The Association between the Affordable Care Act (ACA) and Reduced Disparities in Health Care Access by English Language Proficiency

Abstract

This paper examines the association between full implementation of the Affordable Care Act (ACA) and reduced disparities in insurance coverage, access to health care and health care utilization by English language proficiency, with a focus on the Hispanic population. The population with limited English proficient (LEP) is growing rapidly over years and faces disparities in access to care due to language barriers. We analyze data from the Medical Expenditure Panel Survey (MEPS) 2006-2016. Using multivariate regressions with interaction terms between year indicator after 2014 and population cohort, we show that LEP Hispanics were more likely to have a usual source of health care than their English proficient counterparts after implementation of the ACA. The probabilities of forgoing any necessary care decreased more substantially among LEP Hispanics under the ACA, compared with other Hispanics. However, there was no evidence that the ACA increased the use of health care, improved quality of health care or patient satisfaction among the Hispanic LEP population.

Introduction

In 2011, 60.6 million people (21 percent of the US population) spoke a language other than English at home. Among them, 41.8 percent had limited English proficiency (LEP), reporting that they speak English less than "very well" (1). The figures are rapidly growing over years, along with the increasing diversity of the US population. Limited English proficiency has been widely documented as a barrier to health care. People with LEP experienced difficulties in obtaining health insurance coverage (2,3), accessing health care services (4–10), receiving good quality care with high patient satisfaction (11–13), communicating with the health care provider (14–18), using preventive health care, such as cancer screening and influenza vaccinations (6,19–23) and achieving medication and treatment adherence (24–27). LEP population also experience worse health outcomes. They are more likely to report poor self-rated health status and psychological distress (4,6,28). They have higher odds of undiagnosed or uncontrolled hypertension, poor glycemic control and asthma control (27,29,30). LEP patients also have high risk for unplanned emergency room (ER) visits (31,32), prolonged hospital length of stay (33,34), frequent hospital readmission (35) and serious adverse effects (12,36,37).

The Affordable Care Act (ACA) was designed to expand health insurance coverage to Americans who were previously uninsured, improve their access to care and ultimately advance health equity. It provides new coverage options for low-income population – the expansion of Medicaid to adults with income up to 138 percent of federal poverty level (FPL) and the establishment of health insurance Marketplaces providing tax credits to individuals with incomes between 100% and 400% FPL. The ACA also has great potential to improve access to care for disadvantaged population with LEP (38,39). Section 1557 includes a nondiscrimination provision, asserts that any health programs and activities that receive federal financial assistance must provide meaningful access to each individual with LEP who may require assistance (40). It includes the provision of language assistance services in hospitals and health systems, such as on-site and telephonic interpreters, and translating documents such as patient forms and discharge papers (41). Section 1311 of the ACA requires that applications, forms, and notices in the health insurance Marketplace must be written in a "plain language", language that is concise, well-organized and individuals with

LEP can readily understand and use (42). The ACA also supports navigator programs and community health centers to facilitate enrollment in health insurance in the hard-to-reach areas among disadvantaged population, including people with LEP.

The ACA implementation was associated with increases in health insurance coverage, access to and affordability of care, and health care utilization (43–45). Recent studies show that the ACA has reduced socioeconomic disparities in health care coverage and access. The gaps have been narrowed for racial and ethnic minorities, low-income population, younger adults, and patients with chronic conditions or disabilities (46–51). However, the Hispanic/Latino received the fewest benefits among racial and ethnic minority groups (46,52). The ACA had remarkably heterogeneous effects across Hispanic/Latino subgroups, in part because of the disparities in English proficiency (53,54). It has been shown that California early public coverage expansions produced significant increases in coverage for low-income adults, with the largest gains in those who lacked English proficiency (55). To our knowledge, no study has investigated the role of English proficiency in explaining differential effects of the ACA across racial and ethnic minority groups at a national level. Our study fills this gap in literature by analyzing differences in health insurance coverage, access to and use of health care between Hispanics with or without language barriers under the ACA. Specifically, using data from the 2006 to 2016 Medical Expenditure Panel Survey (MEPS), we examine how the trends between these two groups of Hispanics have changed before and after implementation of the ACA in 2014.

