Word to the Mother(Tongue):
Language Access and Medicaid for Limited English Proficiency Migrants

Wayne Liou
University of Hawai‘i - Mānoa

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Abstract

To address the adverse selection problem in health insurance, the United States has required all individuals to be covered by health insurance; to help poor individuals and households obtain health insurance, Medicaid has been expanded. However, expanding Medicaid coverage via increased eligibility levels could still leave a segment of the poor population without Medicaid - poor Limited English Proficient (LEP) individuals and households will still not have insurance if they are unable to understand the Medicaid application procedure. To help LEP migrants obtain Medicaid, some states have enacted language access laws requiring Medicaid agencies provide translators or translated documents. In this paper, I take advantage of state heterogeneity to examine whether these efforts do indeed increase Medicaid take-up rates. I find that language access improves Medicaid take-up rates among likely LEP migrants without crowding out private health insurance. There is some variation in efficacy across states, with some evidence that California and New York are the main drivers of the increased take-up rates. Lastly, I find that even though many of these translation services primarily target Spanish-speakers, the laws might not be as helpful to Spanish-speaking migrants.

JEL classification: I13, I18, J15

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1 Introduction

In a typical Economics 100 class, the concept of adverse selection is usually introduced, with health insurance as a primary example. The example is particularly relevant in the United States, as the relationship between health insurance coverage (or lack thereof) and the high costs of medical care in the U.S. is scrutinized. To address this problem of adverse selection with regards to health insurance, an emphasis has been placed on insuring everyone; to help poor individuals obtain health insurance, the U.S. has made an effort to expand Medicaid. However, expanding Medicaid coverage via increased eligibility levels could still leave a segment of the poor population without Medicaid - poor Limited English Proficient (LEP) individuals and households will still not have insurance if they are unable to understand the Medicaid application procedure. This is not a trivial portion of the population; LEP migrants made up 9% of the entire U.S. population (not just migrant population) as recently as 2011 (Whatley and Batalova, 2013).

In theory, an inability to speak or read English should not prevent access to government services. Title VI of the 1964 Civil Rights Act states that “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied benefits of, or be subject to discrimination under any program or activity receiving Federal financial assistance” (Pub. L. 88-352, title VI, Sec. 601, July 2, 1964, 78 Stat. 252). Executive Order 13166, issued in 2000, clarified Title VI’s national origins aspect, stating “each Federal agency shall examine the services it provides and develop and implement a system by which LEP persons can meaningfully access those services consistent with, and without unduly burdening, the fundamental mission of the agency” (Executive Order 13166). According to these two laws, language access, or translation services, should be provided in the case of Medicaid enrollment. Title VI applies broadly, regardless of whether federal funding is direct or indirect and the amount of funds received, and “in the health care context, this includes virtually all: hospitals; doctor’s offices; nursing homes; managed care organizations; state Medicaid agencies; home health agencies; health insurance providers; and social services organizations” (Youdelman, 2009, p.2). In reality, Perkins and Youdelman (2008) argue that “[D]espite such federal requirements, lack of knowledge and enforcement leave millions of LEP individuals without meaningful access to health care” [p.4].

To be fair, all states have passed some degree of language access laws in the health care industry. The amount of language access varies greatly across states, however. Some
states have enacted comprehensive Title VI-like laws for state agencies, while some states merely require information pamphlets on a variety of diseases be translated. Provisions also include rules on interpreter certification and facility licensure, access plans, and rights at hearings. To see if language access plays a role in the goal of extending health insurance coverage, I take advantage of the heterogeneity in state-level language access laws to analyze whether language access increases Medicaid take-up rates for LEP migrants. Due to the similarities between the State Children’s Health Insurance Program (SCHIP) and Medicaid\textsuperscript{1}, “Medicaid” from now on means non-Medicare, non-military public health insurance. To my knowledge, this is the first paper to look into the effects of language access on access to government services. This is also the first paper to examine individual outcomes from language access/barriers in health care using public use microdata. My main result is that language access improves Medicaid take-up rates among likely LEP migrants. What is more, there is no evidence of government crowd-out; private health insurance coverage even increases after the passage of language access laws. The effect of the different state laws varies across states, and the main results could be driven by New York and California. Furthermore, even though many of these translation services primarily target Spanish-speakers, the results suggest that the laws are not more helpful to Spanish-speaking migrants.

This fits into the scarce literature on the importance of language in accessing health care. There is some literature on adverse health outcomes from being unable to communicate with doctors and nurses effectively, primarily published in the biomedical and life science fields. These articles usually point to how language barriers contribute to a low level of understanding of diagnoses and treatment options (Hadler et al., 2013; Khan et al., 2013). In a technical report, Quan and Lynch (2010) examines how costly language barriers are when miscommunication leads to medical malpractice. Analyzing the medical malpractice claims of a malpractice carrier that insures in four states, Quan and Lynch (2010) identified 35 closed claims that involved language barriers from January 2005 through May 2009, 2.5% of total claims reviewed by the malpractice carrier. These claims resulted in over $5 million in damages, settlements, and legal fees. The lack of malpractice carriers providing interpreters to hospitals to reduce these types of claims could, ironically, be a case of adverse selection. Providing interpreters would likely increase the costs of using the malpractice carrier, and

\textsuperscript{1}Like Medicaid, SCHIP is federally funded but state run and administered. SCHIP works as somewhat of a complement to Medicaid, though states use it differently - it can be used as a separate child health program, it can be used to expand Medicaid programs, or some combination of the two.
hospitals that deem themselves to have little need for interpreters would not pay higher costs for a malpractice carrier that offers interpreters the hospitals considers unnecessary. This affects the malpractice carrier’s risk pool, as it insures hospitals that are increasingly more likely to need interpreters. In this analogy, hospitals with little need for interpreters are healthy people, and malpractice carriers with interpreters are health insurance agencies.

There is also some literature regarding immigrants’ lower rates of obtaining health insurance. A Migration Policy Institute report by Ku and Jewers (2013) illustrates the disparity of health insurance and health care access between immigrants and native-borns. In 2011, 62% of non-citizen low-income adults (ages 19 to 64) were uninsured, compared to 42% of naturalized citizens and 35% of native borns (Ku and Jewers, 2013, fig.2). Foreign-borns made approximately 20% fewer office-based medical visits than native-borns (Ku and Jewers, 2013, fig.3,4). Ku and Jewers (2013) point out that while these differences could be due to income differences and eligibility restrictions placed on non-citizens, they also stress the importance of language barriers, particularly with regards to communication between patients and clinicians. Feinberg et al. (2002) more carefully examine the language access issue in obtaining Medicaid, examining the effects of language barrier on education and outreach, and initial enrollment. They find that the major barriers to Medicaid enrollment related to “know-how’ - that is, knowing about the Medicaid program, if their child was eligible, and how to enroll” (Feinberg et al., 2002, p.5).

2 Data and Methodology

There are three main pieces to the puzzle of whether language access improves Medicaid take-up rates for LEP migrants: if the individual is enrolled in Medicaid, if the individual is an LEP migrant, and whether the state the individual resides is treated by having language access laws that would affect Medicaid accessibility. The data come from the Current Population Survey (CPS), which has rich data about health insurance coverage. The sample period covers 1994-2008. Unfortunately, the CPS has no English proficiency question, so English proficiency has to be inferred from other survey questions. First, I look at where an individual was born. Individuals born in countries that do not have English as an official, primary, or widely spoken secondary language clearly are more likely to be LEP. This standard for identifying LEP individuals is obviously limited; some countries, such as India, do not have a large English-speaking population in general, but educated individuals almost all
speak English\textsuperscript{2}. Further, Chiswick and Miller (2001) find evidence that education increases destination-language skills. Thus, I do not consider respondents with a high school degree or higher as LEP. Lastly, considering the “critical period” of second language acquisition as in Bleakly and Chin (2010; 2004)\textsuperscript{3}, I use an individual’s year of arrival, age, and year of survey to determine the individual’s age of arrival. If the individual arrived in the United States prior to nine years of age, I do not consider them as LEP. Unfortunately, this identification strategy probably misidentifies some LEP individuals in both directions; some individuals identified as LEP by these standards might be fluent in English, for example by moving to an English-speaking, non-U.S. country prior to age nine. Conversely, some individuals identified as being proficient English speakers by this strategy might actually be LEP, as might happen in ethnic enclaves (Chiswick and Miller, 2005).

At its most basic, this paper is analyzing whether legally mandated translation services assist LEP adults in accessing health services for themselves and their children. Translation assistance does not always come from policy-mandated translators or translated documents, however. Someone who is not fluent in English could live in a household that has a proficient English-speaker who can provide translation services for them; language access laws should not affect these types of LEP individuals. Alternatively, children born in an English-speaking country might be proficient in English, but have parents who are not English proficient. In this scenario, the child is proficient in English, is too young to understand the application process, has LEP parents, and therefore would likely be affected by language access laws. To address these two cases, I look at whether all adults, defined as being older than 16 years of age, in a household are LEP. If at least one adult in the household is not LEP, than all members in the household are recoded as not being LEP. If all adults in the household are defined as LEP, the children are all recoded as being LEP.

