

The Pennsylvania State University  
The Graduate School  
College of Health and Human Development

**HEALTH INSURANCE COVERAGE AMONG CHILDREN OF  
IMMIGRANTS: DOES MOTHER'S REGION OF ORIGIN MATTER?**

A Thesis in  
Human Development and Family Studies

by  
Kaylin M. Greene

© 2009 Kaylin M. Greene

Submitted in Partial Fulfillment  
of the Requirements  
for the Degree of

Master of Science

December 2009

The thesis of Kaylin Greene was reviewed and approved\* by the following:

Daphne C. Hernandez  
Assistant Professor of Human Development and Family Studies and Demography  
Thesis Advisor

Pamela Farley Short  
Professor of Health Policy and Administration and Demography  
Director of the Center for Health Care Policy

Douglas M. Teti  
Professor of Human Development and Psychology  
Professor-In-Charge, Graduate Program, Human Development and Family  
Studies

\*Signatures are on file in the Graduate School

## ABSTRACT

**Objectives:** I estimated region of origin differences in health insurance coverage in a national sample of children of immigrants.

**Methods:** Immigrant mothers from the Early Childhood Longitudinal Study – Kindergarten Cohort (ECLS-K) provided information. Chi-squares, ANOVAs, and multinomial logistic regressions examined the relationship between mother’s region of origin and child’s type of insurance (i.e., private, government, and uninsured), controlling for family, community, and state-level factors known to affect health insurance coverage.

**Results:** The majority of the immigrant children are insured, regardless of the mother’s region of origin. In comparison to children of immigrants from Europe or Canada, children of immigrants from Mexico, Latin America, and the Caribbean are less likely to have private insurance compared to government insurance; they are also more likely to be uninsured than have private insurance.

**Conclusions:** The lower likelihood of private insurance and the higher likelihood of uninsurance among children of immigrants from Mexico, Latin America, and the Caribbean position these children at risk for poor health outcomes later in life. Targeting children of immigrants from these regions is a useful intervention strategy to reduce disparities among immigrant children.

## TABLE OF CONTENTS

|  |    |
|--|----|
| LIST OF TABLES .....   | v  |
| Chapter 1 Introduction .....   | 1  |
| Chapter 2 Methods .....  | 4  |
| Data and Sample .....  | 4  |
| Measures .....   | 4  |
| Health Insurance Coverage .....  | 4  |
| Region of Origin .....   | 5  |
| Individual and Household Factors affecting Eligibility and Knowledge of<br>Health Insurance Coverage ..... | 6  |
| Community and State Factors .....  | 7  |
| Analytic Strategy .....  | 7  |
| Chapter 3 Results .....  | 9  |
| Descriptive Results .....  | 9  |
| Multivariate Results .....   | 9  |
| Chapter 4 Discussion .....   | 12 |
| References .....   | 17 |
| Appendix Description of Region of Origin Coding Information .....  | 20 |

**LIST OF TABLES**

|  |    |
|--|----|
| <i>Descriptive and Bivariate Statistics for Children of Immigrants by Type of Health Insurance Coverage: Early Childhood Longitudinal Study—Kindergarten Cohort, 2000</i> .....                                    | 21 |
| <i>Weighted Descriptives for Children of Immigrants and Children of Native-born by Mother’s Region of Origin: Early Childhood Longitudinal Study – Kindergarten Cohort, 2000.</i> .....                            | 23 |
| <i>Odds Ratios from Multinomial Logistic Regression Analyses Predicting Health Insurance Coverage for Children of Immigrants: Early Childhood Longitudinal Study – Kindergarten Cohort, 2000 (n = 1998).</i> ..... | 25 |

## Chapter 1

### Introduction

More than one in five children in the United States lives in an immigrant family, and this number is growing rapidly (Hernandez, 2004). Despite the fact that the majority of children in immigrant families are US citizens, children of immigrants comprise a disproportionately large section of the uninsured population (Guendelman, Schauffler, and Pearl, 2001; Mohanty, Woolhandler, Himmelstein et al., 2005). Compared to children of native-born parents, children of foreign-born parents have considerably lower rates of employer-sponsored and private insurance (Guendelman, Schauffler, and Pearl, 2001; Lessard & Ku, 2003). In addition, children in immigrant families have low participation in government insurance considering their high poverty rates (Mohanty, Woolhandler, Himmelstein et al., 2005).

Many immigrant families face individual-level barriers to obtaining health insurance including a lack of human capital and limited English skills. For instance, the educational attainment of immigrants is lower than that of native-born, and immigrants are often employed in unskilled jobs in the service sector with limited or no access to employer-sponsored insurance (Buchmueller, Sasso, Lurie, & Dolfin, 2006, Schur & Feldman, 2001). The difficulty immigrant parents have obtaining employment with benefits lowers the likelihood that their children will be covered by private insurance. In addition, many immigrants have limited English language proficiency (LEP), making it challenging to navigate insurance options. Indeed, research documents that LEP parents often have difficulty understanding and completing Medicaid forms (Perry, Kannel, Valdez, & Chang, 2000).

Immigrants also experience policy-level barriers, such as eligibility requirements, to obtaining health insurance. In 1996, welfare reform changed Medicaid and Children's Health Insurance Program (CHIP) eligibility criteria for most legal immigrants from a no residency

requirement to a five-year residency requirement. Although the vast majority of children in immigrant families are born in the US, and thus eligible for government insurance (Ku, 2007), some immigrant parents voluntarily withdrew their Medicaid- and CHIP-eligible children in what has been known as the “chilling” effects of welfare reform (Hagan, Rodriguez, & Capps, 2003). Relatedly, many parents resist using government programs (such as CHIP or Medicaid) fearing that they will be seen as public charges and this will affect their ability to become legal residents or citizens at a later date. This fear remains in spite of the statement made by INS in 1999 that Medicaid and CHIP use would not be considered when deciding applications for permanent residency or citizenship (Hagan, Rodriguez, & Capps, 2003).

