Accelerating Health Professions Pathways for Immigrants

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KEY FINDINGS

This study examines the sociodemographic and occupational characteristics of native-born U.S. citizens, naturalized U.S. citizens, and noncitizens in the Washington state health care labor force using data from the 2018 American Community Survey. The following were key study findings:

- An estimated 80.5% (297,610) of employed health care workers in Washington were native-born U.S. citizens, 13.5% (49,974) naturalized U.S. citizens, and 6.0% (22,227) noncitizens.
- Higher proportions of the native-born were White (81.0%), while immigrants had the highest proportions of Asians—46.4% for naturalized citizens and 42.3% for noncitizens. Proportionally more noncitizens reported Hispanic ethnicity (17.5%) than the other groups.
- Noncitizens earned 11% less than native-born citizens, and about 24% less than naturalized citizens, while working the most weekly hours of all groups, about 5 to 6 hours more than the other groups.
- More native-born citizens reported having at least a bachelor's degree, 52.6%, compared with 45.5% each for naturalized citizens and noncitizens.
- Noncitizens were disproportionately concentrated in low-paid occupations compared with native-born and naturalized citizens. More than two in five noncitizens were personal care aides or nursing assistants (44.2%), compared to 18.4% of native-born citizens and 28.3% of naturalized citizens.
- An estimated 95,116 (32.0%) native-born citizens, 15,946 (31.9%) naturalized citizens, and 8,259 (37.2%) noncitizens were overeducated—had more education than required for entry—for the health care occupations they held in 2018.
- Among the overeducated, the most common occupations were nursing assistants and personal care aides, but only 38.1% of native-born citizens were engaged in these two occupations, compared with 53.7% of naturalized citizens and 53.3% of noncitizens.
- More than 45% of all workers with a bachelor of science in nursing (BSN) degree were working in occupations outside of health care. Nearly a third of noncitizen BSN-educated persons working in non-health care occupations were concentrated in three non-health occupation categories that generally require less education: building and grounds cleaning and maintenance occupations, personal care and service occupations, and food preparation and service-related occupations.

Study findings indicate that noncitizens face greater labor market vulnerability and fewer opportunities to utilize their education, suggesting the need for policies to maximize immigrants' full potential to meet critical health workforce needs.

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INTRODUCTION

Immigrants are an important part of Washington state's workforce, employed in a vast array of occupations, including health care. The recent coronavirus pandemic has shed light on the importance of essential occupations, including health care, in which immigrants play a pivotal role. Nationally, immigrants, who include both non-U.S. citizens and naturalized citizens, represented about 28% of physicians, 16% of registered nurses, nearly 38% of home health aides, and 26% of personal care aides,[1] illustrating the robust presence of immigrants in diverse health care roles.

Despite being a large share of the U.S. health workforce, relatively little is known about the characteristics of immigrant health care workers, including those arriving with health care education and work experience and those who obtain their education and work experience here. Available data frequently do not indicate immigrants' education and occupation and training before coming to the U.S., what their preferences are for work in the U.S., and what barriers they may face, such as language. Of particular concern is the underutilization of skills and education among immigrant health care workers when they are employed in occupations that require less education than the immigrants' actual acquired level of education. Immigrants in many developed countries are concentrated in occupations that underutilize their qualifications and face frequent threat of underemployment and unemployment.[2-4] Discrimination and prejudice against immigrants can lead to poor employment outcomes and lower returns on immigrant investment in education compared with non-immigrants.[5,6]

Prior work suggests that noncitizens working in health care can face both social and labor market vulnerabilities, particularly for noncitizens because of their concentration in less skilled and lower paying occupations.[7] Immigrant health care professionals can face barriers translating the credentials and experience acquired in their home countries to appropriate jobs in the U.S.[8] The underutilization of immigrant skills and qualifications has led to social and economic costs, such as forgone earnings and tax payments, as well as degradation of skills and education over time, affecting immigrants' ability to earn wages to support themselves and their families.[9] The extent of these problems, including factors contributing to underutilization of the immigrant health care workforce and policies available to assist these workers in finding jobs that match their education level, have yet to be described.

Greater racial and ethnic diversity in the health workforce is vital to meet the health care needs of an increasingly diverse U.S. population. Particularly for immigrant patients, language barriers adversely affect access to and quality of care.[10] Language-concordant care has been shown to improve trust between patients and health care workers as well as advance health equity for diverse populations through improved health outcomes.[11] Immigrants can thus fill an important gap in the health workforce by providing culturally responsive and language-appropriate care.

The Welcome Back Initiative was established in 2001 in California to take advantage of the untapped skills of immigrant health professionals by assisting them to realize their full potential in the U.S. health workforce.[i] Since then, the number of Welcome Back Centers has grown to nine nationwide, including the Puget Sound Welcome Back Center at Highline College in Des

[i] Welcome Back Initiative. https://www.wbcenters.org/about.html. Accessed 6/9/21.

Moines, WA. This study, by the University of Washington Center for Health Workforce Studies, was undertaken as part of a project led by Highline College, "Accelerated Pathways for Internationally Educated Professionals," and funded through a Hospital Employees Education and Training grant. The project's overall goals were to work with labor and industry partners to forge effective career pathways and advance equity by diversifying the workforce and addressing workforce shortages.

This study's goals were to inform the project by:

- Describing the roles immigrants play in Washington state's health workforce;
- Estimating the number of health care workers who are overeducated for their jobs; and
- Exploring systemic barriers that affect the career progression of internationally educated health professionals and best practices for overcoming those barriers.

This report addresses the first two goals by providing quantitative data on the characteristics and roles of immigrants in Washington state's health care workforce.

