Can Immigrants Help the U.S. Care for an Aging Population?

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1. Aging U.S. Population

The age distribution in the U.S. has historically resembled a pyramid. As can be seen in Figure 1, the number of children in the U.S. in 1960 exceeded the number of working age adults, the number of working age adults exceeded the number of retirement age adults, and the number of people at the very top of the age distribution (age 85 and above) is barely perceptible. Age distributions like this one make it relatively easy for prime-age individuals to provide assistance—both financial and hands-on--to the relatively few older people who are no longer able to fully care for themselves.

Things are changing. Fertility rates in the US have been decreasing (Barroso 2021), life expectancies are increasing (Medina, Sabo, and Vespa 2020), and the baby boom generation has started reaching retirement age (Rogers and Wilder 2020). Figure 1 shows that by the year 2060, demographers expect the age distribution in the U.S. to look more like a rectangle than a pyramid (see U.S. Census Bureau (2018) for a description of the methodology used to make the projections). Particularly striking is the large expected increase in the share of the population that is 85 years old or older. About two-thirds of those in this age group require help with even basic activities of daily living such as eating, bathing, and dressing (Congressional Budget Office 2013), so while people are remaining healthy and active into older ages in recent years, it is reasonable to expect large increases in overall care needs of the country in the coming decades.

At the same time, women—the traditional primary caregivers for the elderly—are increasingly delaying fertility and investing in their careers, making it

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likely that they will be faced with caregiving responsibilities for their parents while concurrently still providing care for children and juggling a career. One option for families may be to rely more intensely on paid care services such as those provided in nursing homes or by homecare workers, but these services can be expensive. Prices vary considerably across nursing homes, but about 172 billion dollars was spent on nursing homes in the U.S. in 2019 (National Health Expenditure Accounts (NHEA) 2019). Medicare and Medicaid paid for about half of this, but as the size of the working age population decreases relative to the retirement age population, it will be more and more difficult for the U.S. to fund Medicare and Medicaid with tax revenues. Moreover, there are reasons to be concerned about the ability of nursing homes, even at current staffing levels, to provide adequate care for the elderly, especially those nursing homes relying extensively on Medicaid funding. Given these high costs and concurrent difficulties with providing high quality care, it may not be surprising that most elderly care is provided informally by friends and family members; with only about 20 percent of people requiring aid live in nursing homes (Congressional Budget Office 2013). While informal care may come at lower out-of-pocket costs, the time, mental health, and even physical health costs borne by caregivers in the U.S. is quite staggering even now (Reinhard et al. 2019).

If nothing changes, then all of this implies that as a society, we will face some very difficult choices in the coming years. Either we spend even more resources on long term care services or we accept that the quality of care provided to our nation's elderly will decrease. A potential third option, however, is to use immigration policy to address issues related to population aging. Immigrants in the U.S. tend to be young and have high employment rates, and so a more open immigration policy can decrease the share of the population that is above retirement age quite immediately.[2] The focus of this paper, however, is on how immigrants--through their work as nurses, homecare workers, and even housekeepers—can provide either direct care for the elderly or, in the case of housekeeping, indirect support for their informal care providers.

In the year 2017, immigrants constituted 15.5 percent of the U.S. population but 18.2 percent of health care workers. About 30 percent of the foreign-born health care workers worked in long-term care settings, while only 22 percent of

2 As pointed out by Peri (2020), because immigrants eventually age, this is not a long-term solution, but it can help attenuate rapid fluctuations.

U.S. born healthcare workers did the same. Immigrants were especially more likely than natives to work in home health agencies (13.1 percent vs. 7.9 for natives). Immigrants are also overrepresented in housekeeping, construction, and maintenance worker occupations (Zallman et al. 2019).

The propensity of immigrants to work in care-related occupations in itself may suggest that a more open immigration policy could help address the growing needs for caregiving. However, for more direct evidence, this paper starts with a review of the literature on the impacts of immigrant inflows on equilibrium wages and employment in care-related occupations. If past immigrant inflows to different areas of the U.S. did not decrease the costs of these services or increase their availability, then we may not expect a more open immigration policy to address future caregiving needs. Next, the paper reviews the evidence on how immigrant inflows have alleviated the time pressure of the women who typically provide care for family members. The paper ends with a description of new research pointing to improvements in the quality of care provided to the elderly living in areas receiving more immigrants.