The unique barriers facing immigrant families have caused an increased interest and a burgeoning body of literature comparing health insurance among immigrant and native-born populations. However, despite significant heterogeneity within the immigrant population, little research has utilized a within group approach to understand this group. Existing research suggests that examining country of origin is a useful tool to understand health insurance among immigrants. Using the Current Population Survey (CPS), researchers found that Medicaid rates for adults differed based on country of origin, with individuals from the Dominican Republic having the highest rates of Medicaid coverage (32%), followed by those from Russia (26%), Cuba (19%), and Vietnam (16%) (Carrasquillo, Carrasquillo, & Shea, 2000). Descriptive research by Hernandez (2004) suggests that the same may be true for children, although it is unclear whether parental country of origin is an independent predictor of the type of child health insurance within a multivariate context.

The following study uses data from the Early Childhood Longitudinal Study – Kindergarten (ECLS-K) cohort to examine the relationship between immigrant mother’s region of origin and children’s health insurance. Specifically, the study focuses on the association between mother’s region of origin and immigrant children’s use of either (1) private or (2)

government insurance, or (3) lack of insurance, while controlling for family, community, and state-level characteristics related to health insurance coverage. Examining mother's region of origin helps to explore the disparities within immigrant populations, and limiting the sample to immigrants enables a more nuanced understanding of this group. Documenting which immigrant groups enroll in private and public health insurance – as well as those who are uninsured – is pivotal at a time when there are concerns over the well-being of immigrants, and government funding for health insurance is increasing and a focus of debate. It is crucial that policymakers understand the characteristics of the populations with and without health care coverage, as this information.



## Chapter 2

### Method

#### Data and Sample

Data are derived from the first grade wave of the Early Childhood Longitudinal Study – Kindergarten Cohort (ECLS-K) collected in the spring of 2000 by the National Center for Education Statistics (NCES).<sup>1</sup> The sample is limited to those children whose mothers reported being born in a country other than the United States ( $n = 2,750$ ). Children whose mothers were born in a foreign country not on the ECLS-K list of countries were excluded ( $n = 12$ ), along with children who had missing data on the dependent and independent variables ( $n = 752$ ), resulting in a study sample of 1,998 children of immigrants. Information on children of US-born mothers ( $n = 10,566$  with complete data) is provided for descriptive purposes; however, these children are excluded from multivariate analyses which focus solely on children of immigrants.

#### Measures

##### *Health Insurance Coverage*

Children's health insurance coverage is based on maternal report and categorized into three mutually exclusive groups: private health insurance, government health insurance, and no health insurance. Children whose mothers reported that their child was covered by employer-based insurance or private insurance are coded as having private insurance ( $1 = yes$ ,  $0 = no$ ). Children whose mothers reported that their child was covered by CHIP or Medicaid are coded as

---

<sup>1</sup> The baseline (Kindergarten wave) does not contain the necessary information about the type of health care coverage.

having government health insurance (1 = *yes*, 0 = *no*). Children whose mothers reported no health insurance are coded as uninsured (1 = *yes*, 0 = *no*).<sup>2</sup>

### ***Region of origin***

Mother's region of origin is based on the mother's response to the question regarding her country of birth. Countries are grouped into eight categories: Canada and Europe, Latin America (e.g. Columbia, Ecuador, Guatemala), Mexico, Caribbean (e.g. Jamaica, Dominican Republic, Puerto Rico), Northeast Asia ( e.g. China, Japan, Taiwan), Southeast Asia (e.g. Vietnam, Cambodia, Laos), Other Southeast Asia (e.g. Thailand, Bangladesh), and West Central Asia and Africa (e.g. Afghanistan, Iran, Nepal).

Canada and Europe comprise a single region as the majority of immigrants from these countries speak English fluently and are white. All analyses are conducted with Canada/Europe as the comparison group. Immigrants from Europe and Canada may be more advantaged than other immigrant groups (e.g. they may face minimal racism in the US and may be advantaged financially) and thus they may be able to assimilate more easily into mainstream America. Central and South American countries are combined to form the Latin American region because of their proximity to each other, similar cultural backgrounds, and similar socioeconomic statuses. Mexico is maintained as a region in and of itself because of ample sample size, and research suggesting that Mexican-Americans have particularly low rates of health insurance

---

<sup>2</sup> To create mutually exclusive categories, children who reportedly were covered by more than one insurance type are assigned to a specific type. If the child reportedly had Medicaid or SCHIP and also private insurance, then the child is coded as having government sponsored health insurance. If the child reportedly had private insurance but also reported being uninsured then the child is coded as private. Coding the categories in this way results in the 'no insurance' category being composed solely of children who reportedly had no health insurance coverage.

coverage (e.g. Trevino, Moyer, Valdez & Stroup-Benham, 1991). The Caribbean is a separate category as many of these countries have distinct Afro-Caribbean cultural influences and are close to the United States. Northeastern Asian countries known to be more advantaged (such as China, Japan, and Korea) are grouped together. As has been done in previous research (Han, 2006), Southeast Asian countries such as Vietnam, Laos, and Cambodia are categorized separately from other Southeast Asian countries because the former exhibit a high proportion of refugees and the visa process is typically quite different for individuals from these countries. The final region of origin is composed of countries in West-Central Asia and Africa. The sample sizes of the regions in the present study range from 150 to 605.<sup>3</sup>

### ***Individual and Household-level Factors affecting Eligibility and Knowledge of Health***

#### ***Insurance Coverage***

Mothers reported on several family-level factors that may be associated with health insurance. Child characteristics include child gender (male = 1; female = 0), health status of the child (1 = poor health to 5 = excellent health), and a continuous variable of the number of siblings in the household. Poor health motivates parents to seek insurance and having more children in the household may increase knowledge of health insurance options. Maternal characteristics include education [< high school, high school diploma (reference), > high school], employment [unemployed (reference), employed < 35 hours a week, employed > 35 hours a week], marital status (married = 1; not married = 0), and years living in the United States. Controlling for parental employment serves to capture the family's ability to obtain employer-sponsored insurance, as individuals working full-time are more likely than part-time workers to receive

---

<sup>3</sup> In creating the region groups, the goal was to create groups that were as homogenous as possible while simultaneously balancing the need for adequate sample sizes (for a complete description of how countries of origin were coded into regions of origin see Appendix 1). To determine appropriate sample sizes, research by Carrasquillo, Carrasquillo, and Shea (2000) was used as a guide. The authors examined country of origin and Medicaid use by adults. The smallest country of origin examined by Carrasquillo et al., 2000 had a sample size of 173 people. The number of 173 was used as a guide in this study for adequate sample size to enable comparisons with this study. For this reason Africa ( $n = 45$ ) was not analyzed as a separate region.

benefits such as health insurance coverage (Farber & Levy, 2000). In addition, mothers living in the U.S. for longer periods of time may have greater insight into sources of health insurance coverage. Household-level characteristics include home language (non-English = 1; English = 0), use of government assistance in the past year (received TANF or food stamps = 1; did not receive TANF or food stamps = 0), and poverty status [low income (< 200% of the FPL) = 1; not poor (>200% of the FPL) = 0]. Home language is included as non-English speakers may face challenges navigating government services; while participation in other government assistance programs may increase awareness of the availability of government health insurance. Family poverty status impacts eligibility for different types of health insurance and is based on household income<sup>4</sup>.