METHODS

We used data from the 2018 American Community Survey (ACS), an annual survey of 3.5 million households conducted by the U.S. Census Bureau.[1] Our sample consisted of individuals 18 years and older residing in Washington state and employed in health care occupations (see **Table A-1** in the Appendix for a detailed list). Except where noted, our analysis focused on health care workers who indicated they were "currently employed" in 2018. We compared three citizenship groups: native-born U.S. citizens, naturalized U.S. citizens, and noncitizens. The ACS sample is intended to represent the entire population but does not provide details about individuals' immigration history and status—beyond being noncitizens or naturalized citizens—such as whether immigrants are or have been permanent residents, refugees, asylees, or undocumented. Replicate sample weights were applied to construct a sample representative of the state's total population.[ii]

ACS provides detailed sociodemographic and work characteristics. Sociodemographic characteristics reported here include age, sex, race, ethnicity, marital status, number of children in the household (in total and under the age of five), level of highest education (less than a bachelor's degree versus bachelor's degree and higher), and residence in a metropolitan versus non-metropolitan area. Work characteristics include weekly earnings, weekly work hours, part-time employment status (defined as less than 35 hours of work weekly)[iii], and health care setting (hospitals, ambulatory care, and long-term care). We also examined immigrant characteristics including birthplace, age at immigration, years in the U.S., and age at naturalization, if applicable. Except for immigrants from Canada and Mexico, we reported birthplace as regions or continents because the ACS suppresses birth countries of immigrants from other countries due to sample size limitations.

We also created a measure of whether workers were overeducated or not for their occupations based on the typical minimum education requirements for entering health occupations as described by the U.S. Bureau of Labor Statistics Occupational Outlook Handbook (see **Table A-1** for occupation-specific required education levels).[10] For example, a high school diploma is typically required for employment as a personal care aide. We designated persons with more than a high school diploma (e.g., associate degree) as overeducated. ACS only provides detailed information about field of study for those

[ii] ACS survey responders in our analysis included 59,283 residents of Washington state among which 3,689 were health care workers.

[iii] The BLS defines part-time as working for fewer than 35 hours per week. More details are available at https://www.bls.gov/cps/lfcharacteristics.htm.

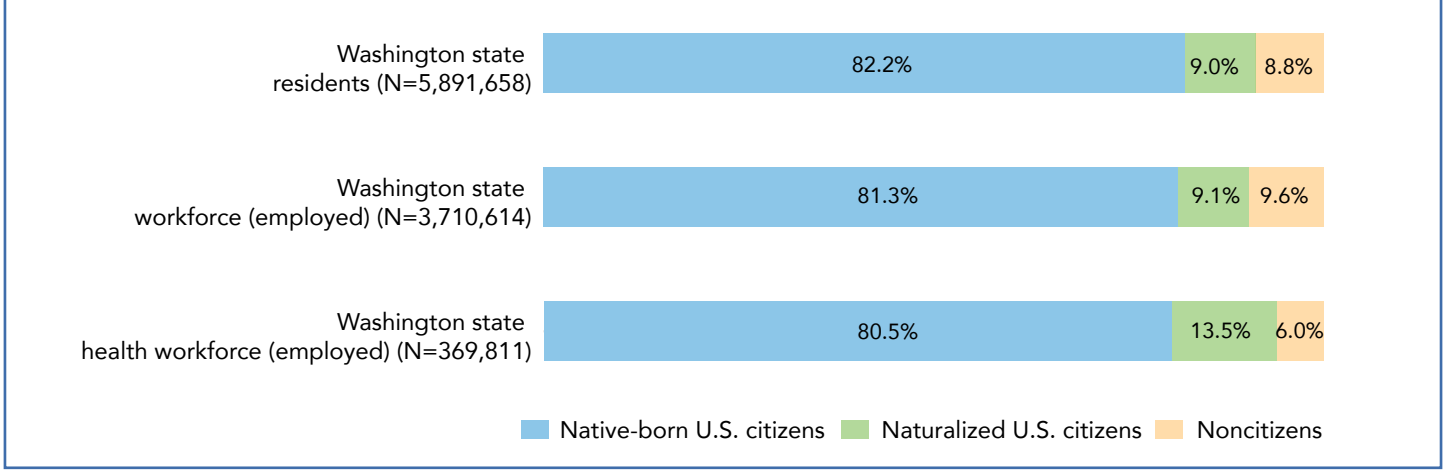
with bachelor's degrees, allowing us to identify those who received a bachelor's degree in nursing, which we assumed to be the Bachelor of Science in Nursing (BSN) degree. No other health care-specific degrees were available in the ACS data. Given that nurses may be required to have either an associate or bachelor's degree, we designated nurses with more than a bachelor's degree as overeducated.

RESULTS

Health Care Employment in Washington

In Washington state, there were an estimated 376,958 workers (both employed and unemployed) in health care in 2018, of which 80.6% (304,014) were native-born citizens, 13.3% (50,172) naturalized citizens and 6.0% (22,771) noncitizens. Almost one in five Washington residents were immigrants, and the proportion was similar for the Washington workforce overall (**Figure 1**). The unemployment rate was low among all citizenship groups, under 2%.

Figure 1. Washington State Residents, Washington State Workforce (Employed), and Washington State Health Workforce (Employed) by Nativity/Citizenship Status, 2018



Source: Author calculation of estimates from American Community Survey 2018 extracted from: Ruggles S, Flood S, Goeken R, Grover J, Meyer, E, Pacas J, Sobek M. IPUMS USA: Version 8.0 [dataset]. Minneapolis, MN: IPUMS, 2018. https://doi.org/10.18128/D010.V8.0

Among estimated 369,811 employed health care workers, 80.5% (297,610) were native-born citizens. More than twice as many immigrant workers employed in health care were naturalized U.S. citizens (13.5%) as noncitizens (6.0%): an estimated 49,974 naturalized U.S. citizens and 22,227 noncitizens were employed in health occupations.

Demographic Characteristics of Washington Health Care Workers

Table 1 shows the sociodemographic characteristics of health care workers employed in Washington state. Among the three citizenship groups, average ages ranged between 35.7 to 45.5 years; naturalized citizens were the oldest group, while noncitizens were the youngest. About two thirds of noncitizen health care workers were women, compared with more than three quarters of native-born and naturalized citizens.

