58% vs 79% US-born, $P<0.001$), blood pressure checked (67% vs 87% US-born, $P<0.001$), cholesterol checked (56% vs 83% US-born, $P<0.001$), and reported excellent/good care in the past year (76% vs 80% US-born, $P<0.05$). Undocumented Latinos also reported the highest percentage receiving no health/health-care information from their doctor (40% vs 20% US-born, $P<0.001$) in the past year. Adjusted results showed that undocumented status was associated with lower likelihood of blood pressure checked in the previous 2 years (OR=0.60; 95% CI, 0.43–0.84), cholesterol checked in the past 5 years (OR=0.62; 95% CI, 0.39–0.99), and perceived receipt of excellent/good care in the past year (OR=0.56; 95% CI, 0.39–0.77). Having a usual source of care increased the likelihood of a blood pressure check in the past 2 years and a cholesterol check in the past 5 years.

CONCLUSION: In this national sample, undocumented Latinos were less likely to report receiving blood pressure and cholesterol level checks, less likely to report having received excellent/good quality of care, and more likely to receive no health/health-care information from doctors, even after adjusting for potential confounders. Our study shows that differences in nativity/immigration status should be taken into consideration when we discuss perceived quality of care among Latinos.

KEY WORDS: Latinos; quality of care; immigrants; preventive care.
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INTRODUCTION

Latinos are one of the fastest growing populations in the US. Approximately 45 million Latinos lived in the US in 2006[1], and 18% (8.5 million) are estimated to be undocumented immigrants.[2] Latinos report having less access to health care[3] and lower use of health care compared to non-Latino whites.[4–6] Latinos are also less likely to have health insurance coverage,[7] which adversely affects health-care access and utilization.[8] Legal status is an additional factor that affects undocumented Latinos' access and utilization of health care.[9–10] Most literature on quality of care has focused on the general Latino population[5] with very few studies looking at variability among Latinos by nativity and immigration status. This is the first study that we are aware of using a national data set reporting on perceived quality of care and receipt of selected preventive care among Latinos by nativity/immigration status.

Several studies report that Latinos have fewer physician visits, lower utilization of emergency services, and a lower likelihood of having a regular source of care than non-Latino groups despite research that suggests that Latinos have a greater likelihood of chronic disease.[11–12] These differences are particularly pronounced among undocumented Latinos.[9,13] While 75% of the average population in the US reported a physician visit in a recent national survey, only 56% of Mexican Americans and 59% of Central/South Americans reported at least one physician visit in the same survey.[5,14] Slightly more than one third of undocumented Latinos (36.5%) reported having access to a regular health-care provider.[14]

Published literature on quality of care suggests that the patient's perspective is an important element of quality of care.[5,15,16] Positive perceptions of interpersonal processes of care may influence patient outcomes through better adherence to treatment regimens and greater motivation to manage their health problems. As such, clinicians are encouraged to acknowledge patients' cultural beliefs and preferences, and

recognize that communication is fundamental to patient satisfaction and the quality of care received.[5,15] Previous research from national and regional studies found that undocumented immigrants experienced lower quality health care due to lower social integration and English language dominance, which negatively influence their utilization of the US health-care system.[14,17,18]

Consistent with the literature, we hypothesized that nativity/immigration status,[14] as well as having usual sources of health care[19] are important factors associated with perceptions of quality of care received.

METHODS

Data Source

The results of this study come from the Pew Hispanic Center/Robert Wood Johnson Foundation Hispanic Healthcare survey (Wave 1),[20] a nationally representative telephone interview survey of 4,013 randomly selected Latino adult participants, aged ≥ 18 years, living in the US.

Potential eligible respondents were randomly selected from stratified listings of telephone area codes and exchanges in the US. Telephone interviews were conducted in summer 2007 and yielded a total sample of *N*=4,013 with a response rate of 39.5%. Of these, 3,005 (75%) interviews were conducted in Spanish, 837 (21%) were conducted in English, and 171 (4%) were conducted in a mix of Spanish and English.

