California Center for Population Research
University of California - Los Angeles

# Immigration Status and Health Insurance Coverage: Who Gains? Who Loses?

***Julia C. Prentice***
***Anne R. Pebley***
***Narayan Sastry***

**CCPR-006-04**

***2004***

***California Center for Population Research***
***On-Line Working Paper Series***

# Immigration Status and Health Insurance Coverage: Who Gains? Who Loses?

Julia C. Prentice, MSPH

Anne R. Pebley, PhD

Narayan Sastry, PhD

Corresponding author contact information: Julia Prentice; jprentic@ucla.edu,
Phone: (310) 825-1349; Fax: (310) 794-4282

**Abstract**

Objectives: This study compares health insurance transitions between non-immigrants and immigrants.

Methods: We use multivariate survival analysis to examine gaining and losing insurance by citizenship and legal status among adults using the Los Angeles Family and Neighborhood Survey.

Results: There are significant differences by citizenship and legal status in health insurance transitions. Undocumented immigrants are less likely to gain and more likely to lose insurance than the native born. Legal residents are less likely to gain and border on being more likely to lose insurance than the native born. Naturalized citizens do not differ from the native born.

Conclusions: Previous studies have not examined health insurance transitions by citizenship and legal status. Policies to increase coverage should consider the different experiences of immigrant groups.

**Introduction**

Health insurance coverage is an important predictor of preventive and therapeutic medical care.[1, 2] For example, Sudano and Baker found respondents who were uninsured anytime during the previous two years were less likely to obtain important preventive services, such as pap smears and cholesterol tests, in this period when compared to respondents who remained insured throughout the two years.[2] Several studies have also found that the uninsured delay needed medical care, such as visiting a doctor when sick.[3-6]

Cross-sectional studies have repeatedly shown that immigrants are much less likely to be insured than native born Americans.[7-10] In the 1997 Current Population Survey (CPS) 34 % of immigrants were uninsured compared to only 14% of native born Americans.[10] Studies have also found that insurance coverage for immigrants differs by citizenship status.[7, 10, 11] In the 1997 CPS, 44% of non-citizen immigrants were uninsured compared to 19% of immigrants who were U.S. citizens,[10] and in the California Health Interview Survey (CHIS) 51% of non-citizens without a green card were uninsured compared to 32% of non-citizens with a green card, 17% of naturalized citizens and 11% of the native born.[7] Since most surveys, such as the CPS, do not collect information on legal status,[9, 10, 12] previous studies only estimated rather than measured coverage for undocumented immigrants. These estimates suggest that undocumented immigrants have a much higher uninsured rate than other groups. For example, based on the 1999 CPS Brown et al. (2001) estimated that 65% of undocumented immigrants were uninsured in California.[9] Lack of health insurance compromises the ability of immigrants to access care. Insured immigrants had significantly better access to care than uninsured immigrants in an analysis of the 1997 National Survey of America Families.[12]

The two main sources of health insurance are employment based health insurance and public programs.[13] Past research suggests that immigrants have less insurance coverage primarily because their characteristics make them less likely to be eligible for these types of health insurance. For example, the lower average educational attainment of immigrants makes it likely that they will find lower status jobs without insurance coverage and jobs in industries that do not have health insurance.[7, 14, 15] Immigrants are also more likely to be ineligible for certain public insurance programs. The 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) prohibited federal funding of Medicaid for legal immigrants arriving after 1996 for their first five years in the U.S.-- although some states, including California, have used state funds to fill the gap.[16, 17]

Past research on immigration and health insurance coverage has been almost exclusively cross-sectional and focused on having insurance at a single point in time. These analyses are inherently limited because they ignore the process of gaining or losing coverage over time. The few studies which have examined insurance transitions do not consider whether immigrant status has an independent effect on these transitions.[18, 19] Whether immigration status affects health insurance transitions -- above and beyond immigrants' socioeconomic characteristics (SES) -- has important policy implications. For example, if immigrants are less likely to move from an uninsured to insured state even when their occupation and SES is held constant, then expanding employment-based coverage alone will not solve the problem of insurance coverage for immigrants.

This article makes three key contributions. First, it is the only study to date to compare the *dynamics* of health insurance coverage between immigrants and non-immigrants. Second, we examine whether immigrant status itself affects coverage once other factors affecting insurance

eligibility are held constant. Third, in contrast to previous studies we use information on legal status to compare insurance coverage for undocumented immigrations with coverage for legal immigrants, naturalized citizens and native born Americans.

**Methods**

Data Source

Analyses are based on Wave 1 of the 2000-2001 Los Angeles Family and Neighborhood Survey (L.A. FANS-1). L.A.FANS-1 was a survey of adults, children, and neighborhoods in a stratified probability sample of census tracts in Los Angeles County. The 1652 census tracts in Los Angeles County were divided into very poor, poor and non-poor strata based on percent in poverty. A total of 65 tracts were sampled: 20 each from the very poor and poor strata and 25 from the non-poor stratum. Within each sampled tract, 40-50 dwelling units were sampled at random, with an oversample of households with children. Within each household, L.A.FANS-1 randomly sampled one adult (age 18 and older) for interview. Interviews were conducted in English and Spanish. A total of 2,623 adult respondents were interviewed. This analysis is limited to adult respondents under 65 -- the age of eligibility for Medicare. A total of 2,300 respondents had health insurance information and were under age 65. The analysis sample size was reduced to 2,130 after the exclusion of respondents with missing information on the independent variables.