Table 1: Sociodemographic Characteristics of Washington State Health Care Workers, 2018

	Native-born U.S. citizens	Naturalized U.S. citizens	Noncitizens
N (Employed only)	297,610	49,974	22,227
	Mean/%	Mean/%	Mean/%
Female	76.2%	78.2%	66.0%
Age (mean yrs.)	42.5	45.5	35.7
Age at immigration (mean yrs.)	NA	20.7	23.2
Years in the U.S. (mean yrs.)	NA	24.9	12.5
Age at naturalization (mean yrs.)	NA	30.4	NA
Married	54.0%	62.4%	43.5%
Number of children	0.8	1.1	0.6
Number of children <5 years old	0.2	0.2	0.2
Bachelor's degree or higher	52.6%	45.5%	45.5%
Live in a metropolitan area	87.8%	98.2%	91.7%
Average weekly earnings (U.S.$)	1,174.09	1,371.62	1,042.24
Average weekly work hours	38.0	39.1	44.4
Part-time workers (<35 hrs/week)	28.8%	26.6%	26.0%
Race/Ethnicity*			
White	81.0%	26.2%	31.2%
Black	3.9%	19.1%	16.1%
Asian	5.9%	46.4%	42.3%
Other	9.1%	8.4%	10.3%
Hispanic ethnicity	6.9%	8.9%	17.5%

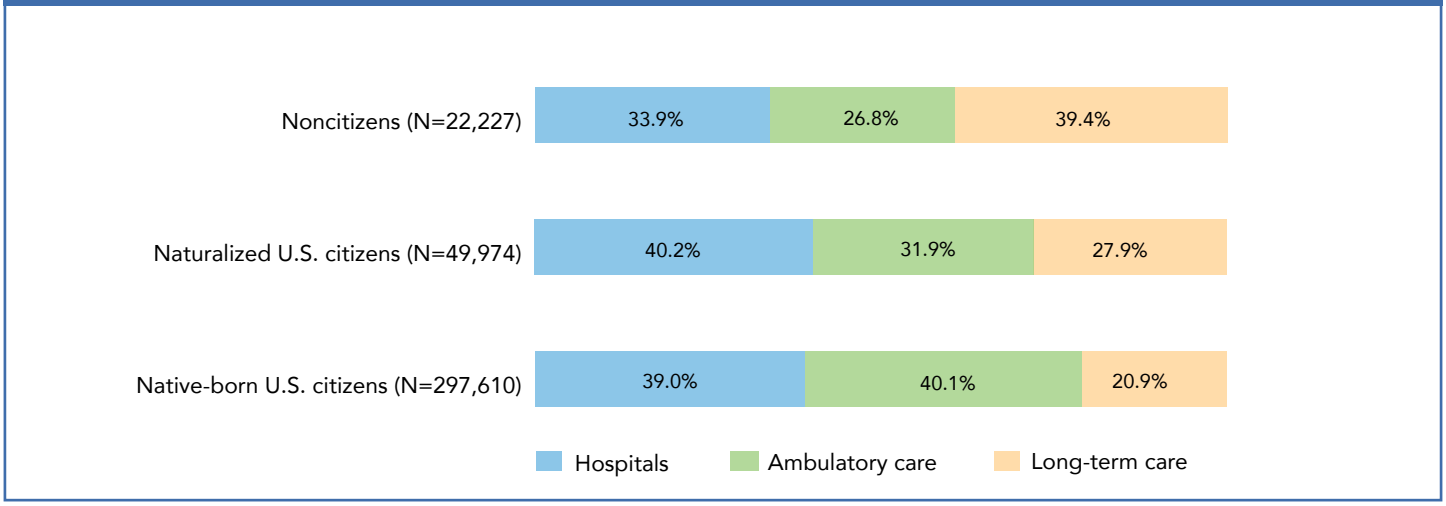
Source: Author calculation of estimates from American Community Survey 2018 extracted from: Ruggles S, Flood S, Goeken R, Grover J, Meyer, E, Pacas J, Sobek M. IPUMS USA: Version 8.0 [dataset]. Minneapolis, MN: IPUMS, 2018. https://doi.org/10.18128/D010.V8.0

*Race percentages may not sum to 100 due to rounding.

Naturalized citizens had immigrated into the U.S. at a younger age on average (20.7) than noncitizens (23.2) and obtained their citizenship approximately 10 years after immigrating (30.4). The average time living in the U.S. for naturalized citizens was 24.9 years, more than 10 years longer than noncitizens (12.5 years). A greater proportion of naturalized citizens were married (62.4%) than native-born citizens (54.0%) and noncitizens (43.5%). Naturalized citizens also reported having more children. A larger proportion of native-born citizens held higher degrees compared with immigrants: 52.6% had a bachelor's degree or higher, while 45.5% of both immigrant groups reported having a bachelor's degree or higher (see **Table A-2** in the Appendix for sociodemographic comparisons between citizenship groups by level of education). Over 98% of naturalized citizens lived in metropolitan areas, compared with 91.7% of noncitizens and 87.8% of the native-born. Naturalized citizens had the highest average weekly earnings ($1,371.62), while noncitizens earned the least ($1,042.24) but worked the longest average hours in a week (44.4) compared to naturalized citizens (39.1) and native-born citizens (38.0). Higher proportions of the native-born were White (81.0%), while immigrants had the highest proportions of Asians—46.4% for naturalized citizens and 42.3% for noncitizens. A higher percentage of noncitizens reported Hispanic ethnicity than the other two groups.

Figure 2 shows the work settings of Washington health care workers by citizenship status. Native-born citizens more often worked in ambulatory care (40.1%) and hospitals (39.0%), naturalized citizens worked primarily in hospitals (40.2%), and noncitizens most often worked in long-term care facilities (39.4%), followed by hospitals (33.9%).