To determine whether a state is considered treated by a language access state in a particular year, I go through the list of state laws provided in Perkins and Youdelman (2008) and find state laws that should, in theory, increase access to Medicaid. I look for laws that require Medicaid agencies to provide translated documents, translators throughout the application process, or non-English advertisements and notifications of eligibility. There are 28 “states”

\textsuperscript{2}I get information about a country’s languages spoken from the CIA Factbook.

\textsuperscript{3}According to the “critical period hypothesis”, individuals with exposure to a language during the critical period can acquire the language up to native ability. Exposure after the critical period, however, and an individual is less likely to be proficient. The authors consider ages 0-9 years as the critical period.
(27 states and the District of Columbia) that, as of 2008, have some degree of improved language access to Medicaid\(^4\); of these 28, I was able to find the date of enactment for 22 states. See appendix A for the list of states with improved language access to Medicaid, what the content of these laws are, and when the laws were enacted.

Careful attention is paid to two particular types of language access laws that might have minimal effects on Medicaid take-up rates. The first type of laws are laws that require Medicaid providers and/or affiliates to have an access plan that addresses language access issues. The language of these laws generally do not explicitly require that the organization improve access, they merely require a plan that includes the organization’s efforts to address access needs. In other words, it seems that a plan stating that limited to no efforts are being made to address the needs of LEP migrants seeking coverage would still be in compliance with the law. Any minimal effort to actually provide translation services would have minimal effects on Medicaid take-up rates. The second type of laws are laws that affect certain segments of Medicaid seekers or enrollees. For example, in Indiana and Mississippi, language access laws were passed for health maintenance organizations (HMOs), but not for Medicaid carriers as a whole. If some, but not all, Medicaid benefits are distributed via HMOs, the impact of these language access requirements might be limited on Medicaid take-up rates. In Tennessee, only those who are already enrolled in Medicaid can obtain translation assistance; would this increase Medicaid take-up rates, since LEP migrants seeking Medicaid coverage do not receive government mandated language access? I consider the states as treated for the purpose of this analysis, to estimate a lower bound of the treatment effect. Appendix A makes note of the states with laws that possibly have a limited effect on Medicaid take-up rates.

Pre-treatment characteristics are compared between states that have passed Medicaid access-improving language access laws and states that have not to see if there are any systemic differences between the two. I use 1970 as the year to compare pre-treatment characteristics because the immigration literature uses the stock of migrants in this year as an instrument to control for the endogeneity of immigrants’ migration decisions (Altonji and Card, 1991). The variables chosen reflect the size of the migrant population, particularly with respect to migrants who are less likely to speak English, and economic conditions that migrants might consider in their migration decision. The party affiliation of the governor is used to capture

\(^4\)I cannot easily identify whether states have passed language access laws after 2008 because the source I use to identify these laws was published in 2008.
the political atmosphere that might encourage or discourage the passage of migrant-friendly laws.

An important concern for this paper is the exogeneity of the language access laws. States with large LEP populations might have more incentive to pass language access laws to accommodate the large number of LEP migrants residing in the state. I run two tests to address the issue of whether the passage of language access laws is exogenous from factors such as the size of the LEP population. First, I use covariates from a pre-treatment year to see if these affect the number of all health care-related language access laws, not just Medicaid access laws, in a state in 2008. This is a broad measure of whether factors that could affect attitudes towards LEP migrants affect the passage of language access laws. For the second test, I focus in on the states that have passed Medicaid access-improving laws, using the approach of Hoynes and Schanzenbach (2009) and Bailey (2012) to predict the timing of when these language access laws are passed. This test involves regressing the law’s year of passage on pre-treatment co-variates; statistically significant coefficients would suggest possible problems with endogeneity. Both tests use the 1970 pre-treatment characteristics in table 1. Results from these two tests are in Appendix B; there is little evidence that the number and timing of these language access laws are predictable, thus I consider the timing of these Medicaid access-improving language access laws as exogenous.

To analyze the effects of language access on Medicaid take-up rates for LEP migrants,
I use a difference-in-differences strategy, comparing Medicaid enrollment between LEP and non-LEP migrants before and after language access laws are enacted. I run a linear probability model on the following regression to evaluate the effects of language access laws on the Medicaid take-up rates of LEP migrants:

\[
MED_{i,t} = \beta_0 + \beta_1 LA_{i,t} + \beta_2 LEP_{i,t} + \beta_3 (LA \ast LEP) + \theta X_{i,t} + \gamma_1 T_t + \gamma_2 S_i + \varepsilon_i
\]

where \( MED_{i,t} \) is an indicator variable that is one when an individual \( i \) has Medicaid in time period \( t \) and a zero otherwise, \( LA_{i,t} \) is the treatment variable that is one when the individual lives in a state that has a Medicaid-access-improvement law as described below at time \( t \) and zero otherwise, and \( LEP_i \) is a dummy variable that is one when an individual is considered Limited English Proficient (LEP), thus treated by the language access laws, and zero otherwise. The \( LA_{i,t} \) variable is turned on the year after enactment, as some of these laws are passed later in the year, after when the survey data is collected. The regression includes a vector of individual characteristics \( X_{i,t} \), year and state fixed effects \( T_t \) and \( S_i \) respectively, and a classical error term \( \varepsilon \). The vector of individual characteristics for \( X_{i,t} \) is comprised of age, gender, race, education, marital status, and the number of people in the household. The coefficient of interest is \( \beta_3 \), on the \( LA \ast LEP \) interaction term; if language access laws \( (LA_{i,t} = 1) \) result in LEP migrants \( (LEP_i = 1) \) increasing the probability of receiving Medicaid coverage, \( \beta_3 \) will be positive.

Individuals in households where all adults are foreign-born and have no high school degree are used as the control. In an attempt to ensure the sample contains only individuals who should be getting Medicaid, I focus on people younger than 65 years of age and in “low-income” households. There is quite a variation among states and years as to what the income cutoff is for Medicaid eligibility. The cutoff also depends on the size and make-up of the household. Since I could not find the Medicaid eligibility rules for all states across the entire sample years, I use a very broad cutoff: deflated household income (2008 base year) of $25,000 is set as the cutoff. This cutoff is adjusted to ensure that any results are not driven by the cutoff level. The income cutoff is set at $25,000 because this is just above the federal cutoff rate for poverty for a household of four people in 2008. For the most part, non-pregnant individuals above the age of 6 are eligible for Medicaid if the household income is less than the federal poverty level; children under six years of age are eligible for Medicaid if the household income is less than 133% of the federal poverty level and pregnant women are eligible if household income is less than 200% of the federal poverty level. One
Table 2: Summary Statistics of Individuals with Deflated Household Income of Less Than $25,000 (2008 base year)

| Sample                          | All       | Limited English Proficient | LEP in State with Language Access | LEP in State without Language Access* |
|--------------------------------|-----------|-----------------------------|-----------------------------------|---------------------------------------|
| n                              | 81,862    | 35,276                      | 21,436                            | 12,448                                |
| Age                            | 24.48     | 23.03                       | 23.10                             | 23.27                                 |
| Female                         | 0.53      | 0.52                        | 0.53                              | 0.52                                  |
| No. of ppl in hh               | 3.85      | 4.11                        | 4.16                              | 4.02                                  |
| Marital Status                 |           |                             |                                   |                                       |
| Never married                  | 0.60      | 0.62                        | 0.62                              | 0.62                                  |
| Married                        | 0.29      | 0.28                        | 0.29                              | 0.28                                  |
| Deflated household income      | 14,418.29 | 14,384.62                   | 14,504.59                         | 14,122.3                              |
| Have Medicaid/SCHIP            | 0.37      | 0.41                        | 0.44                              | 0.36                                  |
| Have private insurance         | 0.21      | 0.16                        | 0.14                              | 0.17                                  |

Notes: Incomes deflated with 2008 as base year. *Includes state-year data in states that have passed language access by 2008, but where language access has not been passed in survey year.

does not necessarily need to be an American citizen to obtain Medicaid benefits - in all states, immigrants who have been in “qualified” immigrants status for 5 years or more are eligible, while some states cover benefits even if an immigrant is “not-qualified.” Obtaining an immigrant’s status is all but impossible from the CPS, so I do not attempt to limit the sample by “qualified” immigrant status. Medicaid take-up rates for these individuals do not follow a perfectly parallel trend between 1994-2008, particularly in states with small migrant populations. The variation for these states with small migrant populations is likely due sampling, though; going from 0 out of 1 migrants enrolled in Medicaid in one year to 2 out of 2 the next year is as dramatic of a change in take-up rates as possible, but is probably not indicative of how Medicaid take-up rates are actually evolving. Disregarding the trends of the small states that are sensitive to small changes, and the trends for the other states are similar.

