Addressing U.S. Eldercare Worker Shortages: The Role of Immigrant Labor

March 18, 2025

Delia Furtado University of Connecticut delia.furtado@uconn.edu

Nicholas A. Jolly Marquette University nicholas.jolly@marquette.edu

Abstract: The United States is currently facing a worker shortage in the long-term care sector, which is only expected to worsen as the population ages. Immigration policy is often proposed as a solution. In this paper, we show that immigrants are already highly represented in eldercare occupations, particularly in certain types of work and in certain areas of the country. We also show that in this sector, immigrants tend to earn 10 percent higher wages than natives, a result suggestive of high immigrant productivity. Further analysis reveals that foreign-born eldercare workers have characteristics associated with higher-quality care; they are older and tend to have more years of education than U.S.-born eldercare workers. An Oaxaca decomposition reveals that about thirty percent of the immigrant-native wage gap in this sector cannot be explained by standard observable factors. Overall, our findings suggest that immigrants are not only capable of doing eldercare work, but are likely more productive in these roles, making immigration policy a promising tool for addressing eldercare labor shortages now and in the future.

JEL Codes: I11; J15; J61 Keywords: long-term care, eldercare; immigration; labor shortages

INTRODUCTION

Populations all over the world are growing older. In the United States, 20% of the population is projected to be over the age of 65 by 2030, and by 2034, older adults will outnumber children for the first time in history (Vespa, Armstrong, and Medina, 2020). Between 2016 and 2060, the U.S. working-age population is expected to grow by approximately 14%, compared to a 92% increase for those aged 65 and older and an extraordinary 198% growth for individuals aged 85 and above (Vespa, Armstrong, and Medina, 2020). These demographic changes are particularly concerning given that around one in five Americans aged 65 and older experience difficulties with activities of daily living (ADLs), such as eating, dressing, and bathing (Heimbuch et al., 2023)—and these difficulties increase with age.

While this paper focuses on the U.S., population aging is a concern throughout the world. Japan, Italy, and Finland have the largest population shares that are age 65 and above. In a 2020 comparison of the world's oldest populations, the U.S. ranked 36th (Population Reference Bureau 2020). The United Nations (UN) projects large increases in the percent of the global population that is aged 65 and above and declines in the percent under 25. In fact, the UN projects that these two age groups (as a percentage of the population) will be near parity by the year 2100 (See Figure 1).

Given these demographic trends, it should come as no surprise that eldercare occupations are projected to experience rapid growth in the coming decades. According to the U.S. Bureau of Labor Statistics (BLS), healthcare support occupations are expected to be the fastest growing occupation group, growing by 15.2% between 2023 and 2033; for comparison, all occupations are expected to grow by 4.0% (BLS 2024). Within this broad category, the home health and personal care aids occupation is expected to see the most significant expansion, with a projected growth rate of 20.7% and an additional 820,500 jobs by 2033 (BLS 2024). Nursing homes have already been experiencing severe staffing shortages for many years, and many studies have shown clear links between inadequate staffing and care quality in nursing homes; see a recent National Academies of Sciences, Engineering, and Medicine (2022) report for an overview of this literature.

Immigration policy has often been suggested as a potential solution to labor shortages in healthcare settings (e.g., Winegarden, 2023). Yet, we know little about whether immigration policy can be used to address these staffing shortages—both in residential care settings and within people's homes--and even less about how it may affect care quality. This paper examines the potential role of immigration policy in helping the U.S. meet the challenges of an aging population by addressing two important questions: First, how represented are immigrants currently in eldercare occupations such as nursing assistants, personal care aides, and housekeepers? Second, how does the quality of immigrant labor compare to the quality of U.S.-born labor in care professions? Answers to these questions are crucial in that if immigrants are not capable of providing high quality care (because of communication difficulties, for example), they are unlikely to be employed in caregiving professions today and are unlikely to effectively address future labor shortages.

From a theoretical perspective, the role of immigrants in addressing eldercare labor shortages is ambiguous. On the one hand, immigrants may face challenges in caregiving roles due to language and cultural barriers making it difficult for them to engage effectively with patients. On the other hand, immigrants may deliver high-quality care, potentially surpassing that of native workers, despite these difficulties. It is possible, for example, that many immigrants come from societies where older family members remain active and cared for within their communities. Personal everyday experience with the elderly may make immigrant workers uniquely suited for caregiving roles. Additionally, barriers to entry into other occupations may result in positive selection among immigrants into long-term care professions.¹ For example, highly skilled undocumented immigrants may end up working under the table as personal care aides when it is difficult or impossible to work in the formal sector. Among immigrants authorized to work in the U.S., registered nurses (RNs) trained abroad might settle for lower-status roles, such as nursing assistants, given the difficult multi-step process of having their RN licenses recognized by the U.S.

Most closely related to our work, Zallman et al. (2019) show that immigrants are indeed overrepresented in the healthcare sector broadly, but especially when considering informal care work. We

¹ Cortes and Pan (2015) provide evidence that the Philippine-educated nurse wage premium in the U.S. is explained mostly by strong positive selection into the nursing profession among Filipinos.

contribute to this descriptive analysis by exploring whether immigrants are especially overrepresented in the eldercare sector in certain areas of the country. In addition, while Zallman et al. (2019) report differences by nativity in some worker characteristics that are likely associated with higher quality care (e.g., education and age), we follow Cortes and Pan (2015) in using wages as a preferred measure of caregiving skill.

In another closely related paper, Rapp and Sicsic (2020) show that immigrants are more likely than the native-born to stay in the long-term care workforce for over a year—a result suggestive of higher quality care given the importance of patient-specific on-the-job learning in this sector. Again, we contribute to this work by focusing on wage differentials, an easily-accessible comprehensive measure of care quality differences.