### ***Community and State Factors***

Community- and state-level characteristics are included to control for contextual factors that may influence eligibility and the ease of obtaining health insurance coverage. A variable capturing the generosity of state health insurance policies was created by determining the state's income threshold for eligibility for SCHIP in 2000. States with an income eligibility threshold equal to 200% of the FPL, and states with eligibility threshold above 200% of the FPL, are compared to states with an income eligibility less than 200% of the poverty line. This variable was created using information from the Kaiser Family Foundation website ([www.kaiserfamilyfoundation.org](http://www.kaiserfamilyfoundation.org)). Additionally, a measure of urbanicity based on city size [urban (reference), suburban, rural] is included.

### **Analytic Strategy**

Chi-square analyses and ANOVAs are performed to compare children's health insurance coverage across mother's region of origin and family, community, and state factors known to

---

<sup>4</sup> Because the ECLS-K collects income information in brackets (e.g. \$10-15,000), these categories are imprecise. The categories are based upon poverty thresholds for the appropriate household size and are intended to approximate actual eligibility.

affect health insurance coverage. Multinomial logistic regression models are conducted to examine the associations between mother's region of origin and children's health insurance coverage, controlling for family, community, and state-level factors. All analyses are conducted in STATA (version 10.0; Stata Co., College Station) and are weighted using the person-level weight (C4PW0).<sup>5</sup>

---

<sup>5</sup> Although it would be ideal to use the Taylor Series weights (the *svy* command) to account for the complex sampling design, this is not possible with this data for the current research question. This is because there are too few observations in the strata variables and thus Stata cannot produce stable standard errors and *p*-values.

## Chapter 3

### Results

#### Descriptive Results

Descriptive statistics for immigrant children by type of health insurance coverage demonstrate that most children in immigrant families are insured, regardless of their mothers' region of origin (Table 1). Among insured children, the majority have higher rates of private insurance than government insurance. Children with mothers from Mexico, Latin America, the Caribbean and Southeast Asia have particularly low rates of private insurance (43-55%) and high rates of government insurance (40% for Southeast Asia and 45% for Mexico) compared to children with mothers from the other regions. In contrast, children with mothers from Europe and Canada or Northeast Asia have high rates of private insurance (84-85%) and low rates of government insurance (11% and 13% respectively). Differences are likewise apparent when we examine the percentage of uninsured children by mother's region of origin. Whereas 3% to 4% of European and Canadian, Northeast Asian, and other Southeast Asian children of immigrants are uninsured, the corresponding percentages among Latin American and Mexican children of immigrants are 14.6 and 11.9 respectively.

Descriptive statistics by mother's region of origin suggest that many factors covary with maternal region of origin including maternal education and number of years the mother has lived in the US (Table 2). For example, mothers from Europe and Canada, Northeast Asia, or other Southeast Asia (regions with high rates of privately insured children), have high levels of maternal education and have lived in the US for 17 or more years.

#### Multivariate Results

Multinomial logistic regression is used to examine the association between mother's region of origin and immigrant children's health insurance coverage, controlling for family,

community, and state-level characteristics known to affect health insurance coverage (Table 3). Results indicate that mother's region of origin predicts child's type of health insurance for two of the three comparisons. Mother's region is associated with the odds of private versus government insurance. The odds that children of immigrants from Mexico, Latin America, and the Caribbean have private compared to government insurance are 60-70% lower than the odds of children of European and Canadian immigrants. Children of mothers from Northeast Asia, Southeast Asia, and the Other Southeast Asia group do not differ significantly from children of mothers from Europe and Canada. Coefficients for individual and household covariates are in the expected direction, with more advantaged characteristics (i.e. better health, greater maternal education, employment, married) associated with a higher likelihood of private than government insurance. In contrast, factors demonstrating disadvantage (e.g. low income, having used government services in the last year) are associated with a lower likelihood of private versus government insurance. Immigrant children living in states with an average health insurance policy compared to states with a less generous health insurance policy and immigrant children living in suburban areas compared to those living in the urban areas have a higher likelihood of being privately insured than insured by the government.

Comparing the likelihood of being uninsured versus being privately insured also shows differences by mother's region of origin. Compared to children of immigrants from Europe and Canada, the odds are three times higher that children of mothers from Latin America and the Caribbean will be uninsured rather than have private insurance. However, due to the large standard errors observed when examining the uninsured population, estimates may be unstable. Results further document that immigrant children in better health and those with mothers who have more than a high school education, are employed more than 35 hours a week, and are married, compared to immigrant children living with less educated mothers, those not in the labor force, and those that are single are less likely to be uninsured than to be privately insured. Last,

the years a mother has lived in the US is associated with a lower likelihood of having no insurance versus private insurance.

Mother's region of origin does not predict group differences between uninsured and government insured immigrant children. In fact, few variables in the model are associated with the likelihood of immigrant children being uninsured versus having government insurance. The use of other government services is associated with a lower likelihood of being uninsured versus having government insurance. In addition, compared to children living states with an SCHIP eligibility threshold less than 200% of the FPL, the odds are four times higher that children living in a state with an eligibility threshold equal to 200% of the FPL will be uninsured compared to have government health insurance



## Chapter 4

### Discussion

This study explored the association between mother's region of origin and immigrant children's health insurance coverage. Results indicate most immigrant children are insured, however, disparities in coverage exist based on mother's region of origin. Mother's region of origin is particularly salient for children of immigrant mothers from Mexico, Latin America, and the Caribbean. This group, compared to their counterparts from Europe and Canada, are more likely to be uninsured or covered by government insurance than private insurance. Previous research documents a strong association between health insurance coverage and having a usual source of care, having seen a doctor or a dentist within the last year, and receiving preventative and specialist care (Kenney & Chang, 2004). If children from these regions are not receiving these services then this could have detrimental consequences for their subsequent health and well-being.