Two significant changes to the Medicaid program might create problems with using 1994-2008 as the sample years. The first change is the creation of the State Children’s Health Insurance Program (SCHIP) in 1997. This expanded health insurance coverage for children,

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^In most cases, this means Legal Permanent Resident.
working as somewhat of a complement to Medicaid. Due to this close relationship with Medicaid, the dependent variable considers SCHIP enrollment as Medicaid enrollment; thus, pre-1997 Medicaid enrollment is lower simply due to the lack of enrollment in (existence of) SCHIP. The second change is the Deficit Reduction Act of 2005, which required anyone seeking Medicaid to prove that he is a U.S. citizen or resident alien. The emphasis on distributing Medicaid to U.S. citizens or resident aliens could have lowered take-up rates for LEP migrants. Restricting the sample to 1998-2005 would reduce the already limited variation in state laws that I have: four states have enactment start in 1998 and another five states have enactment in 2005 or later, in addition to the five states with pre-1994 enactment. However, these two changes could have an effect, particularly the creation of SCHIP, so I run separate regressions with a smaller 1998-2005 sample.

3 Results

Initial results (table 3, column 3) show that language access laws increased Medicaid take-up rates among LEP individuals by 1.8 percentage points. Approximately 37% of the sample has Medicaid, so an increase of 1.8 percentage points is equal to an increase of almost 5%. A survey of literature by Sommers et al. (2012) estimating the national take-up rates found national rates to be between 30% to 80%. To ensure that the results are not driven by the income cutoff I chose, I run equation 1 with various cutoff levels: 20,000; 22,500; 27,500; and 30,000. Results are in table 3. For all but the highest of these income cutoffs, the coefficient of interest is positive and statistically significant, indicating that language access laws have a positive effect on Medicaid take-up rates. The effect of language access on Medicaid take-up rates for LEP migrants decreases at the higher income cutoff levels, but this is not unexpected; by increasing the cutoff level, I am including more and more individuals who might not satisfy Medicaid eligibility requirements, and thus would be unaffected by language access laws.

When the sample is reduced to 1998-2005, to reduce the impact SCHIP and the Deficit Reduction Act of 2005 might have on the results, the coefficients show no effect of language access on Medicaid take-up. The coefficients on the $LA \ast LEP$ interaction are all positive, but they all lose significance. When changing the sample to 1998-2008 and 1994-2005 to see if the loss of significance is more likely due to the introduction of SCHIP or because of the Deficit Reduction Act of 2005, the results indicate that SCHIP could be the primary driver
Table 3: Language Access and Medicaid Take-up Rates

| Income level cutoff | (1) 20,000 | (2) 22,500 | (3) 25,000 | (4) 27,500 | (5) 30,000 |
|---------------------|------------|------------|------------|------------|------------|
| LA                  | -0.0264*** | -0.0176*   | -0.0209**  | -0.0234*** | -0.0208*** |
|                     | (0.0102)   | (0.00933)  | (0.00860)  | (0.00793)  | (0.00749)  |
| LEP                 | 0.00362    | 0.0108     | 0.0138**   | 0.0164***  | 0.0200***  |
|                     | (0.00777)  | (0.00713)  | (0.00662)  | (0.00617)  | (0.00585)  |
| LA*LEP              | 0.0250***  | 0.0195**   | 0.0182**   | 0.0121*    | 0.00994    |
|                     | (0.00869)  | (0.00798)  | (0.00742)  | (0.00692)  | (0.00654)  |
| Age                 | 0.000415*  | 0.000191   | -2.37e-06  | -0.000275  | -0.000364**|
|                     | (0.000229) | (0.000210) | (0.000195) | (0.000182) | (0.000172) |
| Female              | 0.0603***  | 0.0582***  | 0.0554***  | 0.0545***  | 0.0530***  |
|                     | (0.00417)  | (0.00381)  | (0.00353)  | (0.00328)  | (0.00310)  |
| No. of ppl in hh    | 0.0236***  | 0.0243***  | 0.0250***  | 0.0241***  | 0.0239***  |
|                     | (0.00134)  | (0.00122)  | (0.00113)  | (0.00106)  | (0.000997) |
| Constant            | 0.326***   | 0.305***   | 0.288***   | 0.300***   | 0.289***   |
|                     | (0.0340)   | (0.0319)   | (0.0300)   | (0.0290)   | (0.0276)   |
| Observations        | 58,169     | 68,991     | 78,894     | 89,937     | 99,724     |
| R-squared           | 0.197      | 0.192      | 0.189      | 0.184      | 0.181      |

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

of the initial results - limiting the sample to 1998-2008 results in statistically insignificant coefficients for the LA * LEP interaction (see table 4 for results). Since four states are considered treated starting in 1998, and two more in 1999, the introduction of SCHIP occurs at pretty much the same time as the passage of Medicaid access-improving language access laws for a third of the treated states. Thus, perhaps language access is being conflated with SCHIP. There is one piece of evidence that goes against this conjecture, however; the year dummies for 1997-2005 (and 1999-2002 in particular) in the results with 1994-2008 as the sample have rather negative coefficients, implying that Medicaid enrollment declined substantially. The coefficients on the 1999, 2000, 2001, and 2002 dummies are all larger than -0.05 - relative to 1994, Medicaid take-up in the entire sample declined by 5 percentage points or more almost immediately after SCHIP was introduced. What is more, there is nothing to suggest that SCHIP was more beneficial to LEP migrants than other low educational attainment, foreign-born households. This leads me to conclude that the non-results are due to minimizing variation for up to a third of the treated states. Because of this, the rest of
the analysis will focus on 1994-2008 as the sample.

Table 4: Language Access and Medicaid Take-up Rates: 1998-2008 Sample

| Income level cutoff | (1)  | (2)  | (3)  | (4)  | (5)  |
|---------------------|------|------|------|------|------|
|         | 20,000 | 22,500 | 25,000 | 27,500 | 30,000 |
| LA      | -0.0296* | -0.0209 | -0.0357** | -0.0340*** | -0.0304** |
|         | (0.0165) | (0.0152) | (0.0142) | (0.0129) | (0.0121) |
| LEP     | 0.00601 | 0.0158 | 0.0189** | 0.0163* | 0.0193** |
|         | (0.0109) | (0.0100) | (0.00925) | (0.00858) | (0.00804) |
| LA*LEP  | 0.0185 | 0.0131 | 0.00819 | 0.00181 | 0.00134 |
|         | (0.0120) | (0.0111) | (0.0103) | (0.00955) | (0.00896) |
| Age     | 0.000724** | 0.000473* | 0.000198 | -0.000129 | -0.000162 |
|         | (0.000307) | (0.000284) | (0.000262) | (0.000242) | (0.000228) |
| Female  | 0.0556*** | 0.0543*** | 0.0517*** | 0.0490*** | 0.0467*** |
|         | (0.00567) | (0.00521) | (0.00479) | (0.00445) | (0.00418) |
| No. of ppl in hh | 0.0276*** | 0.0278*** | 0.0290*** | 0.0283*** | 0.0269*** |
|         | (0.00187) | (0.00175) | (0.00160) | (0.00150) | (0.00141) |
| Constant | 0.225*** | 0.207*** | 0.203*** | 0.203*** | 0.186*** |
|         | (0.0448) | (0.0423) | (0.0398) | (0.0377) | (0.0346) |
| Observations | 30,183 | 35,595 | 41,169 | 46,960 | 52,653 |
| R-squared | 0.207 | 0.200 | 0.197 | 0.193 | 0.189 |

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

One source of the increase in Medicaid take-up rates could be from private insurance users switching to Medicaid. The language access laws are doing nothing to expand health insurance coverage if these laws result in the government crowding out private insurance, by encouraging private insurance users to use public insurance (Brown et al., 2007; Brown and Finkelstein, 2008). Does increased access to government funded insurance decrease the number of people covered by private health insurance? On the one hand, people might shift to government coverage because it is cheaper than buying private insurance. On the other hand, private insurance companies could use the translated Medicaid documents as a template for their own applications, lowering the costs of translating it themselves. To analyze this question, I run equation 1 with an indicator variable HCOVPRIV, which is 1 if the individual is covered by private health insurance and zero otherwise, as the dependent variable. I run the regression with variety of income cut-offs, similar to the previous analysis on Medicaid take-up rates. Results are in table 5. In all cases, the interaction coefficient
is positive and statistically significant; language access laws lead to an increase in private health insurance coverage as well. The percentage point increase in coverage is actually higher for private insurance than Medicaid, implying that language access laws improved private health insurance coverage more so than Medicaid coverage. With lower enrollment in private insurance compared to Medicaid in the sample, the almost 4 percentage point increase in private insurance is a 20% increase, substantially higher than the 5% increase in Medicaid enrollment.

