

Occupational Status and Health Insurance Among Immigrants: Effects by Generation, Length of Residence in U.S., and Race

Dennis T. Kao · Julie Park · SeongHee Min ·
Dowell Myers

Published online: 16 September 2008
© Springer Science+Business Media, LLC 2008

Abstract *Background* The occupational mobility of immigrants may be an important link between length of US residence/generation and health insurance status. *Methods* 2003 and 2005 Current Population Survey data are analyzed to assess the relationship between occupation and length of residence/generation and their association with health insurance for immigrant workers. Using a decomposition method, we measure how much of the differences in coverage are due to length of residence/generation versus occupation. *Results* Newly-arrived immigrants have lower insurance rates across all occupations, compared to longer-settled immigrants and native-born persons. Improvements are observed among immigrants with longer length of residence while the second generation reaches parity with the third+ generations. Coverage differs by occupation, with high-skilled occupations maintaining high levels and lower-skilled occupations experiencing the largest gains. While differences in coverage are mostly due to shifts in length of residence, occupational attainment makes significant

contributions—particularly among Hispanics. *Discussion* The inclusion of occupational status increases understanding of the role that length of residence/generation plays in determining insurance status.

Keywords Immigrants · Health insurance · Occupation · Immigrant duration and generation · Race

Introduction

The uncertain health insurance status of the immigrant population is well-documented in the literature. Immigrants remain a vulnerable population, encountering lower rates of health insurance coverage than the native-born population—even after adjusting for demographic and socioeconomic characteristics [1, 2]. Immigrants who have lived a longer time in the US have higher rates of insurance coverage, suggesting that any initial disadvantage is temporary and dissipates over time [3, 4]. Subsequent immigrant generations, e.g. second, third, etc., are also more likely to be insured than members of the first generation [5]. However, much of the research has simply interpreted length of US residence/generation as the effects of acculturation without investigating further other concurrent processes that may be associated with increased experience in the US [6]. Consequently, the underlying explanations for why insurance coverage improves with longer length of US residence or across generations are not well understood.

For the majority of the nation's population, health insurance is tied to a person's employment. In 2006, 60% of Americans had employment-based insurance coverage while another 9% had the financial means to purchase

D. T. Kao (✉)
School of Social Work and the Population Dynamics Research
Group, University of Southern California, 3518 Trousdale Pkwy,
VKC 376, Los Angeles, CA 90089-0626, USA
e-mail: denniska@usc.edu

J. Park
Department of Sociology and Asian American Studies Program,
University of Maryland, College Park, MA, USA

S. Min · D. Myers
School of Policy, Planning & Development and the Population
Dynamics Research Group, University of Southern California,
Los Angeles, CA, USA

their own private insurance [7]. In the case of many households, family members would get their health benefits through the primary wage earner's employment [8]. However, not all jobs offer health insurance and thus, the type of employment is an important factor. While full-time employment is usually a prerequisite [1, 9–11], research shows that individuals with higher-level jobs or occupations are more likely to be insured [5, 12–18]. For example, a greater proportion of workers in high-skilled jobs have health insurance compared to those in low-skilled jobs [12].

Given the importance of one's job, the occupational mobility of immigrants might be seen as a potentially critical link between length of US residence/generation and health insurance coverage. Immigrants—particularly, more newly-arrived immigrants—are more likely to be concentrated in low-wage jobs and in some cases, move “downward” upon initial entry into the US labor market (compared to their pre-migration job status) [19–21]. As a result, immigrants are less likely to work for an employer that offers health benefits, compared to the native-born population [16, 17] or have employment-based coverage [3]. However, a growing body of literature shows that immigrants are economically mobile and eventually move into better jobs with increased length of US residence [19, 20, 22]. As their occupational status improves, immigrants are likely to increase their probability of getting benefits through their employment.

This paper examines the employer-based insurance coverage of immigrant adults and its variation in relation to occupational status (an indicator of economic mobility into job categories with generally better benefits) and length of US residence/generation (a proxy for labor market experience or seniority that may lead to specific jobs with better benefits). By studying the intervening role of occupational status, we aim to increase understanding of differences of the effects of varying length of US residence/generation on insurance coverage. We focus on the likelihood that a person's job will provide their primary health coverage, exploring this by race/ethnicity, age, and other factors. Next, we assess whether the effects of length of US residence/generation on being a policyholder differ between specific occupation categories. Finally, we examine the extent to which the change in policyholder status is due to shifts in occupational status or shifts in length of US residence/generation. This research provides a better understanding of the ways in which growing length of US residence improves health insurance coverage, both through occupational mobility and through lengthening seniority and US experience with the same occupation.

Methods

Data

Our sample consists of full-time workers aged 18–64 from the Current Population Survey (CPS). The CPS is a monthly survey of the civilian non-institutional population ages 16 years and older that is conducted jointly by the Bureau of Labor Statistics and U.S. Census Bureau. The March Supplements of the 2003 and 2005 Current Population Surveys (CPS)—which includes information regarding health insurance coverage—were pooled in order to increase our sample size ($n = 162,062$). Due to a 50% sample overlap in the sampling between consecutive years, the 2004 CPS was not used to avoid duplicate cases. Survey respondents are asked separate insurance coverage questions, and thus, can be reported as having two or more different types of health insurance, i.e. employment-based, private, public, etc. Unlike the National Health Interview Survey and other national surveys, the CPS also collects information regarding occupational status.

Measures

Our focus is on the attainment and use of health insurance provided through one's job. The primary outcome is the likelihood of being a primary policyholder of health benefits, either directly supplied through one's employment or privately purchased. The latter category amounts to a small proportion of the sample (3.7%), but is included to account for the self-employed or other individuals with sufficient means to purchase insurance. Non-policyholders include working-aged adults who are not offered benefits through their employment (including the uninsured), are dependents, or receive publicly-funded insurance (e.g. Medicaid). By focusing on primary policyholders, we hope to directly link the individual's occupational status with their own ability to obtain health insurance. This approach is an important improvement upon previous research which tends to assess insurance coverage regardless of whether or not the individual is the primary policyholder [17].

