

Health Care Access, Use of Services, and Experiences Among Undocumented Mexicans and Other Latinos

Alexander N. Ortega, PhD; Hai Fang, PhD; Victor H. Perez, MD, MPH; John A. Rizzo, PhD; Olivia Carter-Pokras, PhD; Steven P. Wallace, PhD; Lillian Gelberg, MD, MSPH

Background: We compared access to health care, use of services, and health care experiences for Mexicans and other Latinos by citizenship and immigrant authorization status.

Methods: We acquired data from the 2003 California Health Interview Survey, with 42 044 participants representative of noninstitutionalized households. Participants were differentiated by ethnicity/race, national origin, and citizenship/immigration authorization status. Outcome measures included having a usual source of care, problems in obtaining necessary care, use of physician and emergency department care, and 3 experiences with health care. Multivariate analyses measured the associations of citizenship/immigration authorization status with the outcome measures among foreign-born Mexicans and other Latinos vs their US-born counterparts.

Results: In multivariate analyses, undocumented Mexicans had 1.6 fewer physician visits ($P < .01$); compared with US-born Mexicans; other undocumented Latinos had

2.1 fewer visits ($P < .01$) compared with their US-born counterparts. Both undocumented groups were less likely to report difficulty obtaining necessary health care than US-born Mexicans (odds ratio, 0.68; $P < .01$) and other US-born Latinos (odds ratio, 0.40; $P < .01$), respectively. Undocumented Mexicans were less likely to have a usual source of care (odds ratio, 0.70; $P < .01$) and were more likely to report negative experiences than US-born Mexicans (odds ratio, 1.93; $P < .01$). Findings were similar for other undocumented Latinos, with the exception of having a usual source of care. Patterns of access to and use of health care services tended to improve with changing legal status.

Conclusion: In this large sample, undocumented Mexicans and other undocumented Latinos reported less use of health care services and poorer experiences with care compared with their US-born counterparts, after adjustment for confounders in multivariate analyses.

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Author Affiliations:

Departments of Health Services (Dr Ortega) and Community Health Sciences (Dr Wallace), School of Public Health, and Departments of Pediatrics (Dr Perez) and Family Medicine (Dr Gelberg), David Geffen School of Medicine, University of California, Los Angeles; Department of Economics, University of California, Davis (Dr Fang); Departments of Preventive Medicine and Economics, Stony Brook University, Stony Brook, New York (Dr Rizzo); and Department of Epidemiology and Biostatistics, College of Health and Human Performance, University of Maryland at College Park (Dr Carter-Pokras).

IT HAS BEEN ESTIMATED THAT 8.4 million of the 10.3 million undocumented individuals in the United States are Latino, including 5.9 million from Mexico and 2.5 million from other Latin American countries.¹ Undocumented immigrants have been the recent focus of intense policy debate, resulting in the signing of the Border Fence Act in October 2006 and deliberation of immigration reform by the 110th Congress. One recurrent theme in the debate over immigration has been the use of public services, including health care. Proponents of restrictive policies have argued that immigrants overuse services, placing an unreasonable burden on the public.^{2,3} Despite a scarcity of well-designed research into these questions regarding immigrants, use of resources continues to be a part of the public debate. Furthermore, little empirical informa-

tion is offered in the literature about experiences with health care for undocumented immigrants.

Although studies have reported on the use of health care services by Mexican and other Latino immigrants,⁴⁻⁶ less is known regarding variations by documentation status. This is partly due to the challenges of identification and sampling of the undocumented population.⁷ The few studies that have specifically examined the undocumented Latino population have used small samples and limited health care measures. These reports have suggested a pattern of barriers and limited access to care for undocumented persons.⁸⁻¹¹ Using the Los Angeles Family and Neighborhood Study, Goldman et al¹² reported that undocumented residents used health services less and had fewer expenditures than native-born US citizens. However, the authors did not examine the undocu-

mented residents by national origin or ethnicity. Similar results were found regarding health care expenditures in a national sample of US immigrants.¹³

The California Health Interview Survey (CHIS) provides a significant adult Latino sample representing each category of immigration authorization, including the undocumented. We have analyzed 2003 CHIS data to answer the following 3 questions. When considered alongside US-born Latinos and documented Latino immigrants: (1) Do undocumented Mexicans and other undocumented Latinos report different patterns of access to care? (2) Do undocumented Mexicans and other undocumented Latinos use health services differently? (3) Do undocumented Mexicans and other undocumented Latinos report different health care experiences? Given the lack of empirical information on health care access, use of services, and experiences for undocumented Mexicans and other undocumented Latinos, the CHIS provides unique and timely data on a large sample of these populations.