Data and Methods

The data for this analysis is from the Medical Expenditure Panel Survey (MEPS). The MEPS collects data from a nationally representative subsample of households drawn from the prior year's National Health Interview Survey (NHIS). It provides nationally representative estimates of health care use, expenditures, sources of payment, and health insurance coverage for the U.S. civilian noninstitutionalized population. Our analysis uses data from the annual cross-sectional MEPS data covering the period 2006 through 2016. The study focuses on adults 18-64 years of age, including a total of 272,030 observations over 10 years. The Hispanic sample in our analysis is restricted to U.S.-born Hispanics and foreign-born Hispanics who have lived in the country for more than five years because the ACA's provisions are only available for U.S. citizen and lawful non-citizens (56).

Since the focus of our analysis is Hispanic population with LEP. we obtain a measure of English language proficiency from the MEPS, which is consistent with the one used by the U.S. Census Bureau. People who speak a language other than English at home and speak English less than "very well" are defined as limited English proficient. Our outcome variables include various measures of health insurance coverage, access to and use of health care. Firstly, we have a set of indicators of health insurance coverage. The four variables indicate having any forms of health insurance coverage, private insurance, Medicaid, or Medicare coverage. Secondly, we consider measures of access to and affordability of care. They include an indicator of having a usual source of health care, and three variables indicating the probability that the person needed necessary medical/dental/preventive care but was unable to receive it. Thirdly, we have four indicators of the use of health care, including office-based visits, hospital outpatient visits, hospital inpatient visits and emergency room visit. Lastly, we examine a set of measures of health care quality and patient satisfaction with care.

We use multivariate linear probability models to study the variation in health insurance

coverage, access to and use of health care concurrent with the ACA implementation in 2014. We add the interaction terms between the ACA implementation (year after 2014) and a specific population cohort to test the hypothesis that disparities in English proficiency contribute to the heterogeneous effects of the ACA across racial/ethnic groups. We include three population cohorts - English proficient non-Hispanic whites as the reference group, English proficient Hispanic people and Hispanic people with LEP. Specifically, we estimate the following model:

- $Y_{ita} = \mu + \beta_1 LEPHisp_{it} + \beta_2 NonLEPHisp_{it} + \beta_3 White_{it} + \gamma_1(LEPHisp_{it} \times PostACA_{it}) + \gamma_2(NonLEPHisp_{it} \times PostACA_{it}) + \gamma_3(White_{it} \times PostACA_{it}) + \theta Year_t + \delta AgeGroup_a + \delta X_{it}$

where *i* indexes individual, *t* year and *a* age group. Y_{ita} indicates the outcome variables as noted. $LEPHisp_{it}$ denotes Hispanic people with LEP, $NonLEPHisp_{it}$ English proficient Hispanic people and $White_{it}$ English proficient non-Hispanic whites. $LEPHisp_{it} \times PostACA_{it}$, $NonLEPHisp_{it} \times PostACA_{it}$, and $White_{it} \times PostACA_{it}$ are interaction terms between year indicator after 2014 and each of the three population cohorts. Variables with the reference group $White_{it}$ and $White_{it} \times PostACA_{it}$ are omitted from the model because of collinearity. X_{it} is a set of control variables, including age, sex, marital status, educational levels, household income, employment, U.S.-born citizenship, self-reported health, and chronic conditions. $Year_t$ and $AgeGroup_a$ control for year and age group fixed effects. The analyses use survey weights to account for the survey design of the MEPS.

Preliminary Results

Table 1 provides characteristics of adults in the three population cohorts - English proficient non-Hispanic whites, English proficient Hispanics and LEP Hispanics on the basis of the MEPS data from 2006 to 2013. Compared to English proficient counterparts, LEP Hispanics were older, more likely to be female, less likely to have a college degree or above, more likely to live in a low-income household, more likely to be married and unemployed. LEP Hispanics reported worse health status but they were less likely to report having a chronic condition, partly because limited English proficiency is associated with high risk of undiagnosed and uncontrolled chronic diseases (30,57,58).