The predictors of interest include the length of US residence, immigrant generation, and occupational status. Foreign-born or first generation individuals are disaggregated by their length of US residence: less than 10 years (termed the “newly-arrived”); 10–19 years; or 20 years or more (termed the “longer-settled”). Due to data limitations, we do not look at shorter intervals for length of US residence. The CPS provides recoded year of entry categories that are 2-year, 3-year, 5-year, 10-year, or open-ended. These unequal ranges make it difficult to group data

into equal intervals smaller than 10 years (e.g. 5 years), especially when pooling data from different years. Since we are interested in looking at differences in primary policyholder status by length of US residence, race/ethnicity, and occupation, the larger 10-year intervals provide more adequate sample sizes for the statistical and decomposition analysis, particularly for the Asian and Pacific Islander (API) population. One advantage of the CPS is the question regarding parental place of birth, which allows us to distinguish the second generation from other native-born residents. For this analysis, the second generation is defined as a U.S.-born person with at least one foreign-born parent and the third-and-higher generations include U.S.-born persons whose parents were both born in the U.S. For occupational status, this analysis utilizes six merged occupation categories: (1) management and professional; (2) service; (3) sales and office; (4) farming, fishing, and forestry; (5) construction, extraction, and maintenance; and (6) production, transportation, and material moving. Individuals who were unemployed, retired, or not in the labor force—and military personnel—were excluded from the analysis.

Several demographic and socio-economic variables are included as control variables, including age, sex, race/ethnicity (i.e. Hispanic persons, non-Hispanic whites, and non-Hispanic APIs), educational attainment (i.e. less than high school, high school graduate, and college graduate), and poverty status (i.e. 0–99%, 100–149%, and >150% of the federal poverty level). Due to their relatively small foreign-born samples sizes, blacks and other races are not in the data tables but are included in the analyses.

Data Analysis

Population estimates are obtained by applying weights provided by the Census Bureau. For the multivariate analysis, logit regression models are utilized due to the dichotomous nature of our outcome. Two primary questions are tested in the logit models: (1) Are occupation and length of US residence/generation significant determinants of primary policyholder status, adjusting for other demographic and socioeconomic variables? and (2) Does the effect of length of US residence/generation differ across distinct occupational categories?

Finally, we apply a components-of-change analysis that decomposes the observed differences in insurance rates between successive categories of immigrant settlement, i.e. between the different length of US residence and generation groups. Specifically, this analysis addresses our third research question: How much of the difference in policyholder status is due to shifts in occupational status or shifts in length of US residence/generation? Kitagawa [23] showed that the aggregate change in prevalence of a given

condition—in this case, policyholder status—can be derived from the compositional change—in this case, occupational category—and the rate of behavior (i.e. primary policyholder status) within each category of the compositional variable. This overall difference from one length of US residence group 1 to the subsequent length of US residence group 2 (or from one generation to the subsequent generation) in the prevalence of being a policyholder can be represented as:

$$P_2 - P_1 = \sum_j P_{2j}c_{2j} - \sum_j P_{1j}c_{1j}$$

where P = probability of being a policyholder, c = occupational type j . The observed differences in insurance rates are then apportioned into two components: the change in relation to differences in insurance rates within occupational categories (holding constant the occupational distribution) and the change based on differences in occupational distribution (holding constant insurance rates within each occupational category). Together, this can be represented as:

$$P_2 - P_1 = \sum_j [(c_{2j} + c_{1j})/2](P_{2j} - P_{1j}) + \sum_j [(P_{2j} + P_{1j})/2](c_{2j} - c_{1j})$$

All of the descriptive and logistic regression analyses were conducted using SAS 9.1; the decomposition of differences was conducted using Microsoft Excel.

Results

Estimates of Occupational Distributions and Policyholder Status

Table 1 presents the distribution of occupations, by race and length of US residence/generation. Similar shares of whites and APIs are in management/professional and sales/office occupations while Latinos are much more likely to be concentrated in service, construction, and production occupations. The occupational distribution among the native-born groups (i.e. 2nd and 3rd+ generations) is similar to that of the total population, with 25.1% in the management/professional occupations and 24.0% in sales/office occupations. Immigrants, on the other hand, are overrepresented in construction and production occupations while underrepresented in management-related jobs. The most common occupations among newly-arrived immigrants (less than 10 years in the US) are service-related (31.5%); the same holds true for longer-settled immigrants, although to a lesser degree.

Table 1 Occupational distribution (in percent) of full-time workers aged 18–64 by length of US residence/generation and race