Table 5: Language Access, Insurance Coverage, and Crowd-out: Private Insurance

| Income level cutoff | (1)       | (2)       | (3)       | (4)       | (5)       |
|---------------------|-----------|-----------|-----------|-----------|-----------|
| LA                  | -0.0364***| -0.0427***| -0.0405***| -0.0347***| -0.0420***|
|                     | (0.00919) | (0.00864) | (0.00829) | (0.00796) | (0.00772) |
| LEP                 | -0.0502***| -0.0569***| -0.0640***| -0.0648***| -0.0678***|
|                     | (0.00659) | (0.00621) | (0.00590) | (0.00565) | (0.00550) |
| LA*LEP              | 0.0338*** | 0.0381*** | 0.0395*** | 0.0357*** | 0.0363*** |
|                     | (0.00754) | (0.00711) | (0.00678) | (0.00650) | (0.00631) |
| Age                 | 0.000522**| 0.000612***| 0.000798***| 0.000972***| 0.00115***|
|                     | (0.000210)| (0.000199)| (0.000190)| (0.000182)| (0.000176)|
| Female              | -0.00492  | -0.00276  | -0.00295  | -0.00180  | -0.00316  |
|                     | (0.00360) | (0.00340) | (0.00325) | (0.00311) | (0.00301) |
| No. of ppl in hh    | -0.0235***| -0.0259***| -0.0254***| -0.0263***| -0.0268***|
|                     | (0.00104) | (0.000972)| (0.000943)| (0.000905)| (0.000871)|
| Constant            | 0.311***  | 0.329***  | 0.358***  | 0.364***  | 0.388***  |
|                     | (0.0325)  | (0.0309)  | (0.0305)  | (0.0293)  | (0.0283)  |
| Observations        | 58,169    | 68,991    | 78,894    | 89,937    | 99,724    |
| R-squared           | 0.073     | 0.072     | 0.071     | 0.069     | 0.069     |

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Unsurprisingly, running a similar regression with any health insurance coverage as the left-hand side variable shows that language access increased health insurance coverage by almost 6 percentage points for lower levels of household income. Results are in table 6. Thus, it does not appear that access to government coverage crowded out private insurance and might have in fact resulted in crowd in. One possible reason for this is that some of the laws actually required all health insurance providers, public and private, to provide language access. Furthermore, private insurers could have taken advantage of translated documents.
for Medicaid insurance applications, and translated their own applications at much lower costs. This would improve insurance rates for LEP migrants who want private insurance. This is supported by the lower interaction coefficient for the lowest income cutoff - these individuals probably would not be able to afford private insurance, even if they preferred it to public insurance.

Table 6: Language Access, Insurance Coverage, and Crowd-out: Any Insurance

| Income level cutoff | (1) | (2) | (3) | (4) | (5) |
|--------------------|-----|-----|-----|-----|-----|
| LA                 | -0.0530*** | -0.0527*** | -0.0527*** | -0.0492*** | -0.0530*** |
|                    | (0.0112) | (0.0103) | (0.00965) | (0.00904) | (0.00861) |
| LEP                | -0.0413*** | -0.0424*** | -0.0448*** | -0.0433*** | -0.0441*** |
|                    | (0.00834) | (0.00769) | (0.00719) | (0.00677) | (0.00644) |
| LA*LEP             | 0.0589*** | 0.0599*** | 0.0569*** | 0.0479*** | 0.0462*** |
|                    | (0.00947) | (0.00875) | (0.00820) | (0.00771) | (0.00735) |
| Age                | 0.00247*** | 0.00233*** | 0.00231*** | 0.00222*** | 0.00230*** |
|                    | (0.000256) | (0.000237) | (0.000223) | (0.000210) | (0.000200) |
| Female             | 0.0492*** | 0.0504*** | 0.0474*** | 0.0475*** | 0.0453*** |
|                    | (0.00452) | (0.00416) | (0.00389) | (0.00364) | (0.00345) |
| No. of ppl in hh   | -0.00291** | -0.00384*** | -0.00293*** | -0.00440*** | -0.00487*** |
|                    | (0.00142) | (0.00130) | (0.00122) | (0.00115) | (0.00109) |
| Constant           | 0.570*** | 0.563*** | 0.577*** | 0.598*** | 0.615*** |
|                    | (0.0400) | (0.0380) | (0.0362) | (0.0352) | (0.0336) |
| Observations       | 58,169 | 68,991 | 78,894 | 89,937 | 99,724 |
| R-squared          | 0.116 | 0.112 | 0.106 | 0.102 | 0.100 |

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Sommers et al. (2012) point out that there is significant variation in Medicaid take-up rates across states. Differences in these language access laws, along with differences in the migrant populations in each state, could lead to heterogeneous effects from the language access laws across the different states. I am primarily concerned that one state might be driving the results. To check if this is the case, I run equation 1 as before, but I remove a state that has passed a language access law from the sample. I do this twenty two times, omitting one state at a time. The results are similar for almost all the states. The problem arises when I remove California or New York from the sample. When either of these states are removed from the sample, the coefficient on the LA * LEP interaction is is still positive, but no
longer statistically significant. This suggests that language access laws tend to increase the Medicaid take-up rates of LEP migrants, but the results vary across states, with California and New York being the primary source of increased take-up rates. Truncated results are in table 7; the top row of results is from the regression on the full sample (table 3, column 3).

Table 7: Coefficient on $LA \times LEP$, Removing “State Omitted” State From Sample

| Omitted state | Year LA enacted | n omitted | $LA \times LEP$ coefficient | Rob. std. Errors |
|---------------|----------------|-----------|----------------------------|-----------------|
| full sample   | -              | -         | 0.0182**                   | 0.00742         |
| AL            | 2004           | 237       | 0.0189**                   | 0.00743         |
| AR            | 2005           | 241       | 0.0188**                   | 0.00743         |
| CA            | 1973           | 20434     | 0.00608                    | 0.00829         |
| CO            | 1999           | 1400      | 0.0180**                   | 0.00747         |
| DC            | 2005           | 814       | 0.0179**                   | 0.00743         |
| HI            | 2007           | 851       | 0.0194***                  | 0.00745         |
| IL            | 1993           | 2545      | 0.0211***                  | 0.00750         |
| IN            | 1999           | 285       | 0.0176**                   | 0.00742         |
| IA            | 2000           | 576       | 0.0176**                   | 0.00744         |
| KY            | 1998           | 286       | 0.0185**                   | 0.00742         |
| MD            | 1998           | 684       | 0.0191**                   | 0.00744         |
| MA            | 1998           | 2119      | 0.0212***                  | 0.00751         |
| MN            | 1985           | 714       | 0.0198***                  | 0.00743         |
| MT            | 1998           | 125       | 0.0180**                   | 0.00742         |
| NJ            | 2002           | 2691      | 0.0200***                  | 0.00759         |
| NM            | 1999           | 1383      | 0.0195***                  | 0.00747         |
| NY            | 1989           | 9947      | 0.00597                    | 0.00770         |
| NC            | 2007           | 1183      | 0.0176**                   | 0.00754         |
| TN            | 2005           | 305       | 0.0149**                   | 0.00743         |
| TX            | 2000           | 8678      | 0.0177**                   | 0.00800         |
| WA            | 2004           | 1013      | 0.0188**                   | 0.00747         |
| WI            | 1986           | 609       | 0.0172**                   | 0.00744         |

Notes: *** p<0.01, ** p<0.05, * p<0.1

Many of the language access laws target the Spanish speaking population, either directly by requiring Spanish translators and translated documents, or indirectly by requiring language access for significant LEP populations, of which Spanish speakers are included most of the time. Because of this attention to Spanish speakers in particular, one might expect to find that language access laws have a greater impact on Medicaid take-up rates for Hispanic
populations. To examine if this is the case, I run the following difference-in-difference-in-difference regression:

\[
MED_{i,t} = \beta_0 + \beta_1 LA_i + \beta_2 LEP_{i,t} + \beta_3 SPAN_i + \beta_4 (LA \ast LEP) + \beta_5 (LA \ast SPAN) + \beta_6 (LEP \ast SPAN) + \delta (LA \ast LEP \ast SPAN) + \theta X_{i,t} + \gamma_1 T_t + \gamma_2 S_i + \epsilon_i
\]

where all variables are similar to in equation 1, and \(SPAN_i\) is an indicator variable that is 1 if the individual is in a household with at least one adult who is defined as Spanish-speaking and 0 otherwise. I run the regression with three different definitions for Spanish-speaking - the first has all Spanish-speaking countries as the Spanish-speaking definition; the second definition has only Puerto Rico and Mexico, since these two countries are the primary source of Spanish-speaking migrants in the U.S.; in the third, only Mexican-borns are defined as Spanish-speaking, as Mexico makes up most of the Hispanic migrant population. The coefficient on \(LA \ast LEP\), \(\beta_4\), will be positive and statistically significant if language access laws are beneficial to non-Spanish-speaking LEP migrants. If the hypothesis that Spanish-speaking LEP migrants benefit even more from language access due to the emphasis on providing Spanish translation services, then the coefficient \(\delta\), on \(LA \ast LEP \ast SPAN\), will be positive and statistically significant; \(\beta_5\), the coefficient on \(LA \ast SPAN\), will be positive and statistically significant if language access improves Medicaid take-up rates for Hispanic migrants that are in households not defined as LEP.

