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THE CONTRIBUTIONS OF FOREIGN-BORN WORKERS TO U.S. HEALTH CARE

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EXECUTIVE SUMMARY

Foreign-born workers make a vital contribution to health care in the United States. The foreign born help meet U.S. health care needs not only by working as health care practitioners, technicians, and support workers, but also by conducting biomedical research, teaching students in health science-related fields and working in health care-related manufacturing.

This study presents a comprehensive overview of foreign-born workers' contributions to health care in the United States using data from the Current Population Survey (CPS) and the National Survey of College Graduates (NSCG). The CPS is a large monthly survey conducted by the Bureau of the Census and the Bureau of Labor Statistics that asks households about their demographic characteristics and employment situation. The survey offers the most upto-date picture of the U.S. labor force. This study also uses data from the NSCG, a biennial survey conducted by the National Science Foundation that asks U.S. residents who have at least a bachelor's degree a more detailed set of questions about their educational background and work activities than the CPS.

Almost one in five workers in a health care occupation are foreign born. Many foreign-born health care workers are in occupations that require years of highly specialized training: over one in four physicians and surgeons are foreign born; over one in five dentists; over one in six registered nurses; and almost one in five pharmacists. Other foreign-born health care workers are in occupations that require little formal training but are in high demand: over two in five home health aides are foreign born; over one in four personal care aides; and over one in five nursing assistants. The Bureau of Labor Statistics projects that home health and personal care aides – the occupations with the highest shares of foreign-born workers – will experience the most job growth of all U.S. jobs over the next decade.

The foreign born are especially likely to be working as physicians and surgeons (over 26 percent of whom are foreign born) and dentists (22 percent foreign born). They are also especially likely to be working as home health aides (41 percent foreign born), personal care aides (28 percent), and nursing assistants (22 percent). Meanwhile, they are notably less likely to be working as physical therapists (9 percent foreign born) and as pharmacy technicians (15 percent).

The foreign born are also a large share of workers in the health care industry, not all of whom are in health care occupations. Echoing their disproportionate share of home health and personal care aides, the foreign born are most overrepresented in the home and other health care services sector. By increasing the supply of home health and personal care aides, immigrant inflows have enabled more elderly and disabled people to remain at home

instead of having to move to an institution. Immigration also improves the quality of care within nursing homes and residential care facilities by increasing the availability of nursing assistants.

Almost one-half of biomedical researchers are foreign born. Foreign-born biomedical researchers have higher levels of education, on average, than U.S.-born biomedical researchers, and they are more likely to hold patents and/or have publications. The foreign born account for about one-quarter of U.S. patents related to health care. Foreignborn workers also help train the next generation of health care workers and work in jobs manufacturing health care devices and pharmaceuticals.

The aging of the U.S. population and the rising prevalence of chronic diseases increase the importance of ensuring that the country has an adequate supply of health care workers, while advances spurred by new research hold the promise of improving the quality of life for millions of Americans. Foreign-born workers are essential to both the supply of health care workers and research that leads to new pharmaceuticals and medical devices. Nonetheless, there are no visa categories reserved only for health care workers. Less than 7 percent of H-1B visas in fiscal year 2023 were awarded to workers in medicine and health care occupations. Foreign-born workers in health care occupations that do not require specialized training are not eligible for any temporary worker visa categories.

FOREIGN-BORN WORKERS IN HEALTH CARE OCCUPATIONS

The foreign born help fill essential jobs across all health care occupations. In 2022-2024, nearly 19 percent of workers across health care occupations as a whole are foreign born, according to data from the Current Population Survey (CPS), a large-scale survey of the U.S. population conducted every month by the U.S. Census Bureau and the Bureau of Labor Statistics. That mirrors the share of all U.S. workers who are foreign born during that period.