Sample	Occupation	Total	Foreign born (by length of US residence)				Native born (by generation)		
			Total	0–9 yrs.	10–19 yrs.	20+ yrs.	Total	2nd gen.	3rd+ gen.
Total	Management/professional	25.1	14.0	9.9	13.2	20.4	28.0	30.0	27.9
	Service	19.9	27.4	31.5	27.0	22.3	17.9	17.5	18.0
	Sales/office	24.0	15.5	11.9	15.3	20.5	26.2	27.7	26.0
	Farming/fishing/forestry	1.5	3.4	3.7	3.3	2.9	1.0	1.0	1.0
	Construction/extraction/maintenance	14.6	18.2	21.5	17.6	14.5	13.7	11.3	13.9
	Production/transportation/material moving	14.9	21.6	21.5	23.5	19.5	13.2	12.4	13.3
	Total (<i>n</i> = 162,062)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
White	Management/professional	30.5	30.4	23.2	32.6	35.6	30.5	39.5	30.1
	Service	16.0	19.6	25.6	17.4	15.5	15.9	14.9	15.9
	Sales/office	25.9	22.1	15.4	24.5	26.6	26.1	25.8	26.1
	Farming/fishing/forestry	1.1	0.7	0.9	1.0	0.4	1.1	0.6	1.1
	Construction/extraction/maintenance	14.3	12.6	16.6	11.9	9.3	14.4	11.5	14.5
	Production/transportation/material moving	12.2	14.6	18.3	12.6	12.7	12.1	7.8	12.3
	Total (<i>n</i> = 111,402)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hispanic	Management/professional	10.3	6.0	3.7	6.1	9.6	18.3	18.6	18.2
	Service	26.9	29.9	33.8	28.2	26.1	21.3	20.4	21.8
	Sales/office	17.3	11.4	8.2	11.6	16.1	28.4	29.5	27.8
	Farming/fishing/forestry	3.6	4.9	5.1	4.6	4.8	1.3	1.8	1.0
	Construction/extraction/maintenance	20.1	23.4	26.6	22.2	19.7	14.0	12.8	14.6
	Production/transportation/material moving	21.8	24.5	22.7	27.2	23.6	16.8	16.9	16.7
	Total (<i>n</i> = 22,888)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Asian & Pacific Islanders	Management/professional	32.1	31.6	30.4	28.8	35.4	33.4	35.4	31.1
	Service	21.1	22.3	24.1	24.8	18.3	17.9	17.1	18.7
	Sales/office	24.9	24.3	23.2	23.1	26.3	26.5	28.4	24.4
	Farming/fishing/forestry	0.5	0.7	0.5	0.8	0.7	0.0	0.0	0.0
	Construction/extraction/maintenance	6.0	4.9	3.4	5.8	5.2	9.2	7.6	11.1
	Production/transportation/material moving	15.4	16.2	18.3	16.8	14.1	13.0	11.5	14.6
	Total (<i>n</i> = 7,570)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Data source: 2003 and 2005 Current Population Surveys (March Supplement)

Note: Percents and observations are weighted. Blacks and other races are excluded due to small samples of foreign-born persons (*n* = 703 and *n* = 126, respectively)

Primary policyholder status also varies by both occupation and length of US residence/generation, as shown in Table 2. Immigrants generally have lower rates than the native-born groups with the most newly-arrived immigrants exhibiting the lowest overall rate (40.9%). However, higher proportions of longer-settled immigrants are primary policyholders (61.4%), with rates similar to the total population (65.4%), the second generation (66.3%), and third-and-higher generations (67.9%). In addition, the results show that the second generation has virtually closed the gap with third-and-higher generation workers. This

pattern is consistent across race/ethnicity, however, there are stark differences for the Hispanic population. For example, only 27.7% of newly-arrived Hispanic immigrants are primary policyholders—much lower than Hispanics who are longer-settled immigrants or native-born (54.9% and 60.3%, respectively).

Similar differences between newly-arrived and longer-settled immigrants and between immigrants and native-born persons also occur within each occupation. In general, foreign-born persons are less likely to be policyholders than the native-born population across all the occupations.

Table 2 Percent primary policyholder by occupation, length of US residence/generation, and race

Sample	Occupation	Total	Foreign born (by length of US residence)				Native born (by generation)		
			Total	0-9 yrs.	10–19 yrs.	20+ yrs.	Total	2nd gen.	3rd+ gen.
Total	Management/professional	75.8	73.0	73.3	71.1	74.0	76.2	75.0	76.3
	Service	49.3	38.5	26.8	39.7	51.5	52.7	50.8	52.8
	Sales/office	65.0	54.2	45.1	51.0	61.1	66.2	64.8	66.4
	Farming/fishing/forestry	35.9	26.8	23.5	25.0	33.8	42.0	34.0	42.6
	Construction/extraction/maintenance	56.3	35.1	23.6	35.0	49.7	60.7	58.9	60.8
	Production/transportation/material moving	63.8	48.2	37.8	45.6	60.3	67.9	62.6	68.2
	Total (<i>n</i> = 162,062)	65.4	51.1	40.9	49.1	61.4	67.8	66.3	67.9
White	Management/professional	76.6	74.6	77.0	74.2	73.2	76.6	76.7	76.6
	Service	52.7	46.0	32.3	51.4	56.0	53.0	54.6	53.0
	Sales/office	66.6	59.0	57.9	55.3	61.6	66.8	68.6	66.7
	Farming/fishing/forestry	42.4	38.9	37.5	42.9	33.3	42.5	43.8	42.5
	Construction/extraction/maintenance	61.8	56.9	38.5	59.1	70.2	62.0	63.5	61.9
	Production/transportation/material moving	69.0	58.5	46.4	59.7	67.7	69.4	75.6	69.2
	Total (<i>n</i> = 111,402)	68.8	63.7	58.0	64.2	67.6	69.0	71.3	68.8
Hispanic	Management/professional	70.5	66.7	60.1	60.6	73.1	72.4	70.4	73.3
	Service	38.3	32.4	20.8	34.6	46.2	49.7	44.7	51.7
	Sales/office	57.0	50.1	36.0	45.1	60.8	61.0	60.0	61.5
	Farming/fishing/forestry	25.0	23.6	19.8	22.6	30.5	33.8	16.7	44.7
	Construction/extraction/maintenance	36.1	28.5	20.0	28.9	41.5	51.7	49.9	52.5
	Production/transportation/material moving	48.8	44.3	33.5	42.1	57.6	57.9	52.9	60.1
	Total (<i>n</i> = 22,888)	49.4	40.5	27.7	39.0	54.9	60.3	57.8	61.5
Asian & Pacific Islanders	Management/professional	75.0	74.6	75.4	74.0	74.4	75.9	73.4	78.6
	Service	53.9	49.9	41.2	48.7	57.8	64.0	57.3	68.9
	Sales/office	62.5	57.2	48.2	57.9	61.6	71.6	63.9	77.7
	Farming/fishing/forestry	71.1	62.9	75.0	50.0	61.5	100.0	100.0	100.0
	Construction/extraction/maintenance	63.8	58.6	54.8	53.7	64.3	69.6	66.3	71.8
	Production/transportation/material moving	59.8	58.6	48.5	57.8	66.4	63.3	60.6	65.4
	Total (<i>n</i> = 7,570)	66.3	64.1	60.8	62.6	67.5	71.3	67.2	74.9