Figure 2. Washington State Health Workforce: Employment Settings by Nativity/Citizenship Status, 2018



Source: Author calculation of estimates from American Community Survey 2018 extracted from: Ruggles S, Flood S, Goeken R, Grover J, Meyer, E, Pacas J, Sobek M. IPUMS USA: Version 8.0 [dataset]. Minneapolis, MN: IPUMS, 2018. https://doi.org/10.18128/D010.V8.0

Table 2 displays the top 15 health care occupations by citizenship status. Among all native-born and naturalized citizen health care workers, the patterns were similar: the top four occupations, in order of frequency, were registered nurses, personal care aides, nursing assistants, and physicians.

Table 2: Top 15 Health Care Occupations Among All Health Care Workers by Nativity/Citizenship Status in Washington State, 2018

Native-born U.S. citizens (N = 297,610)	%	Naturalized U.S. citizens (N = 49,974)	%	Noncitizens (N = 22,227)	%
Registered nurses	17.8	Registered nurses	18.3	Personal care aides	26.1
Personal care aides	10.2	Personal care aides	17.9	Nursing assistants	18.1
Nursing assistants	8.2	Nursing assistants	10.4	Physicians	6.2
Physicians	4.9	Physicians	7.1	Registered nurses	6.2
Medical and health services managers	4.4	Clinical laboratory technologists and technicians	4.9	Massage therapists	5.0
Medical assistants	3.9	Pharmacists	4.9	Pharmacists	4.0
Licensed practical and licensed vocational nurses	2.9	Medical and health services managers	4.1	Licensed practical and licensed vocational nurses	3.5
Massage therapists	2.7	Medical assistants	3.5	Medical assistants	3.5
Social and community service managers	2.6	Dentists	2.8	Dental hygienists	3.4
Physical therapists	2.4	Massage therapists	2.4	Dental assistants	3.1
Dental assistants	2.2	Licensed practical and licensed vocational nurses	2.3	Social and community service managers	2.4
Clinical laboratory technologists and technicians	2.0	Home health aides	2.2	Physical therapists	2.1
Pharmacists	2.0	Medical, dental, and ophthalmic laboratory technicians	1.8	Medical, dental, and ophthalmic laboratory technicians	1.8
Mental health counselors	1.7	Social and community service managers	1.5	Pharmacy technicians	1.4
Pharmacy technicians	1.7	Pharmacy technicians	1.5	Psychiatric technicians	1.2

Source: Author calculation of estimates from American Community Survey 2018 extracted from: Ruggles S, Flood S, Goeken R, Grover J, Meyer, E, Pacas J, Sobek M. IPUMS USA: Version 8.0 [dataset]. Minneapolis, MN: IPUMS, 2018. https://doi.org/10.18128/D010.V8.0

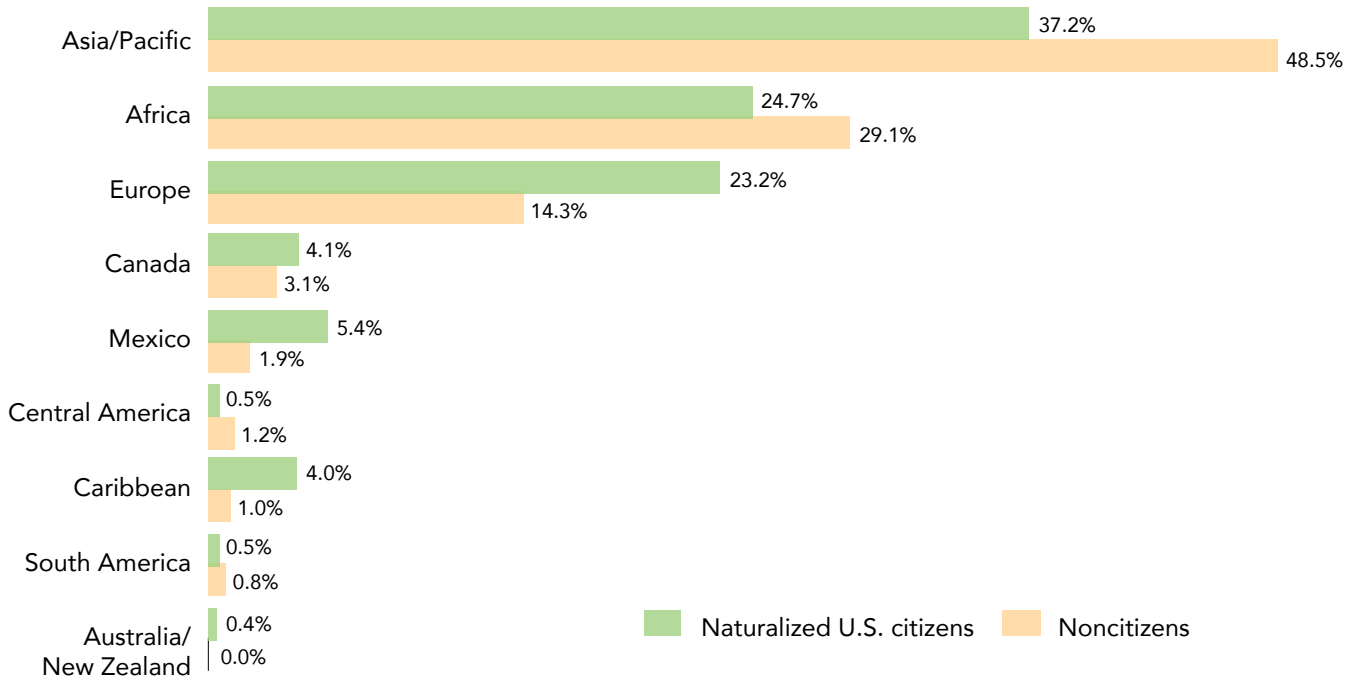
Among noncitizens, the same occupations were in the top four, but the order of rank was different: registered nurse was fourth rather than first on the list. More than 40% of noncitizens were personal care aides (26.1%) or nursing assistants (18.1%), which are both notably low paid occupations with low barriers to entry, followed by physicians (6.2%) and registered nurses (6.2%).