Table 1 Foreign-Born Worker Share in Health Care Occupations, 2022-2024

Occupation	All workers	% Foreign Born
Health care diagnosing or treating practitioners	6,965,000	16.5
Physicians and surgeons	1,006,000	26.4
Dentists	155,000	22.0
Pharmacists	356,000	19.0
Registered nurses	3,487,000	17.0
Physical therapists	303,000	8.8
All other practitioners	1,658,000	9.8
Health technologists and technicians	3,182,000	14.3
Licensed practical and vocational nurses	586,000	16.7
Pharmacy technicians	350,000	15.3
All other technologists and technicians	2,247,000	13.5
Health care support workers	5,167,000	23.8
Home health aides	621,000	40.8
Personal care aides	1,530,000	27.5
Nursing assistants	1,279,000	22.0
All other health care support workers	1,737,000	15.8
All health care occupations	15,315,000	18.5

Note: The total number of workers in each occupation group is the monthly average number of workers in that group from January 2022 through September 2024, rounded to the nearest 1,000. Calculations based on Current Population Survey basic monthly data.

¹ The CPS data are from January 2022 to September 2024, a period when the health care workforce had largely stabilized in the wake of the pandemic. CPS data are available via https://cps.ipums.org/cps/.

While the foreign born contribute to all health care occupations, they are most likely to be in jobs that require highly specialized skills acquired through years of training or in jobs that provide basic care and require little formal training. Table 1 reports the total number of people working in three main groups of health care occupations – health diagnosing or treating practitioners, health technologists and technicians, and health care support workers – and the largest subgroups within each of those groups. The table also reports the share of workers who are foreign born in each occupational group. The foreign born are especially likely to be working as physicians and surgeons (over 26 percent of whom are foreign born) and dentists (22 percent foreign born). They are also especially likely to be working as home health aides (41 percent foreign born), personal care aides (28 percent), and nursing assistants (22 percent). Meanwhile, they are notably less likely to be working as physical therapists (9 percent foreign born) and as pharmacy technicians (15 percent).

The pattern that foreign-born workers are concentrated in the health care occupations that require the most and the least specialized training is consistent with the "barbell" education distribution among the foreign born as a whole in the United States. Among the adult U.S. population, the foreign born are overrepresented among people who have a graduate degree and people have not completed high school, and they are underrepresented in the middle of the education distribution.²

Across health care occupations, the foreign born appear to be relatively less likely to work in some jobs that require extensive communication and interaction with patients, such as physical therapists. This is consistent with the general pattern that highly educated foreign-born workers tend to specialize in jobs that require quantitative and analytical skills and less educated foreign-born workers tend to specialize in jobs intensive in manual-physical labor skills, while U.S.-born workers of all education levels tend to specialize in occupations that require interactive and communication skills.³

Figure 1 shows the total number of people employed in health care occupations and the share of those workers who are foreign born over 2010 to 2024. The total number of workers in health care occupations rose from slightly over 11.1 million in 2010 to over 16 million in 2024. The share of workers in health care occupations who are foreign born rose as well, from about 15 percent at the beginning of that period to over 18 percent in 2023 and 2024. That

² See https://www.bls.gov/news.release/forbrn.t03.htm.

³ See Giovanni Peri and Chad Sparber, "Task Specialization, Immigration, and Wages," *American Economic Journal: Applied Economics* 1 (2009): 135-169; Giovanni Peri and Chad Sparber, "Highly Educated Immigrants and Native Occupational Choice," *Industrial Relations* 50 (2011): 385-411.

growth largely matches the increase during that period in the share of all workers who are foreign born. Immigration appears to have enabled growth in the health care workforce much like it has in the U.S. labor force as a whole.4

Total Employment in Health Care Occupations and Foreign-Born Share, 2010-2024 17 20% 16 19% Total employment 15 18% (in millions) 14 17% % foreign born 13 16% 12 15% 11 14% 10 13% 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

Figure 1

Note: Calculations based on Current Population Survey basic monthly data.