After excluding the 166 participants who refused to answer critical questions for this analysis (age, sex and citizenship status), a total of 3,847 survey responses remained for analysis. All interviews were conducted using trained interviewers on the Computer Assisted Telephone Interviewing (CATI) system. Sampling weights were used to yield a statistically representative sample of Latinos in the contiguous US. Poststratification adjustment of weights by nativity, sex, age and education was performed to make the sample representative of the distribution of Latinos in the Current Population Survey annual demographic file.[21] All data presented in the tables were weighted according to these procedures.

Patient Characteristics

Nativity/immigration status was assessed through a series of questions on place of birth. Participants were first asked whether they were born in the US. If they were not born in the US, they were asked whether they were US citizens. If they were not citizens, participants were asked if they were legal permanent residents of the US. From these series of questions, we classified Latinos into four categories: US-born citizens, foreign-born citizens, legal foreign-born permanent residents, and undocumented residents. This classification scheme is similar to other studies on undocumented Latinos.[6]

Aside from nativity/immigration status, we controlled for other independent variables in our multivariate models. These included sociodemographic variables such as sex, marital status (single, married, or divorced/separated), age (18–24, 25–34, 35–44, 45–54, 55–64, ≥65 years), education (<high school graduate, high school/GED graduate, some college or more), and income categories (≤$14,999, $15,000 to $24,999, $25,000 to $34,999, $35,000 to $59,999, >$60,000).

Measures

Several measures of self-reported health-care access and quality of care received were used as dependent variables in the analyses. (1) Usual source of health care was defined by the following two questions: (a) do you have a usual place to go when sick or need advice about health? and (b) where do you usually go for health care? Participants who went to the hospital emergency room for their usual care and those who responded that they had no usual source of care were defined as having no usual source of health care. Having a usual source of health care was dummy coded (1=yes; 0=no). (2) Insurance coverage was assessed as response (yes/no) to "Are you, yourself, now covered by any form of health insurance or health plan?" (3) Patient-provider language concordance was defined by two survey questions that asked about: (a) the language that the respondent preferred for being interviewed during the survey (English or Spanish); (b) the language in which their appointment was usually conducted when seeing a doctor or health-care provider. Patient-provider language preference concordance was yes if the language preferred by the participant for the questionnaire was the language in which their appointment was usually conducted when visiting the doctor; otherwise, this was coded as no language concordance. (4) The measure of no information on health care received from a doctor was based on the question asking participants whether they received any health/health-care information from a doctor or other medical professional in the past year (yes or no). (5) We analyzed receipt of preventive services by responses to two questions: (a) have you had your blood pressure checked by a doctor or other health-care provider in the past 2 years? and (b) for males aged≥35 years and for females aged≥45 years, have you had your blood cholesterol checked by a doctor or other health-care provider in the past 5 years?

Consistent with previous research,[5] we also measured patients' perception of care by asking, "Overall, how would you rate the quality of medical care that you received in the past 12 months? Was the medical care excellent, good, fair, or poor?" Those who did not receive care in the past 12 months were excluded from the analysis for this question. This variable was dichotomized into excellent/good and fair/poor care. Separately, another survey question also asks participants why they think they received poor quality of care in the past 5 years: "Do you think you received poor quality of health care in the past 5 years because: (a) you were unable to pay, (b) of your race or ethnic background, or (c) of your accent or how you speak English? Respondents answered "yes" or "no" to each possibility.

We also adjusted our multivariate models by insurance status (1=have health insurance, 0=no insurance), having a usual source of health care, self-rated health status (excellent, good, fair, or poor health), and region of the country (West, Northeast, Midwest, and South).