Overeducation Among Washington Health Care Workers

Based on education requirements for entering health occupations as described by the U.S. Bureau of Labor Statistics Occupational Outlook Handbook, among health care workers, an estimated 95,116 (32.0% of health workers) native-born citizens, 15,946 (31.9%) naturalized citizens, and 8,259 (37.2%) noncitizens were overeducated for the occupations they held in 2018 in Washington state.

Figure 3 shows the birthplaces of overeducated immigrants. The Asia/Pacific region, Africa, and Europe were the most common birthplaces. Compared with naturalized citizens, overeducated noncitizens were more likely to be from the Asia/Pacific region and Africa and less likely to be from Europe.

Figure 3. Overeducation* Among Washington State Immigrants in Health Care Occupations by Place of Birth, 2018



Source: Author calculation of estimates from American Community Survey 2018 extracted from: Ruggles S, Flood S, Goeken R, Grover J, Meyer, E, Pacas J, Sobek M. IPUMS USA: Version 8.0 [dataset]. Minneapolis, MN: IPUMS, 2018. https://doi.org/10.18128/D010.V8.0

*Overeducation is determined based on education requirements for entering select health occupations as reported by the U.S. Bureau of Labor Statistics Occupational Outlook Handbook: https://www.bls.gov/ooh/healthcare/home.htm. Because some occupations could not be assigned a required entry-education level due to their heterogenous nature, 5.0% of native-born U.S. citizens, 1.7% of naturalized U.S. citizens, and 1.0% of noncitizens were excluded. Occupation groups that were excluded from our analysis included 2025 Other Community and Social Service Specialists, 3245 Other Therapists, 3270 Healthcare Diagnosing/Treating Practitioners, All Other, 3430 Dietetic Technicians and Ophthalmic Medical Technicians, 3545 Miscellaneous Health Technologist and Technicians, 3550 Other Healthcare Practitioners and Technical Occupations, and 3655 Other Healthcare Support Workers.

Table 3 shows other demographic characteristics of health care workers by their overeducation status.

Table 3: Washington State Health Care Workforce Sociodemographic Characteristics by Overeducation* and Nativity/ Citizenship Status, 2018

	Native-born U.S. citizens		Naturalized U.S. citizens		Noncitizens	
	Actual education ≤ Required education	Actual education > Required education	Actual education ≤ Required education	Actual education > Required education	Actual education ≤ Required education	Actual education > Required education
N	192,438	90,399	33,439	15,674	13,831	8,180
Female	76.1%	77.6%	78.7%	79.0%	62.1%	71.1%
Age (mean)	43.1	41.3	45.1	47.7	37.1	32.6
Age at immigration (mean)	NA	NA	20.1	23.3	25.2	27.3
Years in the U.S. (mean)	NA	NA	24.3	22.4	14.9	10.0
Age at naturalization (mean)	NA	NA	29.2	32.6	NA	NA
Married	56.7%	45.1%	59.4%	71.6%	50.3%	30.2%
Number of children	0.8	0.6	1.2	0.9	0.8	0.4
Number of children <5 years old	0.2	0.2	0.2	0.2	0.2	0.0
Bachelor's degree or higher	53.8%	49.7%	46.6%	42.1%	35.0%	62.7%
Live in a metropolitan area	88.2%	84.8%	98.9%	97.0%	88.7%	100.0%
Average weekly earnings (U.S.$)	1,362.27	814.64	1,584.71	954.45	1,272.16	665.16
Average weekly work hours	39.1	35.5	39.6	37.8	39.7	52.7
Part-time workers (<35 hrs/week)	27.4%	31.9%	24.1%	31.9%	24.1%	28.4%
Race/Ethnicity**						
White	83.1%	76.4%	21.3%	40.5%	38.2%	20.9%
Black	3.2%	5.5%	20.1%	17.2%	9.7%	27.3%
Asian	6.3%	5.4%	50.8%	31.6%	38.7%	49.8%
Other	7.5%	12.8%	7.7%	10.7%	13.4%	2.0%
Hispanic ethnicity	7.2%	7.4%	9.7%	8.2%	28.5%	0.0%

Source: Author calculation of estimates from American Community Survey 2018 extracted from: Ruggles S, Flood S, Goeken R, Grover J, Meyer, E, Pacas J, Sobek M. IPUMS USA: Version 8.0 [dataset]. Minneapolis, MN: IPUMS, 2018. https://doi.org/10.18128/D010.V8.0

*Overeducation is determined based on education requirements for entering select health occupations as reported by the U.S. Bureau of Labor Statistics Occupational Outlook Handbook: https://www.bls.gov/ooh/healthcare/home.htm. Because some occupations could not be assigned a required entry-education level due to their heterogenous nature, 5.0% of native-born U.S. citizens, 1.7% of naturalized U.S. citizens, and 1.0% of noncitizens were excluded. Occupation groups that were excluded from our analysis included 2025 Other Community and Social Service Specialists, 3245 Other Therapists, 3270 Healthcare Diagnosing/ Treating Practitioners, All Other, 3430 Dietetic Technicians and Ophthalmic Medical Technicians, 3545 Miscellaneous Health Technologist and Technicians, 3550 Other Healthcare Practitioners and Technical Occupations, and 3655 Other Healthcare Support Workers.

**Race percentages may not sum to 100 due to rounding.

Nearly two thirds of overeducated noncitizens had a bachelor's degree or higher (62.7%) versus 49.7% of native-born citizens and 42.1% of naturalized citizens. Overeducated individuals in all groups had lower earnings than those who were not overeducated for their jobs, likely due at least in part to the fact that those in higher-earning occupations that require the most education (e.g., physicians) by definition cannot be overeducated for their jobs. Overeducated noncitizens worked the longest average hours of any group (52.7): 11% reported working 65 or more hours (not shown). Higher proportions of

overeducated naturalized citizens were White (40.5%) than overeducated noncitizens (20.9%), who were most often Asian (49.8%). Overeducated noncitizens were more likely to be Asian (49.8%). Overeducated noncitizens were much less likely to be Hispanic compared with noncitizens, whose education more often matched the entry-level requirement for their jobs.