The Bureau of Labor Statistics (BLS) projects that home health and personal care aides – the health care occupations with the highest shares of foreign-born workers - will experience the most job growth in the United States over the coming decade.5 The BLS estimates that over 820,000 additional workers will be needed in those jobs. Registered nurses, nurse practitioners, and medical assistants are also among the top 15 occupations in expected job growth. Additional immigration is likely necessary to help meet the additional demand for workers in those jobs. Filling those jobs with American workers would be a challenge since the U.S. working-age population is projected to shrink absent additional immigrant inflows.⁶ Foreign-born registered nurses appear to be close substitutes for U.S.-born nurses, suggesting that immigrants could help fill the additional demand in that

⁴ For a discussion of the importance of immigrants to U.S. labor force growth in recent years, see National Foundation for American Policy, "Immigrants and America's Labor Force Growth," https://nfap.com/research/new-nfap-policy-briefimmigrants-and-americas-labor-force-growth/.

⁵ See https://www.bls.gov/emp/tables/occupations-most-job-growth.htm.

⁶ See Madeline Zavodny, "Why the United States Still Needs Foreign-Born Workers," National Foundation for American Policy, https://nfap.com/studies/why-the-united-states-still-needs-foreign-born-workers/.

occupation. In health care support occupations, foreign-born workers appear to be complements rather than substitutes for U.S.-born workers in many of those jobs, suggesting a need for both groups of workers.8

The foreign born contribute to the health care workforce all across the United States, but they make up a larger share of health care workers in some states than in others. The foreign-born share of health care workers was about twice the national average in New York (36 percent), New Jersey (35 percent), California (32 percent), and Florida (31 percent). It was lowest in Mississippi and West Virginia (both 1 percent), Montana (2 percent), and Alabama (3 percent). Those are also states with among the highest and lowest, respectively, shares of their entire workforce that are foreign born. States with a disproportionately high share of foreign-born health care workers relative to their entire workforce include North Dakota (with 11 percent of health care workers foreign born, versus 6 percent of all workers), Maine (6 percent versus 4 percent), Alaska (14 percent versus 9 percent), and Minnesota (16 percent versus 11 percent).

FOREIGN-BORN WORKERS IN THE HEALTH CARE INDUSTRY

The health care industry encompasses businesses that provide medical care in a variety of settings, including hospitals, clinics, and doctor's offices, in addition to skilled nursing and residential care facilities and private homes. In total, the health care industry employs almost 19 million workers. Table 2 shows the number of workers in the health care industry across four major sectors: ambulatory health care services (further subdivided divided into offices of health practitioners and outpatient care centers); hospitals, including general, surgical, specialty, psychiatric, and substance abuse hospitals; nursing and residential care facilities; and home and other health care services, again using data from the 2022-2024 CPS.

About one in six workers in the health care industry as a whole are foreign born. The share of workers who are foreign born is slightly lower in ambulatory health care services, and slightly higher in nursing and residential care facilities. It is notably higher in the home and other health care services sector, reaching almost 22 percent.

⁷ See Patricia Cortes and Jessica Pan. "Foreign Nurse Importation and the Supply of Native Nurses." Journal of Health Economics 37 (2014): 164-180; Neeraj Kaushal and Robert J. Kaestner, "Are Foreign-Trained Nurses Perfect Substitutes for U.S.-Trained Nurses?" ILR Review 68 (2015): 1102-1125.

⁸ See Nicholas Hill, Richard McGregory, and James Peoples, "Noncitizen Employment and the Wages of Healthcare Support Workers in the US," Journal of Labor Research 39 (2018): 433-461.

Table 2 Foreign-Born Worker Share in the Health Care Industry

Industry	All workers	% Foreign Born
Ambulatory health care services	5,750,000	13.3
Offices of health practitioners	3,332,000	14.2
Outpatient care centers	2,418,000	12.0
Hospitals	7,456,000	16.4
Nursing and residential care facilities	2,247,000	18.2
Home and other health care services	3,217,000	21.9
Health Care Industry	18,699,000	16.6

Note: The total number of workers in each sector group is the monthly average number of workers in that sector from January 2022 through September 2024, rounded to the nearest 1,000. Calculations based on Current Population Survey basic monthly data.