METHODS

We used data from the 2003 CHIS and, for emergency department (ED) visit data only, the 2001 CHIS. The CHIS is a random-digit telephone survey of households drawn from every county in California, with the results stratified to produce sufficient sample sizes for stable estimates of many smaller counties. The 42 044 adult respondents in 2003 were representative of the noninstitutionalized household population in California. The response rate using the American Association for Public Opinion Research—RR4 method was 34%, which is consistent with those of general telephone surveys.^{14,15} A survey of California's undocumented residents found that 94% have a telephone, a rate only slightly lower than the overall state rate.¹⁶ The CHIS data were collected in English and Spanish. The translation and cultural adaptation process is detailed elsewhere, as are the data collection methods.^{17,18}

MEASUREMENTS

Access is measured using binary measures of whether the participant has a usual source of health care and indicating whether the participant had problems getting necessary health care in the past 12 months. We also measured whether the participant had health insurance (insured or uninsured), a well-recognized determinant of access.¹⁹

Measures of use of health care services include the number of physician visits during the previous 12 months and binary measures indicating whether the participant had at least 1 physician visit for his or her own care in the past 12 months and whether the participant had at least 1 ED visit during the past year.

Health care experiences are measured by (1) a binary measure indicating whether the participant had a hard time understanding his or her physician during the last visit; (2) a binary measure indicating whether the participant believed he or she would have received better care if he or she were a member of a different racial or ethnic group; and (3) a measure indicating the participant's global rating of his or her health care during the past year, on a scale from 0 (worst) to 10 (best).

Race, Ethnicity, and Origin

Participants were asked whether they were Hispanic or Latino and whether they were part of 1 or more of the census-

designated racial groups. If they answered yes to more than 1 category, they were asked with which group they most identify. All those who answered that they were Hispanic or Latino were asked about their national origin (eg, Mexican).

Immigrant Authorization Categories and Citizenship

All participants were asked about their country of birth. If not born in the United States, then citizenship status was determined by asking, "Are you a citizen of the United States?" If the response was no, they were asked, "Are you a permanent resident with a green card [permanent residence authorization]?" Using these questions, we created the following 4 Mexican groups: US-born citizens, naturalized US citizens, Mexican-born immigrants with a green card, and Mexican-born undocumented immigrants. Four comparable categories were created for Latinos not of Mexican origin (ie, "other Latinos"). Other Latinos included individuals of any other Latino origin in the sample. We also included US-born non-Latino white subjects in the analyses.

Of the noncitizen Mexican immigrants without a green card, 93% are estimated to be undocumented.²⁰ The remainder consisted of temporary workers, students, and others who are allowed to reside in the United States for longer than a year on nonimmigrant visas; they make up a very small share of the migrant flow from Mexico.²¹ We used a CHIS method to estimate the size of California's undocumented population; our finding was very close to independent estimates based on national data.²² In addition, any bias that these legally authorized individuals introduce to the undocumented category is assumed to be positive (ie, more use of and access to health care services), resulting in more conservative comparisons. We treat this entire group as undocumented, because the characteristics of the undocumented residents dominate the group. Herein we use the term *undocumented*, with the caveat that a relatively small proportion may have been misclassified.

Other Measures

In addition to race and ethnicity, our multivariate models control for sociodemographic, economic, and health-related factors that commonly affect access to, use of, and experiences with health care resources.²³ Sociodemographic factors include sex, marital status (married and other), age (18-34, 35-49, 50-64, 65-74, or ≥ 75 years), educational achievement (less than high school graduate, high school graduate, or more than high school), and location of residence (urban, suburban, or rural). Economic variables include employment (employed, unemployed, or not in labor force), federal poverty level (0%-99%, 100%-199%, or $\geq 200\%$), and whether the subject had any health insurance (insured or uninsured). We also controlled for self-reported health status (poor, fair, good, very good, or excellent).