Among the overeducated, the most frequent occupations (see **Table 4**) were nursing assistants and personal care aides for all three groups; 53.7% of naturalized citizens and 53.3% of noncitizens, but only 38.1% of native-born, were employed in these two occupations.

Table 4: Top 15 Health Care Occupations Among Overeducated* Health Care Workers by Nativity/Citizenship Status in Washington State, 2018

Native-born U.S .citizens (N = 90,399)	%	Naturalized U.S .citizens (N = 15,674)	%	Noncitizens (N = 8,180)	%
Nursing assistants	19.8	Personal care aides	35.6	Personal care aides	26.7
Personal care aides	18.3	Nursing assistants	18.0	Nursing assistants	26.5
Registered nurses	6.3	Registered nurses	11.7	Dental hygienists	9.2
Medical assistants	5.5	Medical assistants	6.8	Medical assistants	5.9
Medical and health services managers	4.4	Pharmacy technicians	4.1	Dental assistants	5.8
Massage therapists	4.3	Home health aides	2.6	Medical, dental, and ophthalmic laboratory technicians	4.8
Pharmacy technicians	4.0	Medical and health services managers	2.0	Pharmacy technicians	3.9
Home health aides	3.1	Pharmacy aides	1.6	Dietitians and nutritionists	2.9
Social and community service managers	2.9	Physical therapist assistants and aides	1.5	Massage therapists	2.4
Licensed practical and licensed vocational nurses	2.5	Dental assistants	1.5	Substance abuse and behavioral disorder counselors	2.3
Dental hygienists	2.3	Surgical technologists	1.4	Licensed practical and licensed vocational nurses	2.1
Occupational therapist assistants and aides	2.0	Massage therapists	1.4	Registered nurses	1.9
Veterinary assistants and laboratory animal caretakers	2.0	Phlebotomists	1.4	Physician assistants	1.7
Dental assistants	1.8	Acupuncturists	1.2	Medical records specialists	1.5
Medical records specialists	1.8	Clinical laboratory technologists and technicians	1.2	Surgical technologists	1.0

Source: Author calculation of estimates from American Community Survey 2018 extracted from: Ruggles S, Flood S, Goeken R, Grover J, Meyer, E, Pacas J, Sobek M. IPUMS USA: Version 8.0 [dataset]. Minneapolis, MN: IPUMS, 2018. https://doi.org/10.18128/D010.V8.0

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Non-Health Care Occupations of Workers with a Bachelor of Science in Nursing Degree

We examined the types of jobs that BSN-educated persons held outside of health care to understand the extent to which their nursing education may be utilized or underutilized. **Table 5** shows the top non-health care occupation categories of BSN-educated workers for each citizenship group.

Table 5: Top Non-Health Care Occupation Categories Among Washington State Workers with a BSN* Degree by Nativity/ Citizenship Status, 2018 (N = 68,159)

Native-born U.S. citizens (N = 53,499)	%	Naturalized U.S. citizens (N = 11,125)	%	Noncitizens (N = 3,535)	%
Business and financial operations occupations	1.9	Management occupations	2.4	Building and grounds cleaning and maintenance occupations	12.5
Education, training and library occupations	1.7	Business and financial operations occupations	2.4	Personal care and service occupations	8.8
Office and administrative support occupations	1.6	Education, training and library occupations	1.6	Food preparation and service related occupations	8.3
Sales and related occupations	1.5	Computer and mathematical science occupations	0.8	Education, training and library occupations	5.9
Management occupations	1.3	Community and social service occupation	0.8	Sales and related occupations	4.4
Computer and mathematical science occupations	0.9	Food preparation and service related occupations	0.7	Management occupations	3.9
Community and social service occupation	0.4	Office and administrative support occupations	0.6	Business and financial operations occupations	3.3
Transportation and material moving occupations	0.4	Sales and related occupations	0.4	Transportation and material moving occupations	1.9

Source: Author calculation of estimates from American Community Survey 2018 extracted from: Ruggles S, Flood S, Goeken R, Grover J, Meyer, E, Pacas J, Sobek M. IPUMS USA: Version 8.0 [dataset]. Minneapolis, MN: IPUMS, 2018. https://doi.org/10.18128/D010.V8.0

*Bachelor of science in nursing

Nearly half (45.5%) of BSN-educated persons worked outside the health care sector and were distributed across a wide variety of occupation categories. The top ten occupation categories contained approximately 9% of native-born and naturalized citizens in non-health care occupation categories. In contrast, nearly a third of noncitizen BSN-educated persons were concentrated within three non-health occupation categories: building and grounds cleaning and maintenance occupations, personal care and service occupations, and food preparation and service-related occupations. These occupation categories generally require less education. Furthermore, noncitizens' top two categories did not appear among the top ten occupation categories for native-born citizens and naturalized citizens.

DISCUSSION AND CONCLUSIONS

This study compared the sociodemographic and occupational characteristics of health care workers in Washington state among three citizenship groups: native-born U.S. citizens, naturalized U.S. citizens, and noncitizens.

Our findings suggest greater labor market vulnerability for noncitizens compared with native-born and naturalized citizens. For instance, our results indicated that noncitizens worked most often as personal care aides and nursing assistants, occupations that require less formal education for entry. We also found that noncitizens earned about 11% less than native-born citizens, and about 24% less than naturalized citizens, while working the most weekly hours on average of all groups, about 5 to 6 hours more than the other groups. Additionally, though roughly a third or more of all citizenship groups appeared to be overeducated for their health care jobs, being overeducated was particularly prevalent among noncitizens.

Because noncitizens, on average, have spent less time in the U.S. than other groups, a lack of experience in the U.S. education system and labor market could have contributed to some of the observed differences in occupational outcomes. More research is needed to understand if these factors could have led to poorer labor market outcomes and returns to education for noncitizen health care workers.