More than half of the L.A.FANS sample is Latino (principally of Mexican origin) and the sample includes sizeable numbers of first- and second-generation immigrants (Latino, white, and Asian) as well as non-immigrants. For more details, see Sastry et al. (2003).[20]

Variable Definition

An interactive month-by-month event history calendar (EHC) covering the two year period before the interview was completed for each adult respondent. Interviewers asked a series of questions to capture the start and end dates of spells in several domains, including places of residence, jobs, and public assistance receipt (TANF, General Relief, SSI, and Food Stamps). After these domains were completed, respondents were asked about health insurance coverage. The beginning and end dates of each spell of insurance or uninsurance was recorded, until all months in the two year period were accounted for. For each spell, respondents reported whether they were insured and the type of health insurance or reason for uninsurance. The questions included specific examples of health insurance types such as Medi-Cal (California's Medicaid), and Healthy Families (SCHIP).[21]

Discrete time survival analysis, based on person-months observed for each respondent, was used to estimate the effects of static and time-varying covariates on changes in health insurance coverage.[22] Two separate analyses were conducted. One analysis, based on the uninsured, examined the relative risk of moving onto insurance during each month of observation. The second analysis, based on the insured, examined the relative risk of losing insurance during each month of observation.

Our central focus is legal and citizenship status for immigrants. L.A.FANS-1 asked whether respondents were born in the US and, if not, their current citizenship status. Non-citizens were asked to report on whether they had permanent residency (a "green card"), a valid visa, asylum, or temporary protected status. Respondents were classified into four groups: native born, naturalized citizen, legal residents (documented non-citizens), and undocumented. We use the term "legal residents" to refer to those with green card, visa, or other legal status who have

not become naturalized citizens. Immigration and citizenship status were reported only at the time of interview.

Covariates in the analysis consist of basic demographics including gender, ethnicity, and whether the interview was conducted in Spanish or English (as an indication of English language ability). We expect that English speakers are more likely to obtain health insurance because they may have an easier time navigating the insurance system. These covariates were collected at the time of the interview and included as time invariant covariates.

Covariates that affect one's eligibility for employment based insurance, such as educational attainment, age, employment and occupation, and marital status are also included.[7, 13, 18] Each of these covariates except for educational attainment were included as time varying covariates, since these statuses change over time and can cause changes in insurance coverage. We examined two occupation categories: high status (i.e., white and blue collar occupations which include health insurance benefits) and low status (service and other occupations which generally do not include insurance benefits).

Finally, characteristics associated with public program eligibility, including family income, having a minor child, pregnancy, and receipt of public assistance were included. Analyses included the log of family income and non-housing assets. In California, some low-income parents with minor children and pregnant women are eligible for Medi-Cal.[13, 23] Therefore, the analysis includes time-varying variables indicating whether the respondent had any minor children of different ages and whether the respondent had a new child, was pregnant or was post-partum (first two months after birth) during the observation period.

Receipt of public assistance (TANF, General Relief, SSI, or Food Stamps) is included as a proxy for knowledge of and access to the public welfare system. Since recipients of some

public benefits are automatically eligible for Medicaid, receipt of public assistance is potentially endogenous, i.e., decisions about public assistance and public insurance coverage may be made jointly. To assess this potential effect, models were also run without public assistance. Omitting public assistance produced no change in the results.

Health status was collected at the time of interview. Early models included health status at interview, but none of the coefficients were statistically significant and therefore not included in the models presented here.

Unlike earlier studies, L.A.FANS-1 collected information on the duration of insurance spells in progress at the start of the EHC. Thus, our models include exposure months for each respondent during all spell that fall within the two-year observation period, including the full duration of exposure for spell that began prior to the start of the EHC. This approach is comparable to an increment-decrement life table in which individuals' exposure is counted in the model beginning at the duration at which they are first observed in the EHC.[24] This approach allows us to examine both shorter and longer spells. For immigrants who arrived in U.S. during the observation period, exposure was counted from the date of immigration. Duration in a spell was coded as a set of dummy variables: 0 to 1, 1 to 2, 2 to 3, 3 to 4, 4 to 5, 5 to 10, and 10 to 20 years. Duration categories were chosen based on visual inspection of the survival curves. Likelihood ratio tests comparing a discrete functional form versus other functional forms such as Weibull and exponential showed that models with duration in discrete form produced the best fit.

Analyses

Statistical analyses were done in STATA.[25] Multivariate logit models predicting gaining and losing insurance were used to obtain relative risks adjusted for socioeconomic

characteristics. Variables controlling for the oversample of poor households and households with children, and variables related to non-response were included in the model.[26]

**Results**

Health Insurance Transitions Among Immigrants

As in previous studies, the foreign-born population in L.A.FANS-1 is less likely to be insured. At interview, 69% of undocumented immigrants, 37% of legal residents, 22% of naturalized citizens and only 17% of U.S. native born were uninsured (Table 1). These differences can also be seen throughout the two year observation period. Among respondents who are uninsured at the start of the period, 82% of both undocumented and of naturalized citizens and 75% of legal residents remain uninsured for the entire two years, compared to 65% of the native born. Figure 1a shows the survival curve for those not insured at the beginning of observation, i.e., proportion remaining uninsured at each duration observed during the two year period. For ease of presentation only the first health insurance spell in the observation period (i.e., 86% of all insurance spells) is included in Figure 1. Undocumented immigrants and legal residents remain uninsured much longer than the native born and naturalized citizens. By 29 months, 50% of the native born had obtained insurance and by 43 months over 50% of the naturalized citizens were covered. Legal residents and undocumented immigrants do not reach the 50% insured mark until 73 and 78 months, respectively.