Data source: 2003 and 2005 Current Population Surveys (March Supplement) for full-time workers aged 18–64

Note: Percents and observations are weighted. Blacks and other races are excluded due to small samples of foreign-born persons (*n* = 703 and *n* = 126, respectively)

In addition, length of US residence is also an important factor within each occupation where newly-arrived immigrants tend to have lower proportions of policyholders than longer-settled immigrants. For example, in the service-related jobs, 26.8% of all newly-arrived immigrants are primary policyholders compared to 50% of longer-settled immigrants and native-born workers in the same jobs. One notable exception is within management/professional occupation where there are smaller differences between immigrants and native-born persons.

To the extent that certain occupations are more likely to offer health benefits, differences in the occupational

distribution by length of US residence/generation could contribute to large differentials in the rate of primary policyholder status. As Table 2 shows, the highest rates of primary policyholder status are found in the management/professional, sales/office, and production/transportation occupations while the lower rates tend to occur in the service and farming/fishing/forestry occupations. This pattern is consistent across the three racial/ethnic groups, as well as by nativity and length of US residence. As seen earlier in Table 1, the native-born population tends to be concentrated in the occupations that have higher proportion of primary policyholders

Table 3 Logistic regression models predicting primary policyholder status (odd-ratios)

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	2.47*	4.05*	4.21*	4.50*	4.65*
Age group					
15–24	0.32*	0.38*	0.38*	0.40*	0.39*
25–34	0.89*	0.91*	0.92*	0.92*	0.93*
35–44 (ref)	1.00	1.00	1.00	1.00	1.00
45–54	1.16*	1.11*	1.09*	1.10*	1.08*
55–64	1.34*	1.30*	1.28*	1.29*	1.27*
Sex					
Male (ref)	1.00	1.00	1.00	1.00	1.00
Female	0.85*	0.83*	0.82*	0.78*	0.78*
Race/ethnicity					
White (ref)	1.00	1.00	1.00	1.00	1.00
Hispanic	0.48*	0.71*	0.89*	0.74*	0.91*
Black	0.89*	1.07*	1.11*	1.10*	1.13*
Asian & Pacific Islander	0.88*	0.84*	1.13*	0.85*	1.13*
Other	0.70*	0.82*	0.82*	0.84*	0.83*
Education					
Less than high school	–	0.30*	0.32*	0.39*	0.41*
High school graduate	–	0.59*	0.57*	0.69*	0.67*
Bachelor’s degree or higher (ref)	–	1.00	1.00	1.00	1.00
Income					
0–99% of FPL	–	0.25*	0.25*	0.26*	0.27*
100–149% of FPL	–	0.45*	0.46*	0.48*	0.49*
150 + % of FPL (ref.)	–	1.00	1.00	1.00	1.00
Generation/length of US residence					
FB (Less than 10 years)	–	–	0.47*	–	0.49*
FB (10–19 years)	–	–	0.61*	–	0.63*
FB (20+ years)	–	–	0.80*	–	0.82*
NB/2nd generation	–	–	1.00	–	0.98*
NB/3rd+ generation (ref)	–	–	1.00	–	1.00
Occupation					
Management/professional (ref)	–	–	–	1.00	1.00
Service	–	–	–	0.54*	0.56*
Sales/office	–	–	–	0.82*	0.81*
Farming/fishing/forestry	–	–	–	0.37*	0.39*
Construction/extraction/maintenance	–	–	–	0.59*	0.59*
Production/transportation/material moving	–	–	–	0.87*	0.88*
Observations	162,062	162,062	162,062	162,062	162,062
–2 log likelihood	201,130	192,700	191,889	191,161	190,464
BIC	–7,897	–16,279	–17,042	–17,759	–18,407

* $P < 0.01$

Notes: FPL = federal poverty level; FB = foreign-born; NB = native-born; BIC = Bayesian information criterion. The BIC is a measure of model goodness-of-fit with a more negative number indicating a better fitting model [30]

Data source: 2003 and 2005 Current Population Surveys (March Supplement) for full-time workers aged 18–64

(e.g. management/professional and sales/office), while immigrants tend to be in occupations with lower rates (e.g. service). Individuals in the management/professional

occupations have relatively high rates of primary policyholder status, regardless of their length of US residence/generation.

Occupation as a Predictor of Policyholder Status

Having established the demographic and occupational composition of being primary policyholder, this section now addresses our first research question of how occupational status affects policyholder status. Table 3 displays the odds ratios derived from five logistic regression models testing for various determinants of primary policyholder status. Age and gender are significant predictors across all the models, with the older age groups and men being more likely to be a policyholder. In the demographic model (Model 1), all of the racial/ethnic groups are less likely to be policyholder than whites, with Hispanics being less than half as likely (OR = 0.48). Socioeconomic characteristics are added in Model 2, which shows that the odds of being the policyholder are significantly lower for non-college graduates and individuals with family incomes less than 150% of the federal poverty level. After controlling for education and income, the likelihood of being a policyholder increases for both Hispanic and Black workers relative to white workers, indicating that much of these differences is explained by the lower socioeconomic status of Hispanics and Black workers.