We also found that a significant number of noncitizens with a BSN degree worked in lower paid non-health care occupations. Immigrant nurses seeking to enter the skilled U.S. labor market face several challenges, such as navigating complex licensing and English language proficiency requirements and the lack of professional networks, that unnecessarily hinder their career prospects.[8] This loss of human capital in the form of unutilized nursing education merits attention from health workforce planners to determine if there are pathways that could facilitate re-entry into nursing careers.

Several limitations should be noted. First, the data may not be completely representative of all types of immigrants; for example, undocumented immigrants may be more likely to be underrepresented. Second, except for the BSN, we were unable to determine whether degrees were in a health care field, leading to potential overestimation of how many workers were overeducated. Third, we were not able to identify the country in which an individual completed their education or jobs that they may have held before immigrating. Fourth, we were also unable to determine if differences in citizenship status or other factors caused the differences we observed in occupational and earnings outcomes.

A robust health workforce requires a good match between workers' education and occupations. The mismatches identified in this study indicate inefficiencies associated with a loss of productivity in the labor market. Future studies should explore these associations using causal methods that can better isolate the discrete effects of citizenship status on labor market outcomes for health care workers. Future analysis should also investigate if this mismatch leads health care workers to feel frustrated, lose motivation, or experience other impacts.

If the policymaking goal is to advance equity among workers and take full advantage of the human capital that immigrants bring, our results suggest the need for health workforce policies that prioritize career planning and pathways to address the need of noncitizen health care workers. By enabling immigrants to translate internationally acquired education into appropriate U.S. degrees, certifications, and credentials, these policies could enrich their job market experiences while providing needed health care professionals to serve diverse patient communities.

REFERENCES

1. Ruggles S, Flood S, Goeken R, et al. IPUMS USA: Version 8.0 [dataset]. Minneapolis, MN: IPUMS, 2018. Accessed June 22, 2021. https://doi.org/10.18128/D010.V8.0
2. Reitz J, Curtis J, Elrick J. Immigrant skill utilization: Trends and policy issues. *J Int Migr Integr*. 2013;15(1):1-26. Accessed June 24, 2021. https://www.deepdyve.com/lp/springer-journals/immigrant-skill-utilization-trends-and-policy-issues-Z7nXttFWtF
3. Xue, L., Xu, L. Employment outcomes of postsecondary educated immigrants, 2006 census. Ottawa, Ontario, Canada: Citizenship and Immigration Canada, Research and Evaluation. 2010. Accessed June 25, 2021. https://publications.gc.ca/collections/collection_2012/cic/Ci4-91-2012-eng.pdf
4. Batalova J, Fix M, Creticos PA. Uneven Progress: The Employment Pathways of Skilled Immigrants in the United States. Washington, DC: Migration Policy Institute. 2008. Accessed June 22, 2021. http://www.immigrationresearch-info.org/report/migration-policy-institute/uneven-progress-employment-pathways-skilled-immigrants-united-stat
5. Esses VM, Bennett-AbuAyyash C, Lapshina N. How discrimination against ethnic and religious minorities contributes to the underutilization of immigrants' skills. *Policy Insights Behav Brain Sci*. 2014;1(1):55-62. doi:10.1177/2372732214550166
6. Foad HS. Waves of immigration from the Middle East to the United States. (December 20, 2013). Accessed June 23, 2021. https://www.aeaweb.org/aea/2014conference/program/retrieve.php?pdfid=416
7. Patterson DG, Snyder CR, Frogner BK. Immigrants in Healthcare Occupations. Center for Health Workforce Studies, University of Washington, Jan 2017. Accessed June 23, 2021. http://familymedicine.uw.edu/chws/wp-content/uploads/sites/5/2017/01/Immigrants-in-Healthcare-Occupations_FR_Jan_2017-Patterson.pdf
8. McHugh M, Morawski M. Unlocking Skills: Successful Initiatives for Integrating Foreign-Trained Immigrant Professionals. Migration Policy Institute. 2017. Accessed June 23, 2021.https://www.issuelab.org/resources/31190/31190.pdf
9. Batalova J, Fix M, Bachmeier JD. Untapped Talent: The Costs of Brain Waste Among Highly Skilled Immigrants in the United States. Washington, DC: Migration Policy Institute. 2016. Accessed June 23, 2021. https://files.eric.ed.gov/fulltext/ED586143.pdf
10. Eamranond PP, Legedza AT, Diez-Roux AV, et al. Association between language and risk factor levels among Hispanic adults with hypertension, hypercholesterolemia, or diabetes. *Am Heart J*. 2009; 157(1):53-59. doi.org/10.1016/j.ahj.2008.08.015
11. Diamond L, Izquierdo K, Canfield D, Matsoukas K, Gany F. A systematic review of the impact of patient-physician non-English language concordance on quality of care and outcomes. *J Gen Intern Med*. 2019;34(8):1591-1606. doi: 10.1007/s11606-019-04847-5
12. U.S. Census Bureau. U.S. Bureau of Labor Statistics Occupational Outlook Handbook. Accessed October 12, 2020. https://www.bls.gov/ooh/healthcare/home.htm

APPENDIX

Table A-1: List of Health Care Occupations, Standard Occupational Classification Codes, and Minimum Required Education