2. Immigrants' Impacts on Household Service and Caregiving Professions

A typical supply and demand analysis of labor markets predicts that when labor supply increases, as would be the case with an inflow of immigrants to an area (or to an occupation), equilibrium wages decrease and employment increases. The magnitude of the impacts depends initially on how easily substitutable immigrants are with native workers, and in the longer run, how easy it is to substitute U.S. labor with technology or labor in other countries (via offshoring). Caregiving and other household services are particularly difficult to substitute with technology and almost impossible to outsource to other countries. This implies that if immigrants and natives are reasonably substitutable for each other, then we should expect decreases in equilibrium wages of workers in these professions in response to labor supply increases. Since labor constitutes the overwhelming share of the cost of producing care-related services (100 percent in the case of many housekeeping or elderly sitting services), then if wages decrease, it is reasonable to expect these services to become more affordable. How much more affordable they become will depend on the elasticity of demand for these services. If the demand for caregiving services is very elastic (i.e., if people are very sensitive to price when

deciding how much of these services to purchase), then wage decreases may be quite small even in response to large shifts of labor supply. However, even in this case, immigrant inflows may make it more convenient to outsource caregiving services if they lead to increases in the availability of these services. Most of the literature looking at labor market impacts of immigrant inflows consider only the native-born workers. Because we are ultimately interested in the outcomes of the consumers of these services as opposed to just native-born workers in these occupations, it is important to consider the wage and employment effects of immigrant inflows on all workers in caregiving professions.

Empirically estimating a causal effect of the availability of immigrant labor on wages is no easy task. A very naïve approach would be to compare the wages of care workers in areas of the U.S. with many immigrants to the corresponding wages in areas with few immigrants. Interpreting this comparison would be problematic because, even if immigrants did in fact put downward pressure on wages, we might observe a positive relationship between the share of immigrant workers and wages in caregiving professions if immigrants tend to move to areas with higher wages in caregiving professions.

One simple way to alleviate this problem is to examine the relationship between *changes* in the share foreign-born and *changes* in wages in caregiving occupations. While helpful, this does not address the problem completely because immigrants are likely to move to places with booming economies, places where they expect wages to be increasing in the coming years. To address this issue, economists typically take an instrumental variables approach.[3] Using instrumental variables techniques and focusing on changes over time, most immigration researchers have found negligible impacts of immigrants on the wages of native workers in general but with small negative impacts on native-born high school dropouts and immigrants who have been in the U.S. for some time. There also seem to be impacts on the hours of work, but not employment of teenagers (see

3 The intuition behind instrumental variables approaches to identifying causal effects of immigrant inflows is to come up with a motivation for immigrants to move to a particular place that is independent of higher or growing wages in that place. We then make predictions about the number of immigrants in a place based on this independent factor (the instrument), and finally, we examine the impact of this predicted number of immigrants on the outcomes of interest. The instrument most often used in the immigration literature is based on the idea that immigrants have a preference, all else equal, to live in ethnic enclaves, places that for historical reasons happen to have many people from their country of origin. See Card (2001). By exploring the relationship between the number of immigrants moving to an area due to preferences to live in enclaves (as opposed to preferences to live in areas with high wages), we are able to learn about the causal impact of immigration on wages.

National Academies of Sciences, Engineering, and Medicine (2017) for a comprehensive review of the literature).

Several researchers have found that immigrant inflows do lead to rather substantial decreases in wages in particular occupations, specifically occupations that tend to employ many immigrants and that are not easily replaced with technology or outsourcing.[4] For example, Furtado (2016) shows that in areas of the U.S. with more immigrants, the wages of housekeepers, childcare workers, and restaurant workers tend to be lower. Similar results have been found using data from Spain (Farré, Gonzalez, and Ortega 2011). In terms of nursing professions, immigrant inflows have been associated with decreased wages among nursing assistants—an occupation marked by very low formal education levels—and even licensed practical nurses (Furtado and Ortega 2020, Butcher et al. 2021), but increases in wages among registered nurses (Cortes and Pan 2015a; Furtado and Ortega 2020; Butcher et al. 2021). Consistent with these wage decreases being driven by immigrant-induced labor supply increases, the share of the labor force working in these professions has also been shown to increase in areas with more immigrant inflows (Furtado and Ortega 2020; Butcher et al. 2021). These labor market changes may decrease the general welfare of the native born who continue working in these professions despite the lower wages. However, they also point to greater affordability and availability of nursing and household services in areas with more immigrant labor. This is likely to be beneficial for both those who would otherwise provide elderly care informally and those receiving the care.