Our descriptive analysis, making use of 2019-2022 American Community Survey (ACS) data, suggests that immigrants are in fact overrepresented in eldercare professions such as nursing assistants, home health aides, and personal care aides as well as housekeepers. While they constitute about 17% of the work force, immigrants make up 27% of the eldercare work force. They are especially overrepresented as housekeepers and maids, an important occupation for the elderly who may want to live within the community but are not able to maintain a household without help. We also show that immigrants are overrepresented in the caregiving sector in New England, and especially so in the Middle Atlantic area of the country. Interestingly, while immigrants in urban areas are more likely to work in the eldercare sector than immigrants in rural areas, the relationship is reversed among natives; natives in rural areas are more likely to work in this sector than natives in urban areas.

In the second part of the paper, we explore more directly how the quality of immigrant labor is likely to compare to the quality of native-born labor in eldercare professions. We start by comparing immigrant and native eldercare workers in terms of characteristics often associated with higher quality work: age (a measure of years of experience or maturity), schooling, and wages. While lower immigrant wages could simply be evidence of discrimination, higher immigrant wages are likely indicative of higher quality work. We find that among eldercare workers, immigrants tend to have higher levels of education, more years of experience, and higher wages than U.S.-born workers.

Next, we explore whether the higher immigrant wages are solely reflective of the additional years of experience and education of immigrant workers in these occupations or whether they might measure some unobservable productive qualities of immigrant workers. To that end, we run regression models that, in addition to age and education, also control for gender, the number of children in the household, the number of children under 5 years old in the household, and dummy variables for marital status, region of residence, living in an urban area, working full-time, occupation, industry, and year. Our findings suggest that immigrants earn approximately 2% more than natives do even holding these characteristics constant. When decomposing this gap, we see that 70% of the difference in earnings can be explained by differences in observable characteristics between the foreign born and natives. The remaining 30% of the earnings gap is due to unobserved factors.

DATA

The data used for the analysis presented below come from the 2019-2022 American Community Surveys (ACS) (Ruggles et al. 2024).² In our analysis, immigrants are those who are born outside of the U.S. and its outlying territories to non-American parents.³ Our sample consists of employed workers aged 16 and above; the ACS does not collect earnings information from anyone below that age. Individuals are considered employed if they report working more than zero hours in a typical week and working in the previous year for a wage. To remove the influence of outliers, we further trimmed the top and bottom 1% from the annual earnings distribution, the usual hours worked distribution, and the wage distribution for those who are employed in the eldercare industry.

² Due to the COVID-19 pandemic, disruptions occurred to the Census Bureau's ability to administer the ACS in the year 2020, potentially leading to bias in estimates using these data. For more detailed information on this issue, see Reese, Scanniello, and Ross (2021).

³ We removed from the analytical sample anyone who is born abroad of American parents. Those born abroad to American parents represent only 1.10% of the entire sample, 7.12% of the foreign-born sample, and 3.56% of the foreign-born sample employed as an eldercare worker. Therefore, this sample selection criterion does not materially affect the analysis presented below.

Broadly following Zallman et al. (2019), we define an eldercare worker to be a person with an eldercare occupation who is also working in an eldercare industry. In particular, an eldercare worker is a person whose occupation is either nursing, psychiatric, or home health aides; maids and housekeeping cleaners; or personal care aides *and* who works in one of the following industries: private households; offices of physicians, dentists, chiropractors, or optometrists; hospitals; nursing and personal care facilities; health services, not elsewhere classified; and residential care facilities without nurses.⁴ Given our interest in long-term care, we focus on low-skill occupations since those are where labor shortages are expected to be especially severe in the coming years (BLS 2024).

IMMIGRANT REPRESENTATION IN ELDERCARE OCCUPATIONS

Figure 2 displays the percentage of workers in different occupations that are foreign born. For comparison purposes, the first bar shows that immigrants comprise 17% of workers in our sample, but the second bar shows that 27% of workers in the eldercare sector are foreign born. Considering the three care occupations, we see that 37% of all maids and housekeeping cleaners in the U.S. are foreign-born, while about a quarter of nursing, psychiatric, and home health aides as well as personal care aides are immigrants. From these numbers, we can conclude that, considering the U.S. as a whole, immigrants are overrepresented in the eldercare sector, certainly suggesting that they are well-equipped to do this type of work despite any potential language difficulties.

Next, we look at whether immigrants are especially overrepresented in these caregiving occupations in specific places. Immigrants tend to segregate into certain areas of the country and in larger cities, and so we should expect to see more immigrants in the eldercare sector in areas with larger immigrant populations. What is more interesting, however, is whether, relative to the size of the immigrant workforce

⁴ Like Zallman et al. (2019), we treat housekeepers and maids as care workers. While these workers are not traditionally thought of as healthcare providers, they do serve a very important function for the elderly who may not be able to maintain their households independently. They may also free up time for family caregivers to provide more direct care to those who need help bathing and eating. Departing from Zallman et al. (2019), we do not include building maintenance and construction workers in our definition of eldercare workers.

in the area, immigrants are overrepresented in the eldercare sector in that area. Table 1 presents the shares of all workers employed in this sector—i.e., the number of care workers divided by the total number of workers--separately for immigrants and natives. Overall, about two percent of all native-born workers are employed by the caregiving sector while the corresponding figure for immigrants is 3.6 percent.