Occupation Codes	Occupation Titles	Minimum Required Education for Entry
350	Medical and health services managers	Bachelor's degree
420	Social and community service managers	Bachelor's degree
1821	Clinical and counseling psychologists	Doctoral or professional degree
2001	Substance abuse and behavioral disorder counselors	Bachelor's degree
2004	Mental health counselors	Master's degree
2005	Rehabilitation counselors	Master's degree
2012	Healthcare social workers	Master's degree
2013	Mental health and substance abuse social workers	Master's degree
2025	Other community and social service specialists	*
3000	Chiropractors	Doctoral or professional degree
3010	Dentists	Doctoral or professional degree
3030	Dietitians and nutritionists	Bachelor's degree
3040	Optometrists	Doctoral or professional degree
3050	Pharmacists	Doctoral or professional degree
3090	Physicians	Doctoral or professional degree
3100	Surgeons	Doctoral or professional degree
3110	Physician assistants	Master's degree
3120	Podiatrists	Doctoral or professional degree
3140	Audiologists	Doctoral or professional degree
3150	Occupational therapists	Master's degree
3160	Physical therapists	Doctoral or professional degree
3200	Radiation therapists	Associate's degree
3210	Recreational therapists	Bachelor's degree
3220	Respiratory therapists	Associate's degree
3230	Speech-language pathologists	Master's degree
3245	Other therapists	*
3250	Veterinarians	Doctoral or professional degree
3255	Registered nurses	Bachelor's degree
3256	Nurse anesthetists	Master's degree
3258	Nurse practitioners and nurse midwives	Master's degree
3261	Acupuncturists	Master's degree
3270	Healthcare diagnosing or treating practitioners, all other	*
3300	Clinical laboratory technologists and technicians	Bachelor's degree

Table A-1 continued on next page

Table A-1 continued

Occupation Codes	Occupation Titles	Minimum Required Education for Entry
3310	Dental hygienists	Associate's degree
3321	Cardiovascular technologists and technicians	Associate's degree
3322	Diagnostic medical sonographers	Associate's degree
3323	Radiologic technologists and technicians	Associate's degree
3324	Magnetic resonance imaging technologists	Associate's degree
3330	Nuclear medicine technologists and medical dosimetrists	Associate's degree
3401	Emergency medical technicians	Postsecondary nondegree award
3402	Paramedics	Postsecondary nondegree award
3421	Pharmacy technicians	High school diploma or equivalent
3422	Psychiatric technicians	Postsecondary nondegree award
3423	Surgical technologists	Postsecondary nondegree award
3424	Veterinary technologists and technicians	Associate's degree
3430	Dietetic technicians and ophthalmic medical technicians	*
3500	Licensed practical and licensed vocational nurses	Postsecondary nondegree award
3515	Medical records specialists	Postsecondary nondegree award
3520	Opticians, dispensing	High school diploma or equivalent
3545	Miscellaneous health technologists and technicians	*
3550	Other healthcare practitioners and technical occupations	*
3601	Home health aides	High school diploma or equivalent
3602	Personal care aides	High school diploma or equivalent
3603	Nursing assistants	High school diploma or equivalent
3605	Orderlies and psychiatric aides	High school diploma or equivalent
3610	Occupational therapy assistants and aides	High school diploma or equivalent
3620	Physical therapist assistants and aides	Associate's degree
3630	Massage therapists	Postsecondary nondegree award
3640	Dental assistants	Postsecondary nondegree award
3645	Medical assistants	Postsecondary nondegree award
3646	Medical transcriptionists	Postsecondary nondegree award
3647	Pharmacy aides	High school diploma or equivalent
3648	Veterinary assistants and laboratory animal caretakers	High school diploma or equivalent
3649	Phlebotomists	Postsecondary nondegree award
3655	Other healthcare support workers	*
8760	Dental and ophthalmic laboratory technicians and medical appliance technicians	High school diploma or equivalent

*Required entry-level education could not be assigned due to the heterogenous nature of these occupations, representing 5.0% of native-born U.S. citizens, 1.7% of naturalized U.S. citizens, and 1.0% of noncitizens.

The minimum required education for entry is based on requirements for entering select health occupations as reported by the U.S. Bureau of Labor Statistics Occupational Outlook Handbook: https://www.bls.gov/ooh/healthcare/home.htm.

Table A-2: Washington State Health Care Workforce Sociodemographic Characteristics by Education Level and Nativity/ Citizenship Status, 2018

	Native-born U.S. citizens		Naturalized U.S. citizens		Noncitizens	
	Less than a Bachelor's degree	Bachelor's or higher degree	Less than a Bachelor's degree	Bachelor's or higher degree	Less than a Bachelor's degree	Bachelor's or higher degree
N	141,080	156,530	27,252	22,722	12,125	10,102
Female	82.2%	71.4%	81.0%	76.2%	69.8%	60.4%
Age (mean)	42.6	42.5	45.7	45.8	38.2	32.1
Age at immigration (mean)	NA	NA	22.9	19.4	26.3	25.8
Years in the U.S. (mean)	NA	NA	21.5	25.9	15.0	10.0
Age at naturalization (mean)	NA	NA	31.8	28.8	NA	NA
Married	42.7%	62.9%	61.1%	64.3%	44.5%	40.5%
Number of children	0.9	0.7	1.2	1.1	0.9	0.3
Number of children <5 years old	0.1	0.2	0.2	0.2	0.2	0.1
Live in a metropolitan area	84.4%	89.8%	99.5%	97.2%	87.1%	100.0%
Average weekly earnings (U.S.$)	701.17	1,700.12	676.80	2,031.64	608.31	1,694.96
Average weekly work hours	35.3	40.5	38.1	40.4	42.9	46.7
Part-time workers (<35 hrs/week)	30.8%	26.5%	31.1%	22.3%	33.3%	15.0%
Race/Ethnicity*						
White	77.8%	84.1%	32.6%	18.7%	39.7%	21.9%
Black	5.7%	2.1%	27.5%	9.6%	22.0%	9.5%
Asian	3.6%	8.2%	29.8%	65.1%	22.9%	66.9%
Other	12.9%	5.6%	10.1%	6.6%	15.3%	1.7%
Hispanic ethnicity	11.5%	3.4%	15.3%	2.1%	28.4%	4.8%

Source: Author calculation of estimates from American Community Survey 2018 extracted from: Ruggles S, Flood S, Goeken R, Grover J, Meyer, E, Pacas J, Sobek M. IPUMS USA: Version 8.0 [dataset]. Minneapolis, MN: IPUMS, 2018. https://doi.org/10.18128/D010.V8.0

*Race percentages may not sum to 100 due to rounding.

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