Results are in table 8. There is no evidence that language access laws are particularly helpful to the Spanish-speaking population, with a negative, though statistically insignificant, coefficient on the triple interaction variable for the “all Spanish-speaking countries” definition of Spanish-speakers. The negative coefficient on the Spanish-speaking variable for the “Mexico” definition of Spanish-speakers suggests that my definition of Limited English Proficiency is limited. The positive coefficient on the \(LEP\) variable and the very negative coefficient on the \(LEP \ast SPAN\) interaction suggest that only Spanish-speaking LEP migrants are having difficulty obtaining Medicaid, while other LEP migrants are doing well with accessing Medicaid. A major concern is that even though non-Hispanic LEP migrants have little trouble with Medicaid take-up, language access is further improving their access to Medicaid, while Spanish-speakers who are not defined as LEP do worse after language access laws have been passed, according to the “all Spanish-speaking countries” and “Puerto Rico and Mexico” definition of Spanish-speakers.
### Table 8: Language Access and Medicaid Take-up Rates: Spanish Speakers

| Spanish-speaking definition | (1) All Spanish-speaking countries | (2) Puerto Rico and Mexico | (3) Mexico |
|-----------------------------|-----------------------------------|----------------------------|-----------|
| LA                          | -0.0128                           | -0.0115                    | -0.0280***|
|                             | (0.0108)                          | (0.00992)                  | (0.00975) |
| LEP                         | 0.0755***                         | 0.0530***                  | 0.0585*** |
|                             | (0.0129)                          | (0.00970)                  | (0.00889) |
| SPAN                        | 0.0386***                         | 0.0584***                  | -0.0629***|
|                             | (0.00833)                         | (0.00839)                  | (0.00932) |
| LA*LEP                      | 0.0302*                           | 0.0254**                   | 0.0148    |
|                             | (0.0169)                          | (0.0118)                   | (0.0109)  |
| LA*SPAN                     | -0.0167*                          | -0.0265***                 | 0.00170   |
|                             | (0.00972)                         | (0.0100)                   | (0.0108)  |
| LEP*SPAN                    | -0.0876***                        | -0.0798***                 | -0.0806***|
|                             | (0.0142)                          | (0.0122)                   | (0.0122)  |
| LA*LEP*SPAN                 | -0.00349                          | 0.00757                    | 0.0207    |
|                             | (0.0189)                          | (0.0155)                   | (0.0153)  |
| Age                         | -1.20e-05                         | 2.27e-05                   | -0.000369*|
|                             | (0.000195)                        | (0.000195)                 | (0.00195) |
| Female                      | 0.0553***                         | 0.0555***                  | 0.0535*** |
|                             | (0.00353)                         | (0.00353)                  | (0.00352) |
| No. of ppl in hh            | 0.0251***                         | 0.0250***                  | 0.0278*** |
|                             | (0.00113)                         | (0.00114)                  | (0.00113) |
| Constant                    | 0.259***                          | 0.259***                   | 0.316***  |
|                             | (0.0306)                          | (0.0303)                   | (0.0303)  |
| Observations                | 78,894                            | 78,894                     | 78,894    |
| R-squared                   | 0.191                             | 0.191                      | 0.194     |

**Notes:** Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

### 4 Conclusion

The United States has worked to ensure health insurance coverage for everyone, including expanding Medicaid. However, no expansion of Medicaid will help LEP migrants if they do not understand the application process. To address this, some states have passed laws...
requiring Medicaid agencies to provide translators or translated documents. In this paper, I make use of the state heterogeneity in state laws to examine if Medicaid take-up rates among LEP migrants increased after the enactment of language access laws using a difference-in-difference model. I find that language access laws increase Medicaid take-up rates by 1.8 percentage points. This increase to government-funded health insurance has not come at the expense of private health insurance. In fact, quite the opposite has happened, with private health insurance coverage increasing after language access laws are enacted. The increase in Medicaid take-up rates varies by state, and California and New York appear to be major drivers of the increase in Medicaid take-up rates. Lastly, there is no evidence that Spanish-speakers are benefiting from the laws more so than other LEP migrants, even though many of these laws are targeted at providing translation services to Spanish-speakers; Spanish-speaking LEP migrants do not have higher take-up rates after language access law enacted compared to other LEP migrants.

Thus, it is not necessarily unreasonable for governments to promote translation services to address health issues of migrants. Migrants can benefit from language access, as evidenced by the increase in Medicaid take-up rates after language access laws have been enacted. Further, this government involvement does not necessarily result in crowd out. With that being said, there is still much research that needs to be done on language access and health care. There are three lines of research that need to be explored more carefully. First of all, what are the costs of providing translation services compared to the benefits individuals receive? Would it be cheaper and more efficient to help migrants learn English, instead? Second, are migrants benefiting from the increased access to Medicaid? Does the increase in Medicaid take-up rates result in healthier migrants? Are significant health events not having as much of an impact on finances? Lastly, are the positive outcomes from language access limited to Medicaid access? Do translated documents increase awareness of health issues? How much do translators help with communicating diagnoses for LEP migrants? Migrants will continue to arrive in large numbers and not all these immigrants will be healthy and proficient in English; any concerns with public health will need to consider how to approach the language barriers that exist.
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## A Appendix: Language Access Laws

Table 9: Language Access Laws

| State       | Provision(s) via NHeLP | Description via NHeLP                                                                                                                                                                                                 | Year Enacted | Current Provision(s) if Renumbered |
|-------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------|
| Alabama     | AL Admin Code r.560-X-37-0.1(6)(e)(f)(g) | Regarding Medicaid Managed Care Programs, the state must establish a methodology for identifying the prevalent non-English language spoken by a significant number of potential enrollees in the state. The state and each managed care entity must make available written information in the prevalent non-English languages. The state must notify enrollees and potential enrollees and require each managed care entity to notify its enrollees that oral interpretation is available for any language and written information is available in prevalent languages. | 2003         | AL Admin Code r.560-X-37-0.1(6)(e)(f)(g) |
|             | AL Admin Code r.560-X-37-0.2(3)(t) | Primary Medical Providers in PCCMs will make oral interpretation services available free of charge to each potential enrollee and enrollee. This requirement applies to all non-English languages | 2003         |                                     |
| Arkansas    | 016-20-001 Ark Code Regs 16070 | Applications for medical services must be available in both English and Spanish at DJS county offices, local health units, or by mail, if requested.                                                                                                                                  | 2004         | 016-20-001 Ark Code Regs 16070 |
| California  | CA Gov’t Code §§7290-7299.8 | Dymally-Alatorre Bilingual Services Act                                                                                                                                                                                                                                           | 1973         | CA Gov’t Code §§7290-7299.8 |
|             | Cal Welf & Inst Code §14067(d)(2)(C)(i) | The DHS, in conjunction with the Managed Risk Medical Insurance Board, must develop and conduct a community outreach and education campaign to help families learn about and apply for Medicaid and the Healthy Families Program.                                                                 | 1999         | Cal Welf & Inst Code §14067(d)(2)(C)(i) |
|             | Cal Welf & Inst Code §18925(e ) | The county welfare department shall develop a notice, written in culturally and linguistically appropriate language and at an appropriate literacy level, informing individuals who reside in food stamp households who are not enrolled in Medicaid or Healthy Families that they may be entitled to receive benefits under Medicaid or Healthy Families | 2001         | Cal Welf & Inst Code §18925(e ) |

Continued on next page
Cal Ins Code §12693.29(b) The State DHS in conjunction with the board shall conduct a community outreach and education campaign in accordance with Section 14067 of the Welf. & Inst. Code to assist in notifying families of the availability of health coverage for their children

1997 Cal Ins Code §12693.29(b)

In a 1999 audit, it was shown that the DHS does a poor job of complying with the Dymally-Alatorre Bilingual Services Act in the sense that the department failed to periodically assess its bilingual services; however, the audit noted that the DHS did have certified and non-certified bilingual staff, translated documents, and contracted interpreters

Colorado Colo Rev Stat 10-16-704(9)(e ) Beginning Jan 1, 1998, a carrier shall maintain and make available upon request... an access plan for each managed care network. The carrier’s efforts to address the needs of covered persons with limited English proficiency and illiteracy, with diverse cultural and ethnic backgrounds, and with physical and mental disabilities

1998* Colo Rev Stat 10-16-704(9)(e )

*There is no indication that carriers had to address the needs of covered persons, merely that the plan would need to include the carrier’s efforts to address to needs; in other words, the plan could include that limited to no efforts were being made to address the needs of covered persons

D.C. D.C. Stat §2-1931-1935 Language Access Act of 2004: Any District government agency, department, or program that furnishes information or renders services, programs, or activities directly to the public or contracts with other entities, either directly or indirectly, to conduct programs, services, or activities shall provide oral language services to a person with limited or no-English proficiency who seeks to access or participate in the services, programs, or activities offered by the covered entity. It shall determine annually what types of oral language services are needed and shall hire the necessary bilingual personnel into existing budgeted vacant public contact positions.