The table also shows that among the native-born living in New England (Maine, Vermont, New Hampshire, Massachusetts, Connecticut and Rhode Island), two percent of all US-born workers are employed in caregiving. By contrast, 5.4 percent of foreign-born workers in New England work in caregiving. Even more starkly, while 2.3 percent of Mid-Atlantic (New Jersey, Maryland, Virginia, Delaware, West Virginia, District of Columbia, and Pennsylvania) native-born workers are employed in the care sector, 6.8 percent of Mid-Atlantic foreign-born workers are in care. In other words, immigrants are nearly three times as likely to work in eldercare in these areas of the country compared to natives. The shares are more similar in other regions of the country.

Table 1 also compares the likelihoods of working in the eldercare sector for immigrants and natives separately by whether they live in urban vs. rural areas. Interestingly, the native-born are more likely to work in caregiving occupations in rural areas while immigrants are more likely to work in caregiving occupations in urban areas. Again, this cannot be explained mechanically by the larger number of immigrants residing in urban areas; among those living in urban areas, a larger share work in caregiving for the elderly compared to those living in rural areas.⁵

DIFFERENCES IN LIKELY QUALITY OF WORK BY NATIVITY AMONG ELDERCARE WORKERS Our findings thus far show that immigrants are already providing care for the nation's elderly; they are capable of doing the work. There is also variation across markets in the relative likelihood of immigrants

⁵ In results not reported, we also calculated the immigrant and native likelihoods of working in the eldercare sector separately in commuting zones with above vs. below median shares of the population with incomes below the poverty line, college degrees, and above age 65. We did not find evidence of meaningful immigrant-native differences in terms of care work representation by these commuting zone characteristics and, therefore, we do not include them in the paper.

working in the care sector, potentially indicative of immigrants' greater sensitivity to short-run increases in labor demand in these areas than natives (Cadena and Kovak 2016). However, if we are to rely more heavily on immigrant labor to address caregiving labor shortages in the future, it is important to consider whether immigrants in general provide high-quality care. It is difficult to measure the productivity of care workers. Many aspects of caregiving, such as emotional support, patience, and attentiveness, are inherently hard to quantify. Acknowledging this, we consider immigrant-native differences in characteristics among care workers that are likely correlated with quality of care.

Observable Characteristics

Table 2 shows the distributions of various characteristics for four groups of workers: All immigrant workers, immigrants working in the eldercare sector, all native-born workers, and native-born workers in the care sector. For each characteristic in the table (e.g., age, sex, education), the distribution sums to 100% in each column.⁶

Comparing columns 3 and 4 in table 2, we can see that the age distribution for U.S.-born eldercare workers is relatively similar to the general U.S.-born worker.⁷ This is not the same for immigrants. Those in the eldercare market (column 2) are relatively older than the typical immigrant worker (column 1). For example, 17% of immigrants as a group are between the ages of 55 and 64; the same percentage for foreign-born eldercare workers is 26. Not only are immigrant eldercare workers older than the general foreign-born population, but they are also much older than US-born eldercare workers. Fifty-five percent of native eldercare workers are above the age of 35; this is in contrast to 83% for their foreign-born counterparts. This finding is indicative of immigrants working in the eldercare sector as a career whereas native-born eldercare workers seem to use this industry as temporary work before transitioning to other jobs, a finding

⁶ In table 1, the number of workers in each group (e.g., immigrant vs. native workers in urban vs. rural settings) was in the denominator and the number of workers in these groups in the care sector was in the numerator. In table 2, the number of workers in each group (all immigrants, immigrants in the care sector, all natives, natives in the care sector) is in the denominator and the number of workers in these groups that have the characteristics listed (e.g. male vs. female) is in the numerator.

⁷ Note that the table reflects the age distribution of workers in the US, not the age distribution of the US population.

consistent with the finding in Rapp and Sicsic (2020) that immigrants are substantially more likely than natives to remain in care sector work for more than a year.

Table 2 also shows substantial differences between the foreign- and native-born with regards to gender and marital status. Immigrants are much more likely to be married, and this is particularly true when comparing foreign-born eldercare workers to their native-born counterparts. Forty-seven percent of immigrants working in this industry are married compared to 27% for U.S.-born workers. A potential explanation for this is the age differences between the groups, but this may also signal maturity more generally. Immigrants have more children, on average, than the U.S.-born. However, immigrants and natives tend to have similar numbers of children under the age of five. It is no surprise that women are overrepresented in this labor market regardless of nativity. For both foreign- and U.S.-born eldercare workers, women constitute 85% of the sample.

In addition, table 2 shows that eldercare workers have relatively less education regardless of nativity status, a natural consequence of our focus on low-wage occupations. For example, 29% of the U.S.born population has at least a bachelor's degree versus 8% for U.S.-born eldercare workers. The corresponding percentages for immigrants in general and eldercare immigrant workers are 28 and 14, respectively. As these tabulations show, immigrant eldercare workers are nearly twice as likely to have at least a college degree when compared to their native-born counterparts. This higher rate of college completion may be due, in part, to foreign credentials not being recognized in the U.S. forcing immigrants to take eldercare jobs for which they are overqualified. Interestingly, despite the higher rate of college graduation among immigrant eldercare workers, immigrant eldercare workers are substantially more likely to have not completed high school/obtain a GED (24% versus 10%) and are much less likely to have completed some college but not more (28% versus 48%).

When looking at geographic distributions, table 2 shows that immigrants are significantly more likely to reside in a metropolitan area when compared to their native counterparts regardless of whether the worker is in the eldercare industry. At least 93% of immigrants reside in a metropolitan area, compared to 70-77% of U.S.-born workers. Immigrants are also more likely to live in the Middle Atlantic and Pacific

regions than their native counterparts. They are, however, less likely to live in the East South Central than the U.S.-born.

