Immigration Enforcement and the Quality of Home Health Care

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Abstract

We examine how interior immigration enforcement—specifically Secure Communities (SC)—shaped the quality of care delivered by home health agencies (HHAs). Linking provider quality to SC's staggered rollout, we find that activation reduced the quality of care. Event-study dynamics show no pre-trends and a persistent post-activation decline, supporting a causal interpretation. The deterioration is not uniform; effects are concentrated among privately owned HHAs. Mechanism evidence points to staffing constraints. SC led to decreases in the total number of HHA workers as well as reductions in their total hours worked, results driven by low-education HHA workers. Overall, the findings suggest that immigration enforcement tightened HHA labor markets and, in turn, measurably degraded the quality of home-based health care.

Keywords: Immigration enforcement, home health care, Secure Communities, elderly care, labor markets.

JEL Codes: J61, I11, J48, H75.

1. Introduction

Recent increases in deportations carried out by U.S. Immigration and Customs Enforcement (ICE) have renewed concerns about the broader consequences of interior immigration enforcement. While prior research documents substantial adverse effects of these policies on undocumented immigrants and their families, far less is known about their spillover effects on service quality in sectors that rely either directly or indirectly on immigrant labor. This paper examines the impact of the *Secure Communities* program—a major federal initiative that expanded interior immigration enforcement—on the quality of care delivered by home health agencies, which provide medical and personal assistance to some of society's most vulnerable individuals. Because home health agencies generally employ few undocumented workers, any observed effects on this sector likely reflect broader spillover impacts of immigration enforcement on the provision of essential care.

Home health agencies (HHAs) provide part-time health care services in people's homes. Home health staff check patients' blood pressure, temperature, and heart rate, but they also assess safety in the home, confirm that patients are correctly taking prescription drugs, and educate patients and their caregivers on the importance of proper nutrition and exercise. While agencies may and often do provide housekeeping and personal care services, their primary role must be the provision of skilled care services for Medicare reimbursement purposes. Home health has been found to generally be less expensive and just as effective as care provided in a hospital or skilled nursing facility (SNF). Yet, while we know quite a bit about determinants of care quality in hospitals and SNFs, there is limited research on the factors shaping the quality of care provided by HHAs. This paper considers how a shock to labor supply in a local area—induced by implementation of the Secure Communities (SC) policy- affects the ability of HHAs to provide high-quality care to their patients.

Under *Secure Communities* (SC), information collected during an arrest is entered into a database jointly maintained by the Federal Bureau of Investigation (FBI) and the Department of Homeland Security (DHS). The system flags individuals without legal status, enabling U.S. Immigration and Customs Enforcement (ICE) to initiate deportation proceedings. Between 2008 and 2013, the program led to nearly half a million deportations nationwide. Importantly for our purposes, the staggered rollout of SC across counties provides a valuable quasi-experimental setting for identifying causal effects (Amuedo-Dorantes and Lopez, 2015).

A vast literature documents how Secure Communities (SC) heightened deportation fears among immigrant communities, affecting a wide range of economic and social outcomes (*e.g.*, Aguilasocho *et al.*, 2012; Ali, 2022; Alsan and Yang, 2022;

Amuedo-Dorantes and Arenas-Arroyo, 2020; Amuedo-Dorantes *et al.* 2018; Cox and Miles, 2014; to name a few). In the context of caregiving markets, East and Velásquez (2022) show that SC reduced the labor supply of likely undocumented housekeepers and childcare workers, and this in turn lowered labor supply among highly educated native-born women with young children, who rely on housekeeping and childcare services to work. Relatedly, Almuhaisen, Amuedo-Dorantes, and Furtado (2024) find that SC reduced the labor supply of immigrant housekeepers, personal care aides, and home health workers, and this ultimately increased the likelihood that elderly Americans—who might have otherwise been able to age in place with some help--reside in nursing homes. These studies focus on sectors where undocumented immigrants are likely overrepresented—such as household-based domestic care and childcare—often involving informal employment arrangements.

By contrast, we examine the effects of immigration enforcement on home health agencies, a sector characterized by formal employment relationships, heavy regulation, and licensing requirements for many of its workers—and so unlikely to hire very many undocumented workers. Most closely related to our work, Ali, Brown, and Herbst (2024) show that labor supply of both immigrant and native-born childcare workers declined following SC, and this led to decreases in children's participation in center-based childcare programs, another formal sector that is unlikely to hire very many undocumented workers. We assess whether similar patterns emerge in the labor markets of home health workers and, ultimately, whether these shifts translated into changes in the quality of care provided by home health agencies.

Immigration enforcement may affect the quality of care provided by home health agencies (HHAs) through multiple channels. First, as shown in prior research, deportation fears can lead undocumented workers and their family members to reduce their labor supply (East and Velásquez 2022). A resulting decline in the supply of home health workers could contribute to understaffing, higher caseloads, and lower-quality care. Importantly, even if undocumented workers themselves are not directly employed in this sector, reductions in their labor supply in related occupations—such as housekeeping, childcare, and personal care—may indirectly affect the home health workforce if some home health workers take those newly available jobs in private households, which may offer more schedules that are flexible. Second, even in the absence of direct labor supply disruptions within the home health sector, declines in labor supply in other caregiving occupations (*e.g.*, personal care aides) that support patient recovery at home (Almuhaisen *et al.* 2024) may ultimately lead to worse outcomes among HHA patients if workers in these two sectors complement one another in providing care.

While both of these mechanisms would lead to lower-quality care for HHA patients, it is also theoretically possible that patient outcomes improve if *Secure Communities* reduces demand for home health services. Such a decline in demand could occur, for instance, if more individuals transition to nursing homes due to difficulties securing affordable household or personal care workers (Abdulmohsen *et al.* 2024), or if undocumented immigrants and their families decline home health care services out of fear of detection. We begin by estimating the overall effects of immigration enforcement on HHA care quality, and then more carefully examine the mechanisms that may drive these results.

To assess these effects, we merge Centers for Medicare & Medicaid Services (CMS) Home Health Compare data, which tracks key quality indicators—including patient mobility improvements, pain management, and hospital readmissions—with county-level SC activation dates and data on time-varying county-level characteristics. Using a staggered difference-in-differences framework, we compare care quality before and after SC's activation across treated and control counties, accounting for potential confounders such as labor market conditions and concurrent immigration enforcement policies. We also examine heterogeneity by HHA ownership type, as for-profit and nonprofit agencies may respond differently to labor shortages.

Preliminary findings indicate that Secure Communities (SC) lowered home-health care quality by about 0.04–0.06 SD (≈3–4 percentage points on the underlying 0–1 quality measures), with effects concentrated among for-profit agencies. Component results point to declines precisely where continuous aide involvement matters most—mobility, self-care, and pain management—while hospital readmission outcomes show smaller or no changes. Event-time estimates reveal flat pre-trends, a clear discontinuity at activation, and sustained post-treatment declines. Results remain robust when using an alternative coding for rollout of the SC policy, excluding early adopters, and a falsification test assigning placebo implementation dates suggests our findings are not spurious. In sum, SC is associated with measurable quality deterioration.