STATISTICAL ANALYSIS

We used commercially available software (SAS, version 9.1; SAS Institute, Cary, North Carolina) for all statistical analyses.²⁴ First, we used χ^2 tests to describe the sample population by demographics, health insurance, and self-reported health status in terms of race/ethnicity and citizen/documentation status. Second, we used χ^2 tests and analysis of variance to compare health care access (usual source of care and problems in getting necessary health care in the past 12 months) and use of health care services (number of physician visits in the past 12 months, having had at least 1 physician visit in the past 12 months, and having used the ED in the past year) for each of the racial/ethnic and citizen/documentation categories. We also com-

Table 1. Descriptive Statistics by Race, Ethnicity, and Citizen/Documentation Status: CHIS 2003^a

Variable	Mexican					Other Latino					US-Born White
	US Born	Naturalized	Green Card	Undocumented	P Value ^b	US Born	Naturalized	Green Card	Undocumented	P Value ^c	
No. of respondents	2851	1218	1352	1317		852	546	327	271		23 178
Female	59.7	55.8	54.8	54.8	<.01	56.1	61.4	54.4	56.5	.13	58.8
Married	44.9	66.1	64.4	49.0	<.01	39.0	56.8	48.9	37.3	<.01	51.4
Health insurance	85.2	79.5	67.5	47.2	<.01	84.4	84.4	69.1	43.2	<.01	92.8
Age, y											
18-34	43.4	20.4	36.2	66.1	<.01	33.1	18.7	29.7	52.0	<.01	16.1
35-49	29.2	42.6	45.9	29.3		33.2	37.2	46.2	40.6		28.6
50-64	17.2	24.4	13.0	4.0		20.3	26.7	15.9	5.9		29.4
65-74	6.1	8.7	3.9	0.5		7.8	10.8	5.8	1.1		13.2
≥75	4.1	3.9	1.0	0.2		5.6	6.6	2.4	0.4		12.7
Educational achievement											
<High school	15.2	46.2	63.8	69.6	<.01	12.5	21.6	37.6	54.2	<.01	4.7
High school graduate	37.0	24.6	20.0	20.4		28.2	21.6	22.0	19.6		23.6
>High school	47.8	29.2	16.2	10.0		59.3	56.8	40.4	26.2		71.7
Employment											
Not in labor force	27.1	34.0	30.2	30.1	<.01	29.4	28.4	26.6	23.2	.01	37.9
Unemployed	7.2	4.3	9.5	8.9		7.6	5.1	9.8	12.2		3.0
Employed	65.7	61.7	60.4	61.0		63.0	66.5	63.6	64.6		59.1
Federal poverty level, %											
0-99	14.0	21.0	35.9	55.1	<.01	11.3	15.9	31.2	46.9	<.01	5.3
100-199	23.6	34.2	41.2	34.4		17.5	24.4	31.8	36.9		12.4
≥200	62.4	44.8	22.9	10.5		71.2	59.7	37.0	16.2		82.3
Location of residence											
Urban	74.6	78.7	73.1	81.6	<.01	72.7	82.4	86.9	92.6	<.01	59.4
Suburban	13.5	9.0	8.0	6.9		15.5	12.1	10.4	5.2		18.5
Rural	11.9	12.3	18.9	11.5		11.8	5.5	2.7	2.2		22.1
Health status											
Poor	5.0	8.0	6.7	3.0	<.01	5.5	5.9	5.5	3.3	<.01	4.5
Fair	14.1	27.3	31.0	36.9		14.6	20.0	28.8	32.5		10.4
Good	29.2	32.5	37.2	42.1		26.6	29.3	31.2	36.5		25.0
Very good	31.9	17.1	13.3	9.1		31.1	26.7	18.4	14.4		35.4
Excellent	19.8	15.1	11.8	8.9		22.2	18.1	16.2	13.3		24.7

Abbreviation: CHIS, California Health Interview Survey.

^aUnless otherwise indicated, data are expressed as percentage of respondents.

^bCalculated by means of χ^2 tests within Mexican and US-born white samples.

^cCalculated by means of χ^2 tests within other Latino and US-born white samples.

pared the experiences in care measures (difficulty understanding the physician during the last health care visit, thinking that one might get better care if he or she were of a different race or ethnicity, and rating of all health care received in the past 12 months) for each of the racial/ethnic and citizen/documentation categories. Third, we conducted multivariate analyses using logistic regression for binary measures and ordinary least squares regression for continuous measures for the samples of Mexican and US-born white respondents; US-born Mexicans constituted the reference category. Fourth, we conducted the same multivariate analyses for the sample of other Latino and US-born white respondents; other US-born Latinos constituted the reference category. The multivariate models were each adjusted for sex, marital status, health insurance, age, education, employment status, federal poverty level, location of residence, and self-reported health status. We report odds ratios for logistic regressions and estimation coefficients for ordinary least squares regressions.