3. Impacts of Immigration on Native-Born Family Caregivers

Does an abundance of immigrant labor in an area lead to actual relief for family caregivers? Theoretically, in response to decreases in the cost of outsourcing caregiving work, caregivers could respond by increasing the amount of these services they purchase, thereby freeing up their time to pursue other goals. Alternatively, they may not change the amount of services they purchase but could simply save

4 The National Academies of Sciences, Engineering, and Medicine (2017) study focuses on impacts on natives while the studies looking at impacts on wages in service-sector occupations include both native-born and foreign-born workers in their samples. The purpose of the occupation-specific analyses is to examine whether the prices of the services decrease. Prices may decrease either if wages of all workers in a profession decrease or if more low-wage (foreign-born) workers enter the profession. By keeping both immigrant and native workers in the sample, these studies can consider both mechanisms.

money, thereby freeing up their incomes to pursue other goals. It is also possible that so few people use these services (for example, because social norms or budget constraints make it infeasible) that in practice, consumption of these services does not change much despite lower costs of these services. Given this theoretical ambiguity, it is useful to look empirically at the relationship between immigrant inflows and outcomes of the (likely) family care providers.

Several studies provide at least indirect evidence that immigrant inflows do alleviate the burden of providing care. In a seminal paper on this broadly-defined topic, Cortes and Tessada (2011) show that in places with more immigrant-induced changes in low-skilled labor, high-wage women tend to work more hours and are especially likely to work 50 or more hours per week. Suggesting that the increased labor supply is driven by the greater availability and/or decreased cost of household services, they also show that these women decrease the time spent on household work and increase expenditures on housekeeping services (Cortes and Tessada 2011). In related work, I show that college-educated native-born women respond to immigrant inflows by having more children (Furtado 2015). Given how time-intensive childrearing can be, this result might suggest that the greater availability of immigrants to work in care-related professions does reduce time constraints of family caregivers. While caregiving decisions related to children may be very different from decisions related to caregiving for elderly spouses and parents, this body of work certainly suggests that enough people outsource care-related work for immigrants to plausibly make a noticeable difference in caregivers' decisions.

Focusing on care for the elderly, Peri et al. (2015) show using data from Italy that the planned retirement age gap between women and men with a living parent over age 80 is smaller in areas with more immigrants. The gap is especially small in areas with large inflows of Eastern European female immigrants, the group supplying the largest share of domestic care in Italy. In another study, Goswami (2021) shows that college-educated older U.S. born women--but not men or low-education women--are more likely to remain in the labor force as they approach or even pass retirement age when they live in areas of the country with more abundant immigrant labor. Given that women are more likely than men to have care responsibilities and that the college-educated are better able to afford outsourced care, this result also suggests that immigrant labor can alleviate pressure on caregivers to the elderly.

If caregivers simply replace time spent caring for family members with time

spent working in the labor market, they may not be much better off in the end. To my knowledge, there is no work specifically examining the relationship between immigrant inflows and the well-being of caregivers. However, there is new work showing that the self-rated mental health of family caregivers improved substantially after Medicaid home care services were adopted by families (Unger et al. 2021). Given the evidence that immigrant inflows increased the availability and affordability of home care workers (Butcher et al. 2021), it seems likely that immigrant inflows increase the wellbeing of family care providers who are induced to use these services when they become cheaper or more abundant because of immigrant inflows. If immigrants indeed decrease equilibrium wages of home care services, then it also becomes less expensive for Medicaid to pay for these services. This would then either alleviate the burden to taxpayers or allow Medicaid to provide home care services to more families.

