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Are Immigrants the Most Highly Skilled Healthcare Workers in the United States?

Carrie C. Smith

Department of Economics
The University of North Carolina Asheville
One University Heights
Asheville, North Carolina 28804 USA

Dr. Jie Ma

Abstract

This paper examines wage and labor differences between immigrant and native healthcare workers in the United States. Using individual-level data from the American Community Survey (ACS) for the years 2019–2023, I analyze differences in wages and total hours worked per year among three groups: immigrants, U.S. natives, and individuals born in U.S. territories.

To assess these differences, I categorize healthcare workers into three groups based on occupation. The first category consists of Doctors (physicians, dentists, optometrists, and podiatrists). The second category is comprised of Health Support Workers (registered nurses, pharmacists, dietitians, and licensed practical nurses). The third category consists of Health Technicians (clinical laboratory technicians, dental hygienists, health record technicians, and radiologic technicians).

My results suggest that wage and labor differences are less significant among doctors, likely due to uniform education and licensing requirements across all workers, regardless of their immigration status. However, for health support workers and health technicians, immigrants tend to earn higher wages than their native-born counterparts. Additionally, my results indicate that immigrant health support workers and health technicians generally work more hours per year than their U.S.-born counterparts. A possible explanation for these differences is that immigrant healthcare workers, particularly Health Technicians, have higher educational attainment or more specialized skills, which could contribute to their higher earnings.

Additionally, immigrants may be more likely to work longer hours due to differences in workplace culture or economic needs. These results highlight important labor market characteristics within the U.S. healthcare system and suggest that further research can seek to explore the effects of years since immigration, country of origin, and English proficiency on labor market performance.

1. Introduction

Non-native workers play a vital role in the U.S. Healthcare industry. The Migration Policy Institute found that the number of immigrant healthcare workers aged 16 or older in 2021 was approximately 2,775,000 compared to 12,464,000 Native U.S. workers. This means that immigrants account for approximately 18 percent of the healthcare workforce, which is slightly higher than the immigrant share of the overall workforce (17%) (Batalova,2023). Several visa pathways exist for immigrant healthcare workers and can vary based on skill level or country of origin. Some of these pathways include the H-1C visa, which allows nurses from outside of the United States to work for up to 3 years during times of nursing shortages as determined by the U.S. Department of Labor. Similarly, the O-1 Visa or E-3 Visa (only for workers from Australia) may be granted to physicians in specialty occupations to work in the United States for an initial stay period of up to three years. The contributions of immigrant healthcare workers are important to fill in gaps for underserved populations and can be especially beneficial during times of labor shortages or increased demand for specialized healthcare. Thus, it is important to examine and assess the implications of a potential wage gap in attracting immigrant healthcare workers to the United States. In order to accurately assess the contributions of immigrant workers to the U.S. healthcare labor force, I will analyze the wage disparities and differences in hours worked per year between U.S. natives and immigrants in healthcare occupations to see if immigrants earn higher wages and work more hours per year than their native-born counterparts.

2. Literature Review

Wage Disparities Between Native and Foreign-Born Healthcare Workers

Previous studies have investigated the immigrant-native wage gap in healthcare fields separately for doctors and nurse aides. Amina & Uyarb found in 2020 that a significant wage gap exists between native and immigrant doctors, finding that doctors who had been in the United States for 0-5 years saw a 62.78% log income wage penalty compared to their native counterparts. However, this disparity diminishes to 7.63% for Immigrant doctors who have been in the United States for 6 to 10 years, and foreign-born male doctors eventually earn more than their native counterparts after 10 years of being in the United States. Contrary to this conclusion, I did not find the existence of a wage penalty or any statistically significant wage disparity between immigrant and native doctors in my analysis, however, I did not control for years since immigration in my regressions. Research has also been done regarding the wages of some health support workers. Hill, Mcgregory & Peoples found in 2018 that a wage gap between native and non-native nurse aides exists initially, but becomes smaller as more time is spent in the United States. I did not specifically analyze the wages of nurse aides or control for years since immigration in my analysis. Although, I found that immigrant

health support workers (Registered Nurses, Pharmacists, Dietitians, and Licensed Practical Nurses) have a 2659.36 annual wage advantage over native health support workers, therefore contradicting previous literature.