These results underscore the unintended consequences of immigration enforcement for home care quality and, in turn, Medicaid spending. As Medicaid-funded home- and community-based services expand and states tighten restrictions on immigrant labor, a policy tension intensifies. Enforcement shocks that constrict entry-level caregiving labor can degrade HHA performance. Ensuring an adequate supply of home-health workers—through targeted visa pathways or stabilization of HCBS funding and staffing—will be critical to meet aging-population needs, contain costs, and sustain high-quality, accessible care.

The remainder of the paper is organized in the following way. Section 2 provides background on home health agencies and the Secure Communities policy. Section 3 describes the data used in the analysis, while Section 4 presents our identification strategy and empirical specification. Baseline findings, along with results from identification checks, robustness tests, and tests for heterogeneity, are reported in Section 5. Section 6 presents additional evidence on mechanisms by analyzing the impacts of SC on the labor supply and wages of home health workers and workers in other caregiving occupations, disaggregated by likely immigration status. Section 7 concludes.

2. Background and Conceptual Framework

2.1 Home Health Agencies and Aging in Place

The U.S. population is aging. By 2030, about one in every five residents is expected to be age 65 or above (U.S. Census Bureau 2023). Given the larger and more complex healthcare needs of the elderly, it is important to consider how to provide quality care for this growing segment of the population in a variety of settings. While many who require skilled nursing, either temporarily after a hospital stay or more long term, receive such care in skilled nursing facilities (SNFs), most people strongly prefer to receive care within their homes (Binette and Vasold 2018).

Home health agencies provide part-time health care services in patients' homes. Often, the physician treating a patient for an illness or injury in a hospital orders these services when the intensive care services provided in a hospital are no longer needed. Home health agency workers may check patients' blood pressure, temperature, and heart rate, assess safety in the home, confirm that patients are correctly taking prescription drugs, and educate patients and their caregivers on the importance of proper nutrition and exercise. Some agencies provide housekeeping and personal care services, but *for Medicare reimbursement purposes*, the primary role must be the provision of skilled care services. The home health agencies in our dataset all receive reimbursement for Medicare or Medicaid.[1]

[1] Medicare is a US federal health insurance program either for people aged 65 and older or with certain disabilities, while Medicaid is a joint federal–state program that provides health coverage to low-income individuals and families. Because older Americans requiring long-term care typically do not have incomes, they can very quickly spend down their savings making them eligible for Medicaid-provided services. Medicaid is the largest payer of both nursing home care and long-term care services provided in the home and community. Home and Community-Based Services (HCBS) waivers allow eligible individuals to receive Medicaid-funded assistance such as personal care, home health aide services, and other home-based supports. Depending on the specific rules in the state, these waivers can be used to pay HHAs, but the focus of HHAs is short-term medical care.

In recent years, Medicaid waivers in some states have provided long-term care at home for a specific number of enrollees, but the programs are often full. Regardless of which services are provided (short term vs. long term) and how these services are paid for, their availability is crucial. Staffing shortages, which are especially stark in the home care sector, have been making it difficult for those needing assistance to find adequate help.[2] These shortages are likely to grow in the future as the population ages. The home health and personal care occupation employment is expected to grow 17 percent from 2024 to 2034, much faster than the 3 percent average for all occupations (BLS 2025). Other workers often employed by home health agencies include physical therapists (where the BLS projects 11 percent growth), registered nurses (5 percent growth), and licensed practical nurses (3 percent growth) (BLS 2025).

2.2 Immigration and Caregiving for the Elderly and Disabled

Immigrants play a central role in the U.S. long-term care and household service sectors. While they are overrepresented in nursing-related occupations (Butcher, Moran, and Watson 2022), their presence is even more pronounced in housekeeping, personal care aide, and home health aide occupations, where the immigrant share is roughly double that of natives (Almuhaisen, Amuedo-Dorantes, and Furtado 2024).

A growing body of evidence shows that local inflows of immigrants lower the cost of labor-intensive services such as housekeeping, gardening, and personal care (Cortés 2008; Butcher, Moran, and Watson 2021), thereby enabling families to substitute market-based services for unpaid household work. These inflows have been shown to delay older women's retirement (Peri *et al.* 2015), mitigate the adverse impact of parental health shocks on their children's labor supply (Frimmel *et al.* 2020), improve the quality of care provided in nursing homes (Furtado and Ortega 2022), and reduce the likelihood that older adults reside in nursing homes (Butcher, Moran, and Watson 2021). Instead of examining the broad impacts of immigrant inflows on the quality of care provided by home health agencies, this paper contributes to this literature by examining the impact of a particular policy that led to many deportations.

2.3 Secure Communities Policy

U.S. interior immigration enforcement expanded markedly after 9/11. Between 2003 and 2013 alone, ICE funding rose by about 80%, apprehensions doubled, and

[2] See: https://www.npr.org/sections/health-shots/2022/05/05/1095050780/a-shortage-of-health-aides-is-forcing-out-those-who-wish-to-get-care-at-home

removals tripled (American Immigration Council, 2021). This growth hinged on state–local cooperation, with Secure Communities (SC) as the cornerstone.

Launched in March 2008, SC is an information-sharing program that flags potentially removable noncitizens booked into local jails by sending fingerprints to federal databases; if a match is found, ICE may issue a detainer requesting up to a 48-hour hold (ICE, 2021). Unlike 287(g), SC required no deputization, lowering set-up costs. After some very early MOAs, in August 2011, ICE mandated nationwide rollout, which achieved full coverage by January 22, 2013 (Semple and Preston, 2011). In 2014, DHS ended SC and launched the Priority Enforcement Program (PEP), narrowing transfers to recent serious convictions. A few years later, in 2017, EO 13768 restored SC and broadened priorities, and in 2021, EO 13993 revoked that order, even though fingerprint data-sharing continued. In 2025, the new administration rescinded EO 13993 and rolled back "protected areas," signaling a return to broader interior enforcement.

As with prior initiatives, Secure Communities (SC) has drawn considerable scrutiny. Although ICE initially emphasized prioritizing serious convicted criminals, administrative data showed otherwise: in FY2011, only 26% of SC removals involved Level 1 convictions; 19% were Level 2, 29% Level 3 (sentences <1 year), and 26% involved immigration violations or no criminal conviction (TRAC, 2020). Likewise, Kohli *et al.* (2011) reported that over half of deportees had no criminal conviction or only minor offenses (*e.g.*, driving without a license), and roughly 40% reported a U.S.-citizen spouse/child. After SC's 2017 restoration, TRAC found that while overall deportations rose, increases in removals of people with serious convictions were modest and monthly totals stabilized around 6,200 by late 2017 (TRAC, 2017).