Length of US residence and generation are introduced in Model 3 and the results confirm that immigrants—regardless of their length of US residence—are less likely to be a policyholder than the third-and-higher generation. However, longer-settled immigrants (OR = 0.80) are more similar to the third-and-higher generation than newly-arrived immigrants (OR = 0.47). There is also no significant difference between the second and third-and-higher generations. In addition, the initial differences between the racial/ethnic groups are also influenced by the introduction of length of US residence/generation, particularly for APIs and Hispanics—both of which have large immigrant populations. Although still significantly less likely than white workers, the odds for Hispanic workers improve when length of US residence/generation are controlled, rising from an odds-ratio of 0.71 in Model 2 to an odds-ratio of 0.89 in Model 3. The improvement is even greater for API workers, who become 1.13 times more likely to be a policyholder than white workers.

Model 4 introduces the occupational categories to Model 2 (leaving out length of US residence/generation). Compared to managers and professionals, workers in the other occupation are all less likely to be a policyholder—the least likely being those in the farming/fishing/forestry, service, and construction/extraction/maintenance types of jobs. The introduction of occupational status also has a slight influence on the effects of education on primary policyholder status. Relative to college graduates, the odds of being a policyholder improve for both high school graduates (OR = 0.59 in Model 2 to OR = 0.69 in Model

4) and workers who did not graduate from high school (OR = 0.30 to OR = 0.39). Finally, both length of US residence/generation and occupational status are included in Model 5, and the effects of the two variables remained as described in previous models.

Interactive Effects of Length of US Residence/Generation and Occupation

To assess whether differences in policyholder status by length of US residence/generation vary within specific occupations, interaction terms are introduced in a new model (Table 4). In general, newly-arrived immigrants are less likely to be a policyholder than the third-and-higher generations across all occupations. However, newly-arrived immigrants in certain occupations are especially disadvantaged. This is particularly the case in the construction-related occupations, but also for the production- and service-related occupations. Newly-arrived immigrants in the construction-related occupations are only about 0.40 times as likely to be a policyholder as third-and-higher generation workers in similar occupations. While the odds are slightly improved, newly-arrived immigrants in the production- and service-related occupations are still only about half as likely to be a policyholder as their third-and-higher generation counterparts.

The differences between longer-settled immigrants, the second generation, and the third-and-higher generation are relatively small across most of the occupations. One notable exception is found within the service occupations where longer-settled immigrants and the second generation actually surpass the third-and-higher generation. The differences between immigrants and the third-and-higher generation are also noticeably smaller for managers and professionals as compared to workers in the other occupations. For example, as indicated by the *direct* effects for length of US residence/generation, newly-arrived immigrants in the management/professional occupations are about 0.83 times as likely to be a policyholder as the third-and-higher generation. On the other hand, the odds of policyholder status for newly-arrived immigrants in the service and production/transportation sectors are roughly 50% less than the odds for their third-and-higher generation counterparts (as indicated by the respective interaction effects).

In Fig. 1, we plot the expected probabilities of policyholder status for each of the length of US residence/generation groups (controlling for other socio-demographic factors). It is important to note that lines are used in order to simplify the graphs and do not imply trajectories across the categories. Regardless of length of US residence or generation, workers in the management and professional occupations have the highest probability of being a

Table 4 Logistic regression of primary policyholder status with interaction terms between occupation and generation/length of US residence (odd ratios)

	OR		OR
Intercept	4.55*	Occupation by generation/length of US residence (interaction terms)	
Age groups		Service occupations and...	
15–24	0.39*	FB (Less than 10 years)	0.52*
25–34	0.93*	FB (10–19 years)	0.96
35–44 (ref)	1.00	FB (20+ years)	1.24*
45–54	1.09*	NB/2nd generation	1.05*
55–64	1.27*	NB/3rd+ generation (ref)	1.00
Sex		Sales/office occupations and...	
Male	1.00	FB (Less than 10 years)	0.57*
Female	0.78*	FB (10–19 years)	0.79*
Race/ethnicity		FB (20+ years)	0.93
White (ref)	1.00	NB/2nd generation	1.08
Hispanic	0.92*	NB/3rd+ generation (ref)	1.00
Black	1.12*	Farming/fishing/forestry occupations and...	
Asian & Pacific Islander	1.09*	FB (Less than 10 years)	0.92
Other	0.83*	FB (10–19 years)	1.10
Education		FB (20+ years)	1.22
Less than high school	0.41*	NB/2nd generation	0.98
High school graduate	0.68*	NB/3rd+ generation (ref)	1.00
Bachelor's degree or higher (ref)	1.00	Construction/extraction/maintenance occupations and...	
Income		FB (Less than 10 years)	0.40*
0–99% of FPL	0.27*	FB (10–19 years)	0.64*
100–149% of FPL	0.49*	FB (20+ years)	0.94
150 + % of FPL	1.00	NB/2nd generation	1.06
Generation/length of US residence		NB/3rd+ generation (ref)	1.00
FB (Less than 10 years)	0.83*	Production/transportation/material moving occupations and...	
FB (10–19 years)	0.75*	FB (Less than 10 years)	0.50*
FB (20+ years)	0.79*	FB (10–19 years)	0.73*
NB/2nd generation	0.95	FB (20+ years)	1.02
NB/3rd+ generation (ref)	1.00	NB/2nd generation	0.97
Occupation		NB/3rd+ generation (ref)	1.00
Service	0.56*	Observations	162,062
Sales/office	0.83*	–2 log likelihood	190,279
Farming/fishing/forestry	0.36*	BIC	–18,352
Construction/extraction/maintenance	0.63*		
Production/transportation/material moving	0.92*		

* $P < 0.01$

Notes: FPL = federal poverty level; FB = foreign-born; NB = native-born; BIC = Bayesian information criterion

Data Source: 2003 and 2005 Current Population Surveys (March Supplement) for full-time workers aged 18–64

policyholder, relative to other workers. This is also the case among newly-arrived immigrants who are managers or professionals, who actually have similar rates as native-born workers in other occupations. Consistent with the odds ratios discussed above, the initial probabilities for newly-arrived immigrants in the construction- and service-related occupations are much lower relative to their counterparts in other occupations. Newly-arrived

immigrants in the production- and sales/office occupations fare better, but their probabilities are still about 18 percentage points lower than those in the management/professional occupations.