Factors Affecting Wage Disparities

Immigrant wage advantages over natives in the healthcare field may be attributed to several factors. Commodore-Mensah, Y., DePriest, K., Samuel, L. J., Hanson, G., Rita D'Aoust, & Slade, E. P. found in 2021 that non-native healthcare professionals work more hours, are more likely than natives to take night shifts, and are often multilingual, enabling them to address the needs of diverse patient populations effectively. My analysis further supports this idea, as I found that immigrant healthcare workers, specifically health support staff and health technicians, work more hours per year than their native counterparts. Health support workers report 27.71 more hours per year than natives, while health technicians work 36.47 more hours per year than their native counterparts. In addition to a willingness to work more hours, having more immigrant workers in healthcare may be beneficial because previous literature has found that having racially diverse healthcare staff can lead to higher patient satisfaction. Johnson, Roter, Powe, and Cooper found in 2004 using survey data that patients who were seen by doctors of the same race (known as race concordant visits) had longer visits, reported higher overall satisfaction with their visit, and felt their physician was more engaged in their visit. Therefore, having non-native healthcare providers may be particularly beneficial in attracting patients in areas where there is a high population of immigrants seeking medical care. Despite the valuable and important contributions of immigrant healthcare workers, having a predominantly immigrant staff in facilities where leadership is predominantly native can result in workplace conflict that may explain potential wage penalties. D. L. Kelly found in 2013 that cultural attitudes from (workers) countries of origin can influence their interactions with colleagues, sometimes leading to perceived power imbalances. For instance, foreign-born doctors' expectations of hierarchical behavior from nurses can create challenges in time management and communication. Kelly also noted that academic achievement may also play a role in wage penalties, particularly in roles where examinations and formal licensure are required, as foreign-trained medical graduates and nurses consistently exhibit lower first-time pass rates on certification exams compared to their U.S.-trained counterparts. For instance, between 1986 and 2005, only 57.2% of foreign-trained medical students passed the USMLE. Additionally, U.S.-educated nurses had an 87.4% first-time pass rate on the NCLEX in 2010, compared to 38.6% for internationally educated nurses (Kelly 2013). The literature highlights the potential factors of wage disparities between foreign-born healthcare workers in the U.S. and native workers. Workplace challenges may arise in terms of communication and leadership. These challenges may be influenced by language proficiency, cultural differences, and lower certification pass rates. Despite these challenges, the workplace diversity provided by foreign-born healthcare professionals can improve patient satisfaction and comfort. Thus, the labor contributions of immigrant workers could be beneficial and important to providing quality care for immigrant patients.

3. Data, Variables, and Methodology

3.1 Data and Variables

I gathered data from the American Community Survey for the years 2019-2023 to study a sample of healthcare workers divided into three categories. The first category includes individuals employed as Doctors (Physicians, Dentists, Optometrists, and Podiatrists). The second category is Health Support Workers (Registered Nurses, Pharmacists, Dietitians, and Licensed Practical Nurses). The third category consists of Health Technicians (Clinical Laboratory Technicians, Dental Hygienists, Health Record Tech Specialists, and Radiologic Tech Specialists). All individuals in the sample are 18 years of age or older and employed full-year, working between 50 and 52 weeks.