Statistical Analysis

We investigated associations between the dependent variables and the categorical variables on nativity/immigration status using Rao-Scott adjustment to the Pearson χ^2 statistic.[22] Bivariate analysis was performed to examine the associations between the dependent variables and independent variables. Weighted multivariate logistic was used to examine the self-reported quality of care measures, which include having blood

pressure checked in the past 2 years, cholesterol checked in the past 5 years, whether the patient received excellent/good quality of care in the past year, received no health information from their doctor, and whether there was language concordance with patient language preference. In all the weighted logistic regression models, we control for nativity/immigration status, usual source of health care, and other sociodemographic variables. The significance of individual covariate effects was determined by Taylor-linearized variance estimation for complex survey data. In all the analyses, we used the appropriate weights that account for the complex survey sampling design of the Pew Hispanic Center/Robert Wood Johnson Foundation Hispanic Healthcare Survey (Wave 1).[20]

RESULTS

Table 1 shows the descriptive characteristics of health-care access and quality of health care received by nativity/immigration status. For two health-care access variables (usual source of health care and insurance), 74% had a usual source of health care and 66% of the sample had health insurance coverage. Undocumented Latinos have the lowest proportion with usual source of health care (58%) and health insurance (37%). For patient-provider language concordance, US-born Latinos had the highest language preference concordance (84%), whereas foreign-born citizens had the lowest language preference concordance (70%).

Regarding health services received during past doctor visits (Table 1), compared to US-born Latinos, more undocumented Latinos received no information on health/health care from their physicians (20% vs 40%, respectively). Significantly fewer foreign-born permanent residents (76%) and undocumented Latinos (67%) had their blood pressure checked during the past 2 years, compared to the US-born (87%; $P<0.01$ for both). The same pattern existed for having had cholesterol tested in the past 5 years for males (aged≥35 years) and females (aged≥45 years), where 71% of the foreign-born permanent residents and 56% of the undocumented Latinos reported being tested for cholesterol levels, compared to 83% of US-born Latinos reporting the same. Undocumented residents reported the lowest percentage of perceived excellent/good quality of care received (76% vs 80% US-born) in the past year.

The reasons for perceived poor quality of care received in the past 5 years are shown in Table 2. The categories in Table 2 are not exclusive; more than one reason can be given. Among the US-born, 30% thought that they received poor care because they were unable to pay, in contrast to foreign-born permanent residents (39%) and the undocumented (45%). A significantly higher proportion of foreign-born permanent (38%) and undocumented (39%) residents believed that they received poor care due to their ethnic background, in contrast to the US-born (25%). Among the US-born, a significantly lower percentage (14%) thought they received poor care because of their accent, in contrast to foreign-born citizens (28%), foreign-born permanent residents (39%), and the undocumented (48%). The logistic regressions for these perceived reasons for poor care provided similar results after adjusting for age, sex, education, and insurance.

Using multivariate analysis (Table 3), foreign-born citizens (OR=0.57; 95% CI, 0.42–0.77), foreign-born permanent residents (OR=0.60; 95% CI, 0.43–0.82), and the undocumented (OR=0.60; 95% CI, 0.43–0.84) were less likely to have their blood pressure checked in the past 2 years compared to US-born Latinos. Other factors independently associated with blood pressure check include being female, older age, high educational attainment, poorer self-reported health, or having a usual source of health care. For cholesterol checked in the past 5 years, the undocumented were less likely to have been tested for blood cholesterol (OR=0.62; 95% CI, 0.39–0.99) compared to US-born Latinos. Participants who were female, older, had health insurance, or were from the northeast region of the US were also more likely to have been tested for cholesterol levels (data not shown).

For perceived quality of care received in the past year, after adjustment for other covariates, the undocumented (OR=0.56; 95% CI, 0.39–0.77) were less likely to report having received excellent/good quality of care in the past year compared to US-born Latinos. The results for no health/health-care information received from doctors show that after adjustments, foreign-born citizens (OR=1.43; 95% CI, 1.11–1.84), foreign-born permanent residents (OR=1.58; 95% CI, 1.22–2.05), and the undocumented (OR=1.43; 95% CI, 1.13–2.05) were more

Table 1. Descriptive Characteristics of Health-care Access to and Perceived Quality of Health Care Received by Nativity/Immigration Status (2007)