2004 D.C. Stat §2-1935

Hawai‘i Haw Rev Stat Ann §371-33 Each state agency and all covered entities shall take reasonable steps to ensure meaningful access to services, programs, and activities by limited English proficient persons, which will be determined by a totality of circumstances.

2006 HRS §321C-3

Continued on next page
| State      | Provision(s) via NHeLP                           | Description via NHeLP                                                                 | Year Enacted | Current Provision(s) if Renumbered |
|------------|------------------------------------------------|--------------------------------------------------------------------------------------|--------------|-----------------------------------|
| Illinois   | 305 Ill Comp Stat 5/5-19(g)(3)                   | With regards to the Healthy Kids Program, the Illinois Dept shall utilize accepted methods for informing persons who... cannot understand the English language, including but not limited to public services announcements and advertisements in the foreign language media of radio, television and newspapers | 1992         | 305 Ill Comp Stat 5/5-19(g)(3)     |
|            | 210 Ill Comp Stat 87/15                          | To ensure access to health care information and services for limited-English-speaking or non-English-speaking residents | 2007         | 210 Ill Comp Stat 87/15            |
| Indiana    | Ind Code Ann §27-13-36-10                        | Each health maintenance organization shall demonstrate to the commissioner that the health maintenance organization has developed an access plan to meet the needs of the health maintenance organization’s enrollees, including... enrollees from major population groups who speak a primary language other than English | 1998*        | Ind Code Ann 27-13-36-10           |

*Uncertainty over whether Medicaid is supplied through HMOs. There is some evidence that Indiana’s Medicaid is supplied primarily through HMOs (Hoosier Healthwise). Considered treated after this date.

| Iowa       | Iowa Admin Code r.191-74.4(3)                    | The employer shall contact a health insurance agent, health insurance carrier, or other health care organization which agrees with the employer to provide information to the eligible employee about health care or health insurance and possible purchase or health insurance. In the event that an eligible employee cannot read or understand English, the employer shall offer assistance to the eligible employee in understanding the written referral | 1995**       | Iowa Admin Code r.191-74.4(3)      |
|           | Iowa Admin Code r.441.86.15(6)(c)(2)             | All Medicaid managed care plan literature and brochures shall be available in English and any other language when enrollment in the plan by enrollees who speak the same non-English language equals or exceeds 10 percent of all enrollees in the plan and shall be made available to the third-party administrator for distribution. | 1999         |                                   |

**Unsure about interaction of IAC r.191.74.4(3) and public health insurance; did employers get involved with public health insurance? This date is ignored for this analysis

Continued on next page
| State        | Provision(s) via NHeLP                                                                 | Description via NHeLP                                                                 | Year Enacted | Current Provision(s) if Renumbered |
|-------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------|-----------------------------------|
| Kentucky    | 907 Ky Admin Regs 1:610(2)(6)                                                        | For Medicaid applications, interpreter services shall be provided for persons who do not speak English | 1995         | 907 KAR 20:015(2)(5)              |
| Kentucky    | 907 Ky Admin Regs 1:705(17)(5)                                                       | For Medicaid managed care, managed care organizations and subcontractors must prepare and distribute marketing materials which factually represent the partnership and which shall be available in appropriate foreign languages if more than 10 of the members speak a particular language | 1997         | 907 KAR 17:010(6)(3)(a)           |
| Maine       | Code Me. R., §02-031-850(7)(a)(5)                                                    | A carrier’s application for approval of a managed care plan, application for an HMO certificate of authority, or application for a PPA registration shall include an access plan which must include a description of the carrier’s strategy to identify and address language and literacy barriers to accessing needed services |              |                                   |
|             |                                                                                      | There is no indication that carriers had to address the needs of covered persons, merely that the plan would need to include the carrier’s efforts to address to needs; in other words, the plan could include that limited to no efforts were being made to address the needs of covered persons |              |                                   |
| Maryland    | Md Code Regs 10.09.64.06(K)(1), 10.09.66.01(A)(2), 10.09.62.01(B)(190)               | For Medicaid managed care, the managed care plan must document access provision to address the needs of enrollees who do not speak English and provide all documents in enrollee’s native language for enrollees who are members of a substantial minority (ethnic or linguistic group that comprises 5% or more of the Medicaid population in the county to be served) | 1997*        | Md Code Regs 10.09.64.06(K)(1), 10.09.66.01(A)(2), 10.09.62.01(B)(190) |
|             | Md Code Ann, State Gov’t §10-1101 - §10-1105                                         | Equal access to public services for individuals with limited English proficiency       | 2003***      | Md Code Ann, State Gov’t §10-1101 - §10-1105 |

*There is no indication that carriers had to address the needs of covered persons, merely that the plan would need to include the carrier’s efforts to address to needs; in other words, the plan could include that limited to no efforts were being made to address the needs of covered persons.

***Different implementation dates for different dept; Dept of Health and Mental Hygiene has July 1, 2003 implementation date.
| State       | Provision(s) via NHeLP | Description via NHeLP                                                                                                                                                                                                                                                                                                                                 | Year Enacted | Current Provision(s) if Renumbered |
|-------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------|
| Massachusetts | 130 Mass Code Regs 515.001, 515.007(I) | The Medicaid agency will inform applicants and members of the availability of interpreter services. Unless the applicant or member chooses to provide his or her own interpreter services, Medicaid will provide either telephonic or other interpreter services whenever the applicant or member who is seeking assistance has limited English proficiency and requests interpreter services; or the agency determines such services are necessary. | 1997         |                                   |
|             | 211 Mass Code Regs 52.13(3)(p) | Insurance carriers must deliver, upon enrollment, evidence of coverage which includes a statement detailing what translator and interpretation services are available to assist insureds, including that the carrier will provide, upon request, interpreter and translation services related to administrative procedures.                                                                 | 2006         |                                   |
| Minnesota   | Min Stat §15.441   | Every state agency that is directly involved in furnishing information or rendering services to the public and that serves a substantial number of non-English-speaking people shall employ enough qualified bilingual persons in public contact positions, or enough interpreters to assist those in these positions, to ensure provision of information and services in the language spoken by a substantial number of non-English-speaking people | 1985         | Min Stat §15.441                   |
| Mississippi | 13-000-003 Miss Code R §6.4(b) | HMO must maintain adequate staffing including appropriate foreign language interpreters and member materials printed in each language spoken by 5% or more of the Members in each service area                                                                                                                   | Miss Admin Code 23-1-9:6.4(b) |                                   |
|             | 13-000-023 Miss Code R §2002-04 | Limited English Proficiency Plan for Medicaid includes information on forms, signage, interpreters, language line services, outreach, and other issues related to services for LEP individuals                                                                                                                                                       | Miss Admin Code 23-101:1.3(B)(4), 1.4 |                                   |

Uncertainty over whether Medicaid is supplied through HMOs. Organization of Mississippi Administrative Code overhauled in 2005, nearly impossible to track history. Does not appear that HMO is used by all Medicaid recipients. According to Mississippi Secretary of State, numbering for codes changed in 2005 and no records before 2005; cannot easily track versions between 2005-present.
| State       | Provision(s) via NHeLP | Description via NHeLP                                                                 | Year Enacted | Current Provision(s) if Renumbered          |
|------------|------------------------|--------------------------------------------------------------------------------------|--------------|---------------------------------------------|
| Montana    | Mont Code Ann §33-36-201(6)(d) | An access plan for each managed care plan offered in the state must describe or contain the health carrier’s efforts to address the needs of LEP persons | 1997*        | Mont Code Ann §33-36-201(6)(d)             |
|            | Mont Admin R 37.108.207(1)(d), 357.108.236(1)a() | Managed care plans’ access plan must include the policy to address the needs of enrollees with limited English proficiency and/or illiteracy and those with diverse cultural and ethnic backgrounds to insure that these characteristics do not pose barriers to gaining access to services | 1999        | Mont Admin R 37.108.207(1)(d), 357.108.236(1)a() |

*There is no indication that carriers had to address the needs of covered persons, merely that the plan would need to include the carrier’s efforts to address the needs; in other words, the plan could include that limited to no efforts were being made to address the needs of covered persons.