3.2 Methodology

I use an OLS model to assess wage differentials between immigrants and natives, I will use 4 outcome variables to assess labor market performance: Income Wage, Log Income Wage, Hourly Wage, and Total Hours Worked per Year for my analysis. Income and Hourly wages are both measured in U.S. dollars. While, log income wage is expressed in percentage terms.

$$wagei = \beta 0 + \beta 1 wut_i + \beta 2 im_i + \sum_{j=1}^{n} \beta_j X_j + u_i$$

The coefficient β0 captures the wages and total hours worked of Native U.S. healthcare workers, these are individuals born in the United States. The variable wut_i indicates the wage and labor outcomes of an individual worker born in a U.S. territory (American Samoa, Guam, Puerto Rico, U.S. Virgin Islands), and the variable im_iindicates other individual foreign-born workers born outside of the United States or a U.S. territory, who I will refer to as Immigrants. $\sum_{j=1}^{n} \beta_j X_j$ is a vector of variable characteristics including, gender, marital status, and years of education. The variable u_i represents unobservable characteristics and is my error term. The coefficient of interest in this equation is β2 because this coefficient will show the wages of immigrants, and the assessment of a potential wage gap is the focus of this paper. I expect this coefficient to be negative across all occupations because the previous literature indicates a wage penalty for immigrant doctors and nurse aides. I also use dummy variables for Gender and Marital status. Therefore, I expect, given previous literature that female healthcare workers may have a larger wage gap than male healthcare workers, thus, this coefficient will likely be negative. Additionally, I expect that marital status will have a positive effect on wages

and total hours worked because married individuals may have more support from spouses that may allow more flexibility to work longer hours or pursue more education. I will also use an educational attainment variable measured in years of education completed. Further, I expect that educational attainment will have a positive effect on wages, given that more years of education may mean more specialized training, which could mean more demand for labor, resulting in a positive coefficient. Additionally, to control for unobserved heterogeneity resulting from societal or state-level events that could impact wages or labor demand, I include state and year fixed effects in my regression models, which is my preferred specification. These are implemented in Stata by including the variables *stateicp* and *yearicp* in the regressions.

3.3 Descriptive Statistics

Table 1A, ***Immigrant Shares by Nativity, Doctors***

	Share (%)	Hourly Wage	Mean Age	Mean Years of Education	Mean Hours Worked/Year
Native	74.1	104.46	47.87	19.97	2482.32
Immigrants	25.1	106.62	48.51	19.96	2478.15
U.S. Territory	0.6	107.27	47.46	19.98	2422.57
Female	40.5	87.5	44.36	19.96	2390.34
Married	78.2	112.0	49.13	19.97	2450.93
All	100	105.03	48.03	19.97	2480.88
Total Observations	56,137	56,137	56,137	56,137	56,137

U.S. natives make up the majority of the sample of Doctors (74.1%). Additionally, the majority of Doctors in the sample are married (78.2%). Workers born in U.S. territories appear to have the highest mean hourly wage, earning $107.27 per hour compared to $104.46 for U.S. natives and 106.62 for immigrants. Female Doctors appear to have the lowest hourly wage of $87.5 which is $17.53 less than the mean hourly wage for the entire sample (105.03). Female doctors also appear to have the lowest mean age (44.36) with married doctors having the highest (49.13). Of the three nativity groups, immigrants have the highest mean age (48.51) and workers born in U.S. territories have the lowest mean age (47.46). The mean years of education are roughly the same across the entire sample, which is consistent with the educational requirements to become a Doctor. For mean hours worked per year, U.S. natives appear to work the most hours out of the entire sample (2482.32), while workers from U.S. territories had the lowest mean hours worked out of the three nativity samples (2422.57). Overall, Female doctors worked the least hours per year (2390.34).

Table 1B, ***Immigrant Shares by Nativity, Health Support***

	Share (%)	Hourly Wage	Mean Age	Mean Years of Education	Mean Hours Worked
Native	83.4	40.79	44.25	15.68	1993.92
Immigrants	16.2	47.31	46.24	15.95	2025.33
U.S. Territory	0.3	40.96	44.72	15.48	2076.74
Female	85.6	40.57	44.68	15.63	1981.31
Married	65.7	43.09	45.60	15.79	1982.78
All	100	41.85	44.58	15.72	1999.29
Total Observations	177,086	177,086	177,086	177,086	177,086