Table 2 shows the regression results for changes in health insurance coverage, access to and affordability of health care. In Panel A of Table 2, we found the ACA implementation was associated with significant increases in health insurance coverage among Hispanic population, with a larger increase among those who lacked English proficiency. Results also indicate significant variation in types of insurance coverage under the ACA. For Hispanics with LEP, most of the coverage gains occurred in private insurance and there was no significant change in Medicaid and other public insurance. In contrast, non-LEP Hispanics experienced larger coverage gains in Medicaid and the ACA impacts on private insurance were relatively smaller. Panel B of Table 2 shows that the ACA implementation was also associated with improved access to care among Hispanic population. Similarly, the increases in the probability of having a usual source of care were larger for those with language barriers. In addition, there were significant reductions in the probability of being unable to receive needed medical care among Hispanics with LEP. The coefficient for non-LEP Hispanics were small and not statistically significant.

Table 3 presents the regression results for the use of health care, health care quality and patient satisfaction with care. In contrast to those reported in Table 2, most of the

coefficients in Table 3 were small and statistically insignificant. The ACA implementation only significantly reduced the probability of having hospital outpatient visits among Hispanics with LEP. One possible explanation is that the demand for hospital outpatient care declined as more people with LEP had a usual source of health care under the ACA. In addition, for English-proficient Hispanics, we found the ACA implementation increased their probabilities of reporting getting medical appointment and needed medical care easily but there was no similar impact among LEP Hispanics. Results in this table indicate that there was no evidence of a change in health care utilization, health care quality and patient satisfaction among LEP Hispanics in response to the ACA.

In summary, disparities in health coverage, access to and the use of health care by English proficiency have been reduced significantly among Hispanic population during the initial years of the full ACA implementation. We found evidence of the changes in health insurance coverage and access to care, but no impacts on the use of health care, quality of health care or patient satisfaction with care.

Next Steps

In the final version of this paper, we will add more analyses in addition to the main regressions. Firstly, we will use a sequential regression model by adding an increasing number of covariates sequentially in the model to detect which variable explains the disparities by English proficiency under the ACA. Next, we will examine the changes across Hispanic subgroups. Previous studies have demonstrated that Hispanic subgroups differed in the response to the ACA implementation. Hispanic population were categorized as Puerto Rican, Cuban, Dominican, Mexican, and Central or South American in the MEPS. We will describe the heterogenous ACA impacts across each of these categories interacted with English language proficiency status. Lastly, since Table 1 shows significant differences between Hispanic people with or without LEP, we will have regressions after propensity score matching on age gender, education and other key factors and compare outcomes between matched groups.

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Table 1: Baseline Characteristics of MEPS Respondents in Three Population Cohorts

Characteristics	LEP Hispanics		Non-LEP Hispanics		Non-LEP Whites	
Age	39.8	(0.567)	26.8	(0.217)	39.9	(0.216)
Female(%)	50.7	(0.707)	48.5	(0.273)	51.0	(0.177)
Education: less than high school(%)	85.8	(0.615)	68.3	(0.561)	46.0	(0.467)
Education: high school diploma(%)	18.0	(0.704)	21.3	(0.359)	24.7	(0.362)
Education: college degree(%)	10.2	(0.523)	24.3	(0.477)	39.5	(0.386)
Education: advanced degree after college(%)	1.1	(0.170)	3.6	(0.192)	10.5	(0.293)
Low-income household(%)	46.4	(1.756)	33.1	(1.139)	14.7	(0.304)
Married(%)	49.8	(1.231)	27.5	(0.400)	44.8	(0.329)
Employed(%)	56.2	(1.268)	60.3	(0.680)	60.8	(0.440)
Self-reported health: poor or fair(%)	21.0	(0.953)	8.9	(0.232)	10.0	(0.169)
Self-reported health: excellent or good(%)	79.0	(0.953)	91.1	(0.232)	90.0	(0.169)
Having at least one chronic condition(%)	54.5	(1.407)	67.5	(0.339)	74.0	(0.265)
Region: south(%)	39.3	(4.096)	35.5	(2.687)	34.6	(0.867)
Region: northeast(%)	13.0	(1.389)	13.9	(1.044)	19.2	(0.765)
Region: west(%)	40.7	(3.116)	41.6	(2.121)	19.8	(0.782)
Region midwest(%)	6.9	(0.932)	9.0	(0.870)	26.4	(0.752)