Employment in the home and other health care services sector expanded considerably between 2010 and 2024, increasing by 25 percent over that period. Meanwhile, employment in nursing and residential care facilities fell during that period, the only major health care sector to shrink. The decrease in employment at nursing and residential care facilities may be surprising given the aging of the American population. However, many elderly and disabled people prefer to remain at home instead of living in an institution, and immigration has made it possible for many of them to do so. The increase in the less-educated foreign-born share of the labor force between 1980 and 2000 allowed 10 percent more elderly U.S. natives to stay home instead of move to an institution by increasing the availability of home health care and other personal services in an area.9 Conversely, the drop in the number of immigrants as a result of the Secure Communities program, which removed hundreds of thousands of foreign-born people from the United States, led to an almost 7 percent increase in the likelihood that elderly Americans lived in an institution as home health and personal care aides became less available. 10

For those Americans who do live in a nursing home or other residential care facility, immigration appears to improve the quality of care. A larger foreign-born workforce increases the availability of nursing aides and other workers,

⁹ See Kristin F. Butcher, Kelsey Moran, and Tara Watson, "Immigration Labor and the Institutionalization of the U.S.-Born Elderly," Review of International Economics 30 (2022): 1375-1413. A similar result is reported by David C. Grabowski, Jonahan Gruber, and Brian McGarry, "Immigration, the Long-Term Care Workforce, and Elder Outcomes in the U.S." National Bureau of Economic Research working paper np. 30960.

¹⁰ See Abdulmohsen Almuhaisen, Catalina Amuedo-Dorantes, and Delia Furtado, "Immigration Enforcement and the Institutionalization of Elderly Americans," Journal of Health Economics 94 (2024): 102859. For a similar result, see Youngjoo Jung and Domininkas Mockus, "From Lawn Care to Home Care: Undocumented Immigration and Aging in Place," American Journal of Health Economics forthcoming.

leading to a decrease in the number of falls among nursing home residents and an improvement in other measures of care. 11 Secure Communities resulted in worse staffing ratios at nursing homes. 12

The foreign born not only provide direct patient care but also work in a variety of support and administrative roles within the health care industry. Workers in the health care occupations included in Table 1 account for the majority of people employed in the health care industry, but about one in three people employed in that industry are in other occupations, such as managers, receptionists, and cleaners. About 13 percent of people employed in the health care industry but working in a non-health care occupation are foreign born, or about 440,000 workers.

Conversely, a substantial share of workers in health care occupations are not employed in the health care industry sectors listed in Table 2. Almost one-quarter of people employed in the health care occupations listed in Table 1 are not working in the health care industry sectors listed in Table 2. The most common sectors in which those people work are individual and family services, government administration, and pharmacies. Almost 19 percent of people employed in a health care occupation but not working in the health care industry are foreign born, or almost 630,000 workers.

FOREIGN-BORN WORKERS IN OTHER HEALTH CARE-RELATED JOBS

The foreign born play a central role in biomedical research in the United States. They make significant contributions to both clinical and basic science research, including advancements in public health, medical technologies, and pharmaceutical development. Approximately one-third of the Americans who have won a Nobel Prize in medicine since 2000 are foreign born, and over two in five of the Americans who have won a Nobel Prize in chemistry since 2000.¹³

Almost one-half of people working as bioengineers, biomedical engineers, or medical scientists – occupations not formally classified as health care but critically important to health care innovation and invention – are foreign born, totaling 82,000 workers, according to CPS data for 2022-2024. The vast majority of those foreign-born biomedical researchers have a master's or doctoral degree, and they have more education, on average, than U.S.-born

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¹¹ See Delia Furtado and Francesc Ortega, "Does Immigration Improve Quality of Care in Nursing Homes?" *Journal of Human Resources* forthcoming. For similar findings regarding foreign-born certified nursing assistants and the quality of care in nursing homes, see Hankyung Jun and David C. Grabowski, "Nursing Home Staffing: Share Of Immigrant Certified Nursing Assistants Grew As US-Born Staff Numbers Fell, 2010–21," *Health Affairs* 43 (2024): 108-117; and for increases in female immigrant inflows improving the quality of care in nursing homes, see David C. Grabowski, Jonathan Gruber, and Brian McGarry, "Immigration, the Long-Term Care Workforce, and Elder Outcomes in the U.S." National Bureau of Economic Research working paper no. 30960 (2023).