The majority of Health Support workers in this sample are U.S. Natives (83.4%) compared to 16.2% immigrants and 0.3% workers born in U.S. territories. Most of the sample is also female (85.6%) and 65.7% of the sample are married individuals. The average overall hourly wage of the sample is $41.85 and of the 3 nativity groups, Immigrants have the highest hourly wage (47.31) and U.S. natives have the lowest hourly wage (40.79). Immigrants appear to have the highest mean age (46.24) and U.S. natives have the lowest mean age (44.25). Overall, the years of education completed are consistent with all groups completing several years of college. Immigrants have the highest mean educational attainment (15.95 years) and workers born in U.S. territories have the lowest educational attainment of the 3 nativity groups (15.48 years). Workers from U.S. territories work the most hours per year on average (2076.64) while U.S. natives work the least hours per year out of the nativity groups (1993.92).

Table 1C, ***Immigrant Shares by Nativity, Health Technicians***

	Share (%)	Hourly Wage	Mean Age	Mean Years of Education	Mean Hours Worked
Native	84.4	30.37	44.99	13.94	2001.87
Immigrants	15.1	38.32	46.77	14.29	2057.09
U.S. Territory	0.4	34.19	45.11	14.15	2065.90
Female	81.3	28.86	45.38	13.89	1974.69
Married	59.2	33.96	47.04	14.10	1993.76
All	100	34.75	45.27	13.99	2010.50
Total Observations	72,784	72,784	72,784	72,784	72,784

U.S. Natives make up 84.4% of the Health Technician sample while immigrants make up 15.1% and workers from U.S. territories account for 0.4%. The sample of health technicians also seems to be comprised of mostly female workers (81.3%) and the majority of workers in the sample are married (59.2%). Immigrants have the highest hourly wage out of the three nativity samples ($38.32) compared to $30.37 for U.S. natives and $34.19 for workers born in U.S. territories. Immigrants also appear to have the highest mean age of the three samples (46.77 compared to 44.99 for U.S. natives and 45.11 for workers from U.S. territories). Additionally, immigrant Health Technicians have the highest mean years of education (14.29) compared to 13.94 for U.S. natives and 14.15 for workers born in U.S. territories. Immigrant workers also work more hours per year on average than their native counterparts (2057.09 compared to 2001.97).

4. Results[1]

Table 4. Native-Immigrant Income Wage Differentials (Annual Earnings, Doctors)

Variable Names			
Immigrant	2177.34	1126.79	1108.41
	(1.29)	(0.65)	(0.64)
U.S. Territory	1562.92	170.74	373.24
	(0.17)	(0.02)	(0.04)
Female	-73397.75	-73381.32	-73898.5***
	(-48.77)	(-48.65)	(49.07)
Married	63627.82***	63517.2***	63612.04***
	(35.51)	(35.36)	(35.48)
Yearsofeducation	19844.45	20095.6	20347.02
	(-8.59)	(-8.70)	(-8.83)
State-Fixed Effect		✓	✓
Year-Fixed Effect			✓

Immigrant doctors earn $1108.41 more annually than their native counterparts at the preferred specification where I control for effects of the state and year. However, this difference is not statistically significant because of it's t-value of 0.64. For workers from U.S. territories, the wage difference of $373.24 per year is also statistically insignificant. This may be due to doctors in the sample having (on average) similar levels of educational attainment and years of education regardless of nativity, resulting in little variation in wages. There does appear to be a very significant wage penalty for Female doctors of $-72898.5 annually at the preferred specification. Additionally, married doctors earn $63612.04 more annually than their unmarried counterparts. An additional year of education seems to result in a $20347.02 annual wage increase however, this difference is statistically insignificant.

[1] Values in parentheses are t-statistics used to determine statistical significance. Common critical values are 1.65 (marginally significant at the 10% level), 1.96 (significant at the 5% level), and 2.58 (highly significant at the 1% level).