RESULTS

Regarding their descriptive characteristics within the Mexican and other Latino samples, the undocumented immigrants constitute the lowest proportions with health insurance and are the youngest (**Table 1**). Most Latinos, in general, are employed, including undocu-

mented individuals. Patterns of poverty follow immigration status for Mexicans and other Latinos, with the highest percentage of adults below the federal poverty level among undocumented individuals, followed by green card holders, naturalized citizens, and US-born Mexicans. Compared with almost half of undocumented Latinos, approximately 5% of US-born white subjects live at less than 100% of the federal poverty level.

The undocumented immigrants are the least likely to report their health status as poor among Mexicans and other Latinos. In both groups, most reported their health as fair or good, whereas a much smaller proportion reported their health to be very good or excellent. In contrast, higher proportions of US-born Latinos reported their health as good to excellent. The US-born white respondents were more likely than any Latinos to have insurance and to report their health status as very good or excellent.

Among Mexicans, the undocumented immigrants reported the lowest proportion of having a usual source of care, followed by green card holders, naturalized citizens, and US-born citizens (**Table 2**). Among other Latinos, the undocumented immigrants also had the lowest proportion with a usual source of care, followed by green card holders, US-born citizens, and then naturalized citi-

Table 2. Health Care Access, Use of Services, and Experience by Race/Ethnicity and Citizen/Documentation Status^a

Variable	Mexican					Other Latino					US-Born White
	US Born	Naturalized	Green Card	Undocumented	P Value ^b	US Born	Naturalized	Green Card	Undocumented	P Value ^c	
Health care access											
Usual source of health care	88.3	87.4	79.4	65.7	<.01	86.9	90.5	84.1	62.0	<.01	92.5
Problem getting necessary health care in past year	16.3	17.5	14.0	17.8	.03	21.1	19.7	17.4	17.2	<.01	15.4
Use of health care services											
No. of physician visits in past year											
Mean ^d	4.08	4.13	3.42	2.36	<.01	4.71	4.03	3.46	2.27	<.01	4.75
Median	2.00	2.00	2.00	1.00		2.00	2.00	2.00	1.00		3.00
IQR	1-5	1-5	0-4	0-1		1-5	1-4	1-4	0-3		1-6
≥1 Physician visit in past year	82.9	84.7	73.6	64.5	<.01	86.0	89.0	81.0	66.8	<.01	87.3
≥1 ED visit in past year ^e	20.7	16.0	13.7	13.8	<.01	21.7	20.3	17.0	16.0	.02	18.8
Health care experience											
Hard time understanding physician during last visit	3.8	7.1	9.0	12.3	<.01	2.7	6.5	9.5	10.3	<.01	2.6
Would get better care if different race/ethnicity	6.4	12.0	15.3	20.3	<.01	8.4	9.9	18.0	18.5	<.01	2.5
Rating of all health care in past year ^f											
Mean ^d	8.11	8.41	8.38	8.24	<.01	7.83	8.07	7.84	7.60	<.01	8.17
Median	8.00	9.00	9.00	9.00		8.00	8.00	8.00	8.00		8.00
IQR	7-10	8-10	8-10	8-10		7-10	7-10	7-10	7-10		7-10

Abbreviations: ED, emergency department; IQR, interquartile range.

^aUnless otherwise indicated, data are expressed as percentage of respondents.

^bCalculated by means of χ^2 tests within Mexican and US-born white samples.

^cCalculated by means of χ^2 tests within other Latino and US-born white samples.

^dCalculated by means of analysis of variance for continuous variables.

^eFrom the 2001 California Health Interview Survey.

^fZero indicates the lowest and 10 the highest score.

zens. Among Mexicans, naturalized citizens and undocumented immigrants reported the highest proportion of problems in obtaining necessary health care in the past 12 months. The findings are different for other Latinos, among whom the US-born citizens are more likely to report having problems.