Taken as a whole, the results suggest that children of mothers from Mexico, Latin America, and the Caribbean may comprise a distinctly disadvantaged group in terms of insurance coverage. Placing these differences in context of the study, immigrants from these regions display a particularly disadvantaged demographic profile with mothers from all three regions displaying high rates of poverty and mothers from Latin America and Mexico having low levels of education and employment.

There are numerous factors differing by region of origin that could contribute to these results. For example, the context in which migration occurs is highly variable. The ease of obtaining a visa differs dramatically across regions<sup>6</sup>, with immigrants often waiting years to gain

---

<sup>6</sup> Despite civil wars in many Central American countries (e.g. Guatemala and Nicaragua), these immigrants did not receive refugee status. In contrast, many Southeast Asian immigrant parents (from Vietnam, Laos, and Cambodia) received refugee status due to the US involvement in the Vietnam War. Being refugees, the

legal entry into the US and many being denied as a result of strict immigration policy since the mid-1980s (Fernandez-Kelley & Massey, 2007). Difficulty obtaining a visa can contribute to illegal migration, and research documents that the majority of undocumented immigrants in the US come from Mexico and Latin American countries (Passel, 2005). Future studies focusing on the disparities in immigrant children's health insurance coverage should focus on including measures that capture parents' difficulty acquiring a visa and the class of immigration and naturalization service (INS) admission.

Further, undocumented immigrant parents may fear getting "found out" and thus be hesitant to use government services. Alternatively, undocumented immigrant parents may worry that government service use will cause them to be seen as public charges and interfere with their ability to become legal immigrants. Another possibility is that undocumented status is a barrier to securing employment with benefits, resulting in a higher likelihood of being uninsured among this population. Qualitative interviews that focus on how legal status of immigrants influences their use of government services may help clarify the disparities in immigrant children's health insurance coverage.

Beyond legal status, low human capital among individuals from these regions could lead to difficulty accessing employer-sponsored insurance. Research documents that low rates of private insurance among immigrant adults can be attributed to the large percentage of immigrants employed in unskilled jobs, with minimal access to employer-sponsored insurance (Buchmueller et al., 2001). This "channeling" of immigrant parents into low-wage jobs with few benefits may be particularly true for Mexican, Latin American, and Caribbean immigrants, and have negative consequences for their children.

---

visa process may have been easier for SE Asians, and may have exposed them to information about government health insurance options. Regardless of duration in the US, refugees can receive government services, a benefit not bestowed on all legal immigrants. Thus, the refugee status of SE Asians may help explain why rates of uninsurance are so low among this population despite such a disadvantaged demographic profile.

English language skills among immigrant families has typically been used as a proxy for acculturation. While previous research documents a strong association between parental English ability and child's insurance coverage (Yu et al., 2006), the results did not show a clear relationship between the language spoken in the home and the insurance type of the child. This is likely due to the poor measurement of the language variable, as language spoken at home is used as a proxy for English proficiency. Research documents that Hispanic children of immigrants are more likely to have parents with limited English language proficiency and to live in linguistically isolated households than children of other immigrant groups (Fix & Passel, 2003). Thus, a scale that measures English proficiency (including reading, writing, speaking, and listening) would be ideal and likely demonstrate stronger association with type of insurance. Importantly, immigrants may prefer speaking in their native language while still possessing excellent English skills (enabling successful navigation of health insurance options). This would imply that practicing a non-English language at home is a proxy for socio-economic status and not of acculturation.

In addition, it is possible that other unmeasured characteristics of acculturation and social networks may influence immigrant mothers' knowledge about health insurance coverage. If these unmeasured factors are also associated with mother's region of origin, then they may be contributing to the multivariate results found in the present study. Likewise, cultural differences in the acceptability of using government services may contribute to differences seen across these groups.

One anomalous result relates to the state-level generosity measure for public insurance coverage. Results suggest that, compared with living in a state with less generous policies, children from a state with average policies are more likely to have private (versus government insurance) and to be uninsured versus having government insurance. Although the second finding is counterintuitive it suggest that states with average generosity levels may not be sufficiently advertising the program nor reaching out to the most disadvantaged in assisting them

with the application process. It is also possible (and perhaps more likely) that the inconsistent pattern is due to the specific states included in each category.

Aside from the measurement limitations mentioned above, how the sample was selected and defined causes the results to be interpreted with caution. For instance, sample sizes become quite small (ranging from 150 to 605) when the sample is divided by mother's region of origin. In a few instances, these small sample sizes cause large standard errors and interfere with my ability to make conclusive statements regarding the uninsured population among children of immigrants. However, the ECLS-K is the largest nationally representative dataset with information on mother's country of origin, and thus, though not ideal, it is the best data that is currently available.

Furthermore, a conservative definition of 'children of immigrants' is used in this study. Immigrant families in the ECLS-K are identified using only the country of origin of the mother and the data lacks corresponding information for fathers. Thus, children whose family structure consists of an immigrant father and native-born mother are excluded, as we cannot identify these families in the data.

Despite these limitations, the results paint a picture of inequality within the immigrant population. The high rates of uninsurance documented among children of Mexican, Latin American and Caribbean immigrant mothers suggest that these children may not be receiving the health services that they need; thus placing these children at risk for negative health outcomes. Interventions targeting the children of Hispanic and Caribbean immigrants are needed to reduce disparities in health insurance coverage documented within the present study. Future within-group, longitudinal research is necessary in order obtain a greater understanding of the clustering of advantaged characteristics associated with private insurance among certain immigrant groups and the clustering of disadvantage characteristics associated with uninsurance among others. Such

findings will provide insight into how to better serve the needs of immigrant children and consequently reduce health disparities.