A vast literature has documented how SC raised deportation fears among the immigrant community, impacting a wide range of outcomes,[3] including chilling effects on crime reporting and community policing, and concerns about profiling and limited oversight (*e.g.*, Preston, 2011; Aguilasocho *et al.*, 2012; Nguyen & Gill, 2016; Hennessey, 2011; Kirk *et al.*, 2012; Amuedo-Dorantes *et al.*, 2022; Waslin, 2011). More relevant for our purposes, East and Velásquez (2022) document that SC curtailed the labor supply of housekeepers and childcare workers, thereby reducing the labor supply of highly educated native-born women who rely on these services. Relatedly, we show that elderly

[3] Examples include migrants' driving and labor market participation (Amuedo-Dorantes *et al.*, 2020; Amuedo-Dorantes and Antman, 2022), poverty exposure (Amuedo-Dorantes *et al.*, 2018), their children's educational attainment (Arenas-Arroyo and Schmidpeter, 2022; Amuedo-Dorantes and Lopez, 2015), their reporting of domestic violence incidents (Amuedo-Dorantes and Arenas-Arroyo, 2022; Amuedo-Dorantes and Deza, 2022; Muchow and Amuedo-Dorantes, 2020), and their participation in SSI and SNAP (Alsan and Yang, 2018), to name a few.

Americans became more likely to reside in nursing homes following SC's implementation, as the labor supply of immigrant housekeepers and home health workers declined (Almuhaisen *et al.*, 2024). In this study, we go one step further, trying to gauge the impact that immigration policy in the form of tougher enforcement might also have on the quality of health provided by home health agencies.

2.4 Conceptual Channels from SC to HHA Quality

There is no strong a priori reason to expect that the Secure Communities program would have had a discernible impact on home health agencies. After all, the deported were almost exclusively male, and employees of HHAs are overwhelmingly female. Moreover, home health agencies are formal establishments with many of their workers requiring licenses. This makes it unlikely that they will hire very many undocumented workers who might avoid work for fear of encountering immigration enforcement. Nonetheless, there are several reasons to believe that even this sector could have been affected by Secure Communities, both negatively and positively.

***Potential Decreases in HHA Care Quality*:** While home health agencies are unlikely to employ large numbers of undocumented immigrants,[4] they may employ individuals who are authorized to work and reside in mixed-status households. Evidence suggests that even documented immigrants reduced their interactions with the outside world in general and especially with federal agencies (*e.g.*, Alsan and Yang, 2018) out of fear that such interactions could increase the risk of deportation for their family members. This may have made the licensing requirements for certain types of home health agency work particularly daunting.

It is also possible that U.S.-born workers with no personal connections to undocumented immigrants reduced their labor supply to home health agencies. First, Secure Communities may have made it more difficult for existing HHA workers responsible for caring for children or elderly relatives to hire domestic help, prompting them to cut back their own work hours regardless of occupation (East and Velásquez, 2022). This might be especially important for more educated HHA workers who can afford such services. Second, even workers without caregiving responsibilities may have responded to shocks in the informal housekeeping and personal care sectors. If Secure Communities created new job openings in housekeeping, childcare, or personal care for private households (East and Velásquez, 2022; Almuhaisen *et al.*, 2024)—jobs that tend to offer greater flexibility without licensing requirements or formal training—some workers

[4] It is possible that some HHAs hire workers with falsified documents, perhaps especially in states without E-Verify requirements. However, because so many of their workers require licensing, it seems unlikely that this is widespread.

who might otherwise have worked in HHAs may have shifted into these informal positions instead. [5]

Consistent with all of these labor market mechanisms, Herbst *et al.* (2024) find that Secure Communities reduced labor supply to formal childcare centers, another industry unlikely to employ many undocumented workers. Regardless of the mechanism, a decline in HHA labor supply would imply more patients per worker, less time per patient, and worse outcomes for patients.

Another mechanism through which Secure Communities may worsen HHA patient outcomes—our measure of care quality—does not require any direct shock to the HHA workforce. Instead, it operates through *complementarities* between HHA workers and other formal or informal caregivers in the production of health. HHA workers spend only a limited time with each patient. They can provide guidance on care practices and identify emerging problems, but patient outcomes also depend on whether other caregivers in the home act on this information. If Secure Communities made it more difficult for family members to secure reliable help with housekeeping, childcare, landscaping, or even personal care for the patient, caregivers may have had less time to support HHA workers' efforts. As a result, patient outcomes could deteriorate even if HHAs themselves continued to operate effectively.

***Potential Improvements in HHA Care Quality*:** It is also theoretically possible that HHA care quality improves after SC implementation via demand channels. First, Almuhaisen *et al.* (2024) show that elderly Americans became more likely to move into nursing homes and other institutionalized settings in response to SC implementation. The elderly were not able to find adequate help necessary for them to remain in their homes. Patients who live in nursing homes do not require HHA services after hospitalization. With fewer patients, HHA workers can have more time per patient, thereby improving care quality.

It is also possible that some patients who require HHA services after hospitalization live in households with undocumented immigrants. These patients may decline HHA services for fear of being reported to ICE, again leading to fewer patients per HHA worker and so improved quality of care. If those who decline services are the most likely to have worse outcomes, this selection effect would exacerbate observed changes in HHA patient outcomes.

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[5] Relatedly, Furtado and Ortega (2023) find an increase in the number of immigrant *and* native nursing assistants in response to higher immigration inflows, suggesting that natives are pushed out of informal work in private households to work in nursing homes when facing especially strong competition in the household service labor market.

Given that there are so many mechanisms potentially at play concurrently, the question of how SC affected HHA quality, especially as measured by patient outcomes, is essentially an empirical one.

3. Data

3.1 Data Sources

Our main data comes from the Home Health Quality Reporting Program run by the Centers for Medicare & Medicaid Services (CMS). CMS requires Medicare-certified home health agencies to collect data for most adult patients whose care is reimbursed by Medicare and Medicaid. Data on patients receiving only maternity services or only housekeeping services is not required. CMS has made public a subset of quality performance information on its Care Compare website, and for our analysis, we use quarterly data from 2003 to 2014.[6] Care Compare also provides information on ownership type (*e.g.*, proprietary, non-profit, government-owned) and services provided (*e.g.*, physical therapy, occupational therapy, speech therapy, medical social services, and home health aide services).

The Care Compare datasets include information on each home health agency's (HHAs) state, city, and ZIP code, but do not report county identifiers. Since the Secure Communities policy was implemented over time at the county level, accurate county information is essential for our analysis. We obtain county identifiers from the Centers for Medicare & Medicaid Services (CMS) Provider of Services (POS) Files, which include data on all Medicare-approved providers, including HHAs.[7] In cases where county information was not available in the POS files, we assigned a county based on zip code and city information. Details will be made available in an online appendix.