With lower educational attainment for eldercare workers, it is unsurprising that they earn significantly less than the general workforce regardless of nativity status. However, the table also shows that immigrant eldercare workers have a higher average hourly wage relative to their US-born counterparts, \$19.03 per hour for foreign-born and \$17.80 for natives. To investigate this further, we calculated average wages for immigrants and US-born eldercare workers separately by education level (results not shown in the table). Immigrants earn more than natives even conditional on schooling, at least for those with low education levels: immigrant eldercare workers earn more per hour than their native counterparts for workers with less than a high school degree (\$1.60 more), a high school degree (\$1.22 more), and some college (\$1.78 more). However, for the few workers in these low-skill occupations that have a master's degree or even PhD, US-born eldercare workers make more than their immigrant counterparts do (\$1.44 more for those with a master's degree and \$0.82 more for those with a PhD).

Table 2 shows that immigrants in the eldercare workforce have similar levels of English fluency as those in the general workforce. Interestingly, foreign-born care workers are slightly more likely to be naturalized citizens when compared to the general immigrant worker population, 58% versus 50%. Those in eldercare are much less likely to be working full-time relative to those working in other industries regardless of nativity status.

Unobservable Characteristics

To gain some additional sense for the quality differences between native-born versus foreign-born eldercare workers, we examine the wage differential between the two samples after controlling for a host of productivity-related characteristics. If after controlling for observable characteristics, immigrants continue to earn higher wages than natives, we may interpret this as evidence of higher quality care. If instead, immigrants earn lower wages, this may be interpreted either as evidence of labor market discrimination against immigrant workers or as evidence of language or other barriers making it difficult—all else equal—

for immigrants to provide quality care. To explore these possibilities, we estimate the following regressionbased model:

$$\log(wage)_{isjt} = \beta_0 + \beta_1 immigrant_{it} + x'_{it}\beta + \alpha_s + \gamma_j + \delta_t + u_{it}$$
(1)

In equation (1), *wage* refers to the average hourly earnings of person *i* in occupation *s*, in industry *j*, in year *t*. To construct *wage*, we divided the respondent's annual pre-tax earnings from the previous year by their annual hours of work. We construct annual hours of work by multiplying the number of weeks worked by the usual number of hours worked per week.

Broadly following Blah and Kahn (2017), the vector x includes a fourth-order polynomial in age, the number of children in the household, the number of children under the age of five in the household, and dummies for region of residence, gender, marital status, living in a metropolitan area, working full time, and educational attainment.⁸ The terms α_s , γ_j , and δ_t represent occupation, industry, and year fixed effects. These control for occupation, industry, and macroeconomic factors that affect all workers equally. The u_{it} is the error term. Finally, our independent variable of interest, *immigrant*, is a dummy variable equaling one if the respondent was born outside of the US and outlying territories.

The parameter β_1 represents the differences in log wages between immigrant and native-born eldercare workers. Again, a positive coefficient might indicate that immigrant care workers provide higher quality care than native-born care workers for reasons unexplained by the observable characteristics. A negative coefficient could point to lower quality care provided by immigrants, conditional on observable characteristics, or discrimination against immigrant workers.⁹ Importantly, a positive coefficient does necessarily not imply that there is no discrimination against immigrant eldercare workers; it is possible that higher quality care provided by these workers offsets whatever discrimination exists.

As table 2 shows, immigrant eldercare workers have a slightly higher average wage relative to their US-born counterparts, roughly \$19 per hour for foreign-born and \$17.80 for natives. To investigate if the

⁸ We define full-time employment as usually working 35 hours or more per week.

⁹ It is theoretically possible that a positive immigration coefficient reflects discrimination against native-born workers in this sector, but this seems unlikely.

size of this wage premium holds after controlling for various productivity-related characteristics, we estimate different versions of equation (1). Results appear in table 3. Only the coefficient associated with the immigrant dummy variable is shown. The remaining parameter estimates are available upon request.

Column 1 presents estimates from equation (1) without any of the controls. The estimated coefficient on the immigrant dummy variable suggests that immigrants working in the eldercare sector have a 10% pay premium relative to their native counterparts. When adding the variables in the vector *x* described above (column 2), the immigrant pay premium falls to 1.4%. This remains about the same after we add occupation fixed effects to the model (column 3). However, the combination of occupation and industry fixed effects increases the pay gap between immigrants and natives by over 0.8 percentage points. With a full set of controls, immigrants in the eldercare workforce earn 2.2% more than natives. When compared to the average hourly earnings for US-born eldercare workers shown in table 2, this 2.2% immigrant pay premium amounts to a (17.80*0.022 =) \$0.40 higher hourly wage (conditional on the covariates in this model). This pay premium associated with immigrants in the eldercare market is potentially indicative of (slightly) higher productivity in ways unexplained by age, education, and the other observable characteristics.¹⁰

The final column in table 3 re-estimates equation (1) but replacing the wage dependent variable with a dummy variable equal to one if the worker works full time and removing that dummy variable from the list of controls. Results suggest that immigrants are 4.4 percentage points more likely to work in the eldercare industry full time relative to their US-born counterparts even in the model with the full set of

¹⁰ We do not interpret these results as *definitive* evidence that immigrants provide higher-quality care than natives in this sector. Immigrants earn only slightly higher wages than natives when controlling for basic human capital characteristics, and this wage premium may disappear with a more comprehensive set of controls. Indeed, when we replace region fixed effects with more granular geography fixed effects (in particular, state fixed effects), the estimated coefficient on the immigrant dummy remains positive but declines in magnitude and loses statistical significance at conventional levels (results available upon request). Nevertheless, we find it noteworthy that, despite potential language and cultural barriers as well as the possibility of labor market discrimination against immigrants, immigrants do not earn significantly lower wages than natives when accounting for the standard human capital controls commonly used in the labor economics literature (e.g., Blau and Kahn 2017).

controls. This finding is consistent with the idea that immigrants work in this industry as a career rather than working as a job to bridge schooling and a career.