In the Mexican and other Latino groups, the undocumented immigrants and green card holders had the lowest mean number of physician visits in the last year and constituted the lowest proportions of those with at least 1 physician visit in the past year. In both groups, undocumented individuals and green card holders had the smallest proportions of those with at least 1 visit to an ED in the past year, whereas the US-born and naturalized citizens had the highest proportions of those with at least 1 visit to an ED.

The undocumented immigrants in both groups constituted the highest proportions of those having difficulty understanding their physicians during their last visit and thinking that they would get better care if they were of a different race or ethnicity. For both of those measures, undocumented immigrants are followed sequentially by green card holders, naturalized citizens, and then US-born citizens. Mean differences are found for the ratings of all health care received in the past 12 months, but the differences are marginal, with US-born Mexicans having the lowest mean ratings and naturalized citizens having the highest. For other Latinos, the differences are also small, with undocumented immigrants having the lowest mean ratings and naturalized citizens having the highest.

In multivariate analyses (**Table 3**) comparing US-born Mexicans, undocumented Mexicans, and Mexican

green card holders, the Mexico-born groups are less likely to have a usual source of care, are less likely to report having had a problem in getting necessary health care in the past 12 months, have a lower mean number of physician visits in the past year, are less likely to have had at least 1 physician visit in the past year, are less likely to have used an ED in the past year, have higher odds of reporting difficulty understanding their physicians during the last visit, are more likely to report that they would receive better care if they were of a different race or ethnicity, and have a higher mean rating of all health care received in the past 12 months.

Within the other Latino sample, compared with the US-born citizens, undocumented immigrants and green card holders have lower odds of reporting difficulty obtaining necessary health care in the past year, have a lower mean number of physician visits in the past year, are less likely to have been to an ED in the past year, have higher odds of reporting a hard time understanding their physicians during the last visit, and have higher mean ratings of all their health care in the past year (**Table 4**). The undocumented immigrants are less likely to have a physician visit during the previous year, and green card holders have a higher likelihood of reporting that they would receive better care if they were of a different race or ethnicity compared with other US-born Latinos.

COMMENT

Trends in access to and use of health care services across the Latino groups by documentation and citizenship status

Table 3. Multivariate Analysis for Mexican and US-Born White Samples

Variable	Model ^a	Mexican				US-Born White
		US Born	Naturalized	Green Card	Undocumented	
Health care access						
Usual source of health care	Logistic (OR)	Reference	0.82	0.75 ^b	0.70 ^b	0.83 ^b
Problem getting necessary health care in past year	Logistic (OR)	Reference	0.99	0.61 ^b	0.68 ^b	1.22 ^b
Use of health care services						
No. of physician visits in past year	OLS (coefficient)	Reference	-0.36	-0.81 ^b	-1.55 ^b	0.66 ^b
≥ 1 Physician visit in past year	Logistic (OR)	Reference	1.28 ^c	0.83 ^c	0.73 ^b	1.06
≥ 1 ED visit in past year ^d	Logistic (OR)	Reference	0.70 ^b	0.52 ^b	0.50 ^b	1.00
Health care experience						
Hard time understanding physician during last visit	Logistic (OR)	Reference	1.45 ^c	1.43 ^c	1.72 ^b	0.98
Would get better care if different race/ethnicity	Logistic (OR)	Reference	1.68 ^b	1.67 ^b	1.93 ^b	0.55 ^b
Rating of all health care in past year ^e	OLS (coefficient)	Reference	0.32 ^b	0.55 ^b	0.74 ^b	-0.28 ^b

Abbreviations: ED, emergency department; OLS, ordinary least squares; OR, odds ratio.

^aAdjusted for sex, marital status, health insurance, age, education, employment, federal poverty level, location of residence, and self-reported health status.

^bSignificant at the 1% level.

^cSignificant at the 5% level.

^dEmergency department visit information is from the 2001 California Health Interview Survey.

^eZero indicates the lowest and 10 the highest score.