Table 5. Native-Immigrant Income Wage Differentials (Annual Earnings, Health Support)

Variable Names			
Immigrant	9456.37***	2760.18***	2659.36***
	(31.66)	(8.91)	(8.62)
U.S. Territory	241.14	-372.77	-803.13
	(0.12)	(-0.19)	(0.41)
Female	-18625.3	-17949.52	-17972.4
	(-58.80)	(-57.60)	(-57.92)
Married	3877.33***	5109.52***	5131.69***
	(16.72)	(22.34)	(22.53)
Yearsofeducation	6103.95	5871.53***	5816.69***
	(-102.51)	(100.17)	(99.63)
State Fixed-Effect		✓	✓
Year Fixed-Effect			✓

Immigrant health support workers earn $2659.36 more annually than their native counterparts at the preferred specification and this difference is very statistically significant. Married workers have a very statistically significant $5131.69 annual wage advantage over their unmarried counterparts. Additional years of education also result in a statistically significant yearly wage increase, with one additional year of education resulting in a $5816.69 annual wage increase at the preferred specification. Female workers and workers from U.S. territories see statistically insignificant wage penalties.

Table 6. Native-Immigrant Income Wage Differentials (Annual Earnings, Health Technicians)

Variable Names			
Immigrant	9799.22***	5730.86***	5626.63***
	(14.73)	(18.20)	(8.07)
U.S. Territory	3271.66	1375.58	1814.12
	(0.93)	(0.29)	(0.52)
Female	-35766.6	-34846.62	-34846.5***
	(-58.28)	(-56.70)	(56.84)
Married	9092.44***	9843.32***	9874.25***
	(18.84)	(20.38)	(20.50)
Yearsofeducation	5632.99	5556.1***	5507.55
	(-42.7)	(42.12)	(-45.85)
State- Fixed Effect		✓	✓
Year- Fixed Effect			✓

Immigrant Health Technicians earn $5626.23 more annually than natives, this wage difference is very statistically significant. Workers born in US territories earn $1814.12 more than natives annually at the preferred specification. However, this difference is not statistically significant. Married Health Technicians earn $9874.25 more annually than unmarried workers, and this difference is very statistically significant. Years of education also seem to have an effect on annual earnings. However, this difference is very significant when I control for only the state, showing that for each additional year of education, annual earnings increase by $5556.1.

Table 7. Native-Immigrant Income Wage Differentials (Log Income Wage, Doctors)

Variable Names			
Immigrant	0.007	0.006	0.006
	(0.83)	(0.73)	(0.74)
U.S. Territory	0.496	0.053	0.054
	(1.07)	(1.15)	(1.17)
Female	-0.288	-0.289	-0.291***
	(-37.96)	(-37.98)	(38.27)
Married	0.366***	0.364	0.364***
	(40.43)	(-40.22)	(40.30)
Yearsofeducation	0.104***	0.104	0.105***
	(8.89)	(-8.94)	(9.03)
State Fixed-Effect			✓
Year Fixed-Effect		✓	✓

For Doctors, there does not appear to be a statistically significant difference in log income wage between U.S. natives, immigrants, and workers from U.S. territories. However, female doctors suffer a very statistically significant wage penalty of 29.1% compared to male doctors. Married doctors also have a 36.4% income wage advantage over unmarried doctors which is very statistically significant. Also, one additional year of education results in a 10.5% income wage increase at the preferred specification.

Table 8. Native-Immigrant Income Wage Differentials (Log Income Wage, Health Support)

Variable Names			
Immigrant	0.091*** (23.88)	0.014*** (3.57)	0.012** (3.28)
U.S. Territory	-0.032 (1.28)	-0.041 (-1.67)	-0.046 (-1.88)
Female	-0.179 (-44.62)	-0.172 (-43.44)	-0.173 (-43.66)
Married	0.057*** (19.58)	0.072 (-24.93)	0.073*** (25.11)
Yearsofeducation	0.072*** (95.48)	0.069 (-92.85)	0.068*** (92.29)
State-Fixed Effect		✓	✓
Year- Fixed Effect			✓

Immigrant Health Support workers have a 1.2% statistically significant wage advantage over native workers at the preferred specification. Female Health Support workers experience a small, statistically insignificant wage penalty of 17.3%. Married health support workers have a 7.3% wage advantage over unmarried health support workers. Additional years of education result in a 6.8% wage advantage that is very statistically significant at the preferred specification.