Data source: Medical Expenditure Panel Survey (MEPS) 2006-2013

Standard errors in parentheses

t test on the equality of means of LEP Hispanics and non-LEP Hispanics

** $p<0.01$, * $p<0.05$

Table 2: Additional Changes in Health Insurance Coverage and Care Access for Different Hispanic Groups under the ACA

A. Insurance coverage

	Any insurance		Private insurance		Medicaid insurance		Medicare insurance	
Hispanic with LEP:	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient
additional change in 2014-2016	0.503	0.0452***	0.188	0.0392***	0.277	0.00362	0.12	-0.00456
		(0.0166)		(0.0143)		(0.0107)		(0.00402)
Hispanic without LEP:	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient
additional change in 2014-2016	0.782	0.0340***	0.446	0.0187*	0.325	0.0209***	0.059	-0.00135
		(0.00854)		(0.00980)		(0.00766)		(0.00302)

B. Access to care

	Having ususal source of care		Unable to get necessary medical care		Unable to get necessary dental care		Unable to get necessary preventive care	
Hispanic with LEP:	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient
additional change in 2014-2016	0.533	0.0627***	0.039	-0.0154***	0.064	-0.00552	0.02	-0.00281
		(0.0146)		(0.00525)		(0.00488)		(0.00378)
Hispanic without LEP:	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient
additional change in 2014-2016	0.724	0.0264**	0.022	-0.000778	0.038	0.00426	0.012	0.00754**
		(0.0106)		(0.00346)		(0.00407)		(0.00308)

Data source: Medical Expenditure Panel Survey (MEPS) 2006-2016

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3: Additional Changes in the Use of Health Care and Patient Satisfaction for Different Hispanic Groups under the ACA

C. Health care utilization

	Office-based visits		Hospital outpatient visits		Hospital inpatient visits		Emergency room visits	
Hispanic with LEP:	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient
additional change in 2014-2015	0.52	0.00332	0.075	-0.0239***	0.068	-0.00195	0.102	-0.00103
		(0.0175)		(0.00846)		(0.00465)		(0.00643)
Hispanic without LEP:	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient
additional change in 2014-2015	0.611	0.00723	0.076	-0.0134**	0.05	0.00521	0.117	0.00863
		(0.00841)		(0.00668)		(0.00383)		(0.00569)

D1. Health care quality and patient satisfaction with care

	Difficult to access the provider by phone		Difficult to access the provider after hour		Got medical appointment when wanted		Easy getting needed medical care	
Hispanic with LEP:	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient
additional change in 2014-2015	0.21	-0.00928	0.511	0.0187	0.832	-0.00371	0.805	0.0104
		(0.0181)		(0.0273)		(0.0170)		(0.0178)
Hispanic without LEP:	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient
additional change in 2014-2015	0.154	0.000215	0.377	0.0115	0.782	0.0348***	0.831	0.0237**
		(0.00971)		(0.0182)		(0.0108)		(0.0103)

D2. Health care quality and patient satisfaction with care

	Ask about treatments other doctors may give		Show respect for treatments that the patient is happy with		Ask the patient to help make decision		Present and explain all options to the patient	
Hispanic with LEP:	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient
additional change in 2014-2015	0.819	-0.0268	0.866	0.0203	0.792	-0.0287*	0.928	-0.0117
		(0.0172)		(0.0136)		(0.0158)		(0.0114)
Hispanic without LEP:	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient	Baseline	Coefficient
additional change in 2014-2015	0.799	-0.00872	0.90	-0.00931	0.822	-0.00326	0.941	-0.00520
		(0.0110)		(0.00851)		(0.0111)		(0.00663)

Data source: Medical Expenditure Panel Survey (MEPS) 2006-2016

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1