We obtain data on SC rollout dates by county from the replication package for East and Velasquez (2024). From there, we also obtain rollout dates on other immigration enforcement policies, such as E-Verify requirements and 287 agreements. Given the potential correlation between SC implementation and these other variables, we control for whether these other policies were in place in our analysis. In some specifications, we

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[6] At the time of our writing (October 15, 2025), only the most recent years of data are available on the CMS website (https://www.cms.gov/medicare/quality/home-health/oasis-data-sets). However, it is possible to download data from the years 2003 to 2015 from web archives at this website: https://web.archive.org/web/20150831132550/https://data.medicare.gov/data/archives/home-health-compare. We confirmed that the data are identical to what we originally downloaded from the CMS website when we first started the project.

[7] We downloaded an easy-to-use version of the 4th quarter file of each year from the NBER website: https://www.nber.org/research/data/provider-services-files (Accessed on November 1, 2025).

also control for local labor market conditions. To ensure these conditions are not themselves affected by SC, we use "Bartik-style" measures of labor demand at the commuting zone level—constructed as interactions between base-year industry composition and national industry shocks, rather than relying on local unemployment rates. These variables were also downloaded from the East and Velasquez (2024) replication package. Finally, we downloaded age distribution variables from the U.S. Census Bureau.[8]

3.2 Sample and Variable Construction

CMS releases Home Health Agency (HHA) quality data every quarter. Within each quarterly dataset, however, there is variation across HHAs in terms of the month and year when the quality information was collected. For each dataset, we define the median month–year of data collection and assign that value to the corresponding quarter–year, which typically precedes the public release date by at least several months. We then assign to each HHA–quarter observation a Secure Communities (SC) policy indicator equal to one if SC had been implemented by the start of the quarter. Otherwise, it is set equal to zero. Other immigration enforcement policy variables are assigned analogously. Finally, we merge Bartik-style controls at the commuting zone–year level and age distribution variables at the county–year level.

The specific measures of HHA quality available differ from year to year, but most take on the form of "Percentage of patients who get better at…" various activities. For example, for the data compiled in December of 2003, we have measures of the percentage of patients who got better at walking or moving around, getting in and out of bed, getting to and from the toilet, bathing, taking their medicines correctly, and getting dressed. We also have information on the percentage of patients who had less pain when moving around, who had to be admitted to the hospital, who needed urgent, unplanned medical care, and who were confused less often. For our analysis, we use the six measures that are available in most years: (1) Percentage of patients who get better at walking, (2) percentage of patients who get better getting out of bed, (3) percentage of patients who feel less pain when moving around, (4) percentage of patients who get better at bathing, (5) percentage of patients who get better at taking medications, and (6) percentage of patients who do not get admitted to a hospital. For our preferred specifications, we create an index by first standardizing each of these variables (subtracting the mean for the year

[8] For the years 2003-2010, data can be downloaded here: https://www.census.gov/data/tables/time-series/demo/popest/2010s-counties-detail.html. Data for the years after 2010 can be downloaded here: https://www.census.gov/data/datasets/time-series/demo/popest/intercensal-2000-2010-counties.html. Both last accessed on November 1, 2025.

among all HHAs and dividing by the standard deviation) and then summing across the six measures.

Table 1 shows large differences in HHA care quality by whether SC had been implemented at the time of data collection. Because SC eventually reached nationwide coverage, the comparison is at the county-year level—indicating whether SC was active in that county in that particular year, rather than comparing permanently treated vs. untreated counties. Raw outcomes are higher in SC counties—for example, "Walking improved" averages 56.6 vs. 41.4 in non-SC counties, and "Less pain moving" 65.7 vs. 61.6. The two composite quality indices center near zero by construction; they were constructed separately for these two groups (≈ −0.01 in SC counties vs. 0.01 in non-SC).

Overall, these descriptive statistics underscore two points. *First*, there is ample between-county variation in the underlying measures. *Second*, simple mean comparisons are not causal: SC counties differ systematically (by size, urbanicity, and provider mix). Therefore, we rely on panel variation with county and year fixed effects and rich controls to identify within-county changes around activation.

4. Methodology

Our goal is to estimate the impact of Secure Communities (SC) on the quality of care provided by home health agencies. To that end, we exploit the staggered rollout of SC across U.S. counties using a difference-in-differences framework. Our main specification is given by equation (1):

$$(1) \qquad Q_{ict} = \alpha + \beta SC_{ct} + X'_{ict}\delta + Z'_{ct}\gamma + \mu_c + \phi_t + \epsilon_{ict},$$

where Q_{ict} measures the quality of care received by HHA i in county c in quarter-year t. The dependent variable captures multiple aspects of care quality drawn from each home health agency—such as improvements in walking ability, ease of getting out of bed, and bathing; reductions in pain while moving and hospital admissions, and better adherence to prescribed medications.

The key policy variable, SC_{pt} , denotes the implementation of the Secure Communities program in county c by quarter-year t. Following standard practice, a county is coded as treated if SC was active by the start of the quarter-year.[9]

[9] In robustness checks, we experiment with coding SC as the fraction of the year *before* the survey when SC was active.

The vector X'_{ipt} includes HHA-level controls—in particular, whether it is for-profit—while Z'_{pt} captures county-year covariates such as local labor-demand shocks (Bartik-style controls), share of the county population that is aged 80 or above, and the contemporaneous presence of other immigration enforcement policies (287(g) agreements, E-Verify mandates, and sanctuary ordinances). We include county and year fixed effects (μ_c and ϕ_t) to absorb time-invariant local factors and national trends. Standard errors are clustered at the county level.

Our specification captures the effects of SC exposure on observed care quality among home-health recipients. Because SC was rolled out in a staggered fashion, we employ estimators robust to treatment-effect heterogeneity. Our baseline estimates use the Sun and Abraham (2021) estimator, which re-weights the two-way fixed-effects (TWFE) decomposition to recover unbiased group-time average treatment effects under staggered adoption. For transparency, we also report TWFE estimates, though we treat them as diagnostic rather than causal benchmarks.

5. Preliminary Findings

5.1 Assessing the Impact of Secure Communities on HHA Health Care Quality

Our primary goal is to assess whether intensified interior immigration enforcement—captured by the rollout of Secure Communities (SC)—affected the quality of home-health care received by elderly Americans. Table 2 reports estimates from equation (1) using two-way fixed effects (TWFE) with progressively richer covariates and, in parallel, the Sun and Abraham (2021) staggered-adoption estimator.

Across specifications in Table 2, Secure Communities (SC) activation is associated with a decline in county-level home-health quality of 0.04–0.06 SD. In the TWFE models, the estimates are −0.051 (0.019) and −0.060 (0.022); adding demographic/policy controls yields −0.043 (0.022); the staggered-adoption estimator gives −0.0425 (0.0106). All models include year-quarter and county fixed effects with county-clustered standard errors. Using the observed standard deviation of the underlying 0–1 quality rate (0.71) in our data, these SD effects correspond to about −3.0 to −4.3 percentage points. We do not report "percent of mean" changes because that depends on the baseline mean rate, which varies by sample and column. Overall, SC is linked to a modest but statistically precise reduction in measured home-health quality.