## References

- Buchmueller, T. C., Lo Sasso, A. T., Lurie, I., & Dolfin, S. (2006). Immigrants and employer-sponsored health insurance, *Health Services Research*, 42, 286-310.
- Carrasquillo, O., Carrasquillo, A. I., & Shea, S. (2000). Health insurance coverage of immigrants living in the US: Differences by citizenship status and country of origin. *American Journal of Public Health*, 90, 917-923.
- Center for Children and Families, Georgetown University Health Policy Institute. (2008). SCHIP funding in the year ahead: Implications of the Medicare, Medicaid, and SCHIP Extension Act. Available online at <http://ccf.georgetown.edu/index/cms-filesystemaction?file=ccf%20publications/federal%20schip%20policy/schipfinancing0303.pdf>
- Farber, H. S. & Levy, H. (2000). Recent trends in employer-sponsored health insurance coverage: are bad jobs getting worse? *Journal of Health Economics*, 19, 93-119.
- Fernandez-Kelly, P. & Massey, D. S. (2007). *Borders for whom? The role of NAFTA in Mexico-U.S. migration. The annals of the American Academy of Political and Social Science*, 610, 98-117.
- Fix, M. & Passel, J. S. (2003). US immigration: Trends and implications for schools. *Urban Institute*.
- Flores, G., Abreu, M., Olivar, M. A., Bastner, B. (1998) Access barriers to health care for Latino children. *Arch Pediatr Adolesc Med.*, 152, 1119-1125.
- Goldman, D. P., Smith J. P., & Sood, N. (2005). Legal status and health insurance among immigrants. *Health Affairs*, 24, 1640-1653.

- Granados, G., Puvvula, J., Berman, N., & Dowling, P. (2001). Health care for Latino children: Impact of child and parental birthplace on insurance status and access to health services. *American Journal of Public Health, 91*, 1806-1807.
- Guendelman, S., Schauffler, H. H., & Pearl M. (2001). Unfriendly shores: How immigrant children fare in the U.S. health system. *Health Affairs, 20*, 257-266.
- Hagan, J., Rodriguez, N., & Kabiri, N. (2003). The effects of recent welfare and immigration reforms on immigrants' access to health care. *International Migration Review, 37*, 444-463.
- Han, W. (2006). Academic achievements of children in immigrant families. *Educational Research and Review, 1*, 286-318.
- Hernandez, D. J. (2004). Demographic change and the life circumstances of immigrant families. *Future of Children, 14*, 17-47.
- Horner D, Guyer J, Mann C, Alker J. (2009). *The Children's Health Insurance Program Reauthorization Act of 2009, Overview and Summary*. Georgetown University Center for Children and Families.
- Huang, Z. J., Yu, S. M., & Ledsky, R. (2006). Health status and health service access and use among children in U.S. immigrant families. *American Journal of Public Health, 96*, 634-640.
- Kenney, G. The impacts of the State Children's Health Insurance Program on children who enroll: Findings from ten states. *Health Services research, 42*, 1520-1540.
- Kenney, G. & Chang, D. (2004). The State Children's Health Insurance Program: Successes, shortcomings, and challenges. *Health Affairs, 23*, 51-62.
- Ku, L. Improving health insurance and access to care for children in immigrant families. (2007). *Ambulatory Pediatrics, 7*, 412-420.
- Lessard, G. & Ku, L. (2003). Gaps in coverage for children in immigrant families. *Future of Children, 13*, 101-115.

- Mohanty, S. A., Woolhandler, S., Himmelstein, D. U., Pati, S., Carrasquillo, O., & Bor, D. H. Health care expenditures of immigrants in the United States: A nationally representative analysis. *American Journal of Public Health, 95*, 1431-1438.
- Passel, J. (2005). Estimates of the size and characteristics of the undocumented population. Pew Hispanic Center, March 21, 2005. Available at <http://pewhispanic.org/files/reports/44.pdf>
- Perry, M., Kannel, S., Valdez, R. & Chang, C. (2000). Medicaid and children: Overcoming barriers to enrollment: Findings from a national survey. Washington, DC: Kaiser Commission on Medicaid and the Uninsured.
- Prentice, J. C., Pebley, A., R., & Sastry, N. (2005). Immigration status and health insurance coverage: Who gains? Who loses? *American Journal of Public Health, 95*, 109-116.
- Schur, C. L., & Feldman, J. (2001). Running in place: How job characteristics, immigrant status, and family structure keep Hispanics uninsured. The Commonwealth Fund. Available online at [http://www.cmwf.org/usr\\_doc/schur\\_running\\_453.pdf](http://www.cmwf.org/usr_doc/schur_running_453.pdf).
- Treviño, F. M., Moyer M. E., Valdez, R. B., & Stroup-Benham, C. A. (1991). [Health insurance coverage and utilization of health services by Mexican Americans, mainland Puerto Ricans, and Cuban Americans.](#) *The Journal of the American Medical Association, 265*, 233-237.
- Yu, S. M., Huang, J., Schweiberg, R. H., & Nyman, R. M. (2006). Parental English proficiency and children's health services access. *American Journal of Public Health, 96*, 1-7.