To summarize findings thus far, table 2 shows that eldercare workers exhibit different observable characteristics. The foreign born earn higher wages, but they also tend to be older, have a higher probability of having at least a college education, and they are more likely to be married. The results in table 3 suggest that immigrants experience a small but statistically significant pay premium even after controlling for observable characteristics.

To investigate how much of the total pay gap can be explained by observable characteristics, we perform an Oaxaca-Blinder decomposition. This decomposition allows researchers to separate a gap in a variable, in this case the log of wages, into a portion that can be explained by differences in observable characteristics and a portion that is unexplainable. This type of analysis is often used to present suggestive evidence of discrimination; the larger the unexplained portion of the gap, the more likely it is that discrimination exists. For the purposes of this study, however, we do not employ decomposition analysis to identify potential discrimination against native workers. Instead, we aim to decompose the differences in wages into a portion that can be explained by differences in education, age, and occupation (among other characteristics) and a portion that cannot be explained by these factors, believing that the unexplained portion may be evidence of productivity differences.

Specifically, we calculate:

$$\log(wage)_{isjt}^{I} - \log(wage)_{isjt}^{N} = (\beta_{0}^{I} - \beta_{0}^{N}) + \bar{x}^{\prime N}(\beta^{I} - \beta^{N}) + (\bar{x}^{\prime I} - \bar{x}^{\prime N})\beta^{I}$$
(2)

The left-hand side of equation (2) is the difference in log wages between immigrant and native-born eldercare workers, i.e., the wage gap between immigrants and natives. Here, the superscript indicates to which sample an individual belongs, *I* for immigrants and *N* for natives. The right-hand side of equation (2) decomposes this gap into two portions. The first is that which cannot be explained by differences in average characteristics. This portion of the gap equals $(\beta_0^I - \beta_0^N) + \bar{x}'^N (\beta^I - \beta^N)$. Here, we are holding observable characteristics constant at the average in the native sample and examining differences in parameter estimates. The second portion of the wage gap is that which is due to differences in observable characteristics, which equals $(\bar{x}'^I - \bar{x}'^N)\beta^I$. Here, we are holding the slope of the regression line constant and examining differences in average characteristics. The characteristics examined are the same as those in equation (1): a fourth-order polynomial in age, the number of children in the household, the number of children under the age of five in the household, and dummies for region of residence, gender, marital status, living in a metropolitan area, working full time, and educational attainment.

Panel A of table 4 presents the results from the overall decomposition. The findings show that a gap of 0.1009 log points exists between immigrants and natives in the eldercare industry. In other words, immigrants earn approximately 10% more than natives do. When decomposing this gap, we see that 71% of the difference in earnings (0.0713 / 0.1009) can be explained by differences in observable characteristics between the foreign born and natives. This estimate is statistically significant at the 1% level. The remaining 29% of the earnings gap is due to unexplainable factors (i.e., the difference in the parameter estimates between immigrants and natives) and is significant at the 5% level. Put differently, based on the regressors used here, the results in table 4 suggest that immigrants earn more than natives in the eldercare industry mainly because they have different observable characteristics that help to contribute to higher earnings. However, unobservable characteristics also help to contribute to the higher earnings received by immigrants relative to natives in a non-trivial manner.

Panel B of Table 4 presents the contribution of each variable to the explained and unexplained components of the earnings differential. We begin by examining the factors contributing to the explained wage gap, as reported in the "explained" column. One important factor is age, as immigrants tend to be older than natives (see Table 2). Since age may proxy for greater on-the-job experience and potentially more maturity it is not surprising that part of the immigrant-native wage gap can be attributed to differences in age. Regional variation also plays a role, as immigrants are disproportionately concentrated in higher-wage regions of the country. Consequently, the region variables contribute positively to explaining the wage gap. To a certain degree, educational attainment further contributes to the explained component, as foreign-born eldercare workers are more likely than their U.S.-born counterparts to hold bachelor's, master's, and

professional degrees. These education variables thus also help account for differences in wages between immigrant and native workers.

Interestingly, however, several other characteristics contribute negatively to the explained component of the wage gap. For example, immigrants are less likely than natives to hold a high school degree or some college relative to having less than a high school degree. The negative estimates on these variables imply that if immigrants were equally likely to attain these education levels as natives, the wage gap would have been even larger. Similarly, immigrants are more likely than natives to work full-time. The negative figure on full-time status suggests that immigrants would earn even higher hourly wages compared to natives if they worked similar hours. For the occupation and industry characteristics, the results are mixed. In most cases, immigrants are underrepresented in higher-paying jobs—for example, they are less likely to work in hospitals—making it all the more remarkable that they earn higher wages despite these differences.

The "unexplained" column in Panel B of Table 4 presents estimates of the contribution of differences in the returns to various characteristics to the wage gap. The results indicate that immigrants earn higher returns from living in certain regions of the country, thereby contributing positively to the unexplained portion of the wage gap. However, immigrants earn lower returns than natives from residing in urban areas. Additionally, immigrants receive lower returns to both full-time employment and holding a bachelor's degree. One possible explanation for the lower returns to a college degree is that educational credentials obtained abroad may not translate into U.S. productivity as effectively as those earned domestically. It is also possible that the differential return to a college degree simply reflects labor market discrimination against immigrants, regardless of where they completed their education. Unfortunately, our data do not include information on the location of degree completion, preventing us from distinguishing between these potential explanations. The estimates also indicate that, compared to native-born workers, immigrants earn higher returns to working in a hospital (positive estimate in the unexplained column) despite being less likely to work in a hospital (negative coefficient in the explained column).