4. Immigrants and the Quality of Care Provided to the Elderly and Disabled

While the previous section implies that immigrant labor may help alleviate caregiving responsibilities for family care providers, another important question is what happens to the quality of care for the elderly and disabled when immigrant labor becomes more abundant. After all, if the reason for the lower prices of caregiving and household services is that immigrant service quality is lower (perhaps because of communication difficulties between the care providers and care receivers), then those requiring care may be worse off in areas with more abundant immigrant labor. It is in general difficult to measure the quality of a service as personal and intimate as elderly care, but several pieces of evidence suggest that quality of care actually improves in areas with larger immigrant inflows.

Let us start again with a theoretical perspective. Upon arrival to the U.S., immigrants typically have fewer occupational options than natives because of language barriers, home country credentials not being accepted in the U.S., or even discrimination. As a result, we may see, for example, immigrants trained as doctors in their home countries working as registered nurses in the U.S., and registered nurses working as nursing assistants. More generally, college-educated immigrants may work in low-skilled professions such as nursing assistants, home care workers and housekeepers because they are unable to find jobs in other sectors, at least initially after arriving in the United States. If immigrants face addi-

tional barriers to entering certain occupations, then conditional on their wages, a typical foreign-born worker in any given occupation may be more productive or skilled than a typical native-born worker. At the top of the wage distribution, foreign-born registered nurses may have the qualifications and drive necessary to pursue medical degrees had they been born and raised in the U.S. At the bottom of the wage distribution, low-education immigrants working as housekeepers or home care workers may provide particularly attentive services for fear of losing their jobs. They may be especially flexible in terms of schedules and unlikely to miss work unexpectedly.

There is empirical evidence that registered nurses trained in the Philippines are more effective than U.S. born nurses trained in the U.S. Using wages to measure quality, Cortes and Pan (2015a) show that Philippine-educated nurses earn wage premiums in the U.S. that cannot be accounted for by worker or job characteristics. They explain that part of this is due to the very high quality of training for nurses in the Philippines, a direct result of government policy. However, perhaps equally or even more important is the fact that Filipino nurses who migrate to the U.S. earn 13 times more than nurses who work in the Philippines and five times more than what the average lawyer makes in the Philippines. This implies that only the very best, most ambitious and hard-working professionals in the Philippines become nurses in the United States. In contrast, registered nurses in the U.S. certainly earn about the same as social workers and significantly less than lawyers and CEOs (Cortes and Pan 2015a). The exceptional high quality of Filipino nurses may be a bit of an anomaly; foreign-born nurses in general earn wages that are comparable to those of native-born nurses (Cortes and Pan 2015a). However, to the extent that the foreign-born face more barriers to enter nursing professions than do natives, immigrant nurses who do enter these occupations may be on average better than observationally similar native-born nurses as well as nursing assistants and home care workers. Those immigrants who are unable to enter these professions, perhaps because of lack of legal status, may be especially productive housekeepers or home care providers working under the table.

Interestingly, the quality of care provided to the elderly by native-born workers may also improve in areas with more foreign-born workers. Cortes and Pan (2015b) show that increases in the number of foreign-born nurses in an area are associated with increased likelihoods of natives passing nursing licensure examinations. This suggests that faced with increased competition from foreign-born nurses in the labor market, only the most highly skilled and devoted natives pur-

sue nursing careers. It is plausible that similar processes occur among nursing assistants and home care workers to some degree.

Even if immigrants are not better care workers, immigrant inflows may lead to higher quality care via their impacts on wages. If, for example, home care workers of equal (or even slightly lower) quality are less expensive in areas with more abundant immigrant workers, then private households in these areas may be able to afford to pay someone to provide care for their elderly family members instead of leaving them alone for extended periods of time. If families can outsource housekeeping and cooking, then the care providers may have the energy to provide better quality care for family members. It is also possible that when household services are affordable, the elderly can live independently instead of having to live in long-term care facilities or move in with their children. Butcher et al. (2021) show that increases in the less-educated foreign-born labor force share in a local area lead to reductions in institutionalization among the elderly.