Table 4. Multivariate Analysis for Other Latino (Not Mexican) and US-Born White Samples

Variable	Model ^a	Other Latino				US-Born White
		US Born	Naturalized	Green Card	Undocumented	
Health care access						
Usual source of health care	Logistic (OR)	Reference	1.07	1.23	0.72	0.97
Problem getting necessary health care in past year	Logistic (OR)	Reference	0.88	0.54 ^b	0.40 ^b	0.89
Use of health care services						
No. of physician visits in past year	OLS (coefficient)	Reference	-0.97 ^b	-1.38 ^b	-2.06 ^b	0.04
≥ 1 Physician visit in past year	Logistic (OR)	Reference	1.16	0.91	0.64 ^c	0.81 ^c
≥ 1 ED visit in past year ^d	Logistic (OR)	Reference	0.93	0.68 ^b	0.56 ^b	0.95
Health care experience						
Hard time understanding physician during last visit	Logistic (OR)	Reference	2.35 ^b	2.55 ^b	2.25 ^b	1.28
Would get better care if different race/ethnicity	Logistic (OR)	Reference	1.13	1.52 ^c	1.08	0.38 ^b
Rating of all health care in past year ^e	OLS (coefficient)	Reference	0.18	0.32 ^b	0.51 ^b	0.01

Abbreviations: ED, emergency department; OLS, ordinary least squares; OR, odds ratio.

^aAdjusted for sex, marital status, health insurance, age, education, employment, federal poverty level, locality of residence, and self-reported health status.

^bSignificant at the 1% level.

^cSignificant at the 5% level.

^dEmergency department visit information is from the 2001 California Health Interview Survey.

^eZero indicates the lowest and 10 the highest score.

suggest that considering Latinos as a monolithic group masks important differences. Our results demonstrate that use of health care services by Latino immigrants is lower than that of US-born Latinos and white subjects. For most measures, patterns of increasing use of services follow the continuum of immigration status from lack of documentation to naturalization.

The differences in access to, use of, and experiences with health care among Latino immigrant and citizen groups have implications for efforts to eliminate health care disparities. For example, worse health care experiences for undocumented Mexicans imply that efforts to improve processes of care need to address this specific vulnerable group. Strategies to improve the delivery of health care services to legally authorized immigrants and US citizens, to the exclusion of undocumented individu-

als, will likely miss an opportunity to influence health care for the individuals most affected by inequities in health care access.

Undocumented Mexican immigrants in California are less likely to have a usual source of care compared with US-born Mexicans, even after controlling for sociodemographics, insurance, and need. A similar pattern is observed for undocumented Latino immigrants from countries other than Mexico, although the findings are not statistically significant. An interesting finding is that although studies show that having a usual source of care reduces racial and ethnic differences in receipt of primary and preventive services^{25,26} and reduces nonurgent visits to the ED within a general population,^{27,28} undocumented Latino immigrants in this study do not have higher ED use than their US-born counterparts, despite

their lower rates of having a usual source of care and insurance coverage. Undocumented Latino immigrants also have fewer routine physician visits than US-born Mexican and white subjects. Although we cannot attribute the effects of differences in health care access, there is a tendency for the undocumented immigrants to report only fair or good health status compared with their US-born counterparts, who were more likely to report their health as good, very good, or excellent.

A seemingly counterintuitive finding is that despite lower rates of use of health care services, foreign-born Latinos report fewer problems accessing needed care and higher ratings of their health care compared with US-born Latinos. A likely explanation is that foreign-born Latinos experience fewer problems obtaining health care because of fewer attempts to access care. It could also be that they are comparing their experiences in the US health care system with those in the systems in their countries of origin, and that they are more satisfied with the health care of the United States. Our findings regarding lower use of health care services among undocumented Latinos are consistent with other studies of immigrants.^{12,13} The overall lower rate of use of health care services and poorer self-rated health status among undocumented immigrants suggest a need to better understand the impact of low rates of use of health care services for Latino immigrants in general and undocumented Latino immigrants in particular. Poor use of health care resources could have important implications with regard to the health of a growing segment of the population.

All foreign-born Latino immigrants are more likely than US-born Latinos to perceive that they would have received better care if they were of a different race or ethnicity, and US-born Latinos are more likely to believe this than US-born white subjects. A previous CHIS study found that foreign-born individuals were more likely to report discrimination in health care than US-born individuals.⁵ A separate study observed that Latinos consider differential treatment by health care providers an important reason for unequal health care.²⁹ In the present study, immigrants were more likely than their US-born counterparts to report difficulty understanding their providers. Consistent with previous studies, communication constraints are an important barrier for Latino immigrants.³⁰⁻³⁶

Our study is limited by the self-reported data and a lack of objective health measures. The access measures do not account for geographic availability of services, although we use a measure of location of residence in our models, which may be associated with geographic access to care. The focus on California limits the external validity of our results beyond the state; however, given that California is home to one-fourth of undocumented US residents,¹ our results have national implications. Our use of an inclusive group of immigrants without green cards for the undocumented could affect results; however, even for the other Latinos, which would include a greater proportion of potentially misclassified individuals, this would result in more conservative estimates. Similarly, undocumented residents are more likely than others to be among nonrespondents and those without telephones. The potential bias is likely to underrepresent the most recent and marginalized immigrants with

the worst access to health care, reducing the size of the differences we detected.