The probabilities are higher among immigrant with longer length of US residence and for the second generation—a pattern that is consistently found for most of the occupations. One exception is among management/

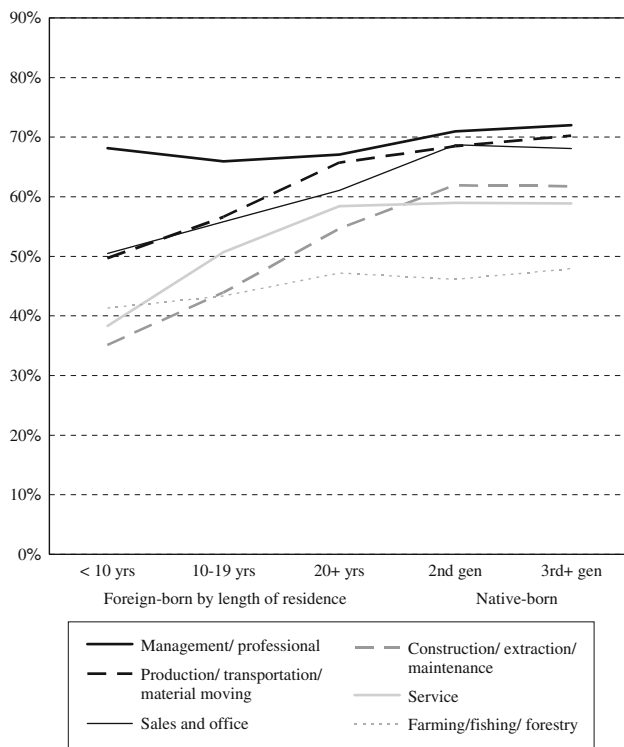


Fig. 1 Expected Probabilities of Primary Policyholder Status Notes: Expected values based on the model in Table 4. Lines used to simply the graphs and do not imply trajectories across the length of US residence/generation categories. Data source: 2003 and 2005 Current Population Surveys (March Supplement) for full-time workers aged 18–64

professional workers, for whom there is very little difference across the length of US residence/generation groups. Within the other occupations, longer-settled immigrants and second generation workers exhibit much higher probabilities than their more newly-arrived counterparts—in most cases, achieving parity with the third-and-higher generation. Moreover, the rates for native-born workers in the production and sales/office occupation are very similar to those for the native-born managers and professionals. However, the rates for native-born service workers are still over 10 percentage points lower than the rates found among native-born workers with management/professional jobs.

Decomposing the Effects of Occupation and Length of US Residence/Generation

The results of the decomposition method are summarized in Table 5, showing the total increase in prevalence of primary policyholder status between newer and more settled categories of immigrants. As mentioned earlier, that total increase is then broken down into components of change that accompanies lengthening settlement,

attributable first to the shift in occupation and, second, to increases in primary policyholder status within occupation. For the total population we find that policyholder status is 8.2% more common among immigrants residing 10–19 years in the US than among newly-arrived immigrant workers. About 20.7% of that total improvement is attributable to shifts in occupation, while the great portion (79.3%) is due to increases accrued within occupation. Even greater overall increases in policyholder status are found between longer-settled groups of immigrants and between the first and second generations, only one-third or less of which is due to shifts between occupational sectors. After the second generation, only negligible further change is observed for the third generation.

A broadly similar pattern of decomposition is observed for each of the three race-ethnic groups. We note that these absolute gains in policyholder status and the importance of occupation are especially pronounced for Hispanics and least substantial for APIs. Among more newly-arrived immigrants, policyholder status increases 11.3% for Hispanics and 1.9% for APIs. Similarly, between the first and second generation, status increases 17.3% among Hispanics and 3.1% among APIs. In these same categories, occupational shifts account for a large share of the improved status in the case of Hispanics than for APIs. Of the total improvement in status between first and second generation, 37.2% for Hispanics and 17.9% for APIs is contributed by the shift in occupation. Among APIs, the minor benefits from occupational shifts are accompanied by only slightly larger increases due to improved status within occupations. The pattern of improved status among white workers is intermediate between that of Hispanics and APIs, although it more closely resembles the API experience.

Discussion

This study examines the combined effects of length of US residence/generation and occupational status on the health insurance status of full-time workers in the U.S.—specifically, linking an individual's occupation with the likelihood of obtaining benefits through his or her job (or primary policyholder status). Overall, several important findings emerge from the study that helps to more fully understand the health insurance coverage of immigrants. Immigrants with longer length of US residence and later generation (e.g. second generation) are more likely to be primary policyholders, irrespective of occupational status. More importantly, the differences in the immigrant insurance coverage by length of US residence/generation vary greatly by occupation. Both of these trends contribute to the overall improvement in insurance coverage that is

Table 5 Decomposition of differences in percent utilization of employment-based health insurance by race