In my newest line of work, I provide direct evidence that immigrant inflows are associated with improved quality of care provided in nursing homes. Again, even assuming that foreign-born workers are no more productive than are native workers in nursing professions, if immigrant inflows pull down equilibrium wages, then cash-strapped nursing homes can respond by hiring more nursing staff. Using a variety of different empirical techniques, many studies have shown that increases in nursing home staff are associated with decreases in mortality rates among nursing home residents (Stevens et al. 2015, Friedrich and Hackmann 2021).[5]

Within nursing professions, the foreign-born are more highly represented as registered nurses (RN's) and especially nursing assistants (NA's) than they are as licensed practical nurses (LPNS). For this reason, we would expect immigrant inflows to have stronger impacts on the number of RNs and NAs in an area than on LPNs. However, it is possible for immigrant inflows to result in more LPNs if, as a result of more competition from immigrants working as NAs, some natives upgrade their skills and become LPNs. After all, Peri and Sparber (2009) have shown that in response to low-skill immigrant inflows, low-skill natives switch to occupations in which they have a comparative advantage.

As discussed previously, immigrant inflows into a local labor market lead to

5 Lack of adequate staffing has been cited as a major predictor of Covid-19 deaths in nursing homes during the Covid-19 pandemic (Harrington et al. 2020).

the largest decreases in wages among nursing assistants (NAs) and smaller decreases among licensed practical nurses (LPNs) (Furtado and Ortega 2020; Butcher et al. 2021). Interestingly, immigrant inflows lead to increases in wages of registered nurses—a result consistent with the work of Cortes and Pan (2015a) showing that foreign-born nurses receive higher wages than natives and often crowd out natives from becoming RNs (Cortes and Pan 2014). There is also evidence that increases in the number of immigrants in a local labor market lead to increases in the labor supply of NAs, LPNs, and RNs (Furtado and Ortega 2020, Butcher et al. 2021).

If in response to a greater availability of immigrant labor, nursing homes can hire more or better nursing staff, we may expect the quality of care provided in nursing homes to improve. While there is no perfect measure of quality of care, in ongoing work, my coauthor and I have been considering several imperfect measures to get a sense for overall quality. Our data on nursing homes come from the Long-Term Care Focus (LTCFocus) project developed at Brown University. This data source integrates data from several different agencies that collect information from nursing homes, some of which rely on in-person inspections. Using information on the location of these nursing homes, we can then assign to each nursing home the share of immigrants in the local labor market where the nursing home is located in each year.

We start our exploration of nursing home quality by considering the proportion of nursing home residents who have recently experienced a fall leading to injury. Falls among this vulnerable population have been shown to lead to broader health deterioration and even increased mortality (Kelly 2018; Rapp et al. 2008, 2009). Moreover, resident falls tend to be sensitive to nurse staffing (Leland et al. 2012). When residents must wait for long periods of time before getting help to walk to the bathroom, they walk by themselves and this is when major falls happen. Another predictor of falls is anxiety and nervousness among residents (Iinattiniemi, Jokelainen, and Luukinen 2009). When staff are not overworked, they may be able to calm residents and address their needs before a fall occurs.

Figure 2 shows the relationship between the share of immigrants living in the nursing home's commuting zone and the share of nursing home residents in the area that have recently fallen.[6] To create the figure, we first split the share of foreign-born into 20 bins ranging from the minimum share of foreign-born

6 Commuting zones are local areas configured so that most people who live in an area also work in the same area. The U.S. is divided into around 700 commuting zones.

of around zero (in Atmore, AL) to the maximum of almost 50 percent (in Fort Lauderdale, FL). The figure plots the share of residents who have recently fallen among all nursing homes located in areas within the particular range of share of foreign-born. As can be seen from the figure, the relationship is clearly negative. There is certainly reason to be concerned about interpreting these figures. Yes, there is a correlation but it may just be that immigrants tend to live in richer areas of the country. These places may have better equipped nursing homes and healthier nursing home residents for reasons that have nothing to do with immigrant labor. An easy way to address this issue is simply to control within a regression framework for characteristics of the nursing homes, most importantly the needs of the residents. When adding controls measuring nursing home resident needs as well as other characteristics such as percent female, percent black, percent Hispanic, percent obese, for profit, percent paid for by Medicaid, whether the nursing home is affiliated with a hospital, and whether the nursing home is part of a chain, the relationship between immigrant labor and nursing home quality do not change (see Table 1). We can also use the instrumental variables techniques described above, and the general relationship remains the same: Immigrant inflows appear to improve the quality of care provided in nursing homes (Furtado and Ortega 2020).