Again, taken together, differences in observable characteristics explain about 70 percent of the immigrant-native wage gap with the remaining portion attributable to either differences in the returns to observable characteristics or to unobserved or omitted characteristics. While it is difficult to know what these unexplained factors may be with any sense of certainty, there are several possibilities. As discussed previously, many of the immigrants in our sample come from cultures that tend to revere the elderly, keeping older family members involved in the community for as long as possible. This personal experience with older people may make immigrant workers especially adept at providing care. It is also possible that barriers to entry into other higher paying or less demanding occupations induce especially talented and conscientious immigrants into care professions, even conditional on their age and education levels. Care jobs tend to be low-paid, and at the same time, physically and emotionally demanding. The native-born who do this type of work tend to do it only temporarily while they search or train for better jobs, jobs that may not be open to even the most hard-working and talented immigrants. More generally, if immigrant workers face discrimination in the labor market or difficulties in getting the credentials necessary for many occupations, they may remain in occupations for which they are overqualified (even conditional on formal years of schooling), again explaining their higher wages.

CONCLUSION

According to a recent National Academies of Sciences report, "(t)he way in which the United States finances, delivers, and regulates care in nursing home settings is ineffective, inefficient, fragmented, and unsustainable" and that "(i)mmediate action to initiate fundamental change is necessary" (National Academies of Sciences, Engineering, and Medicine 2022). One of the principal goals established by the report focused on the nursing home workforce, pointing to the importance of nursing home workers in establishing high quality care. Perhaps because of the difficulties in providing cost-effective high-quality care, most elderly Americans wish to age in their own homes instead of nursing homes, even if that requires the assistance of housekeepers, personal care aides, and home health providers. In recent years, Medicaid Waivers have funded long term care at home for a specific number of enrollees, but the program is often

full. Given the demographic changes in the U.S. population in the next forty years, it is unlikely that there will be enough native-born workers available for eldercare jobs, regardless of the setting.

One potential mechanism through which labor shortages in the eldercare industry can be addressed is increasing wages and improving working conditions. While these types of changes may help recruitment, they would also increase the already very high cost of eldercare born either by the elderly and their families or by all taxpayers contributing to Medicare and Medicaid funds (Federal Long Term Care Insurance Program 2021). Another possibility is to encourage males to enter nursing professions. There has been considerable growth in the representation of males among nurses in recent decades (Munnich and Wozniak 2020), but males still comprise only 12% of all nurses and nursing assistants and there does not seem to have been any growth in their representation in recent years. Still another possibility is the adoption of robots. Exploiting variation in robot adoption across nursing homes in Japan, Lee, Iizuka, and Eggleston (2025) show that after adopting more robots, nursing homes experience increases in employment, retention, care quality, and productivity. While this is promising, it seems unlikely that robots will in themselves address labor shortages in the care sector in the near future.

This paper explores the role that immigrants play in addressing labor shortages in care markets, a role that may grow in importance as the U.S. population ages. Our findings suggest that immigrant caregivers not only fill crucial labor gaps but also exhibit characteristics—such as higher education levels, experience, and ages—associated with high-quality care. In addition, regression and decomposition analyses might suggest that immigrants provide better quality care even when holding observable characteristics constant. All of this suggests that immigrants may be an important way to address eldercare labor shortages in the future.

To leverage this potential, policy makers may consider immigration policies that facilitate the entry of immigrant caregivers into the U.S. along with reforms to streamline the credentialing process for immigrants already in the country. Such policies could help alleviate caregiving labor shortages without compromising care standards, ultimately ensuring that elderly Americans receive the care they need. Recognizing and optimizing the contributions of immigrants to the caregiving sector offers a promising avenue to strengthen the U.S. care infrastructure amidst a rapidly aging population.

REFERENCES

Blau, F. D., & Kahn, L. K. (2017). The gender wage gap: Extent, trends, and explanation. *Journal of Economic Literature* 55(3), 789-865.

Bureau of Labor Statistics, U.S. Department of Labor. (2024, January 28). *Occupational Outlook Handbook*. https://www.bls.gov/ooh/.

Cadena, B. C., & Kovak, B. K. (2016). Immigrants equilibrate local labor markets: Evidence from the Great Recession. *American Economic Journal: Applied Economics* 8(1), 257-290.

Cortes, P., & Pan, J. (2015). The relative quality of foreign-educated nurses in the United States. *Journal of Human Resources* 50(4), 1009-1050.

Federal Long Term Care Insurance Program 2021: https://cdn.ltcfeds.gov/planning-tools/downloads/Cost-of-Care-Survey.pdf

Heimbuch, H., Rhee, Y. Douglas, M. Juhl, K., Knoll, K., Stastny, S. & McGrath, R. (2023). Prevalence and trends of basic activities of daily living limitations in middle-aged and older adults in the United States. *Epidemiologia* 4(4), 483-491.

Lee, Y. S., Iizuka, T., & Eggleston, K. (2025). Robots and labor in nursing homes. *Labour Economics 92*(2025).

Munnich, E., & Wozniak, A. (2019). What Explains the Rising Share of US Men in Registered Nursing? *ILR Review*, 73(1), 91-123.

National Academies of Sciences, Engineering, and Medicine. (2022). The National Imperative to Improve Nursing Home Quality: Honoring Our Commitment to Residents, Families, and Staff. Washington, DC: National Academies Press. <u>https://doi.org/10.17226/26526</u>

Population Reference Bureau (2020). Countries with the oldest populations in the World https://www.prb.org/resources/countries-with-the-oldest-populations-in-the-world/

Rapp, T., & Sicsic, J. (2020). The contribution of the immigrant population to the US long-term care workforce. *Social Science and Medicine 263*(2023).