Table 9. Native-Immigrant Income Wage Differentials (Log Income Wage, Health Technician)

Variables			
Immigrant	0.088***	0.03	0.029***
	(13.09)	(-4.34)	(4.17)
U.S. Territory	0.048	0.022	0.029
	(-1.34)	(0.64)	(0.83)
Female	-0.297	-0.283	-0.284
	(-47.39)	(-45.46)	(-45.68)
Married	0.124	0.134***	0.134
	(-25.26)	(27.35)	(-27.55)
Yearsofeducation	0.077***	0.076***	0.075
	(57.51)	(56.71)	(-56.45)
State-Fixed Effect		✓	✓
Year-Fixed Effect			✓

Immigrant health technicians have a 2.9% wage advantage compared to US natives at the preferred specification which is very statistically significant. Workers from U.S. territories also have a 2.9% wage advantage over natives, however, this difference is not statistically significant. Female health technicians suffer a 2.84% wage penalty compared to their male counterparts. However, this is not statistically significant. Married health technicians have a 1.34% wage advantage over unmarried workers, which is only significant when I control for state-fixed effects. Additional years of education result in a 7.6% wage advantage that is only very significant when I control for state-fixed effect, but has no significance at the preferred specification.

Table 10. Native-Immigrant Income Wage Differentials (Hourly Wage, Doctors)

Variable Names			
Immigrant	2.31**	1.43	1.43
	(2.26)	(1.38)	(1.38)
U.S. Territory	5.17	4.62	4.82
	(0.93)	(-0.83)	(0.87)
Female	-26.48	-26.55	-26.85
	(-29.06)	(-29.06)	(-29.43)
Married	28.28***	28.49***	28.54***
	(26.07)	(26.19)	(26.27)
Yearsofeducation	5.93	6.12***	6.24***
	(-4.24)	(4.38)	(4.47)
State Fixed-Effect			✓
Year Fixed-Effect		✓	✓

Immigrant doctors have a $2.31 per hour wage advantage over U.S. natives, which is marginally statistically significant at my least preferred specification, and not statistically significant at the preferred specification. Workers born in U.S. territories have an even larger wage advantage ($5.17), though this is not statistically significant. Married workers have a larger and more significant hourly wage advantage of $28.54 at my preferred specification. Additional years of education result in a small hourly wage advantage of $6.24 at my preferred specification.

Table 11. Native-Immigrant Income Wage Differentials (Hourly Wage, Health Support)

Variable Names			
Immigrant	5.23	1.5***	1.45***
	(-27.27)	(7.57)	(7.33)
U.S. Territory	0.405	0.239	0.008
	(0.32)	(0.19)	(.01)
Female	-6.64	-6.29	-6.3
	(-32.68)	(-31.34)	(-31.48)
Married	2.87	3.55***	3.56***
	(-19.29)	(24.09)	(24.24)
Yearsofeducation	2.87***	2.73***	2.7***
	(75.27)	(72.45)	(71.88)
State Fixed Effect			✓
Year Fixed Effect		✓	✓

Immigrant Health Support workers have a $1.45 hourly wage advantage over natives that is very statistically significant at the preferred specification. Females have an hourly wage penalty that is not statistically significant and married workers have a $3.56 hourly wage advantage that is very statistically significant at the preferred specification. Additional years of education result in a $2.7 hourly wage advantage that is very statistically significant at the preferred specification.

Table 12. Native-Immigrant Income Wage Differentials (Hourly Wage, Health Technicians)

Variable Names			
Immigrant	5.22***	2.88***	2.83***
	(15.88)	(8.36)	(8.24)
U.S. Territory	2.09	1.08	1.27
	(1.20)	(0.62)	(0.74)
Female	-12.57	-12.02	-12.03
	(-41.44)	(-39.63)	(-39.73)
Married	4.81***	5.2	5.21
	(20.16)	(-21.82)	(21.91)
Yearsofeducation	2.59***	2.53***	2.51***
	(39.82)	(38.93)	(38.67)
State Fixed-Effect		✓	✓
Year Fixed Effect			✓

Immigrant health technicians have a $2.83 hourly wage advantage over natives at the preferred specification which is very statistically significant. Married Health Technicians also have an hourly wage advantage (4.81) However, this is only statistically significant with no controls for year and state effects. Additional years of education results in a small but very statistically significant $2.51 hourly wage advantage.