5. Conclusion

Along with many other rich countries, the U.S. is experiencing population aging. In the coming decades, large numbers of people will need help performing even basic activities such as dressing, bathing, and eating. When the ratio of people needing help to the number who can provide help is small, then the work and expense of caring for the elderly can be shared among a large number of able-bodied individuals. This becomes more difficult when a population is aging and especially difficult as adult daughters—the traditional caregivers—are increasingly joining the labor force and devoting more time and energy to their careers while also still caring for their own children. When they do provide the care, it can come at immense financial and mental health costs.

Many families rely on care provided by nursing homes. Even before the Covid-19 pandemic, many raised concerns about the sub-standard quality of care provided in many of the nation's nursing homes. A large strand of literature points to staffing as a main predictor of the quality of care in nursing homes. Ironically

perhaps, just as the country is grappling with current labor shortages in nursing homes which are likely to become worse as the baby boomers reach old age, few policy makers are considering increasing avenues for legal migration to the U.S.

The immigration literature and policy debate has really focused on the potentially harmful labor market impacts of immigration on natives. The consensus in the literature is that any negative impacts on wages and employment are likely to be small and concentrated on just a few segments of the population (National Academies of Sciences, Engineering, and Medicine 2017). What is generally underappreciated is that immigration may be instrumental in helping the U.S. address issues related to our aging population. Because immigrants tend to arrive in the U.S. while young and eager to work, they can quite mechanically decrease the country's senior ratio. In addition, because they often work in caregiving and household service occupations, they can quite literately help to provide the hands-on care for those that need help. The evidence suggests that, despite any language and cultural barriers faced by immigrant workers, the quality of the care provided in nursing homes in areas with more immigrants tends to be quite high. In addition to this, through their work as housekeepers and home care workers, immigrants are enabling many of elderly to remain in their own communities instead of being forced into institutionalized care. If care provided within homes is better than what is provided in the typical nursing homes, then this is another way that immigrants are currently helping the U.S. care for its elderly. Either way, help from immigrant workers can relieve the burden of unpaid family care providers allowing them to pursue career or leisure goals while at the same time ensuring that their loved ones are well-cared for.

To the extent that many high-wage workers remain in the labor force or work longer hours when they can afford to outsource some of their elderly care responsibilities, there might also be unexplored fiscal benefits to immigrant inflows. At the individual level, the additional wage income might allow for increased consumption or more saving while caregivers are working. Given the way the Social Security system is structured in the U.S., this also means larger retirement benefits after they retire, putting people in a better position to pay for their own care as they age. At the macro level, since most caregivers are women who are often secondary wage earners in families, their earnings are subject to high marginal tax rates. This implies that their increased tax payments might be used to fund Social Security as well as other old-age support programs in the United States.

It seems to me at least that instead of fearing immigration, we should be

providing more work visas in order for immigrants to help care for our growing elderly population. All of this leaves me to wonder what other world problems can be resolved or at least alleviated by simply allowing people to live where their labor is most needed. I leave that question for future research.