To address identification, Figure 2 presents the event study for the full sample. Pre-treatment coefficients are small and statistically indistinguishable from zero, indicating no differential pre-trends between counties that adopt SC earlier versus later. At activation (t=0), the Quality Index drops sharply and remains depressed over

subsequent years, consistent with a persistent post-treatment decline rather than a continuation of prior trends. This dynamic pattern corroborates the ATE estimates and supports a causal interpretation.

5.2. Identification and Robustness Checks

Identification relies on the assumption that, in the absence of SC, the evolution of home-health-care quality in early-adopting counties would have mirrored that in later-adopting ones. While untestable, this assumption is supported by the absence of differential pre-trends in the event-study results.

To further probe endogeneity, we test whether the timing of SC activation correlates with prior changes in local demographics, labor conditions, or enforcement activity. In line with the program's federal rollout, these factors show little predictive power for adoption timing.

Finally, we conduct several robustness checks. First, we redefine treatment to verify that the result is not driven by a specific operational definition of program rollout. In Appendix Table A2, after displaying in column (1) the main results from Table 2, we experiment with coding SC as the fraction of the year *before* the survey when SC was active. Results appear robust to those in Table 2.

Second, we exclude counties activated before 2009 to ensure that pre-policy trends are comparable and that early adopters do not drive the estimates. Specifically, Appendix Table A2 displays the results from eliminating early adopters. The estimated impact remains the same when we eliminate counties adopting SC during the first year of the program (see column (2)) –that is, when counties believed they would be able to opt in and out of the program. This drop also addresses concerns regarding the potentially differential impact that the 2008 recession may have had.

Third, we assess the possible spurious nature of our findings through a placebo test in which we randomly assign SC implementation dates 1,000 times. Then, we estimate the model in equation (1) on data aggregated at the county level. Appendix Figure A1 displays the results from this exercise. The estimated impact lays to the left of all estimates, suggesting the estimated policy impact is not a spurious result. Fourth, we replace the composite quality index with its individual components to assess whether effects are concentrated in specific dimensions of care quality or consistent across outcomes.

5.3 Heterogeneous Impacts by HHA Ownership

Ownership shapes how agencies absorb policy shocks. Privately owned HHAs operate under tighter budget constraints, depend more on local labor markets, and have less staffing flexibility than publicly operated agencies. Because most HHAs in our sample are privately owned, it is crucial to examine whether the aggregate effect is concentrated in this group.

Table 3 and Figure 3 decompose the average effect by ownership type. The decline in quality is concentrated among private HHAs, for which SC activation reduces the Quality Index by roughly 0.05–0.07 SD under both TWFE and staggered-adoption estimators. The corresponding event study shows a sharp drop at activation, with no meaningful recovery, indicating persistent deterioration in performance. By contrast, estimates for public HHAs are small and statistically indistinguishable from zero across specifications, with flat event-study paths.

This ownership heterogeneity is consistent with a labor-supply mechanism. Immigration enforcement reduces the local availability of home-health aides, and the bite is largest in the private sector, where staffing, scheduling, and wages are more responsive to local labor conditions. Public agencies appear more insulated—whether because they are less likely to employ affected workers or because wage rules and budget structures buffer short-run shocks.

To pinpoint which aspects of care deteriorate, Table 4 decomposes the Quality Index into six components. Among private providers, SC activation is associated with significant reductions in patient-reported improvements in mobility, self-care, and pain management (columns 1–5), while hospital-related outcomes show no meaningful change. Public HHAs display small and inconsistent effects, reinforcing that quality declines are concentrated among private agencies. These component-level patterns strengthen the labor-supply interpretation: dimensions requiring continuous aide involvement—helping patients walk, bathe, or manage medications—are precisely those most vulnerable to staffing disruptions.

5.4 Additional Sources of Heterogeneity

We test whether SC's effect on reported HHA care quality varies with local market structure and demographics. Table 5 estimates staggered DiD models that include one interaction at a time between SC and a moderator—market concentration (HHI), certification year, baseline HHA employment, Hispanic share, and the share ages 80+. All reported moderating coefficients are SC interactions, so they measure how the post-SC

effect differs in counties with higher values of the moderator relative to counties with lower values (*i.e.*, more enforcement exposure along that dimension vs. less).

Results point to targeted deterioration rather than a uniform average effect. The SC main effect is imprecise, but the coefficient on the SC×Hispanic Share is negative and significant, indicating that quality falls more after SC in higher-Hispanic counties. This is a key robustness check tying the decline to places most exposed to SC's labor-supply channel rather than generic regional differences.

Also of relevance is the fact that the coefficient on SC×HHI is negative and significant, implying larger post-SC quality losses in more concentrated provider markets, consistent with limited resilience when staffing tightens. Likewise, it makes sense that the coefficient on the SC×Baseline HHA employment is negative and significant, showing bigger declines where the initial HHA workforce is larger, i.e., where dependence on that labor segment is greater. Finally, we also find that the coefficient on the SC×Share 80+ is negative and significant, pointing to larger post-SC declines in older counties, where care needs (and the cost of disruptions) are highest. It is only for SC×Certification Year that the impact turns out to be small and statistically not different from zero, suggesting that agency vintage does not systematically moderate the enforcement effect.

Overall, the pattern across all SC interactions is consistent: immigration enforcement degraded measured care quality most where markets and demographics made agencies least able to absorb staffing shocks—high-Hispanic, concentrated, large-workforce, and older counties—relative to counties with lower exposure along those same dimensions.

6. Underlying Mechanisms: Labor Market Impacts of Secure Communities

How did the intensification of immigration enforcement contribute to the worse quality of health care by HHAs for the elderly? Table 6 addresses this question by examining how the policy may have impacted immigrant labor in that sector. According to the results therein, the deterioration in home-health quality operates through a tightening of the low-skill care-worker market.

Specifically, in Panel A, we model labor-force participation among low- and high-skilled HHA workers. According to the results therein, Secure Communities (SC) reduced participation among low-skilled HHA workers by about 5 percentage points, which corresponds to roughly a 6–7 percent decline relative to the mean participation rate in this group, with no detectable effect for high-skilled workers.

In Panel B, we further examine changes in labor supply at the intensive margin following the program's implementation. Based on the estimates therein, SC reduced hours worked by roughly 1.7 hours per week, or about a 4–5 percent reduction relative to the mean, among low-skilled staff. Once more, there is no evidence of meaningful changes in the labor supply patterns of higher-skill staff.