Figure 1b presents the survival curve for those who were insured at the beginning of observation. Figures 1a and 1b combined show that, for all immigrant statuses, keeping insurance is easier than initially obtaining it. Among respondents who are insured at the start of the period, 93% of the native born remained insured throughout the two year period compared to 90% of naturalized citizens and undocumented immigrants and 89% of legal residents. As seen

in Figure 1b, the undocumented and legal residents have shorter insured spells, indicating that they have a harder time keeping their coverage. Over 50% of the undocumented immigrants and legal residents lost their coverage by 69 months and 164 months, respectively, after obtaining it. However, over 50% of the native born and naturalized citizens had remained insured for more than 200 months.

Characteristics of the Uninsured and Immigrants

Are disparities in coverage by immigrant status due to socioeconomic and demographic differences between immigrants and non-immigrants? Table 1 shows the characteristics of insured and uninsured respondents at interview. The results are consistent with previous research. Ethnic minorities, men, those with lower education and lower levels of family income and non-housing assets, young and never married respondents, those not employed, part-time workers, and those in lower status occupations are less likely to be insured. Table 1 also shows that coverage varied greatly among immigrants by legal status. Undocumented immigrants are only half as likely as legal residents to be insured. Naturalized citizens are more likely to be insured than other immigrants, but not as likely as the native born. Table 2 examines the characteristics of immigrant status groups. The results show that immigrants are more likely to have characteristics shown in Table 1 to be related to being uninsured, including being male, young and single, having lower education, income and non-housing assets, and working in lower status jobs. Immigrant status groups also differ considerably from each other. Undocumented immigrants and legal residents are more likely to have the characteristics associated with being uninsured than naturalized and native born citizens.

Obtaining Insurance Coverage

Table 3 presents unadjusted and adjusted relative risks. The unadjusted results show the relative risk that an uninsured individual will become insured with no controls for SES variables, using a multivariate logistic regression. The same type of model was used to generate relative risks that are adjusted for characteristics listed in Table 1. We present unadjusted relative risks only for immigration status and adjusted relative risks for immigrant status and selected time varying independent variables shown to affect health insurance eligibility in past research (e.g., employment status, pregnancy). The unadjusted relative risks show that uninsured undocumented immigrants and legal residents are significantly less likely to become insured than the native born. The adjusted results show undocumented immigrants and legal residents remain significantly less likely to gain insurance even when other covariates affecting health insurance eligibility are held constant, although the effects are smaller in magnitude. Undocumented immigrants have a 70% lower relative risk of gaining insurance and legal residents have a 52% lower relative risk of gaining insurance, compared with the native born.

Family structure also significantly affects the relative risk of becoming insured. Pregnancy increases the relative risk of women obtaining insurance more than 5 times compared to men and non-pregnant women. Respondents with children aged 3 to 12 are significantly less likely to gain insurance than respondents who do not have children aged 3 to 12. In contrast to previous research, current employment status does not significantly affect the relative risk of gaining insurance.[18] Lagged employment variables indicating whether a respondent worked full time, part time or were not employed in the preceding 1, 3 and 6 months were included in the models to control for the possibility of delay between beginning a new job and obtaining insurance. The coefficients were not significant (results not shown) and these variables are not included in the model.

Losing Insurance Coverage

The second two columns in Table 3 show the unadjusted and adjusted relative risks of losing insurance coverage for those who are insured. The unadjusted relative risks show that undocumented immigrants and legal residents are significantly more likely to lose insurance than the native born. After adjusting for other insurance eligibility covariates and socioeconomic status, only undocumented immigrants have a significantly higher relative risk (2.18) of losing insurance. Legal residents border on having significantly higher odds of losing insurance compared to the native-born. Naturalized citizens do not significantly differ from the native-born in their relative risks of losing insurance. Respondents with a child aged 0 to 2 had a significantly higher relative risk (2.7) of losing their insurance compared to respondents who did not have a child aged 0 to 2.

**Discussion**

In this article, we have examined the process of obtaining and losing health insurance coverage for immigrants and native born Americans in Los Angeles County. As in previous studies, we found that immigrants are much less likely to be insured at any point in time than the native born population.[7, 8, 10] Unlike most previous studies,[7, 10, 12] the L.A.FANS data allow us to distinguish among immigrant groups based on their legal status. Our results show that the process of gaining and losing insurance differs substantially between immigrant groups. Undocumented immigrants have the highest uninsured rates (Table 1) and are most disadvantaged in socioeconomic terms (Table 2). They have much more difficulty obtaining and keeping insurance even after adjustment for other factors affecting insurance eligibility (Table 3).

The significant effect of being undocumented on gaining and losing insurance even when controlling for their socioeconomic disadvantage has important implications for research and policy. Most national surveys do not routinely collect information on legal status.[9, 10] Our results suggest that this information is essential because the dynamics of health insurance coverage differ substantially based on legal status. Future research should also examine the relative importance of ineligibility for public insurance, type of employment, and other factors (e.g., fear of providing personal information necessary to obtain insurance) as causes of high uninsurance rates for undocumented immigrants.

Legal residents are also significantly less likely to gain health insurance than the native-born. Keep in mind that the gap between legal residents and other groups is likely to be considerably smaller in Los Angeles than in the rest of the nation because California continued to fund Medicaid benefits to legal residents arriving after the enactment of PRWORA.[16, 17] Our results show that even though benefits continue to be available, legal residents continued to be considerably less likely to have health insurance. They may avoid using public insurance for fear that it will be used against them in future citizenship applications.[11, 27] Thus, although legal residents are eligible for public and employer based coverage, they decide not to apply. Legal residents may also be more likely to lose insurance than the native born, although our findings border on significance when other covariates affecting health insurance eligibility are held constant. For legal residents, future research and public policy should focus on initial barriers to gaining insurance and determining whether or not they are less likely to retain insurance. Similarly, research should further examine how the process of gaining and retaining insurance might differ for legal residents compared to the undocumented.