Reese, D., Scaniello, N., & Ross, C., V. (2021). Adapting the American Community Survey Amind COVID-19. US Census Bureau, np. <u>https://www.census.gov/newsroom/blogs/random-samplings/2021/05/adapting-the-acs-amid-covid-19.html</u> access 26-Feb-25.

Ruggles, S., Flood, S., Sobek, M., Backman, D., Chen, A., Cooper, G., Richards, S., Rodgers, R., & Schouweiler, M. IPUMS USA: Version 15.0 2022 ACS 5-Year Sample. Minneapolis, MN: IPUMS, 2024. https://doi.org/10.18128/D010.V15.0

United Nations, Department of Economic and Social Affairs, Population Division (2024). World Population Prospects, 2024 online edition.

Vespa, J., Armstrong, D.M., & Medina L. (2020) Demographic Turning Points for the United States: Population Projections for 2020 to 2060. Current Population Reports. Report Number P25-1144.

Winegarden, W. (2023). "Greater Immigration Can Alleviate Troubling Skilled Nurse Shortage." *Forbes.* https://www.forbes.com/sites/waynewinegarden/2023/08/14/greater-immigration-can-alleviate-troubling-skilled-nurse-shortage/ (Last Accessed January 28, 2024)

Zallman, L., Finnegan, K.E., Himmelstein, D.U., Touw, S., & Woolhandler, S. (2019). Care for America's elderly and disabled people relies on immigrant labor. *Health Affairs 38*(6), 919-926.

TABLES AND FIGURES



Source: United Nations, Department of Economic and Social Affairs, Population Division (2024). World Population Prospects, 2024 online edition.



Notes: The total employment bar shows the share of all employed individuals who are foreign born. The care industry bar shows the share of all care workers who are foreign born. The last three bars break down care work into the occupations.

1	Jucieale moustry	
% in Eldercare		
Industry	Immigrants	US Born
Overall	3.60	1.99
Urbanicity		
Rural	2.48	2.59
Metro	3.67	1.81
Region		
New England	5.40	1.96
Middle Atlantic	6.77	2.28
East North Central	2.46	2.30
West North Central	4.60	2.31
South Atlantic	2.96	1.74
East South Central	1.53	2.03
West South Central	2.73	2.25
Mountain	2.61	1.62
Pacific	2.88	1.47

 Table 1: Representation of Immigrants and US Born in

 Eldercare Industry

Sample is from the 2019 through 2022 ACS. All workers must be 16 years old or older to be included in the calculation. Each entry represents the share of workers in the area described on the left that are working in the eldercare sector. For example, while 3.6 percent of all immigrant workers work in the elder care industry, 2.48 percent of all immigrant workers living in rural areas work in the eldercare industry. All calculations use person weights.

	1	Immigrants	<u>ipie)</u>	S Born
	Δ 11	Flder Care	Δ11	Flder Care
Age	2 411		7 111	
Less than 25	8 30	4 63	20.00	21.22
25-34	20.34	12.67	24.88	23.94
35-44	24.85	20.83	18.29	17.73
45-54	23.96	27.03	15.76	15.35
55-64	17.01	26.01	14.76	15.26
65-74	4.83	7.98	5.31	5.39
75+	0.71	0.86	1.01	1.11
Sex				
Male	53.15	14.34	48.78	14.29
Female	46.85	85.66	51.22	85.71
Married				
No	46.09	52.34	59.09	72.70
Yes	53.91	47.66	40.91	27.30
ot 11.1				
Children	1.05	1.10	0.60	a = a
Total children	1.05	1.13	0.63	0.79
Less than 5	0.15	0.13	0.13	0.16
Educational				
Attainmont				
Less than High				
School	24 41	23.92	7 45	10.40
High School	24.41	25.72	7.45	10.40
Diploma/GED	25 36	33 44	27.96	39.05
Some	20100		2,0,0	0,100
College/Associate's				47.70
Degree	22.60	28.18	35.24	47.72
Bachelor's	17.50	11.75	20.39	6.36
Master's	7.24	1.92	7.15	1.15
Professional	1.38	0.59	1.04	0.19
PhD	1.51	0.20	0.76	0.13
Metropolitan Status				
Non-metro Area	6.02	4.15	22.39	29.22
Metro Area	93.98	95.85	77.61	70.78
Region				
New England	4.62	6.93	4.57	4.52
Middle Atlantic	16.21	30.46	11.57	13.26
East North Central	8.53	5.83	16.45	19.03
West North Central	3.43	4.37	7.96	9.27
South Atlantic	20.78	17.06	19.64	17.21
East South Central	1.87	0.79	6.77	6.92
West South Central	12.70	9.60	12.11	13.72
Mountain	6.51	4.71	8.03	6.55
Pacific	25.35	20.24	12.88	9.53

 Table 2: Demographic Characteristics of Immigrants and Native-Born Eldercare Workers (All Categories Measured in Percent of Sample)

Wages	\$22.91	\$19.03	\$23.78	\$17.80
Weeks worked	46.59	47.16	45.33	45.57
Hours per week	37.96	35.44	37.04	34.59
% Full time	79.36	68.32	74.25	64.22
English speaking				
status				
Speaks only English	15.18	19.54		
Speaks very well	37.32	30.60		
Speaks well	22.88	25.76		
Does not speak well	17.53	17.72		
Does not speak English	7.10	6.37		
Citizenship status				
Naturalized	50.00	58.37		
Not a citizen	50.00	41.63		

Sample is all employed individuals 16 years old and older from the 2019 through 2022 ACS. All calculations use person weights.