Finally, in Panel C, we gauge whether the observed employment reductions reflect labor supply or labor demand by modeling wage responses for low- and high-skilled workers following SC adoption. Based on the results therein, SC did not produce compensating wage increases. The small positive coefficient in the pooled sample is statistically weak and vanishes when the sample is split by skill.

Why did wages stay the same? Because pay is constrained by Medicare/Medicaid rates and agency schedules. With prices pinned, agencies adjust quantities and scheduling—fewer aides, fewer hours, longer gaps—not wages. That lack of wage offset is exactly why the quality decline is plausible: if agencies could bid up pay and quickly hire substitutes, the quality effects would be smaller or short-lived.

Could these labor changes reflect demand rather than supply? Overall, the preliminary evidence points to labor supply reductions as likely responsible for the observed changes. *First*, quality declines are concentrated in private HHAs and suggestively larger in more Hispanic counties, albeit with imprecision, aligning with the idea that these settings are more exposed on the staffing side. *Second*, the full-sample event study shows no pre-trends and a discrete break at activation, consistent with a policy shock rather than a gradual demand drift (Figure 2). *Third*, in the ACS, we do not see comparable SC effects in other non-home-healthcare sectors.[10] *Finally*, prior ACS-based work at the PUMA×year level reaches the same conclusion: SC reduces the number of workers—and even more so total hours—in home-health/private-household sectors, with weak wage responses and impacts concentrated among less-educated Hispanic immigrants, the group most exposed to enforcement (Almuhaisen, Amuedo-Dorantes, and Furtado, 2024).

7. Preliminary Summary and Conclusions

We examine how intensified interior immigration enforcement under Secure Communities (SC) affected the quality of care delivered by home health agencies (HHAs). Although HHAs employ few undocumented workers directly, we find statistically precise declines in patient-reported care quality after SC activation—concentrated among

[10] See Appendix Table A4. In particular, the SC program does not appear to have impacted the labor supply of individuals working in the nursing home sector, health sector, and all other sectors, nor their wages.

for-profit agencies and in care dimensions that require continuous aide involvement (mobility, self-care, pain management). The pattern is consistent with a contraction in the effective supply of low-skill caregiving labor—whether through direct effects on the HHA workforce or spillovers from disruptions in household and personal-care markets that HHAs rely on.

The results show that immigration enforcement can generate meaningful downstream effects in essential, highly regulated service sectors. In home health care, reduced quality undermines patient well-being and can increase healthcare costs through higher hospital readmissions and greater reliance on institutional care. As the U.S. population ages and demand for both post-acute and long-term care grows, enforcement policy design must account for its indirect effects on care delivery systems that serve vulnerable populations.

There are direct policy implications from these findings. If the impacts stem from reduced labor supply among entry-level caregiving workers, raising visa caps or creating targeted visa categories for home- and community-based care could help address shortages. Alternatively, expanding Medicaid's Home- and Community-Based Services (HCBS) waivers and stabilizing HHA staffing through predictable scheduling and retention incentives may mitigate quality losses. States and CMS might also revisit staffing and supervision requirements to prevent mechanical quality penalties when local labor markets are disrupted by federal enforcement actions.

We also acknowledge several limitations of our study, including potential measurement error in linking SC timing to agency-level outcomes, case-mix shifts, and the identifying assumptions underlying staggered adoption. Still, event-time estimates show flat pre-trends, and robustness checks—including alternative rollout definitions, exclusion of early adopters, and placebo timing tests—support the causal interpretation of the estimates. Future work will extend mechanism tests, assess substitution toward institutional care, and explore if similar quality effects emerge under other enforcement episodes.

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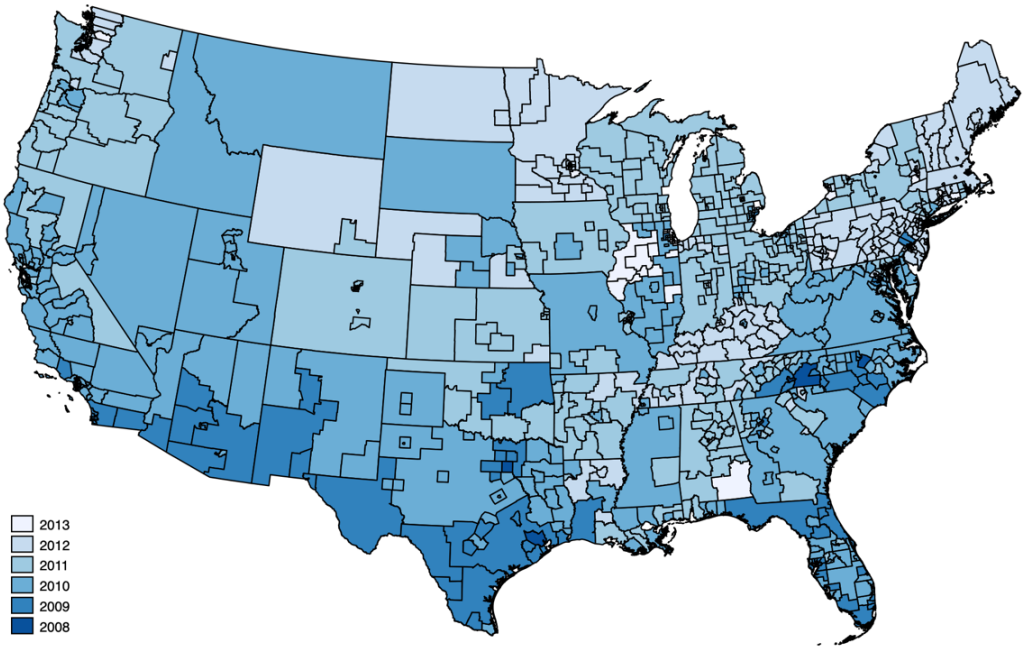
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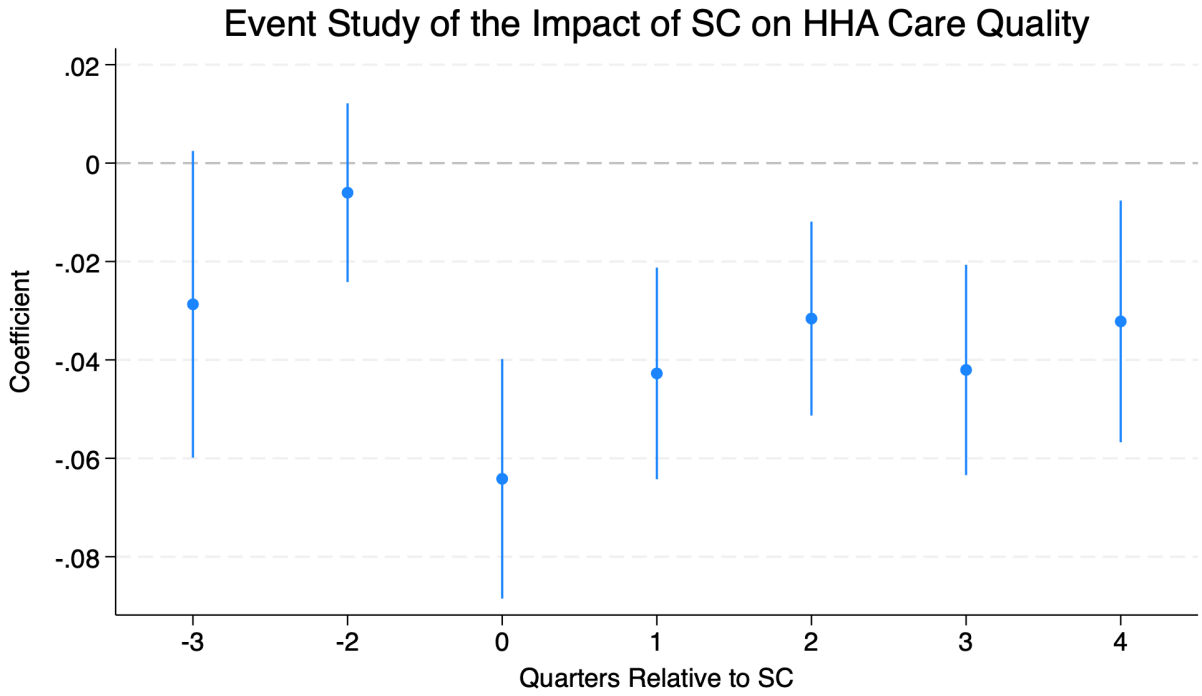
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Figure 1. Rollout dates of SC across PUMAs