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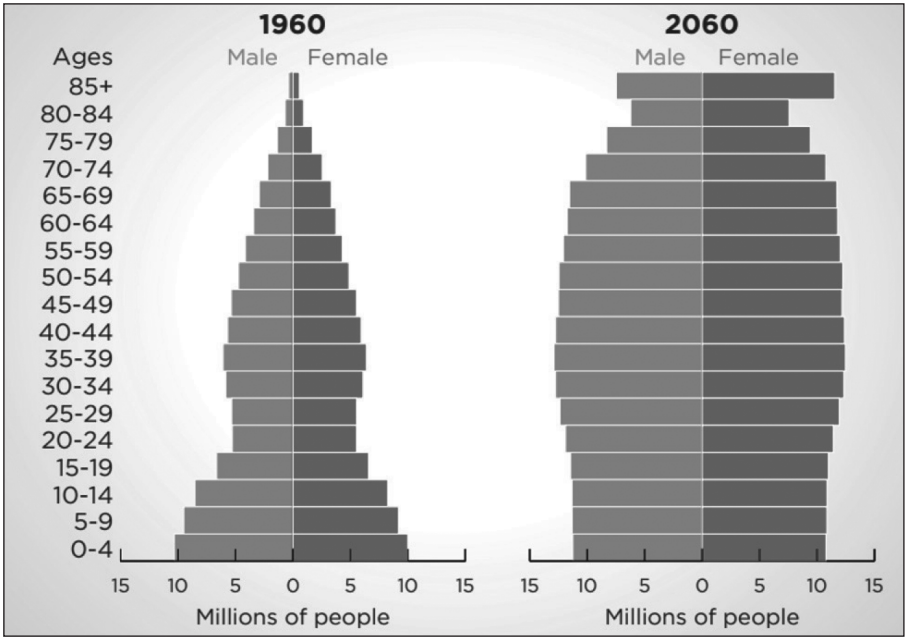
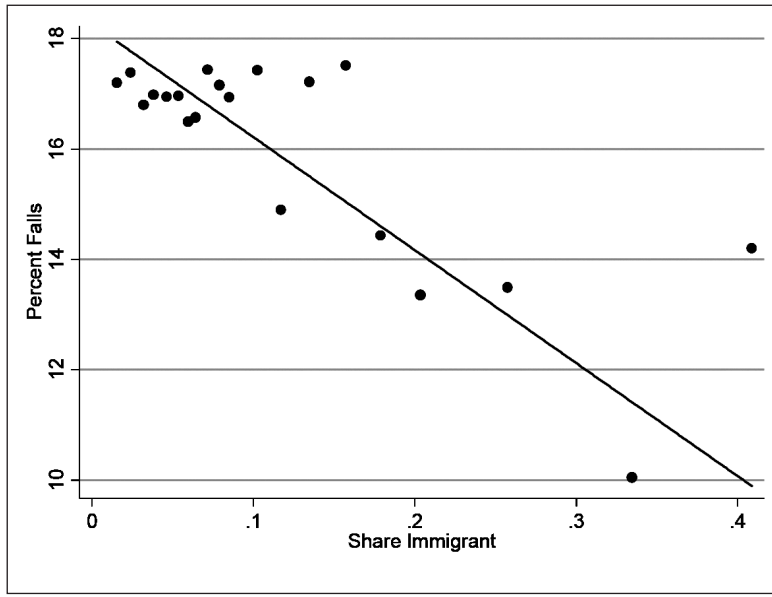
Figure 1: Age Distribution of the U.S. Population in 1960 and Projected Age Distribution in 2060



Source: National Population Projects, 2017. Information on the projections and revisions of the projections available here: www.census.gov/programs-surveys/popproj.html. *The graphic was downloaded from:* https://www.census.gov/library/visualizations/2018/comm/century-of-change.html.

Figure 2: Percent of Falls in Nursing Homes and Share Immigrant within Nursing Home's Local Area



Notes: Percent falls is computed by taking the number of residents in nursing home who have fallen with major injury in the last 30 days divided by the total number of residents in the nursing home. Total number of beds in the nursing home are used as weights. Data on nursing homes come from the Long-Term Care Focus (LTCFocus) project developed at Brown University. This figure is constructed from the 2010 nursing home sample. Share immigrant is the share of the commuting zone population that is foreign-born. This variable is constructed from the 2010 American Community Survey (ACS). Commuting zones are local areas configured so that most people who live in an area also work in the same area.

Table 1: OLS Regressions of Nursing Home Quality on Share Foreign-born in the Local Area

Dependent Variable: Percent Falls	(1)	(2)
Share Immigrant	-19.501***	-15.123***
	(2.572)	(3.632)
Basic Controls	Yes	Yes
Extended Controls	No	Yes
Observations	1,962	1,962

*Notes: Percent falls is computed by taking the number of residents in nursing home who have fallen with major injury in the last 30 days divided by the total number of residents in the nursing home. Basic controls include acuity index (measure of intensity of care needs of residents), percent of residents that are female, percent black, percent Hispanic, percent obese, and whether the nursing home is for profit. Extended controls include the basic control plus percent of residents paid for by Medicaid, whether the nursing home is hospital based, part of a chain, share of commuting zone level population with college degree, share of the commuting zone population that is age 65 years old or above, and average wage in the commuting zone. Standard errors clustered on commuting zone. *** p<0.01. Data Sources: Nursing home characteristics from 2010 LTCFocus. Commuting zone characteristics from the 2010 American Community Survey (ACS). Weighted by number of beds in the nursing home.*