	Total (*N*=3,847)	US-Born (*N*=1,190)	Foreign-born, citizen (*N*=942)	Foreign-born, permanent resident (*N*=1,030)	Undocumented (*N*=685)	*P* value
Have usual source of health care	74%	79%	79%	69%	58%	<0.001
Have insurance coverage	66%	77%	76%	57%	37%	<0.001
Patient-provider language concordance services received during doctor visit	79%	84%	70%	76%	79%	<0.001
No health/health-care information received from doctor	28%	20%	28%	35%	40%	<0.001
Blood pressure checked (past 2 years)	81%	87%	81%	76%	67%	<0.001
Test for cholesterol (past 5 years for males≥35 years, ≥45 years for females, *N*=2,171)	79%	83%	85%	71%	56%	<0.001
Perceived quality of care received (past year, *N*=3,590)*						
Excellent/good	78%	80%	78%	77%	76%	<0.05
Fair/poor	22%	20%	22%	23%	24%	

**Those who did not receive care in the past 12 months were excluded from this analysis*

Table 2. Reasons for Perceived Poor Quality of Care Received in the Past 5 Years, by Nativity/Immigration Status and Country of Origin

	Unable to pay (*n*=778) %	Racial/ethnic background (*n*=767) %	Accent or how you speak English (*n*=772) %
By nativity/immigration status:			
US-born	30	25	14
Foreign-born, citizen	22	30	28*
Foreign-born, permanent resident	39*	38*	39*
Undocumented	45*	39*	48*
By country of origin:			
Mexico	36	34	29
Cuba	23	35	5
Puerto Rico	20	21	11
Central/South America	33	28	31
Other Latinos	20	13	5

**P<0.05, significantly different from US-born Latinos*

likely to report that they received no health/health-care information from their doctors.

With respect to language concordance, where the language of care is concordant to the patient's language preference, foreign-born citizens (OR=0.45; 95% CI, 0.34–0.58) and foreign-born permanent residents (OR=0.62; 95% CI, 0.45–0.83) were less likely to report having received care in their language of preference than undocumented Latinos and compared to US-born Latinos.

Figures 1 and 2 show the adjusted percentages of participants receiving the recommended blood pressure and cholesterol checks by nativity/immigration status, stratified by usual source of health care. Figure 1 illustrates that those who had a usual source of health care were more likely to have had blood pressure checks in the past 2 years compared to those who had no usual source of health care ($P<0.05$). In the group with a usual source of health care, all foreign-born residents (citizens, legal permanent residents, and the undocumented) had significantly lower predicted rates of blood pressure checks compared to US-born Latinos ($P<0.05$). In the group with no usual source of health care, foreign-born citizens, permanent residents, and the undocumented had significantly lower predicted rates of blood pressure checks compared to US-born Latinos ($P<0.05$). Figure 2 also demonstrates that those with a usual source of health care were more likely to have had a blood cholesterol test compared to those with no usual source of health care ($P<0.05$). In the group with a usual source of health care, the undocumented were significantly less likely to have had a blood cholesterol test compared to US-born Latinos ($P<0.05$). We found the same pattern for those with no usual source of health care. The undocumented Latinos were significantly less likely to have had a blood cholesterol test compared to US-born Latinos ($P<0.05$).

DISCUSSION

To our knowledge, this is the first study using nationally representative data reporting on perceived quality of care and receipt of selected preventive care among Latinos in the US by nativity/immigration status. Our study demonstrates that perceived quality of care as well as receipt of health/health-care information, blood pressure, and cholesterol screening by Latino immigrants is lower than that of US-born Latinos. Similarly, the proportion with health insurance and a usual source of health is lower among Latino immigrants. For most of the measures, the trend is one of improved parameters that parallel the range of immigration status from lack of documentation to US-born.