Notes: Activation dates from ICE Secure Communities reports; figure shows the first activation year for any county within each PUMA.

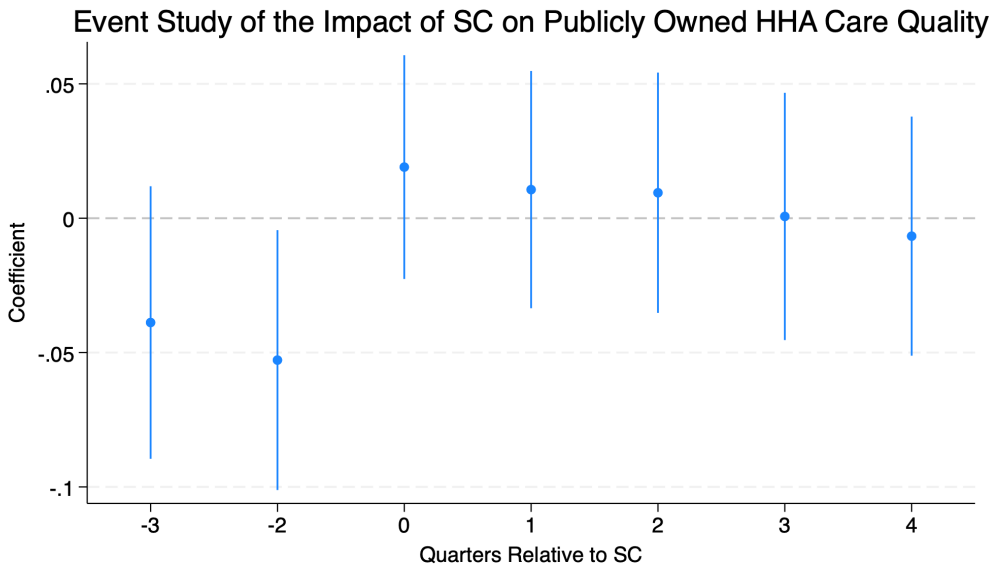
Figure 2: Event Study of the Impact of SC on HHA Care Quality



Notes: Event study estimates corresponding to the model in Table 2, column (4).

Figure 3: Event Study of the Impact of SC on HHA Care Quality, by Type of HHA Ownership

Publicly Owned HHA



Privately Owned HHAs

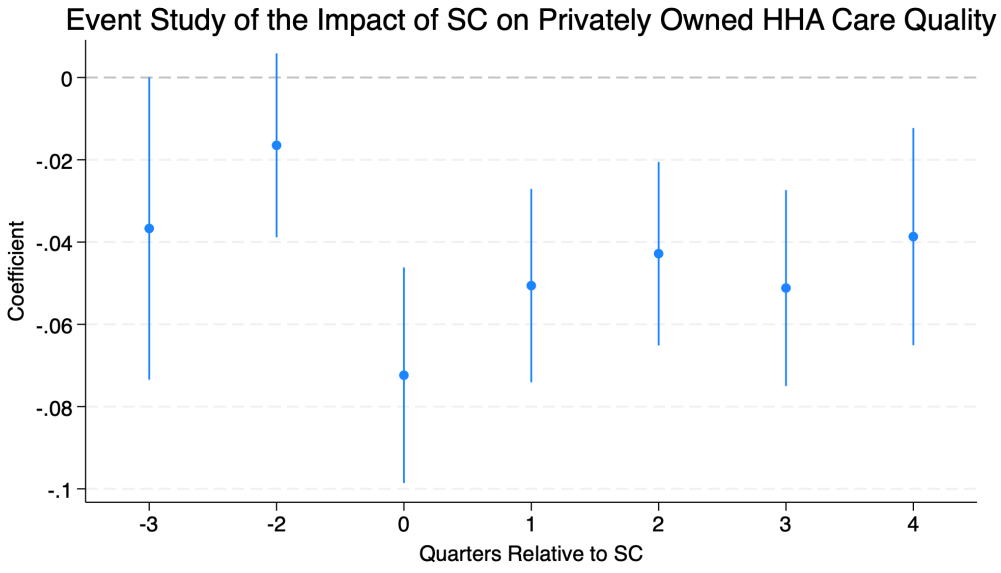


Table 1: Descriptive Statistics

Statistic	Mean	SD	Min	Max	Observations
Sample:		**Counties without Secure Communities**			
Walking improved	41.35	11.31	0.00	100.00	159088
Out of bed easier	50.82	12.81	0.00	100.00	159088
Less pain moving	61.59	13.41	0.00	100.00	159088
Bathing improved	61.57	11.33	0.00	100.00	159088
Takes meds better	39.78	12.07	0.00	100.00	159088
Fewer hospital admissions	70.92	9.12	15.00	100.00	159088
Quality Index	0.01	0.70	-3.76	4.08	159088
Private Quality Index	0.01	0.71	-3.49	3.76	95638
Public Quality Index	-0.01	0.68	-2.75	3.17	16883
Sample:		**Counties with Secure Communities in Place**			
Walking improved	56.62	12.39	0.00	100.00	102404
Out of bed easier	52.45	14.25	0.00	100.00	102404
Less pain moving	65.69	16.08	0.00	100.00	102404
Bathing improved	64.04	13.52	0.00	100.00	102404
Takes meds better	45.66	14.77	0.00	100.00	102404
Fewer hospital admissions	80.38	7.95	25.00	100.00	102404
Quality Index	-0.01	0.72	-3.60	3.20	102404
Private Quality Index	-0.01	0.71	-3.48	3.00	83615
Public Quality Index	0.03	0.68	-3.08	2.94	4740
Sample:		**All Counties**			
Walking improved	47.33	13.91	0.00	100.00	261492
Out of bed easier	51.46	13.42	0.00	100.00	261492
Less pain moving	63.19	14.65	0.00	100.00	261492
Bathing improved	62.53	12.29	0.00	100.00	261492
Takes meds better	42.08	13.50	0.00	100.00	261492
Fewer hospital admissions	74.62	9.83	15.00	100.00	261492
Quality Index	0.00	0.71	-3.76	4.08	261492
Private Quality Index	-0.00	0.71	-3.49	3.76	179253
Public Quality Index	-0.00	0.68	-3.08	3.17	21623