Our results also indicate that naturalized citizens are less likely to have insurance primarily because they have characteristics that decrease their eligibility for insurance compared with native born Americans. Once adjusted for socioeconomic status naturalized citizens are not statistically significantly different from the native born in their ability to gain or lose insurance (Table 3). This finding reinforces the argument that naturalized citizens' lack of insurance is largely due to their disadvantaged employment and socioeconomic position.[7, 8, 14] Therefore, policies that focus on extending insurance coverage to the working poor will increase insurance rates among naturalized citizens.

Finally, our results illustrate the importance in moving beyond cross-sectional analyses to examine the process of obtaining and losing insurance. As our results for immigrant subgroups show, these two processes may differ in ways that lead to different policy prescriptions. We also found that once people maintain insurance for a year or more they are significantly less likely to lose insurance (results not shown). Analyses of movement on to and off of health insurance are particularly important for vulnerable groups, such as undocumented immigrants and the poor, because continuity of coverage is likely to have important effects on access to primary care by disrupting an ongoing relationship with the provider. For example, the Commonwealth 2001 Health Insurance Survey found that 31% of respondents with a recent spell of uninsurance did not report a regular source of care compared to 16% of those who were insured all year.[6] Determining the population that moves frequently on to and off of health insurance or changes insurance type helps us identify groups at risk of compromised access.

About the Authors
Julia C. Prentice and Anne R. Pebley are with the Department of Community Health Sciences, University of California, Los Angeles. Anne R. Pebley and Narayan Sastry are with the RAND Corporation, Santa Monica, CA.

Requests for reprints should be sent to Julia C. Prentice, UCLA School of Public Health, Department of Community Health Sciences, Box 951772, CHS 41-257, Los Angeles, CA 90095-1772 or jprentic@ucla.edu.

Contributors
J.C. Prentice and A.R. Pebley conceived of the study and interpreted findings. J. C. Prentice conducted analyses and wrote initial drafts of the manuscript. A. R. Pebley supervised analyses, synthesized results and revised drafts of the manuscript. N. Sastry provided statistical help to accurately control for the survey design in analyses.

Human Participant Protection
The data are publicly available at http://www.lasurvey.rand.org/, contain no personal identifiers and are exempt from human subjects approval protocol. The exemption from undergoing IRB approval was obtained by the UCLA institutional review board.

Acknowledgments
L.A.FANS-1 was funded by NICHD, NIH/OBSSR, DHHS/OASPE, and NIA. The authors gratefully acknowledge the L.A. FANS research group at UCLA, especially Robert Mare, and three anonymous reviewers for their helpful comments on earlier drafts of this work.

## References

1. Kasper JD, giovannini TA, Hoffman C. Gaining and Losing Health Insurance: Strengthening the Evidence for Effects on Access to Care and Health Outcomes. *Med Care Res and Rev*. 2000;57:298-318.

2. Sudano, Jr. JJ, Baker DW. Intermittent Lack of Health Insurance Coverage and Use of Preventive Services. *Am J Public Health* 2003;93:130-137.

3. Ayanian JZ, Weissman JS, Schneider EC, Ginsburg JA, Zaslavsky AM. Unmet Health Needs of Uninsured Adults in the United States. *JAMA* 2000;284:2061-2069.

4. Schoen C, DesRoches C. Uninsured and Unstably Insured: The Importance of Continuous Insurance Coverage. *Health Serv Res.* 2000;35:186-206.

5. Hoffman C, Schoen C, Rowland D, Davis K. Gaps in Health Coverage Among Working-Age Americans and the Consequences. *J Health Care Poor Underserved* 2001;12:272-289.

6. Duchon L, Schoen C, Doty MM, Davis K, Strumpf E, Bruegman S. *Security Matters: How Instability in Health Insurance Puts U.S. Workers At Risk*: The Commonwealth Fund; 2001 54.

7. Brown ER, Ponce N, Rice T, Lavarreda SA. *The State of Health Insurance in California: Findings from the 2001 California Health Interview Survey*. Los Angeles, CA: UCLA Center for Health Policy Research; 2002 86.

8. Thamer M, Richard C, Casebeer AW, Ray NF. Health Insurance Coverage among Foreign-Born US Residents: The Impact of Race, Ethnicity and Length of Residence. *Am J Public Health* 1997;87:96-102.

9. Brown ER, Ponce N, Rice T. *The State of Health Insurance in California: Recent Trends, Future Prospects.* Los Angeles: UCLA Center for Health Policy Research; 2001 94.

10. Carrasquillo O, Carrasquillo AI, Shea S. Health Insurance Coverage of Immigrants Living in the United States: Differences by Citzenship Status and Country of Origin. *Am J Public Health* 2000;90:917-923.

11. Ku L, Frelich A. *Caring for Immigrants: Health Care Safety Nets in Los Angeles, New York, Miami, and Houston*. Washington D.C.: The Henry J. Kaiser Family Foundation; 2001 25.

12. Ku L, Matani S. Left Out: Immigrants' Access to Health Care and Insurance. *Health Aff.* 2001;20:247-256.

13. Glied SA. Challenges and Option for Increasing the Number of Americans with Health Insurance. *Inquiry* 2001;38:90-105.