CONCLUSIONS

Low rates of use of health care services by Mexican immigrants and similar trends among other Latinos do not support public concern about immigrants' overuse of the health care system. Undocumented individuals demonstrate less use of health care than US-born citizens, and they have more negative experiences with the health care that they have received. The findings demonstrate that immigrant authorization status is an important determinant of health care access and patterns of use of services among Latinos.

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Corresponding Author: Alexander N. Ortega, PhD, Box 951772, Department of Health Services, School of Public Health, University of California, Los Angeles, Los Angeles, CA 90095-1772 (aortega@ucla.edu).

Author Contributions: *Study concept and design:* Ortega, Fang, Perez, Carter-Pokras, Wallace, and Gelberg. *Acquisition of data:* Ortega, Fang, and Wallace. *Analysis and interpretation of data:* Ortega, Fang, Perez, Rizzo, and Carter-Pokras. *Drafting of the manuscript:* Ortega, Fang, Perez, Rizzo, Carter-Pokras, Wallace, and Gelberg. *Critical revision of the manuscript for important intellectual content:* Ortega, Perez, Rizzo, Carter-Pokras, Wallace, and Gelberg. *Statistical analysis:* Ortega, Fang, Rizzo, and Carter-Pokras. *Obtained funding:* Ortega. *Administrative, technical, and material support:* Ortega, Fang, Perez, Wallace, and Gelberg. *Study supervision:* Ortega.

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REFERENCES

1. Passel JS. Unauthorized migrants: numbers and characteristics. Washington, DC: Pew Hispanic Center; June 14, 2005. <http://pewhispanic.org/files/reports/46.pdf> Accessed November 3, 2006.
2. Kullgren JT. Restrictions on undocumented immigrants' access to health services: the public health implications of welfare reform. *Am J Public Health.* 2003; 93(10):1630-1633.
3. Cosman MP. Illegal aliens and American medicine. *J Am Physicians Surgeons.* 2005;10(1):6-10.
4. Corbie-Smith G, Flagg EW, Doyle JP, O'Brien MA. Influence of usual source of care on differences by race/ethnicity in receipt of preventive services. *J Gen Intern Med.* 2002;17(6):458-464.
5. Lauderdale DS, Wen M, Jacobs EA, Kandula NR. Immigrant perceptions of discrimination in health care: the California Health Interview Survey 2003. *Med Care.* 2006;44(10):914-920.
6. 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(4):313-320.