	Log wage	Log wage	Log wage	Log wage	Full time
Immigrant	0.1009***	0.0143**	0.0148**	0.0222***	0.0474***
	(0.0062)	(0.00'/1)	(0.0072)	(0.0072)	(0.0055)
R^2	0.01	0.05	0.06	0.07	0.09
N	94,252	94,252	94,252	94,252	94,252
Base	No	Yes	Yes	Yes	Yes
Controls					
Occupation	No	No	Yes	Yes	Yes
FE					
Industry FE	No	No	No	Yes	Yes

Table 3: Differences in Wages Between Natives and Immigrants in the Eldercare Industry

* p < 0.1; ** p < 0.05; *** p < 0.01

Robust standard errors are in parentheses. Sample includes individuals who are at least 16 years old. Base controls include a quartic in age, the number of children in the household, the number of children under 5 years old in the household, and dummies for region of residence, gender, marital status, educational categories, metro status, full-time status and year.

Parel A: Ouverall Decomposition to Explain miningiant Pay Plennum in the Eldercare industry			
Panel A	: Overall Decomposition Res		
.	Average	Log(wages)	
Immigrants	2.7	066***	
	(0.	0053)	
Natives	2.65	557***	
	(0.	0033)	
Log wage gap	0.10)09***	
	(0.	0062)	
Explained portion of gap	0.07	713***	
	(0.	0093)	
Unexplained portion of gap	0.0	296**	
	(0.	0115)	
Panel H	3: Contribution of Each Varia	able	
	Explained	Unexplained	
Age Polynomial	-	-	
Age	0.7466**	2.2437	
6	(0.3304)	(1.6806)	
Age Squared	-1 4417*	-3 2236	
	(0.8428)	(2,4975)	
Age Cubed	0.9963	2 21/1	
Age Cubed	(0.7337)	(1.7610)	
A co Quartia	0.2427	0.5860	
Age Quartic	-0.2427	-0.3809	
	(0.21/1)	(0.4854)	
Region Dummies	0.0000	0.0146444	
Middle Atlantic	0.0008	0.0146***	
	(0.0035)	(0.0034)	
East North Central	0.0116***	0.0138**	
	(0.0041)	(0.0065)	
West North Central	0.0018	0.0102**	
	(0.0020)	(0.0041)	
South Atlantic	0.0002	0.0080*	
	(0.0006)	(0.0046)	
East South Central	0.0138***	0.0028	
	(0.0026)	(0.0032)	
West South Central	0 0132***	-0.0025	
	(0.0015)	(0,0040)	
Mountain	0.0027***	0.0008	
Wiountum	(0.0006)	(0.0021)	
Decifie	0.0027	0.0019	
Facilie	-0.0027	0.0018	
V D	(0.0022)	(0.0023)	
rear Dummies	0.0004	0.00/0	
2020	-0.0004	-0.0060	
	(0.0003)	(0.0047)	
2021	0.0002	0.0017	
	(0.0003)	(0.0039)	
2022	0.0002	0.0046	
	(0.0002)	(0.0032)	

Table 4: Oaxaca-Blinder Decomposition to Explain Immigrant Pay Premium in the Eldercare Industry
Panel A: Overall Decomposition Results

Female	0.0000	-0.0211
	(0.0003)	(0.0151)
Married Dummy	0.0030	-0.0035
-	(0.0021)	(0.0034)
Educational Categories		
High School/GED	-0.0025***	-0.0062
-	(0.0008)	(0.0068)
Some College/Associates	-0.0130***	0.0004
C C	(0.0023)	(0.0082)
Bachelor's Degree	0.0054***	-0.0028*
e	(0.0010)	(0.0015)
Master's Degree	0.0007***	-0.0008
	(0.0003)	(0.0005)
Professional Degree	0.0005**	-0.000
	(0.0002)	(0.0002)
PhD	-0.0001	-0.0002
	(0.0001)	(0.0002)
	(0.0001)	(0.0002)
Metro Status	0.0040	0.0350*
Wero Status	(0.0040	(0.0191)
	(0.0003)	(0.0191)
Number of Children	-0.0002	0.0004
	(0.0016)	(0.0046)
Number of Children < 5	0.0004	0.0021
Number of Children < Syrs	-0.0004	0.0031
	(0.0004)	(0.0028)
Full-time Work Dummy	-0.0041***	-0.0272***
-	(0.0007)	(0.0094)
Occurrentie a Durantica		
Maida and Hausaltaaning	0.0075***	0.0022
Maids and Housekeeping	-0.0073***	0.0025
Cleaners	(0, 0011)	(0.0020)
Personal Care Aides	0.0008**	(0.0020)
r ersonar Care Aides	(0.0008)	0.0048
	(0.0004)	(0.0043)
Industry Dummies		
Physician Offices	-0.0006	0.0003
2	(0.0004)	(0.0009)
Dental Offices	-0.0001	0 0004
	(0.0001)	(0.0003)
Chiropractor Offices	-0.0000	-0.0000
	(0,0000)	(0,0000)
Ontometrist Offices	-0.0000	0.0000
optometrist Offices	-0.0000	(0.0001)
Hoenitals	_0 0076***	0.0175**
1103p1@15	(0.0013)	(0.0173)
	(0.0015)	(0.0072)

Nursing/personal care fac.	-0.0012	0.0113
	(0.0012)	(0.0076)
Health Services, NEC	-0.0065***	0.0062
	(0.0016)	(0.0110)
Resident Care fac. Without Nurses	0.0005	0.0026
	(0.0004)	(0.0043)

* p < 0.1; ** p < 0.05; *** p < 0.01Robust standard errors are in parentheses. Sample includes individuals who are at least 16 years old.