14. Angel RJ, Angel JL, Markides KS. Stability and Change in Health Insurance Among Older Mexican Americans: Longitudinal Evidence from the Hispanic Established Populations for Epidemiologic Study of the Elderly. *Am J Public Health* 2002;92:1264-1271.

15. Brown ER, Wyn R, Yu H, Valenzuela A, Dong L. Access to Health Insurance and Health Care for Immigrant Children. In: Hernandez D, editor. *Children of Immigrants: Health, Adjustment, and Public Assistance*. Washington, CD: National Academy Press; 1999. 126-186.

16. Ellwood MR, Ku L. Welfare and Immigration Reforms: Unintended Side Effects For Medicaid. *Health Aff*. 1998;17:137-151.

17. Fix M, Passel J. *The Scope and Impact of Welfare Reform's Immigrant Provisions*. Washington D.C.: The Urban Institute; 2002 44.

18. Swartz K, Marcotte J, McBride TD. Personal Characteristics and Spells Without Health Insurance. *Inquiry* 1993;30:64-76.

19. McBride TD. Uninsured Spells of the Poor: Prevalence and Duration. *Health Care Financ Rev*. 1997;19:145-160.

20. Sastry N, Ghosh-Dastidar B, John Adams, Pebley AR. *The Design of a Multilevel Longitudinal Survey of Children, Families, and Communities: The Los Angeles Family and Neighborhood Survey*,. Santa Monica: RAND Corporation; 2003 52. www.lasurvey.rand.org/publications.htm

21. Pebley AR, Sastry N. *The Los Angeles Family and Neighborhood Survey: Household Questionnaires*. Santa Monica: RAND Corporation; 2003 343. www.lasurvey.rand.org/publications.htm

22. Allison PD. *Survival Analysis Using the SAS System: A Practical Guide*. Gary, NC: SAS Institute Inc.; 1995.

23. Los Angeles County Department of Public Social Services. 2002. http://www/ladpss.org

24. Namboodiri K, Suchindran CM. *Life Table Techniques and Their Application*. New York: Academic Press; 1997.

25. Statacorp. *Stata Statistical Software: Release 7.0*. College Station, TX: Stata Corporation; 2001.

26. Sastry N, Pebley AR. *Non-Response in the Los Angeles Family and Neighborhood Survey*. Santa Monica: RAND Cooporation; 2003 44. www.lasurvey.rand.org/publications.htm

27. Hagan J, Rodriguez N, Capps R, Kabiri N. The Effects of Recent Welfare and Immigration Reforms on Immigrants' Access to Health Care. *International Migration Review* 2003;37:444-463.

Figure Legends:

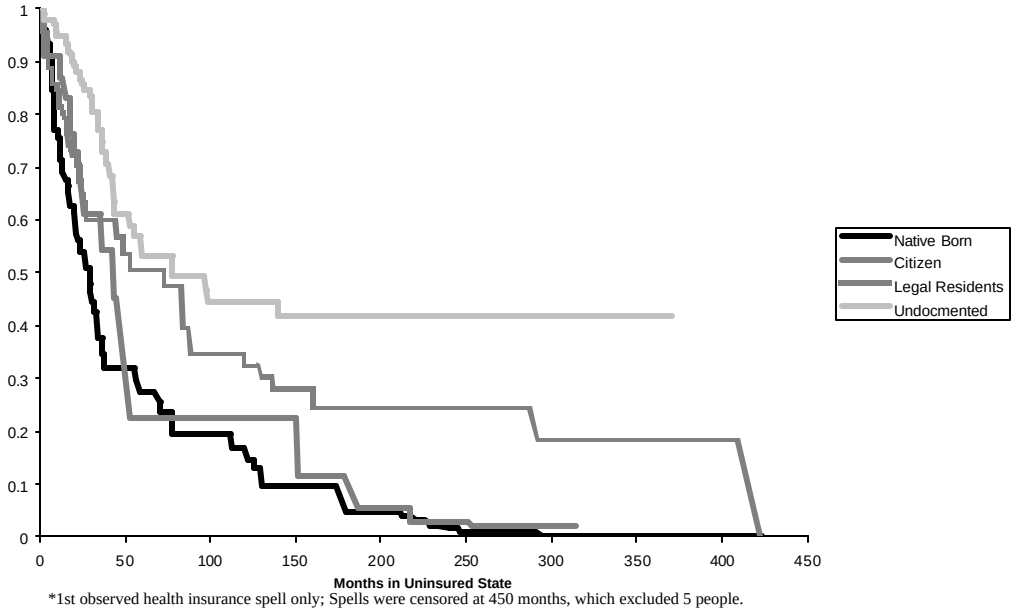
Figure 1A: Survivor Function Predicting Exiting an Uninsured State*, L.A.FANS 2000-2001 (Adults 18-64, N=723)

*1st observed health insurance spell only. Spells were censored at 450 months, which excluded 5 people

Figure 1B: Survivor Function Predicting Exiting an Insured State*, L.A.FANS 2000-2001 (Adults 18-64, N=1398)