¹² See Christian Gunadi, "The Unintended Consequence of Stringent Immigration Enforcement on Staffing Levels in Nursing Homes: Evidence from Secure Communities," *Oxford Bulletin of Economics and Statistics* forthcoming.

¹³ See Immigrants and Nobel Prizes: 1901-2025, NFAP Policy Brief, National Foundation for American Policy, October 2025.

biomedical researchers. Most of them work in the scientific research and development services sector, at hospitals, in pharmaceutical and medicine manufacturing, or at colleges and universities.

Data from the 2019 and 2021 National Survey of College Graduates (NSCG) offer additional insight into biomedical researchers' work activities and educational background. The NSCG is a biennial survey conducted by the National Science Foundation that offers more detail than the CPS about workers' educational background, experience, and job characteristics. The survey includes an oversample of workers in science and engineering occupations, making it ideal for learning more about immigrants' contributions to biomedical research jobs. Like the CPS data, the NSCG data indicate that foreign-born workers account for a large share of biomedical researchers.

Not surprisingly, most biomedical researchers indicate in the NSCG that their primary work activity is research and development. However, the share of biomedical researchers whose primary work activity is research and development is higher among those who are foreign born (72 percent, versus 60 percent among the U.S. born). The difference is likely due in part to the higher share of foreign-born biomedical researchers who have a PhD (57 percent, versus 26 percent among the U.S. born). Almost half of foreign-born biomedical researchers who have a PhD earned that degree in the United States.

Consistent with their relatively higher activity in research and development, foreign-born biomedical researchers are more likely than their U.S.-born counterparts to hold patents or have publications. Data from the 2003 NSCG – the most recent year that the survey asked respondents about patents and publications – indicate that 92 percent of foreign-born biomedical researchers included in the survey had at least one patent and/or published article, compared with 83 percent of U.S.-born biomedical researchers. Foreign-born workers in health care occupations are also more likely than their U.S.-born counterparts to have a patent and/or a publication (18 percent versus 12 percent, respectively). Other research on U.S. patent activity indicates that immigrants account for about one-quarter of patents related to pharmaceuticals and medical devices in recent decades. ¹⁵

The foreign born also help train the next generation of U.S. health care workers. 2019 and 2021 NSCG data indicate that over one-sixth of people working as professors or postsecondary teachers in health and related sciences are foreign born. Among people employed as professors or instructors in the health sciences, the foreign born are much more likely to have a PhD (42 percent, versus 23 percent of the U.S. born). Foreign-born health sciences professors and instructors are also more likely to be conducting basic or applied research than their U.S.-born counterparts.

¹⁴ NSCG data are available at https://ncses.nsf.gov/surveys/national-survey-college-graduates.

¹⁵ See Shai Bernstein, et al., "The Contribution of High-Skilled Immigrants to Innovation in the United States," National Bureau of Economic Research working paper no. 30797 (2022).

2003 NSCG data indicate that foreign-born health sciences professors and instructors are more likely than their U.S.-born counterparts to have a patent and/or a publication (90 percent versus 67 percent).

A final group of workers in health care-related jobs is people who make health care devices and drugs. One-quarter of people working in pharmaceutical and medicine manufacturing or in medical equipment and supplies manufacturing are foreign born, totaling about 350,000 workers. Most foreign-born workers in health care-related manufacturing have at least a bachelor's degree, and they are more likely to have a master's or doctoral degree than their U.S.-born counterparts.