Table 13. Native-Immigrant Income Labor Differentials (Total Hours Worked/Year, Doctors)

Variable Names			
Immigrants	2.04	10.43	10.44
	(0.27)	(1.35)	(1.35)
U.S. Territory	-69.89	-66.84	-67.35
	(-1.69)	(-1.82)	(1.35)
Female	-167.3	-165.71	-164.51
	(-24.66)	(-24.41)	(-24.23)
Married	-162.31	-164.31	-164.52
	(-20.10)	(-20.32)	(-20.36)
Yearsofeducation	90.06***	88.61***	88.03***
	(10.41)	(8.53)	(8.47)
State Fixed Effect		✓	✓
Year Fixed Effect			✓

The hours worked per year by doctors do not appear to have a statistically significant difference between U.S. natives, immigrants, and workers from U.S. territories. The only variable in my model that is very statistically significant is years of education. My results show that for each additional year of education obtained, hours worked per year will increase by 88.03 at the preferred specification. This is consistent with previous literature's findings that workers with more specialization or training may see a higher demand for labor.

Table 14. Native-Immigrant Labor Differentials (Total Hours Worked/Year, Health Support)

Variable Names			
Immigrant	23.5***	27.75***	27.71***
	(7.73)	(8.68)	(8.67)
U.S. Territory	67.39***	56.56**	56.94**
	(3.35)	(2.81)	(2.83)
Female	-119.49	-117.8	-117.83
	(-37.06)	(-36.62)	(-36.63)
Married	-51.51	-51.59	-51.58
	(-21.83)	(-21.85)	(-21.85)
Yearsofeducation	8.03***	9***	9***
	(13.26)	(14.88)	(14.88)
State Fixed-Effect		✓	✓
Year Fixed Effect			✓

Immigrants in health support fields work 27.71 more hours per year than natives which is very statistically significant and U.S. territory health support workers generally work 56.94 more hours per year than natives, which is marginally statistically significant. Female health support workers work fewer hours, but this is statistically insignificant. Married workers also work slightly less, however, this difference has no statistical significance. One additional year of education results in a 9-hour increase in total hours worked per year which is very statistically significant at the preferred specification.

Table 15. Native-Immigrant Labor Differentials (Total Hours Worked/Year, Health Technicians)

Variable Names			
Immigrant	35	36.69***	36.47***
	(-6.58)	(6.56)	(6.52)
U.S. Territory	41.31	38.88	39.21
	(1.47)	(1.38)	(1.39)
Female	-186.52	-186.07	-185.95
	(-38.02)	(-37.87)	(-37.84)
Married	-44.93	-43.06	-42.91
	(-11.65)	(-11.15)	(-11.11)
Yearsofeducation	3.87	5.26	5.19***
	(-3.67)	(-4.99)	(4.13)
State Fixed Effect		✓	✓
Year Fixed Effect			✓

Immigrant health technicians work 36.47 more hours per year than natives at the preferred specification. Gender and marital status have negative but statistically insignificant impacts on total hours worked per year. Additional years of education also has a very statistically significant impact on total hours worked per year, with each additional year of education increasing total hours worked per year by 5.19 hours at the preferred specification.