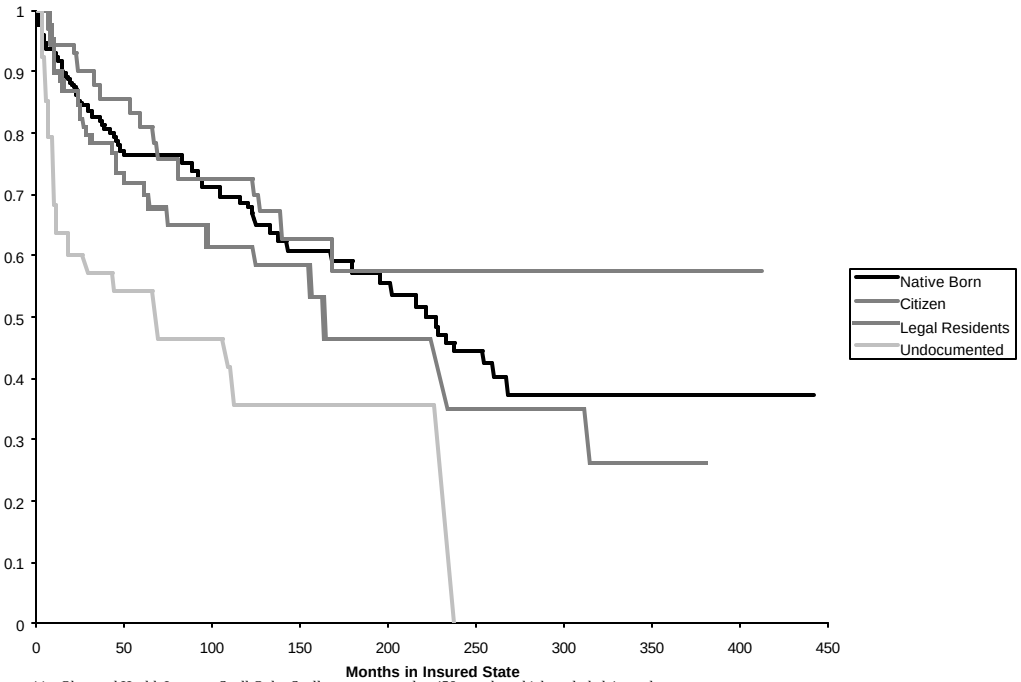
*1st observed health insurance spell only. Spells were censored at 450 months, which excluded 4 people

**Figure 1A: Survivor Function Predicting Exiting an Uninsured State*, L.A. FANS 2000-2002**
**(Adults 18-64, N=723)**




*1st observed health insurance spell only; Spells were censored at 450 months, which excluded 5 people.

**Figure 1B: Survivor Function Predicting Exiting an Insured State*, L.A. FANS 2000-2001**
**(Adults 18-64; N=1398)**




*1st Observed Health Insurace Spell Only; Spells were censored at 450 months, which excluded 4 people.

**Table 1: Characteristics of the Uninsured at Time Of Interview: Los Angeles Family and Neighborhood Survey, 2000-2001, (Adults 18-64, n=2130)**

| | Health Insurance Coverage | | |
|---|---|---|---|
| | Uninsured % or median (n)* | Insured % or median (n) | Total % (n) |
| Citizenship status | | | |
| Undocumented immigrants | 69 (287) | 31 (90) | 11 (377) |
| Legal residents | 37 (199) | 63 (254) | 16 (453) |
| Naturalized citizens | 22 (59) | 78 (256) | 16 (315) |
| U.S. native born | 17 (142) | 83 (843) | 57 (985) |
| Language of interview | | | |
| English | 19 (215) | 81 (1111) | 76 (1326) |
| Spanish | 53 (472) | 47 (332) | 24 (804) |
| Race | | | |
| Latino | 42 (562) | 58 (638) | 39 (1200) |
| White | 14 (61) | 86 (484) | 35 (545) |
| Black | 22 (35) | 78 (176) | 11 (211) |
| Asian/Pacific Islander or Other | 21 (29) | 79 (145) | 15 (174) |
| Gender | | | |
| Male | 31 (312) | 69 (590) | 51 (902) |
| Female | 23 (375) | 77 (853) | 49 (1228) |
| Educational Attainment | | | |
| Less than high school | 50 (394) | 50 (334) | 22 (728) |
| High school graduate | 29 (151) | 71 (334) | 23 (485) |
| Some college | 21 (103) | 79 (420) | 32 (523) |
| College graduate or post graduate | 11 (39) | 89 (355) | 23 (394) |

| | | | |
|---|---|---|---|
| Age | | | |
| Less than 24 years old | 33 (124) | 67 (182) | 18 (306) |
| 25-44 years old | 31 (461) | 69 (872) | 51 (1333) |
| 45-64 years old | 17 (102) | 83 (389) | 32 (491) |
| Median family income** | $13,200 (687) | $35,000 (1443) | $26,700 (2130) |
| Median family non-housing assets | $1,500 (687) | $12,000 (1443) | $6,000 (2,130) |
| Marital status | | | |
| Never married | 38 (306) | 62 (394) | 35 (700) |
| Married | 19 (316) | 81 (865) | 53 (1181) |
| Divorced or widowed | 29 (65) | 71 (184) | 13 (249) |
| Child aged 0-2 in household | | | |
| Yes | 29 (153) | 71 (288) | 12 (441) |
| No | 27 (534) | 73 (1155) | 88 (1689) |
| Child aged 3-12 in household | | | |
| Yes | 27 (329) | 73 (669) | 27 (998) |
| No | 27 (358) | 73 (774) | 73 (1132) |
| Child aged 13-17 in household | | | |
| Yes | 19 (112) | 81 (354) | 14 (466) |
| No | 28 (575) | 72 (1089) | 86 (1664) |