**Law only applies to enrollment brokers; it does not appear that all Medicaid is distributed via enrollment brokers. E-mailed Nebraska Secretary of State, no way to track history.

| State       | Provision(s) via NHeLP | Description via NHeLP                                                                 | Year Enacted | Current Provision(s) if Renumbered          |
|------------|------------------------|--------------------------------------------------------------------------------------|--------------|---------------------------------------------|
| Nebraska   | 482 Neb Admin Code §§3-001, 3-002(1), (3), 3-003(k)(5), 3-003.01, 3-005 | Enrollment brokers for Medicaid managed care shall provide access to translation and interpreter services throughout the enrollment process and including outreach | 482 Neb Admin Code §§3-001, 3-002(2), 3-005(4) |                               |

New Jersey NJ Stat Ann §34:9A-7.2 The Commissioner of the Department of Labor and Industry shall provide for and establish a permanent staff of certified Spanish language interpreters and other personnel as necessary to aid and assist seasonal workers in interpreting language in connection with matters involving any Federal, State, county, or local governmental agency and shall maintain a roster of certified Spanish language interpreters

NJ Admin Code tit 10 §46D-2.1(k) Medicaid eligibility written material shall be provided in the individual's primary language as needed to the extent practicable and in accord with the guidance of language access provided by the US DHHS

NJ Admin Code tit 10, §69-1.4(c) Medicaid shall have information, applications and staff agency personnel available to assist non-English speaking applicants for AFDC-related Medicaid income maintenance. Minority program materials in languages other than Spanish may be prepared based on knowledge of the population served.

2001        | NJ Admin Code tit 10, §69-1.4(c) | Medicaid shall have information, applications and staff agency personnel available to assist non-English speaking applicants for AFDC-related Medicaid income maintenance. Minority program materials in languages other than Spanish may be prepared based on knowledge of the population served. | 2001        | NJ Admin Code tit 10, §69-1.4(c) |

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| State         | Provision(s) via NHeLP | Description via NHeLP                                                                                                                                                                                                 | Year Enacted | Current Provision(s) if Renumbered |
|--------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------|
| New Jersey   | NJ Admin Code tit 10, §90-1.7(f) | All recipients of Federal financial assistance, such any public or private individual in health or social services, must ensure that LEP persons are given meaningful opportunities to participate in their programs, services and benefits. Where language differences prevent meaningful access on the basis of national origin, the OCR Guidance requires that recipient agencies provide oral and written language assistance at no cost to the LEP person. | 2003        | NJ Admin Code tit 10, §90-1.7(f)   |
| **Unsure of this law’s interaction with public health insurance. Spanish interpreters for seasonal workers could only apply to a very small population, plus adults must be legal residents to receive benefits, of which seasonal workers are most likely not. This date is ignored for the purpose of this analysis.** |

| New Mexico   | NM Stat Ann §59A-57-4(B)(3)(e) | A managed health care plan shall insure that the plan, through provider selection, provider education, the provision of additional resources or other means, reasonably addresses the cultural and linguistic diversity of its enrollee population. | 1998        | NM Stat Ann §59A-57-4(B)(3)(e)   |
| New Mexico   | NM Code R §8.305.12.10(C) | The Medicaid MCO/SE shall have available reasonable assistance in completing forms and taking other procedural steps. This includes, but is not limited to, providing interpreter services and toll-free numbers that have adequate interpreter capability. | 1998        | repealed 2014                     |

| New Mexico   | NM Code R §13.10.13.29 | The Managed Health Care Plan (MHCP) must ensure that information and services are available in languages other than English and that services are provided in a manner that takes into account cultural aspects of the enrollee population. Each MHCP shall develop, implement, and maintain a plan that reasonably addresses the cultural and linguistic diversity of its enrollee population. | 1998        | repealed 2014; §13.10.22.11       |
| New York     | NY Soc Serv Law §369-ee(3)(d)(iv) | Family health insurance plans participating in Family Health Plus program must implement procedures to communicate appropriately with participants who have difficulty communicating in English. | 2000        |                                    |
| New York     | NY Comp Code R & Regs tit 10, §732-2.6(e)(10) | Preferred Provider Organization handbooks must include a description of how the PPO addresses the needs of non-English speaking claimants. | 1997        |                                    |

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| State          | Provision(s) via NHeLP                                                                 | Description via NHeLP                                                                                                                                                                                                 | Year Enacted | Current Provision(s) if Renumbered |
|---------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------|
| NY            | NY Comp Code R & Regs tit 18, §360-10.8(f)                                           | A Medicaid managed care plan (MCP) must demonstrate that recipients who are eligible to participate in an MCP will be fully informed of how an MCP provides services, and provide enough information, in a form which is reasonably understandable to persons of the varying cultural backgrounds represented in the Medicaid recipient population, to assure that such recipients can make informed choices of managed care providers and primary care providers. | 1989         |                                   |
| North Carolina| 10A NC Admin Code 48B.0401(b)(6)                                                      | The local health department shall assure that information disseminated reflects the cultural and linguistic character of the local population as required by Title VI of the Civil Rights Act.                                                                                                                   | 2006         | 10A NC Admin Code 48B.0401(b)(6)  |
| Ohio          | Ohio Admin Code §5101:1-2-01(J)(3), 1-2-10(B)(1)(d)                                    | During application and reapplication for Medicaid, an interpreter must be provided at no cost to LEP individuals.                                                                                                                                                                |              | Ohio Admin Code §5101:1-2-01(J)(2), 1-2-10(C)(1)(d) |
| Oklahoma      | Okla Admin Code §340:1-11-10(a), (c)(1)                                                | The Department provides, at no charge, interpreter services for DHS clients, applicants, and employees with limited English proficiency to overcome language barriers and provide equal access and equal opportunity to participate in DHS services and employment. In areas where the client population served by a program is 5% or more non-English speaking, a formalized procedure for bilingual services and literature in the respective language must be provided. |              |                                   |

According to Ohio State University Law Library reference desk, no way to digitally look for changes in law at this time.

Contacted University of Oklahoma Law Library, unable to find date of enactment.
| State      | Provision(s) via NHeLP          | Description via NHeLP                                                                 | Year Enacted | Current Provision(s) if Renumbered |
|------------|--------------------------------|--------------------------------------------------------------------------------------|--------------|-----------------------------------|
| Oregon     | Or Rev Stat §743.804 (5)(o)    | All insurers offering a health benefit plan must furnish to all enrollees either directly or, in the case of a group policy, to the employer or other policyholder for distribution to enrollees written general information including description of any assistance provided to non-English-speaking enrollees. |              |                                   |
|            | Or Admin R 410-141-0220(1)(b)(A), (7)(a-c) | Medicaid prepaid health plans (PHPs) must develop an access plan that identifies populations in need of interpreter services. Plans must also have written policies to communicate with and provide care to Medicaid recipients where no adult communicates in English and provide or ensure the provision of qualified interpreter services for medical, mental health, or dental visits, including home health. |              |                                   |
|            | Or Admin R 410-141-0300(3)(b)(I) | Information in the Medicaid PHP member handbook must include information on how to access interpreter services. |              |                                   |
|            | Or Admin R 410-141-0320(2)(w) | Medicaid PHP members have the right to receive interpreter services as defined in OAR 410-141-0220. |              |                                   |
|            | According to University of Oregon Law Library, need to visit State of Oregon archives. | |              |                                   |
| Tennessee  | Tenn Comp R & Regs 1200-13-13-02 (6)(a)(1)(iii), (6)(a)(2)(iv), (7)(b)(3), (7)(b)(4), (7)(c)(4) | LEP Medicaid enrollees will have the opportunity to request interpretation assistance for responding to the certain requests and notices. A “good cause” extension after date of termination is available for certain enrollees, including those with limited English proficiency. LEP enrollees will have the opportunity to request translation assistance for their appeal. | 2005*        | Tenn Comp R & Regs 1200-13-13-02 (6)(b)(3), (7)(e), (8)(b)(3), (8)(c)(4) |
|            | *(Only applies to those already enrolled, not for new applicants. Uncertain about the interaction between this law and Medicaid take-up rates. Considered treated for this analysis.* | |              |                                   |
| Texas      | Tex Health & Safety Code Ann §62.103(c) | Applications for Child Health Plan shall, to the extent possible, be made available in languages other than English. | 1999         | Tex Health & Safety Code Ann §62.103(c) |
| Washington | Wash Admin Code 284-43-210(4) | All health carriers shall file with the State commissioner an access plan that includes a description of the health carrier’s efforts to address the needs of covered LEP persons and persons with diverse cultural background. | 1998**       | repealed in 2000                   |
|            | Wash Admin Code 388-271          | Limited English Proficient Services                                                   | 2003         | Wash Admin Code 388-271            |
|            | **Law was quickly repealed after enactment, due to conflict with another law. This law and its enactment date are ignored for the purpose of this analysis. | |              |                                   |