ENTRANCE PATHWAYS FOR FOREIGN-BORN HEALTH CARE WORKERS

The U.S. immigration system places relatively little priority on health care workers. Foreign-born health care professionals can, in theory, enter the United States via several temporary visa categories, including H-1B (specialty occupations), J-1 (for exchange visitors), O-1 (for persons with "extraordinary ability or achievement"), and TN (for Mexican and Canadian professionals). Foreign-born health care workers can also enter via permanent visa categories based on family ties, employment, or humanitarian protections. However, there are currently no visa categories specifically aimed at health care workers. The H-1A and H-1C temporary visa categories for registered nurses expired in 1997 and 2009, respectively. Less than 7 percent of approved initial H-1B petitions went to people in medicine and health occupations in fiscal year 2023, or only about 8,000 workers. ¹⁶

Since many health care occupations require a professional license, it can be challenging for people who were trained abroad to enter those occupations, even if they have years of relevant work experience. Health care professionals may need to obtain a U.S. degree and/or complete necessary postgraduate training. Doing so is time-consuming and costly. In addition, it is difficult for foreign-trained physicians to complete a medical residency in the United States since the number of graduates from U.S. medical schools each year exceeds the number of residency slots.

Foreign-born physicians who hold a J-1 visa while completing a medical residency face an additional challenge: they typically must return home for at least 2 years after completing their training before they are allowed to change or adjust their visa and practice medicine in the United States. The Conrad 30 program waives that return requirement for foreign-born physicians who hold a J-1 visa if they agree to work for at least three years in a medically underserved or high-poverty area. Each state can only sponsor up to 30 waivers each year. In fiscal year

¹⁶ See Characteristics of H-1B Specialty Occupation Workers, Fiscal Year 2023 Annual Report to Congress, U.S. Citizenship and Immigration Services, https://www.uscis.gov/sites/default/files/document/reports/OLA_Signed_H-1B_Characteristics_Congressional_Report_FY2023.pdf.

2023, 18 states filled all of their 30 slots, and a total of 1,105 waivers were issued. ¹⁷ Slightly under 4,000 physicians participated in the J-1 visa category in 2023. ¹⁸ Increasing the number of waivers and/or relaxing the return requirement are potential ways to increase the number of foreign-born physicians in the United States.

Another way to increase the number of foreign-born physicians is to create alternatives to medical residencies. In 2023, Tennessee enacted H.B. 1312, which removes the residency requirement for foreign-trained physicians who meet a set of other requirements. After practicing under a qualified residency-training health care provider for two years, those physicians receive a Tennessee medical license. In 2024, Florida enacted S.B. 7016, which enables qualified foreign-trained physicians to obtain a provisional state license without completing a residency. After two years of supervised practice, the provisional license becomes unrestricted. In both states, those physicians must also pass the national medical exam that all U.S.-trained physicians must pass. Several other states, including Arizona, Idaho, Virginia, and Wisconsin, have also enacted or are considering passing similar laws.

Foreign-born health care workers in occupations that require relatively little specialized training are not eligible for any temporary worker visa categories. They are eligible for employment-based permanent resident visas through the EB-3 "other workers" category, along with all other workers in non-temporary jobs that require less than two years of training or experience, but a maximum of 10,000 visas are available in that category each year. Absent a family member who is eligible to sponsor them for a permanent resident visa, it is very difficult for foreign-born workers in the jobs with the most projected job growth in the coming years – home health care and personal care aides – to enter and work in the United States legally.

CONCLUSION

The need for health care workers has grown in recent years, and that need is expected to accelerate in the coming years. Across all health care occupations, almost one in five workers is foreign born. The share is more than double that among home health aides, one of the lowest-paid but fastest-growing occupations in health care. The foreign born also make vital contributions in other health care-related jobs. Most notably, they account for almost half of biomedical researchers, who develop new medical technologies and treatments. They also fill jobs in pharmaceutical and medical manufacturing and help train the next generation of health care professionals.

The many contributions of foreign-born workers to health care delivery and infrastructure in the United States are particularly remarkable given that the country does not have any visa categories reserved for health care workers. Creating additional ways for health care professionals trained abroad to use their skills in the United States and

¹⁷ See https://www.3rnet.org/j1-filled.

¹⁸ See https://j1visa.state.gov/basics/facts-and-figures/.

providing a pathway to permanent residence and eventual U.S. citizenship to other foreign-born workers who help fill essential health care jobs would help ensure the country is able to meet the need for health care workers.

ABOUT THE AUTHOR

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