## Appendix

### Appendix. Description of Region of Origin Coding Information

| <u>Countries in Each Region</u>     |     |              |   |
|-------------------------------------|-----|--------------|---|
| Region                              | N   | N<br>country |   |
| Europe/ Canada                      | 283 | 42           | Turkey, Ukraine, Vatican City, United Kingdom, Sweden, Switzerland, Spain, Slovakia, San Marino, Romania, Russia, Poland, Portugal, Norway, New Zealand, Netherlands, Moldova, Malta, Macedonia, Luxemburg, Lithuania, Italy, Ireland, Iceland, Guernsey, Greece, Germany, Georgia, French Southern and Antarctic Lands, France, Finland, Cyprus, Croatia, Canada, Bulgaria, Bosnia and Herzegovina, Belgium, Austria, Australia, Armenia, Andorra, Albania |
| Latin America                       | 305 | 19           | Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Clipperton Island, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Nicaragua, Panama, Peru, South Georgia and the Sandwich Islands, Uruguay, Venezuela  |
| Mexico                              | 746 | 1            | Mexico  |
| Caribbean                           | 285 | 14           | Aruba, Bahamas, Barbados, Bermuda, Cuba, Dominica, Dominican Republic, Haiti, Jamaica, Puerto Rico, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Trinidad and Tobago, US Virgin Islands,  |
| NE Asia                             | 177 | 6            | China, Hong Kong, Japan, North Korea, South Korea, Taiwan   |
| South East Asia                     | 201 | 3            | Vietnam, Cambodia, Laos   |
| Other SE Asia                       | 287 | 18           | Bangladesh, Burma, Cocos (Keeling) Islands, Indonesia, Malaysia, Philippines, Singapore, Thailand, American Samoa, Baker Island, Fiji, Guam, Howland Island, Marshall Islands, Niue, Samoa, Tonga, Wallis and Futuna  |
| West/<br>Central Asia<br>and Africa | 221 | 38           | Afghanistan, British Indian ocean Islands, India, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Nepal, Oman, Pakistan, Qatar, Saudi Arabia, Sri Lanka, Syria, UAE, Yemen<br>Angola, Burundi, Cape Verde, Djibouti, Egypt, Ethiopia, Ghana, Guinea, Kenya, Liberia, Mayotte, Nigeria, Sao Tome and Principe, Sierra Leone, Somalia, South Africa, Sudan, Togo, Tunisia, Zimbabwe  |

Table 1. *Descriptive and Bivariate Statistics for Children of Immigrants by Type of Health Insurance Coverage: Early Childhood Longitudinal Study-Kindergarten Cohort, 2000*

|                                  | n    | Private           | Government | Uninsured          |
|----------------------------------|------|-------------------|------------|--------------------|
| <b>Mother's region of origin</b> |      |                   |            |                    |
| Europe/Canada                    | 237  | 85.3 <sup>a</sup> | 11.3       | 3.3 <sup>ab</sup>  |
| Latin America                    | 245  | 54.9 <sup>a</sup> | 30.5       | 14.6 <sup>ab</sup> |
| Mexico                           | 605  | 42.9              | 45.2       | 11.9 <sup>ab</sup> |
| Caribbean                        | 155  | 59.2 <sup>a</sup> | 31.4       | 9.4 <sup>ab</sup>  |
| Northeast Asia                   | 150  | 83.4 <sup>a</sup> | 12.7       | 3.9 <sup>ab</sup>  |
| Southeast Asia                   | 168  | 53.9              | 40.2       | 5.9 <sup>ab</sup>  |
| Other Southeast Asia             | 247  | 83.7 <sup>a</sup> | 13.7       | 2.6 <sup>ab</sup>  |
| West/Central Asia and Africa     | 191  | 75.6 <sup>a</sup> | 16.6       | 7.8 <sup>b</sup>   |
| <b>Child gender</b>              |      |                   |            |                    |
| Female                           | 982  | 58.6 <sup>a</sup> | 33.0       | 8.4 <sup>ab</sup>  |
| Male                             | 1016 | 60.5 <sup>a</sup> | 29.4       | 10.1 <sup>ab</sup> |
| Health status*                   | 1998 | 4.3 <sup>a</sup>  | 3.8        | 4.0 <sup>b</sup>   |
| Siblings, no.*                   | 1998 | 1.5 <sup>a</sup>  | 2.0        | 1.6 <sup>a</sup>   |
| <b>Maternal education</b>        |      |                   |            |                    |
| <HS                              | 562  | 36.7 <sup>a</sup> | 51.0       | 12.3 <sup>ab</sup> |
| HS diploma                       | 468  | 56.1 <sup>a</sup> | 32.6       | 11.3 <sup>ab</sup> |
| >HS                              | 968  | 79.1 <sup>a</sup> | 15.0       | 5.9 <sup>ab</sup>  |
| <b>Maternal employment</b>       |      |                   |            |                    |
| Not employed                     | 737  | 46.7              | 41.8       | 11.6 <sup>ab</sup> |
| Employed <35hrs                  | 329  | 62.2 <sup>a</sup> | 30.5       | 7.3 <sup>ab</sup>  |
| Employed 35+ hrs                 | 932  | 70.3 <sup>a</sup> | 21.8       | 7.9 <sup>ab</sup>  |
| <b>Marital status</b>            |      |                   |            |                    |
| Not married                      | 383  | 45.1              | 43.6       | 11.2 <sup>ab</sup> |
| Married                          | 1615 | 63.9 <sup>a</sup> | 27.4       | 8.7 <sup>a</sup>   |
| Years in the U.S.*               | 1998 | 16.9 <sup>a</sup> | 13.0       | 11.7 <sup>ab</sup> |
| <b>Home language</b>             |      |                   |            |                    |
| English                          | 758  | 79.2 <sup>a</sup> | 16.2       | 4.6 <sup>ab</sup>  |
| Non-English                      | 1240 | 49.2 <sup>a</sup> | 39.0       | 11.8 <sup>ab</sup> |
| <b>Government assistance</b>     |      |                   |            |                    |
| No                               | 1738 | 67.2 <sup>a</sup> | 22.8       | 10.0 <sup>b</sup>  |
| Yes                              | 260  | 14.8 <sup>a</sup> | 80.2       | 4.9 <sup>ab</sup>  |
| <b>Poverty status</b>            |      |                   |            |                    |

|                        |      |                   |      |                    |
|------------------------|------|-------------------|------|--------------------|
| Low income (<200% FPL) | 1799 | 56.9 <sup>a</sup> | 33.2 | 9.9 <sup>ab</sup>  |
| Not poor (>200% FPL)   | 199  | 96.6 <sup>a</sup> | 02.6 | .8 <sup>ab</sup>   |
| State generosity       |      |                   |      |                    |
| < 200% FPL             | 220  | 68.0 <sup>a</sup> | 26.4 | 5.6 <sup>ab</sup>  |
| = 200% FPL             | 627  | 64.9 <sup>a</sup> | 22.9 | 12.2 <sup>ab</sup> |
| > 200% FPL             | 1151 | 55.5 <sup>a</sup> | 36.0 | 8.4 <sup>ab</sup>  |
| Urbanicity             |      |                   |      |                    |
| Urban                  | 1060 | 50.7 <sup>a</sup> | 38.9 | 10.4 <sup>ab</sup> |
| Suburban               | 760  | 70.2 <sup>a</sup> | 21.0 | 8.7 <sup>ab</sup>  |
| Rural                  | 178  | 61.0              | 33.8 | 5.2 <sup>ab</sup>  |