In addition to the differences in receipt of preventive care and access to a usual source of health care, perceived quality of care is different by nativity/immigration status, but the magnitude of the difference is much smaller. Lower expectations and a different pattern of use of health services [10] among undocumented Latinos might explain why they reported disproportionately less preventive care received in terms of blood pressure and cholesterol tests, and also lower perceived quality of care ratings. As many undocumented Latinos have recently arrived to the US, they may use different standards to evaluate the quality of health care and rate certain health services higher than Latinos who have been living in the country longer.

Our study also provides perspectives regarding the reasons for poor quality of care among Latinos and how these perspectives vary by nativity/immigration status and country of origin. Our findings support those of other researchers who found that undocumented Latinos were more likely to report that ability to pay and racial/ethnic background were reasons for perceived poor quality of care received in the past 5 years.[23] Limited English proficiency may help explain why the undocumented were most likely to report receiving no information on health from their

Table 3. Multivariate Analysis of Perceived Quality of Care Outcomes US-born and Foreign-born Latinos

	US-Born	Foreign-born, citizen OR (95%CI)	Foreign-born, permanent esident OR (95%CI)	Undocumented OR (95%CI)
Blood pressure checked in the past 2 years[H]	Reference group	0.57 (0.42–0.77)*	0.60 (0.43–0.82)*	0.60 (0.43–0.84)*
Cholesterol checked in the past 5 years[H]	Reference group	1.38 (0.95–2.00)	0.89 (0.60–1.31)	0.62 (0.39–0.99)*
Received excellent/good quality of care in the past year [H,I]	Reference group	0.99 (0.76–1.31)	0.79 (0.59–1.05)	0.56 (0.39–0.77)*
No information on health/health-care received from doctor in the past year[H]	Reference group	1.43 (1.11–1.84)*	1.58(1.22–2.05)*	1.43 (1.13–2.05)*
Language concordance[H]	Reference group	0.45 (0.34, 0.58)*	0.62 (0.45, 0.83)*	0.72 (0.50, 1.03)

**Significant at P<0.05*
[H]Adjusted for sex, income, age, education, marital status, health status, health insurance, usual source of care, and region
[I]Analysis included only males aged≥35 years and females aged≥45 years

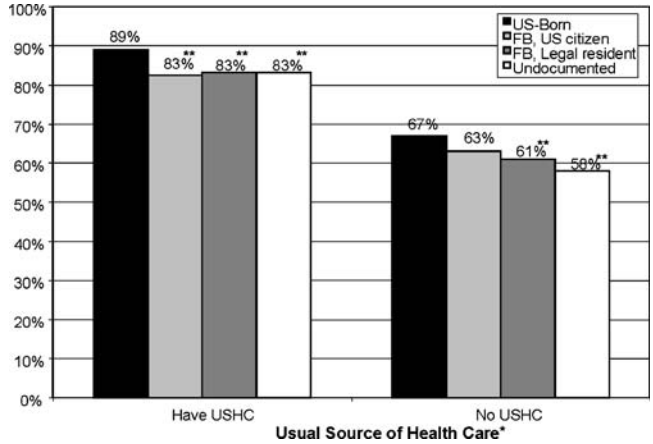

Figure 1. Blood pressure checked in the past 2 years, by usual source of health care+. *P<0.05, significant difference between having usual source of health care and no usual source of health care. **P<0.05, significant difference compared to US-born. FB = foreign-born. +Adjusted for sex, income, age, education, marital status, health status, health insurance, and region.

doctor and least likely to feel reassured that they could manage their own health. Not surprisingly, almost half of undocumented Latinos who reported poor care in the past 5 years attributed their poor care to their accent or how well they speak English. Receipt of preventive care is influenced by Latino patients' ability to speak English[24] presumably because of the diminished communication between patients and their doctors and the doctors limited ability to address patients' health-care needs. Consistent with previous studies,[6] undocumented Latinos were least likely to have a usual source of health care, which according to other studies is associated with a higher likelihood that a patient will report positive health-care communication.[25]

Our findings suggest that foreign-born Latinos, especially the undocumented, face serious financial and linguistic constraints to access health care. These findings help increase our understanding of the heterogeneity among Latinos and why reporting results by immigration status is important. Consistent with other studies, we found that usual source of health care is a significant predictor[17,26–28] in determining whether adults receive recommended screening and preventive services. This underscores the fact that having a usual source of health care is a critical element of a medical home, regardless of nativity/immigration status and insurance status.