5. Conclusion

Immigrant healthcare workers, particularly health support workers and health technicians earn higher annual and hourly wages than their native counterparts: Immigrant health support workers earn 1.2% more annually than natives and work 27.71 more hours per year at the preferred specification, and Immigrant health technicians earn 2.9% more than natives and work 36.47 more hours per year at the preferred specification. This may be due to their higher average educational attainment and willingness to work longer hours. For doctors, any differences in wages and total hours worked per year were found to be statistically insignificant, suggesting no meaningful wage or labor differences between immigrants and natives. This is possibly due to having similar educational attainment and hours worked per year between the three nativity groups. However, gender and marital status play a significant role: female doctors earn 29.1% less annually than male doctors, while married doctors earn 36.4% more annually than their unmarried counterparts. Educational attainment significantly impacts wages and hours worked across all occupational groups. Each additional year of education correlates with higher earnings and increased work hours, supporting my theory that more highly specialized workers earn more and are in greater demand.

These findings highlight immigrants' contributions to the healthcare workforce and suggest that policy changes, such as increasing H-1C visa caps, could help attract more immigrant health support workers to the United States. Furthermore, allowing workers who are not proficient in English to take required licensure exams in their native language may improve pass rates for foreign-trained professionals on exams such as the NCLEX and USMLE. The main contribution of this paper is that I evaluated the labor market contributions of healthcare workers across multiple occupations rather than focusing on a specific occupation or specialization. Thus, providing a comprehensive analysis of the labor force in the entire healthcare field. Since immigrant health support workers and health technicians have higher educational attainment than their native counterparts and work more hours per year, they bring valuable skills, expertise, and labor hours to the U.S. healthcare field.

6. Study Limitations

Due to time constraints, there were several variables that I was unable to explore in my research. In the future, I would like to explore the effects of time spent in the United States, country of origin, and English proficiency on labor force contributions. I expect that more time spent in the United States and higher English proficiency will be linked to higher wages, as researchers such as Hunt (2015) and Amina and Uyarb (2020) have concluded in their work, and I am unsure of the effects that birthplace/country of origin will have on wages. Also, given that the time period of my data (2019-2023) is during the COVID-19 pandemic, perhaps future research could use a Difference-In-Difference model to compare immigrant and native wages before, during, and after the pandemic, to assess the labor market contributions of immigrants in the United States during the global health crisis, since demand for specialized care was particularly high during that time.

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References

Amin, S., & Uyar, B. (2021). *Pay gap between foreign-born and native-born doctors in the United States. Applied Economics, 53(5),* 650-662. https://doi.org/10.1080/00036846.2020.1808578

Batalova, J. (2023, April 6). *Immigrant Health-Care Workers in the United States*. Migrationpolicy.org. https://www.migrationpolicy.org/article/immigrant-health-care-workers-united-states-2021

Commodore-Mensah, Y., DePriest, K., Samuel, L. J., Hanson, G., Rita D'Aoust, & Slade, E. P. (2021). *Prevalence and characteristics of non–US-born and US-born health care professionals, 2010-2018. JAMA Network Open*, 4(4) https://doi.org/10.1001/jamanetworkopen.2021.8396

Hunt, J. (2015). *Are Immigrants the Most Skilled US Computer and Engineering Workers? Journal of Labor Economics, 33(S1),* S39–S77. https://doi.org/10.1086/678974

Hill, N., McGregory, R. & Peoples, J. *Noncitizen Employment and the Wages of Healthcare Support Workers in the US. J Labor Res 39, 433–461 (2018)*. https://doi.org/10.1007/s12122-018-9276-9

Johnson, R. L., Roter, D., Powe, N. R., & Cooper, L. A. (2004). *Patient Race/Ethnicity and quality of patient-physician communication during medical visits. American Journal of Public Health, 94(12), 2084-90.*

Kelly, D. L. (2013). *Foreign-born healthcare workers in the US, quality of care, and leadership. Sveikatos Politika Ir Valdymas, 1(5)*

Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler, and Michael Westberry. *Integrated Public Use Microdata Series, Current Population Survey: Version 12.0 [dataset]. Minneapolis, MN: IPUMS, 2024.* https://doi.org/10.18128/D030.V12.0

Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rogers, Jonathan Schroeder, and Kari C.W. Williams. *IPUMS USA: Version 16.0 [dataset]. Minneapolis, MN: IPUMS, 2025. https://doi.org/10.18128/D010.V16.0*