*Note.* HS = High School. FPL = Federal Poverty Level

<sup>a</sup>  $p < .05$  compared to government insurance

<sup>b</sup>  $p < .05$  compared to private insurance

\*linear variable; means reported

Table 2. *Weighted Descriptives for Children of Immigrants and Children of Native-born by Mother's Region of Origin: Early Childhood Longitudinal Study – Kindergarten Cohort, 2000*

|                     | Europe/<br>Canada | Latin<br>America | Mexico | Caribbean | NE Asia | SE Asia | Other SE<br>Asia | WC Asia<br>and Africa | US-Born |
|---------------------|-------------------|------------------|--------|-----------|---------|---------|------------------|-----------------------|---------|
| n                   | 237               | 245              | 605    | 155       | 150     | 168     | 247              | 191                   | 10566   |
| Type of insurance   |                   |                  |        |           |         |         |                  |                       |         |
| Private             | 85.4              | 54.9             | 42.9   | 59.2      | 83.4    | 53.9    | 83.7             | 75.6                  | 74.2    |
| Government          | 11.3              | 30.5             | 45.2   | 31.4      | 12.7    | 40.2    | 13.8             | 16.6                  | 21.5    |
| Uninsured           | 3.3               | 14.6             | 11.9   | 9.4       | 3.9     | 5.9     | 2.6              | 7.8                   | 4.3     |
| Child gender        |                   |                  |        |           |         |         |                  |                       |         |
| Female              | 52                | 47               | 47     | 45        | 50      | 47      | 44               | 51                    | 49.1    |
| Male                | 48                | 53               | 53     | 55        | 50      | 53      | 56               | 49                    | 51.0    |
| Health status       | 4.5               | 4.3              | 3.9    | 4.3       | 4.0     | 3.9     | 4.1              | 4.3                   | 4.4     |
| Siblings, no.       | 1.4               | 1.3              | 2.0    | 1.3       | 1.1     | 2.7     | 1.5              | 1.6                   | 1.5     |
| Maternal education  |                   |                  |        |           |         |         |                  |                       |         |
| <HS                 | 6.7               | 31.1             | 58.7   | 12.9      | 11.0    | 44.5    | 9.9              | 5.4                   | 10.1    |
| HS diploma          | 20.3              | 27.6             | 23.9   | 26.5      | 13.9    | 29.7    | 21.5             | 25.1                  | 30.4    |
| >HS                 | 73.0              | 41.3             | 17.5   | 60.6      | 75.1    | 25.8    | 68.6             | 69.5                  | 59.5    |
| Maternal employment |                   |                  |        |           |         |         |                  |                       |         |
| Not unemployed      | 35.3              | 31.2             | 53.6   | 24.2      | 40.5    | 24.7    | 23.0             | 37.8                  | 28.1    |
| <35hrs              | 24.8              | 22.3             | 12.2   | 17.0      | 15.4    | 12.7    | 13.0             | 8.9                   | 22.5    |
| 35+ hrs             | 39.9              | 46.5             | 34.2   | 58.8      | 44.1    | 62.6    | 63.9             | 53.3                  | 49.5    |
| Marital status      |                   |                  |        |           |         |         |                  |                       |         |
| Not married         | 17.5              | 24.2             | 26.2   | 35.1      | 6.7     | 25.9    | 16.7             | 10.4                  | 30.6    |
| Married             | 82.5              | 75.8             | 73.8   | 64.9      | 93.3    | 74.1    | 83.3             | 89.6                  | 69.4    |
| Years in US         | 19.2              | 14.8             | 14.0   | 17.0      | 17.2    | 13.7    | 14.9             | 13.5                  | -       |
| Home language       |                   |                  |        |           |         |         |                  |                       |         |
| English             | 71.4              | 33.7             | 12.2   | 58.9      | 34.0    | 8.4     | 59.6             | 48.6                  | 98.1    |
| Non-English         | 28.7              | 66.3             | 87.8   | 41.1      | 66.0    | 91.6    | 40.4             | 51.4                  | 1.9     |

|   |      |      |      |      |      |      |      |      |      |
|---|------|------|------|------|------|------|------|------|------|
| Government assistance   |      |      |      |      |      |      |      |      |      |
| No  | 91.8 | 89.4 | 79.5 | 82.2 | 97.6 | 74.5 | 92.7 | 95.8 | 84.6 |
| Yes   | 8.2  | 10.6 | 20.6 | 17.8 | 2.4  | 25.5 | 7.3  | 4.2  | 15.4 |
| Poverty status  |      |      |      |      |      |      |      |      |      |
| Low income (<200% FPL)  | 82.7 | 93.3 | 99.5 | 95.2 | 78.7 | 96.7 | 89.3 | 85.3 | 88.2 |
| Not poor (>200% FPL)  | 17.3 | 6.7  | 0.5  | 4.8  | 21.4 | 3.3  | 10.7 | 14.7 | 11.8 |
| State generosity  |      |      |      |      |      |      |      |      |      |
| < 200% of FPL   | 19.7 | 6.8  | 8.1  | 6.9  | 13.8 | 24.4 | 2.7  | 14.1 | 18.5 |
| = 200% of FPL   | 35.1 | 35.1 | 28.1 | 23.5 | 22.8 | 14.4 | 38.0 | 33.5 | 46.4 |
| > 200% of FPL   | 45.2 | 58.2 | 63.8 | 69.6 | 63.5 | 61.2 | 59.3 | 52.4 | 35.1 |
| Urbanicity  |      |      |      |      |      |      |      |      |      |
| Urban   | 34.0 | 50.9 | 59.7 | 58.3 | 35.7 | 67.4 | 36.6 | 33.8 | 30.6 |
| Suburban  | 56.5 | 46.8 | 32.3 | 41.3 | 52.7 | 24.4 | 33.8 | 58.0 | 40.7 |
| Rural   | 9.5  | 2.3  | 8.0  | 0.3  | 11.6 | 8.2  | 29.6 | 8.2  | 28.7 |
| <i>Note.</i> NE = Northeast. SE = Southeast. WC = West/Central. HS = High School. FPL = Federal Poverty Level |      |      |      |      |      |      |      |      |      |