7. Carter-Pokras O, Zambrana RE. Collection of legal status information: caution! *Am J Public Health*. 2006;96(3):399.
8. Marshall KJ, Urrutia-Rojas X, Mas FS, Coggin C. Health status and access to health care of documented and undocumented immigrant Latino women. *Health Care Women Int*. 2005;26(10):916-936.
9. Hubbell FA, Waitzkin H, Mishra SI, Dombrink J, Chavez LR. Access to medical care for documented and undocumented Latinos in a southern California county. *West J Med*. 1991;154(4):414-417.
10. Berk ML, Schur CL, Chavez LR, Frankel M. Health care use among undocumented Latino immigrants. *Health Aff (Millwood)*. 2000;19(4):51-64.
11. Berk ML, Schur CL. The effect of fear on access to care among undocumented Latino immigrants. *J Immigr Health*. 2001;3(3):151-156.
12. Goldman DP, Smith JP, Sood N. Immigrants and the cost of medical care. *Health Aff (Millwood)*. 2006;25(6):1700-1711.
13. Mohanty SA, Woolhandler S, Himmelstein DU, Pati S, Carrasquillo O, Bor DH. Health care expenditures of immigrants in the United States: a nationally representative analysis. *Am J Public Health*. 2005;95(8):1431-1438.
14. Keeter S, Kennedy C, Dimock M, Best J, Craighill P. Gauging the impact of growing nonresponse on estimates from a national RDD telephone survey. *Public Opin Q*. 2006;70(5):759-779.
15. California Health Interview Survey. CHIS 2003 Methodology Series, Report 4: Response Rates. http://www.chis.ucla.edu/pdf/CHIS2003_method4.pdf. Accessed July 3, 2007.
16. Mexican Migration Project. The Legalized Population Survey. <http://mmp.opr.princeton.edu/LPS/LPSpage.htm>. Accessed April 26, 2007.
17. California Health Interview Survey. Survey Methodology. <http://www.chis.ucla.edu/methods.html>. Accessed January 11, 2007.
18. Ponce NA, Lavarreda SA, Yen W, Brown ER, DiSogra C, Satter DE. The California Health Interview Survey 2001: translation of a major survey for California's multiethnic population. *Public Health Rep*. 2004;119(4):388-395.
19. Baker DW, Shapiro MF, Schur CL. Health insurance and access to care for symptomatic conditions. *Arch Intern Med*. 2000;160(9):1269-1274.
20. Passel JS. *Percent of "Non-Green Card" Aliens Who Are Undocumented Immigrants, for Most Recent Period of Entry to the US, Based on Urban Institute Estimates Derived From March Current Population Surveys of 1999-2001: Custom Data Table*. Washington, DC: Urban Institute; November 6, 2002.
21. Suro R. *Survey of Mexican Immigrants: Attitudes About Immigration and Major Demographic Characteristics*. Washington, DC: Pew Hispanic Center; March 2, 2005. <http://pewhispanic.org/files/reports/41.pdf>. Accessed November 26, 2006.
22. UCLA Center for Health Policy Research. American Indian Research Program: undocumented residents make up small share of California's uninsured population: Methodology. http://www.healthpolicy.ucla.edu/pubs/files/unin_undoc_FS_methodology.html. Accessed April 26, 2007.
23. Gelberg L, Andersen RM, Leake BD. The behavioral model for vulnerable populations: application to medical care use and outcomes for homeless people. *Health Serv Res*. 2000;34(6):1273-1302.
24. *SAS User's Guide, Version 9.1*. Cary, NC: SAS Institute; 2003.
25. Gordon NP, Rundall TG, Parker L. Type of health care coverage and the likelihood of being screened for cancer. *Med Care*. 1998;36(5):636-645.
26. Lambrew JM, DeFriesse GH, Carey TS, Ricketts TC, Biddle AK. The effects of having a regular doctor on access to primary care. *Med Care*. 1996;34(2):138-151.
27. Petersen LA, Burstin H, O'Neil AC, Orav EJ, Brennan TA. Nonurgent emergency department visits: the effect of having a regular doctor. *Med Care*. 1998;36(8):1249-1255.
28. Sarver JH, Cydulka RK, Baker DW. Usual source of care and nonurgent emergency department use. *Acad Emerg Med*. 2002;9(9):916-923.
29. Lake Snell; Perry & Associates Inc. Americans Speak Out on Disparities in Health Care. http://www.phsi.harvard.edu/health_reform/poll_media_report_disparities.pdf. Accessed August 30, 2007.
30. Carter-Pokras O, O'Neill MJ, Cheanvechai V, Menis M, Fan T, Solera A. Providing linguistically appropriate services to persons with limited English proficiency: a needs and resources investigation. *Am J Manag Care*. 2004;10:SP29-SP36.
31. Derose KP, Baker DW. Limited English proficiency and Latinos' use of physician services. *Med Care Res Rev*. 2000;57(1):76-91.
32. Fiscella K, Franks P, Doescher MP, Saver BG. Disparities in health care by race, ethnicity, and language among the insured: findings from a national sample. *Med Care*. 2002;40(1):52-59.
33. Flores G. The impact of medical interpreter services on the quality of health care: a systematic review. *Med Care Res Rev*. 2005;62(3):255-299.
34. Flores G. Language barriers to health care in the United States. *N Engl J Med*. 2006;355(3):229-231.
35. Flores G, Abreu M, Tomany-Korman SC. Limited English proficiency, primary language at home, and disparities in children's health care: how language barriers are measured matters. *Public Health Rep*. 2005;120(4):418-430.
36. Jacobs EA, Lauderdale DS, Meltzer D, Shorey JM, Levinson W, Thisted RA. Impact of interpreter services on delivery of health care to limited-English-proficient patients. *J Gen Intern Med*. 2001;16(7):468-474.