| | | | |
|---|---|---|---|
| Pregnant | | | |
| Yes | 15 (2) | 85 (16) | 1 (18) |
| No | 27 (685) | 73 (1427) | 100 (2112) |
| New child born after start of two year interval | | | |
| Yes | 28 (103) | 72 (208) | 9 (311) |
| No | 27 (584) | 73 (1235) | 91 (1819) |
| Receiving public assistance | | | |
| Yes | 18 (78) | 82 (196) | 8 (274) |
| No | 28 (609) | 72 (1247) | 92 (1856) |
| Employment status | | | |
| Not employed | 37 (241) | 63 (350) | 24 (591) |
| Working part time | 27 (88) | 73 (173) | 13 (261) |
| Working full time in low status occupation | 30 (280) | 70 (446) | 33 (726) |
| Working full time in high status occupation | 16 (78) | 84 (474) | 31 (552) |
| Number of months in current insurance spell | | | |
| 0-12 months | 41 (101) | 59 (118) | 10 (219) |
| 13-24 months | 50 (148) | 50 (118) | 10 (266) |
| 25-36 months | 40 (134) | 60 (195) | 15 (329) |
| 37-48 months | 9 (30) | 91 (140) | 8 (170) |
| 49-60 months | 29 (29) | 71 (88) | 7 (117) |
| 61-120 months | 24 (100) | 76 (325) | 18 (425) |
| 121-240 months | 20 (114) | 80 (307) | 20 (421) |
| 241 or more months | 7 (31) | 93 (152) | 12 (183) |

*Unweighted Ns and weighted percentages are reported. Percentages may not add up to 100 due to rounding.

** Family income is total family income for all sources except income from assets. Family assets represent the dollar value of all non-housing assets. 24% of the sample reported $0 in family income and 30% of the sample reported $0 in non-housing assets. These cases are included in the calculation of median income and non-housing assets.

**Table 2: Characteristics by Citizenship Status at Interview: Los Angeles Family and Neighborhood Survey, 2000-2001, (Adults 18-64, n=2130)**

| | Citizenship Status | | | | |
|---|---|---|---|---|---|
| Language of interview | Undocumented Immigrants % (n)* | Legal residents % (n) | Naturalized Citizen Immigrants % (n) | U.S. Native Born % (n) | Total % (n) |
| English | 5 (15) | 49 (143) | 79 (210) | 97 (958) | 76 (1326) |
| Spanish | 95 (362) | 51 (310) | 21 (105) | 3 (27) | 24 (804) |
| Race | | | | | |
| Latino | 98 (369) | 67 (373) | 37 (173) | 20 (285) | 39 (1200) |
| White | 1 (4) | 9 (33) | 15 (56) | 55 (452) | 35 (545) |
| Black | 0 (0) | 2 (7) | 3 (5) | 17 (199) | 11 (211) |
| Asian/Pacific Islander or Other | 2 (4) | 22 (40) | 46 (81) | 8 (49) | 15 (174) |
| Gender | | | | | |
| Male | 59 (170) | 55 (202) | 44 (130) | 50 (400) | 51 (902) |
| Female | 41 (207) | 45 (251) | 56 (185) | 50 (585) | 49 (1228) |
| Educational attainment | | | | | |
| Less than high school | 66 (271) | 40 (250) | 19 (84) | 9 (123) | 22 (728) |
| High school graduate | 25 (83) | 22 (97) | 19 (64) | 25 (241) | 23 (485) |
| Some college | 5 (14) | 22 (56) | 34 (82) | 39 (371) | 32 (523) |
| College graduate or post graduate | 3 (9) | 16 (50) | 28 (85) | 27 (250) | 23 (394) |
| Age | | | | | |
| Less than 24 years old | 25 (74) | 16 (46) | 5 (12) | 20 (174) | 18 (306) |
| 25-44 years old | 69 (284) | 59 (315) | 46 (182) | 46 (552) | 51 (1333) |
| 45-64 years old | 6 (19) | 25 (92) | 50 (121) | 34 (259) | 32 (491) |

| | | | | | |
|---|---|---|---|---|---|
| Median family income** | $12,000 (377) | $23,000 (453) | $36,000 (315) | $34,030 (985) | $26,700 (2130) |
| Median family non-housing assets | $0 (377) | $4,000 (453) | $14,000 (315) | $12,000 (985) | $6,000 (2130) |
| Marital status | | | | | |
| Never married | 52 (179) | 34 (132) | 16 (52) | 37 (337) | 35 (700) |
| Married | 42 (178) | 60 (287) | 71 (223) | 47 (493) | 53 (1181) |
| Divorced or widowed | 6 (20) | 7 (34) | 13 (40) | 16 (155) | 13 (249) |
| Child aged 0-2 in household | | | | | |
| Yes | 22 (111) | 15 (103) | 10 (49) | 11 (178) | 12 (441) |
| No | 78 (266) | 85 (350) | 90 (266) | 89 (807) | 88 (1689) |
| Child aged 3-12 in household | | | | | |
| Yes | 37 (214) | 34 (237) | 33 (154) | 22 (393) | 27 (998) |
| No | 63 (163) | 66 (216) | 67 (161) | 78 (592) | 73 (1132) |
| Child aged 13-17 in household | | | | | |
| Yes | 10 (56) | 16 (106) | 28 (109) | 11 (195) | 14 (466) |
| No | 90 (321) | 84 (347) | 72 (206) | 89 (790) | 86 (1664) |
| Pregnant | | | | | |
| Yes | 1 (7) | 1 (5) | 1 (2) | 1 (4) | 1 (18) |
| No | 99 (370) | 99 (448) | 99 (313) | 100 (981) | 100 (2112) |