Table 3. Odds Ratios from Multinomial Logistic Regression Analyses Predicting Health Insurance Coverage for Children of Immigrants: Early Childhood Longitudinal Study – Kindergarten Cohort, 2000 (n = 1998)

|                              | Private vs.<br><u>Government</u> |               | Uninsured vs.<br><u>Government</u> |               | Uninsured vs.<br><u>Private</u> |                |
|------------------------------|----------------------------------|---------------|------------------------------------|---------------|---------------------------------|----------------|
|                              | Odds Ratio                       | [95% CI]      | Odds Ratio                         | [95% CI]      | Odds Ratio                      | [95% CI]       |
| Mother's region of origin    |                                  |               |                                    |               |                                 |                |
| Europe/Canada                | -                                |               | -                                  |               | -                               |                |
| Latin America                | 0.30**                           | [0.14 - 0.61] | 1.10                               | [0.41 - 2.90] | 3.72**                          | [1.59 - 8.71]  |
| Mexico                       | 0.40**                           | [0.20 - 0.77] | 0.84                               | [0.33 - 2.18] | 2.13+                           | [0.93 - 4.88]  |
| Caribbean                    | 0.30**                           | [0.15 - 0.62] | 1.00                               | [0.29 - 3.48] | 3.32*                           | [1.04 - 10.59] |
| Northeast Asia               | 0.88                             | [0.39 - 1.99] | 0.78                               | [0.21 - 2.85] | 0.88                            | [0.27 - 2.87]  |
| Southeast Asia               | 0.55                             | [0.27 - 1.14] | 0.63                               | [0.17 - 2.27] | 1.14                            | [0.35 - 3.73]  |
| Other Southeast Asia         | 0.98                             | [0.46 - 2.12] | 0.60                               | [0.18 - 2.03] | 0.61                            | [0.20 - 1.85]  |
| West/Central Asia and Africa | 0.50+                            | [0.24 - 1.08] | 0.97                               | [0.29 - 3.27] | 1.92                            | [0.67 - 5.56]  |
| Child gender                 |                                  |               |                                    |               |                                 |                |
| Female (Ref)                 | ---                              |               | ---                                |               | ---                             |                |
| Male                         | 1.24                             | [0.90 - 1.71] | 1.25                               | [0.78 - 2.01] | 1.01                            | [0.65 - 1.56]  |
| Health status                | 1.53**                           | [1.29 - 1.81] | 1.11                               | [0.86 - 1.44] | 0.73*                           | [0.56 - 0.94]  |
| Siblings, no.                | 0.95                             | [0.84 - 1.08] | 0.99                               | [0.81 - 1.21] | 1.04                            | [0.87 - 1.25]  |
| Maternal education           |                                  |               |                                    |               |                                 |                |
| <HS (Ref)                    | ---                              |               | ---                                |               | ---                             |                |
| HS diploma                   | 1.21                             | [0.79 - 1.86] | 1.19                               | [0.69 - 2.05] | 0.98                            | [0.59 - 1.65]  |
| >HS                          | 2.16**                           | [1.40 - 3.33] | 1.11                               | [0.61 - 2.01] | 0.51*                           | [0.30 - 0.87]  |
| Maternal employment          |                                  |               |                                    |               |                                 |                |
| Not employed (Ref)           | ---                              |               | ---                                |               | ---                             |                |
| Employed <35hrs              | 1.73*                            | [1.10 - 2.72] | 0.91                               | [0.44 - 1.86] | 0.52+                           | [0.27 - 1.02]  |
| Employed 35+ hrs             | 2.68**                           | [1.82 - 3.95] | 1.34                               | [0.77 - 2.36] | 0.50**                          | [0.30 - 0.82]  |
| Marital status               |                                  |               |                                    |               |                                 |                |
| Not Married (Ref)            | ---                              |               | ---                                |               | ---                             |                |
| Married                      | 1.56*                            | [1.03 - 2.36] | 0.86                               | [0.50 - 1.50] | 0.55*                           | [0.33 - 0.92]  |
| Years mom in US              | 1.02+                            | [1.00 - 1.04] | 0.98                               | [0.95 - 1.01] | 0.96*                           | [0.93 - 0.98]  |
| Home language                |                                  |               |                                    |               |                                 |                |
| English (Ref)                | ---                              |               | ---                                |               | ---                             |                |
| Non-English                  | 0.66+                            | [0.42 - 1.03] | 1.19                               | [0.63 - 2.22] | 1.80                            | [1.04 - 3.13]  |
| Government assistance        |                                  |               |                                    |               |                                 |                |

|                             |        |               |        |                                     |
|-----------------------------|--------|---------------|--------|-------------------------------------|
| No (Ref)                    | ---    | ---           | ---    | ---                                 |
| Yes                         | 0.10*  | [0.06 - 0.17] | 0.12** | [0.05 - 0.30] 1.28 [0.49 - 3.33]    |
| Poverty status              |        |               |        |                                     |
| Low income (<200% FPL)      | 0.24*  | [0.07 - 0.83] | 1.76   | [0.25 - 12.47] 7.50* [1.55 - 36.24] |
| Not Poor (>200% FPL)        | ---    | ---           | ---    | ---                                 |
| State generosity            |        |               |        |                                     |
| < 200% FPL (Ref)            | ---    | ---           | ---    | ---                                 |
| Average                     | 1.78*  | [1.00 - 3.16] | 3.60** | [1.56 - 8.32] 2.02+ [0.91 - 4.48]   |
| Generous                    | 0.83   | [0.50 - 1.38] | 1.17   | [0.53 - 2.57] 1.41 [0.65 - 3.06]    |
| Urbanicity                  |        |               |        |                                     |
| Urban (Ref)                 | ---    | ---           | ---    | ---                                 |
| Suburban                    | 1.79** | [1.25 - 2.55] | 1.43   | [0.88 - 2.31] 0.80 [0.51 - 1.25]    |
| Rural                       | 0.74   | [0.33 - 1.66] | 0.46   | [0.15 - 1.44] 0.62 [0.21 - 1.78]    |
| Pseudo R <sup>2</sup> = .25 |        |               |        |                                     |
| $\chi^2$ (46) = 340.82      |        |               |        |                                     |