Sample	Between 0–9 yrs in US & 10–19 yrs in US		Between 10–19 yrs in US & 20+ years in US		Between 1st generation & 2nd generation		Between 2nd generation & 3rd+ generation	
	Contributed difference	% of total	Contributed difference	% of total	Contributed difference	% of total	Contributed difference	% of total
Total								
Total difference	8.2	100.0	12.3	100.0	15.2	100.0	1.6	100.0
Due to shifting occupation	1.7	20.7	2.1	17.5	5.0	32.8	-0.4	-23.6
Due to increased health insurance within occupation	6.5	79.3	10.1	82.5	10.2	67.2	2.0	123.6
White								
Total difference	6.2	100.0	3.4	100.0	7.6	100.0	-2.4	100.0
Due to shifting occupation	1.9	31.2	0.4	11.2	1.4	17.9	-1.0	39.8
Due to increased health insurance within occupation	4.3	68.8	3.0	88.8	6.2	82.1	-1.5	60.2
Hispanic								
Total difference	11.3	100.0	15.9	100.0	17.3	100.0	3.7	100.0
Due to shifting occupation	1.8	16.3	1.4	8.7	6.4	37.2	-0.1	-2.8
Due to increased health insurance within occupation	9.5	83.7	14.5	91.3	10.9	62.8	3.8	102.8
Asian & Pacific Islander								
Total difference	1.9	100.0	4.9	100.0	3.1	100.0	7.7	100.0
Due to shifting occupation	-0.1	-7.8	1.0	20.7	0.6	17.9	-0.6	-8.1
Due to increased health insurance within occupation	2.0	107.8	3.9	79.3	2.6	82.1	8.3	108.1

Data source: 2003 and 2005 Current Population Surveys (March Supplement) for full-time workers aged 18–64

enjoyed by a more-settled immigrant population. However, newly-arrived immigrants represent a vulnerable population, especially workers in certain occupations, such as construction-, production-, and service-related jobs, who have the lowest rates of being a policyholder.

Using a decomposition method, this study further reveals how much of the overall improvement in coverage is contributed by the shift between occupational groups as opposed to length of US residence/generation effects within each occupation. For the most part, the findings suggest that improvements in coverage across duration and generation are partially due to gains within each occupation—in other words, immigrants in a given occupation exhibit increasing rates with increasing duration or across generation groups. For Hispanics, however, changes in occupational status also appear to make a more significant contribution to observed gains in policyholder status. Overall, these ethnic differences in improved policyholder status reflect the substantial upward mobility of Hispanic workers from their more modest beginnings as recent arrivals.

This study departs from previous research in three significant ways. First, by focusing on primary policyholder status as our outcome, we attempt to link an individual's own occupational status directly with his or her ability to obtain insurance. One possible confounding factor may be the effect of the spouse's immigration or occupation status. We do not take into account cases where persons obtain health insurance coverage through their spouse's or partner's policy—in which case the partner's occupational status could play an important role. Given the nature of employment-based insurance, both adults in a household may potentially have access to health benefits through their respective employers but may choose one spouse's/partner's plan over the other's plan. However, the competing effects of householder and spousal characteristics on household insurance coverage add another layer of complexity to this issue and warrants future research [8, 24].

Second, since very few studies have disaggregated the native-born adult population into the second and third-or-later generation categories [5], our study provides a more nuanced look at the native-born adult children of immigrants. The majority of studies focus on the children of immigrants under the age of 18 whose insurance status is largely contingent on their parents' status [25, 26]. Consequently, very little is known about the insurance status of the adult second generation—a population that is growing rapidly, both in size and influence, and therefore, warrant increased attention [27–29]. The findings regarding the effects of generation on insurance coverage are consistent with other studies [1, 4, 16] and further suggest that the second generation (i.e. the children of immigrants) has reached parity with the third-and-later generation in regards to obtaining health insurance.

Third, a key importance of this paper is that it attempts to link both the occupational mobility of immigrants and their growing length of US residence (as well as generational status). To date, little is known as to why increasing length of US residence or generation leads to increasing insurance rates among immigrant populations. This study's results suggest that occupational mobility may be an important underlying mechanism in the relationship between immigrant length of US residence/generation and obtaining health insurance. Depending on the length of US residence and generational status, individuals are distributed in different occupational categories, which in turn, may affect their risk of being uninsured. In addition, occupational status varies greatly by race/ethnicity, with greater proportions of APIs and whites found in occupations with higher probabilities of insurance (e.g. management or sales/office) and greater proportions of Hispanics in occupations with lower probabilities (e.g. construction or service). Finally, these findings highlight that the effects of length of residence and generation—shown in previous studies [4, 5]—can differ depending on the immigrant's occupation.

This study has several potential limitations. First, this analysis was based on cross-sectional data, which may limit our ability to infer causal relationships or changes across time. Although our data only reveals a cross-sectional comparison of categories revealed at a moment in time, nonetheless, the findings may be instructive of changes that could be expected to occur over time. Second, data and sample limitations prevent us from representing the full range of occupations. Given the broad scope of jobs in the U.S., it is possible that some of the variation presumed to occur across duration and generation may be due to mobility between more specific types of jobs contained within our broad categories. For example, the service occupation category includes a broad range of jobs, including fire fighters, food preparers, and maintenance workers. Third, because the CPS is administered only in English, the immigrants in our sample are those who are proficient enough in the English language to participate in the survey. Previous studies have shown that limited English proficiency can decrease one's likelihood of having health insurance coverage [5, 9]. Consequently, these findings may reflect a more favorable assessment of immigrant workers and their health coverage—particularly among the newly-arrived immigrant population. Fourth, by narrowing our focus to full-time workers and primary policyholders, we attempted to construct a better link between an individual's occupational status and the likelihood they and their family members have access to health insurance. Therefore, our sample also does not reflect the full labor force (e.g. part-time workers). However, given the importance of employment-based insurance in the U.S.

and more specifically, full-time employment, our analysis addresses the central mechanism important today.

Overall, despite these limitations, this study provides a significant contribution to the literature first, by showing that occupational status is an important predictor of obtaining insurance coverage, and second, by suggesting that occupational status may play an important role over time in how immigrants and their children gain access to health insurance. Other measures of immigrant assimilation, such as educational attainment or English language proficiency, may also be important factors shaping access to health insurance and are potential topics for future research.