| | | | | | |
|---|---|---|---|---|---|
| New child born after start of two year interval | | | | | |
| Yes | 16 (81) | 12 (76) | 8 (33) | 7 (121) | 9 (311) |
| No | 84 (296) | 88 (377) | 92 (282) | 93 (864) | 91 (1819) |
| Receiving public assistance | | | | | |
| Yes | 7 (58) | 5 (53) | 5 (29) | 10 (134) | 8 (274) |
| No | 93 (319) | 95 (400) | 95 (286) | 90 (851) | 92 (1856) |
| Employment status | | | | | |
| Not employed | 25 (134) | 28 (151) | 21 (68) | 23 (238) | 24 (591) |
| Working part time | 8 (27) | 14 (61) | 9 (38) | 14 (135) | 13 (261) |
| Working full time in low status occupation | 63 (200) | 40 (189) | 39 (113) | 23 (224) | 33 (726) |
| Working full time in high status occupation | 4 (16) | 18 (52) | 31 (96) | 39 (388) | 31 (552) |
| Number of months in current insurance spell | | | | | |
| 0-12 months | 17 (53) | 13 (56) | 7 (23) | 8 (87) | 10 (219) |
| 13-24 months | 19 (79) | 10 (64) | 9 (30) | 8 (93) | 10 (266) |
| 25-36 months | 24 (76) | 14 (71) | 14 (45) | 14 (137) | 15 (329) |
| 37-48 months | 5 (22) | 11 (33) | 7 (23) | 9 (92) | 8 (170) |
| 49-60 months | 6 (19) | 7 (25) | 6 (18) | 8 (55) | 7 (117) |
| 61-120 months | 14 (64) | 19 (95) | 26 (75) | 17 (191) | 18 (425) |
| 121-240 months | 15 (56) | 23 (86) | 23 (73) | 19 (206) | 20 (421) |
| 241 or more months | 1 (8) | 4 (23) | 9 (28) | 18 (124) | 12 (183) |

*Unweighted Ns and weighted percentages are reported. Percentages may not add up to 100 due to rounding.

** Family income is total family income for all sources except income from assets. Family assets represent the dollar value of all non-housing assets. 24% of the sample reported $0 in family income and 30% of the sample reported $0 in non-housing assets. These cases are included in the calculation of median income and non-housing assets.

**Table 3: Unadjusted and Adjusted Relative Risks and 95% Confidence Interval of Models Predicting Uninsured to Insured Transition and Insured to Uninsured Transition, L.A. FANS 2000-2001, (Adults aged 18-64 years old; n=2418 )***

| | Unadjusted Uninsured to Insured Transition (N=848) | | Adjusted Uninsured to Insured Transition (N=848) | | Unadjusted Insured to Uninsured Transition (N=1570) | | Adjusted Insured to Uninsured Transition (N=1570) | |
|---|---|---|---|---|---|---|---|---|
| Independent Variables | R.R^. | 95% C.I. | A.R.R | 95% C.I. | R.R | 95% C.I. | A.R.R | 95% C.I. |
| **Immigration Status (ref=Native born)** | | | | | | | | |
| Undocumented | 0.20 | (0.10, 0.39) | 0.30 | (0.14, 0.65) | 3.59 | (2.00, 6.47) | 2.18 | (1.04, 4.60) |
| Legal Residents | 0.33 | (0.16, 0.66) | 0.48 | (0.23, 0.99) | 2.22 | (1.05, 4.70) | 1.92 | (0.92, 4.03) |
| Citizen | 0.51 | (0.26, 1.02) | 0.60 | (0.26, 1.41) | 1.71 | (0.88, 3.33) | 1.37 | (0.73 2.55) |
| **Time Varying Covariates** | | | | | | | | |
| Has child aged 0-2 in household (ref=no child aged 0-2 in household) | | | 0.77 | (0.38, 1.56) | | | 2.72 | (1.10, 6.71) |
| Has child aged 3-12 in household (ref= no child aged 3-12 in household) | | | 0.55 | (0.30, 1.00) | | | 0.94 | (0.49, 1.79) |
| Has child aged 13-17 in household (ref=no child aged 13-17 in household) | | | 0.87 | (0.43, 1.73) | | | 1.68 | (0.76, 3.74) |
| Pregnant (ref=not pregnant) | | | 5.84 | (3.08, 11.05) | | | 1.17 | (0.66, 2.09) |
| New child born after start of two year interval (ref=no new child born after two year interval start date) | | | 0.55 | (0.22 1.37) | | | 1.79 | (0.84, 3.81) |
| Received public assistance (ref=did not receive public assistance) | | | 1.64 | (0.84, 3.23) | | | 0.58 | (0.28, 1.17) |
| Employment status (ref= not employed) | | | | | | | | |
| Working part time | | | 0.70 | (0.36, 1.36) | | | 0.71 | (0.37, 1.39) |

| | | | | |
|---|---|---|---|---|
| Working full time in low status occupation | 0.80 | (0.49, 1.29) | 0.83 | (0.44, 1.55) |
| Working full time in high status occupation | 1.24 | (0.59, 2.60) | 1.10 | (0.55, 2.21) |

*Models were multivariate logit models.
Taking the interview in English, gender, race, education, age, marital status, log of family income, reporting $0 for family income, log of non-housing assets, reporting $0 for non-housing assets and length of time spent in current insurance spells are also controlled for in models.
Results are representative for Los Angeles County because differential probabilities of selection and response are controlled for by including variables important in sampling eligibility and non-response directly in the model. This includes households with children, census tract of residence, respondent type, gender, race, age, marital status and interactions between these variables.
^R.R stands for relative risk, A.R.R. stands for adjusted relative risk.