Study Limitations

One study limitation is that we focused on a single measure of perceived quality of care, which may not reflect other dimensions of quality of care. Homogeneous rankings of health-care quality may be responsible for averaging the perception of health-care services that are not directly comparable. A distinction by type of service in the ranking of health-care quality might have been useful to address this issue. In addition, the respondents to our survey may have perceived poor quality from the provider, although treatment could have been adequate. Self-reported data for other variables, such as blood pressure checked in 2 years and cholesterol checked in 5 years, are also subject to respondent's memory and understanding of tests being taken during preventive care examinations.

Another possible limitation is that due to the stigma associated with being undocumented, accuracy and/or reliability response could be adversely impacted. To address this limitation, participants were categorized as undocumented by exclusion, and intensive interviewer training included safeguards of confidentiality and privacy to help develop rapport during the interviews. Nonetheless, it is possible that some respondents misplaced themselves in another category, resulting in a potential under-

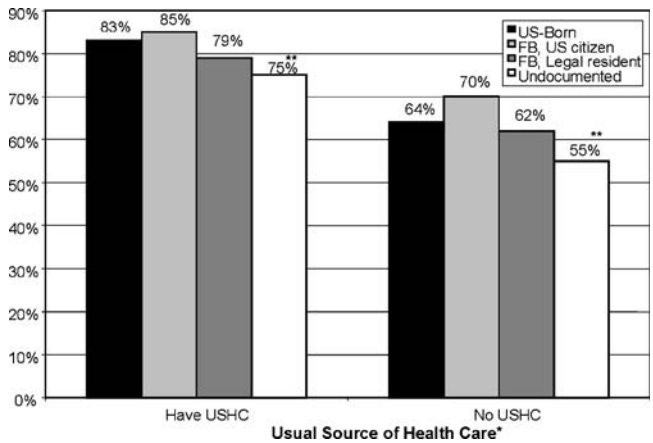

Figure 2. Blood cholesterol checked in the past 5 years, by usual source of health care+. *P<0.05, significant difference between having usual source of health care and no usual source of health care. **P<0.05, significant difference compared to US-born. FB = foreign-born. +Adjusted for sex, income, age, education, marital status, health status, insurance, and region.

count of undocumented and more conservative estimates. A related concern is that the survey missed those without phones, underrepresenting the most vulnerable with worse quality of services, thereby reducing the size of differences detected.

An additional limitation is the inclusion of barriers to health-care quality linked only to inability to pay, racial/ethnic background, and ability to speak English. In contrast with other health-care surveys (MEPS, CHIPS) where barriers such as cost or distance to the health-care provider are included, our dataset had limited information available on such barriers to quality of care. The limited range of alternatives might have influence participant response by causing respondents to endorse the few barriers at increased levels.

CONCLUSIONS

Previous research on the perceived quality of care among Latinos has focused on either health-care quality differentials across racial/ethnic categories or studied specific quality issues among all Latinos, with limited distinction of nativity or immigration status. While all foreign-born categories of Latinos were less likely than US-born Latinos to have their blood pressure assessed or receive any information on health or health-care from their doctors, undocumented Latinos were the only group to also report lower odds of cholesterol screening and worse perceived health-care quality than US-born Latinos. Undocumented Latinos are also the subgroup with the highest proportion reporting that their inability to pay, racial/ethnic background, and English proficiency are the main reasons for receiving poor quality health care. Policies supporting increased access to affordable culturally and linguistically competent services could be beneficial to improve the quality of health care among Latinos. The findings of heterogeneity among Latinos by both nativity and immigration status underscore the importance of future studies of Latinos appropriately collecting[29] and reporting results by immigration status.

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