References

- Pol LG, Adidam PT, Pol JT. Health insurance status of the adult, nonelderly foreign-born population. *J Immigr Health*. 2002;4(2):103–10. doi:10.1023/A:1014502710289.
- Ku L, Waidmann TA. How race/ethnicity, immigration status and language affect health insurance coverage, access to care and quality of care among the low-income population. Washington, DC: Kaiser Commission on Medicaid and the Uninsured; 2003.
- Ponce N, Nurdyke RJ, Hirota S. Uninsured working immigrants: a view from a California county. *J Immigr Health*. 2005;7(1):45–53. doi:10.1007/s10903-005-1390-0.
- 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(1):96–102.
- Kim J, Shin H. Public health insurance enrollment among immigrants and nonimmigrants: findings from the 2001 California Health Interview Survey. *J Immigrant & Minority Health*. 2006;8:303–11. doi:10.1007/s10903-006-9000-3.
- Lara M, Gamboa C, Kahramanian MI, Morales LS, Bautista DEH. Acculturation and Latino health in the United States: a review of the literature and its sociopolitical context. *Annu Rev Public Health*. 2005;26:367–97. doi:10.1146/annurev.publhealth.26.021304.144615.
- DeNavas-Walt C, Proctor BD, Smith J. Income, poverty, health insurance coverage in the United States 2006. Washington, DC: US Census Bureau; 2007.
- Schur CL, Taylor AK. Choice of health insurance and the two-worker household. *Health Aff*. 1991;10(1):155–63. doi:10.1377/hlthaff.10.1.155.
- Alegria M, Cao Z, McGuire TG, Ojeda VD, Sribney W, Takeuchi DT. Health insurance for vulnerable populations: understanding differences across Asian American and Latino subgroups in the United States. Ann Arbor, MI: Economic Research Initiative on the Uninsured; 2005.
- Carrasquillo O, Carrasquillo A, Shea S. Health insurance coverage of immigrants living in the United States: differences by citizenship status and country of origin. *Am J Public Health*. 2000;90(6):917–23.
- Lucas JW, Barr-Anderson DJ, Kington RS. Health status, health insurance, and health care utilization patterns of immigrant black men. *Am J Public Health*. 2003;93(10):1740–7.
- Fronstin P. Source of health insurance, characteristics of the uninsured: analysis of the March 2006 current population survey. Washington, DC: Employee Benefit Research Institute; 2006.
- Institute of Medicine. Coverage matters: insurance and health care. Washington, DC: National Academy Press; 2001.
- Ryu H, Young WB, Park C. Korean American health insurance and health services utilization. *Res Nurs Health*. 2001;24(6):494–505. doi:10.1002/nur.10009.
- White-Means SI, Hersch J. Health insurance disparities in traditional and contingent/alternative employment. *Int J Health Care Finance Econ*. 2005;5:351–68. doi:10.1007/s10754-005-5559-9.
- Greenwald HP, O'Keefe S, DiCamillo M. Why employed Latinos lack health insurance: a study in California. *Hispanic Journal of Behavioral Sciences*. 2005;27(4):517–32. doi:10.1177/0739986305281262.
- Buchmueller TC, Lo Sasso AT, Lurie I, Dolfin S. Immigrants and employer-sponsored health insurance. *Health Serv Res*. 2006;42(1 Pt 1):286–310.
- Goldman DP, Smith JP, Sood N. Legal status and health insurance among immigrants. *Health Aff*. 2005;24(6):1640–53. doi:10.1377/hlthaff.24.6.1640.
- Chiswick BR, Lee YL, Miller PW. Longitudinal analysis of immigrant occupational mobility: a test of the immigrant assimilation hypothesis. Bonn, Germany: Institute for the Study of Labor; 2002.
- Myers D, Cranford CJ. Temporal differentiation in the occupational mobility of immigrant and native-born Latina workers. *American Sociological Review*. 1998;63:68–93. doi:10.2307/2657478.
- Waldinger R. The occupational and economic integration of the new immigrants. *Law and Contemporary Problems*. 1983;45(2):197–222. doi:10.2307/1191408.
- Farley R, Alba R. The new second generation in the United States. *The International Migration Review*. 2002;36(3):669–701.
- Kitagawa EM. Components of a difference between two rates. *Journal of the American Statistical Association*. 1955;50(272):1168–94. doi:10.2307/2281213.
- Abraham JM, Vogt WB, Gaynor MS. How do households choose their employer based health insurance? *Inquiry*. 2006/2007;43(4):315–32.
- Brown ER, Wyn R, Yu H, Valenzuela A, Dong L. Access to health insurance and health care for children in immigrant families. In: Hernandez DJ, editor. *Children of immigrants: health, adjustment, and public assistance*. Washington, DC: National Academy Press; 1999. p. 126–86.
- Burgos AE, Schetzina KE, Dixon LB, Mendoza FS. Importance of generational status in examining access to and utilization of health care services by Mexican American children. *Pediatrics*. 2005;115(3):e322–30. doi:10.1542/peds.2004-1353.
- Myers D, Pitkin J, Park J. California demographic futures: projections to 2030, by immigrant generations, nativity, and time of arrival in U.S. Los Angeles, CA: University of Southern California, Population Dynamics Research Group; 2005.
- Ramakrishnan SK, Johnson HP. *Second-generation immigrants in California*. San Francisco, CA: Public Policy Institute of California; 2005.
- Suro R, Passel JS. *The rise of the second generation: changing patterns in Hispanic population growth*. Washington, DC: Pew Hispanic Center; 2003.
- Raftery A. Bayesian model selection in social research (with discussion): In: Marsden PV, editor. *Sociological methodology*. Cambridge, MA: Blackwell Publishing; 1995. p. 111–64.