Continued on next page
| State         | Provision(s) via NHeLP                  | Description via NHeLP                                                                 | Year Enacted | Current Provision(s) if Renumbered |
|--------------|----------------------------------------|---------------------------------------------------------------------------------------|--------------|------------------------------------|
| Wisconsin    | Wis Stat Ann §609.22(8)                | If a significant number of enrollees of the defined network plan customarily use languages other than English, the plan shall provide access to translation services fluent in those languages to the greatest extent possible.† | 1997         | Wis Stat Ann §609.22(8)            |
|              | Wis Admin Code HFS §102.01(4)          | In administering state Medicaid program, agencies that serve substantial non-English speaking or limited-English speaking populations must take whatever steps are necessary to communicate with them in their primary language. | 1986         | Wis Admin Code DHS §102.01(4)      |
|              | Wis Admin Code Ins §9.21(e)(4)         | Defined network plans, preferred provider plans and limited service health organizations shall provide access to translation services for the purpose of providing information concerning benefits, to the greatest extent possible, if a significant number of enrollees of the plan customarily use languages other than English. | 2000         | Wis Admin Code Ins §9.21(e)(4)     |

†A defined network plan is the term used in Wisconsin insurance law to refer to any health benefit plan that creates incentives for its enrollees to use network providers. Some defined network plans will provide coverage only if the enrollee uses network providers and other plans will pay a larger portion of the charges if the enrollee uses network providers. HMOs, point-of-service plans and preferred provider plans are examples of defined network plans. This type of plan is sometimes referred to as a managed care plan.
B Appendix: Predicting the Timing and Number of Health Care Access Laws

Two tests are used to provide evidence that the timing of the language access laws in health care are unpredictable. The first test looks at whether state characteristics can predict the number of health care language access laws in 2008 by regressing the number of health care language access laws on the 1970 state characteristics. The count is taken from the number of entries a state has in Perkins and Youdelman (2008). The second follows Hoynes and Schanzenbach (2009) and Bailey (2012), using state characteristics to predict the timing of the Medicaid access-improving language access laws. The covariates used for both tests are the same state characteristics in table 1.

Results for the first test are in table 10. For the first test, using the entire sample of states, and only the percent of the population that is born in a non-English speaking country and the governor’s party affects the number of health care language access laws (column 1). California is a major outlier in the number of health care laws, with over 150, while no other states has more than 75; removing California from the sample, and only the governor’s party in 1970 predicts the number of health care language access laws in 2008 (column 2). Focusing in on states that have passed a Medicaid access-improving language access law, the employed-to-unemployed ratio is statistically significant at the 10% level (columns 3 and 4). The direction is negative, perhaps a little counterintuitive - the more people that are employed for each unemployed individual, the fewer health care language access laws there are. One might expect that a higher employed-to-unemployed ratio would encourage migrants to move to a state, thereby encouraging the passage of more laws. The governor’s party stays positive and statistically significant; having a Republican governor in 1970 increases the number of health care language access laws in 2008. Aside from the governor’s party, state characteristics seem to do little to predict migrant friendliness with respect to the number of health care language access laws.

The second test’s results are in table 11. Results from regressing the date of passage on the covariates are in columns (1)-(3). Column (1) contains all states with known dates; column (2) takes out California, due to its early adoption of Medicaid access-improving language access laws; and column (3) contains only states that have passed Medicaid access-improving language access laws in the 1994-2008 sample. Governor’s party is statistically significant again, but this time negative. Having a Democratic governor will lower the number of
health care language access laws, but result in earlier adoption of Medicaid access-improving language access laws. When limiting the sample to states that passed laws in the 1994-2008 sample, and the percent of the population born in a non-English speaking birthplace, the percent of the population with English as a mother tongue, and total family income become statistically significant at the 10% level, while governor’s party loses significance. The direction of some of these coefficients are again perhaps counterintuitive - having more a higher percent of the population with a non-English speaking birthplace is more likely to encourage migrants, thereby putting more pressure to pass a Medicaid access-improving language access law, but the coefficient indicates a later date of passage with a higher percent of the population born in a non-English speaking country.

Since there are only 22 states with known dates for the passage of Medicaid access-improving language access laws, a regression with all the covariates might not be meaningful. To address this, separate regressions are run where only one covariate is used as the explanatory variable; results are in table 11 columns (4)-(6). Total family income is barely statistically significant at the 10% level for all 22 states, but loses significance as soon as California is dropped from the sample. $R^2$ values are reported to show the explanatory power of each covariate. Only governor’s party can explain more than 20% of the variation. Since the governor’s party is the most consistent explanatory variable for predicting the date of passage of Medicaid access-improving language access laws, but predicts something almost opposite to the first test for the number of health care language access laws, I conclude that the passage of the Medicaid access-improving language access laws is unpredictable.
Table 10: Predicting the Number of Health Care Language Access Laws

| Sample                  | (1)          | (2)          | (3)          | (4)          |
|-------------------------|--------------|--------------|--------------|--------------|
|                         | All states and D.C. | Less California | Treated states | Treated states less California |
| Percent foreign-born    | -11.22       | -26.76       | 159.5        | 183.0        |
|                         | (196.1)      | (206.8)      | (177.9)      | (166.9)      |
| Percent born in non-English speaking country | 583.9*       | 369.4        | 325.7        | 73.34        |
|                         | (318.9)      | (249.8)      | (351.8)      | (222.3)      |
| Percent with English as mother tongue | 27.62        | -8.413       | 25.43        | -4.815       |
|                         | (84.50)      | (77.72)      | (82.41)      | (86.42)      |
| Employed-to-unemployed ratio | -1.126       | -0.506       | -2.005*      | -1.053*      |
|                         | (0.703)      | (0.399)      | (1.113)      | (0.505)      |
| Total family income     | -0.000728    | 0.000105     | 0.00209      | 0.00228      |
|                         | (0.00245)    | (0.00168)    | (0.00334)    | (0.00217)    |
| Governor’s party        | 10.57**      | 9.192***     | 14.76*       | 14.19**      |
|                         | (4.272)      | (3.366)      | (8.016)      | (5.630)      |
| Constant                | -5.210       | 12.02        | -9.786       | -1.425       |
|                         | (78.86)      | (78.91)      | (75.96)      | (90.71)      |
| Observations            | 51           | 50           | 28           | 27           |
| R-squared               | 0.410        | 0.395        | 0.569        | 0.616        |

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Democrat = 1 and Republican = 2 for “Governor’s party”.
| Sample | (1) | (2) | (3) | (4) | (5) | (6) |
|--------|-----|-----|-----|-----|-----|-----|
|        | Treated states | Less California | States treated after 1993 | Treated states | Less California | States treated after 1993 |
| Percent foreign-born | 220.2 | 113.5 | -44.48 | -63.30 | -28.08 | 5.315 |
| | (178.9) | (119.0) | (81.43) | (47.97) | (38.07) | (27.70) |
| | [0.097] | [0.032] | [0.003] | | | |
| Percent born in non-English speaking country | -247.4 | -70.96 | 189.5* | -70.90 | -31.62 | 15.09 |
| | (244.4) | (160.4) | (102.2) | (60.43) | (48.39) | (30.83) |
| | [0.088] | [0.030] | [0.018] | | | |
| Percent with English as mother tongue | 6.989 | 21.03 | 30.69* | 44.18 | 31.71 | 7.504 |
| | (35.35) | (30.80) | (14.59) | (31.21) | (24.74) | (15.57) |
| | [0.097] | [0.089] | [0.018] | | | |
| Employed-to-unemployed ratio | 0.551 | 0.0691 | -0.0436 | 0.351 | 0.0539 | 0.0994 |
| | (0.549) | (0.330) | (0.242) | (0.361) | (0.231) | (0.158) |
| | [0.058] | [0.002] | [0.033] | | | |
| Total family income | -0.00227 | -0.00166 | -0.00153* | -0.00176* | -0.00127 | -0.000272 |
| | (0.00170) | (0.00153) | (0.000784) | (0.000957) | (0.000768) | (0.000545) |
| | [0.120] | [0.111] | [0.020] | | | |
| Governor’s party | -4.718* | -5.384* | -1.744 | -8*** | -6.308** | -2.556 |
| | (2.473) | (2.687) | (1.885) | (2.734) | (2.242) | (1.590) |
| | [0.224] | [0.246] | [0.152] | | | |
| Constant | 2009*** | 2002*** | 1989*** | | | |
| | (34.01) | (28.26) | (14.54) | | | |
| Observations | 22 | 21 | 17 | | | |
| R-squared | 0.365 | 0.355 | 0.481 | | | |

Notes: Dependent variable is date of passage of Medicaid access-improving language access law. Columns (4)-(6) have covariate as only explanatory variable; $R^2$ in brackets. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Democrat = 1 and Republican = 2 for “Governor’s party”.