Table 2: Baseline Estimates of the Effect of SC on HHA Care Quality

Estimator:	**TWFE**			**Staggered Treatment**
Specification:	**No Controls**	**Added For Profit Indicator**	**Added Controls**	**Added Controls**
Column:	**(1)**	**(2)**	**(3)**	**(4)**
SC	-0.05107***	-0.06042***	-0.04321**	-0.04254***
	(0.01878)	(0.02171)	(0.02196)	(0.01064)
Observations	261,480	200,849	200,849	261,480
R-squared	0.18070	0.18328	0.18521	0.18328
Mean of DV	3.46e-06	-0.0234	-0.0234	-0.0234

Notes: This table reports the estimated association between the activation of the Secure Communities (SC) program and the dependent variable (see text for definition). Column (1) presents TWFE estimates without additional covariates. Column (2) adds an indicator for whether the home-health agency (HHA) operates on a for-profit basis to the model estimated in column (1). Column (3) further includes demographic, policy, and state-level controls (*e.g.*, share of population 65+, presence of 287(g) agreements, E-Verify mandates, and immigrant labor shares), and it is also estimated by TWFE. Finally, column (4) displays the results from estimating specification (3) using the staggered treatment estimator proposed by Sun and Abraham (2020). Only the coefficients on SC are displayed for brevity; full regression results are available upon request. All models include year-quarter and county fixed effects. Robust standard errors, clustered at the county level, are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Heterogeneous Impact of SC on HHA Care Quality by Type of HHA Ownership

By HHA Ownership:	Privately Owned HHAs			Publicly Owned HHAs		
Estimator:	TWFE		Staggered Treatment	TWFE		Staggered Treatment
Specification:	No Controls	Added Controls	Added Controls	No Controls	Added Controls	Added Controls
Column:	(1)	(2)	(3)	(4)	(5)	(6)
SC	-0.06938***	-0.05158**	-0.05112***	0.02887	0.02772	0.00663
	(0.02118)	(0.02260)	(0.01154)	(0.03709)	(0.03743)	(0.01932)
Observations	179,223	179,223	179,223	21,601	21,601	21,601
R-squared	0.16827	0.17077	0.17192	0.55710	0.55848	0.56203
Mean of DV	-1.44e-05	-1.44e-05	-1.44e-05	0.000289	0.000289	0.000289

Notes: This table reports the estimated association between the activation of the Secure Communities (SC) program and the HHA Care Quality Index described in the text by type of HHA ownership. Columns (1) through (3) focus on privately owned HHAs, which constitute the vast majority of HHAs in our sample. Columns (4) through (6) display the results when we focus on publicly owned HHAs. Columns (1) and (4) present TWFE estimates without additional covariates. Columns (2) and (5) include all the controls from the most complete model specifications in Table 2, *i.e.*, demographic, policy, and state-level controls (*e.g.*, share of population 65+, presence of 287(g) agreements, E-Verify mandates, and immigrant labor shares). They are also estimated by TWFE. Finally, columns (3) and (6) display the results from estimating specifications (2) and (5) using the staggered treatment estimator proposed by Sun and Abraham (2020). Only the coefficients on SC are displayed for brevity; full regression results are available upon request. All models include year-quarter and county fixed effects. Robust standard errors, clustered at the county level, are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4: Impact of SC on Various Components of the HHA Care Quality Index

Column:	(1)	(2)	(3)	(4)	(5)	(6)
Index Components:	**Walking Improved**	**Out of Bed Easier**	**Less Pain Moving**	**Bathing Improved**	**Takes Meds Better**	**Fewer Hospital Admissions**
			All HHAs			
SC	-0.03520**	-0.05159***	-0.03598**	-0.06065***	-0.06972**	-0.00213
	(0.01549)	(0.01551)	(0.01439)	(0.01660)	(0.02827)	(0.02336)
Observations	261,480	261,480	261,480	261,480	261,480	261,480
R-squared	0.12386	0.19038	0.22297	0.15523	0.18362	0.23189
Mean of DV	-4.45e-10	7.61e-11	2.08e-10	3.47e-10	5.16e-10	2.70e-10
			Private HHAs			
SC	-0.04860***	-0.07062***	-0.04735***	-0.08170***	-0.09584***	0.03737
	(0.01754)	(0.01715)	(0.01752)	(0.01818)	(0.03042)	(0.02909)
Observations	179,223	179,223	179,223	179,223	179,223	179,223
R-squared	0.10531	0.16071	0.23245	0.14096	0.17945	0.21286
Mean of DV	-2.23e-10	-1.28e-11	2.54e-10	-2.98e-10	3.31e-10	-3.10e-10
			Public HHAs			
SC	0.00572	0.03107	0.01347	0.06658**	0.04974*	-0.12682***
	(0.03225)	(0.02973)	(0.02997)	(0.02769)	(0.03163)	(0.04349)
Observations	21,601	21,601	21,601	21,601	21,601	21,601
R-squared	0.46001	0.51707	0.47048	0.53128	0.43851	0.49069
Mean of DV	-2.49e-11	-6.72e-10	-2.46e-10	-3.26e-10	-4.19e-10	1.36e-10

Notes: This table reports the estimated association between the activation of the Secure Communities (SC) program and key components of the HHA Care Quality Index. Estimates are obtained using the Sun and Abraham (2020) estimator for staggered treatment adoption. Regressions include all the controls from the most complete model specifications in Table 2, *i.e.*, type of HHA ownership, demographic, policy, and state-level controls (*e.g.*, share of population 65+, presence of 287(g) agreements, E-Verify mandates, and immigrant labor shares). Only the coefficients on SC are displayed for brevity; full regression results are available upon request. All models include year-quarter and county fixed effects. Robust standard errors, clustered at the county level, are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5: Heterogeneous Impacts of SC on HHA Care Quality

Column:	(1)	(2)	(3)	(4)	(5)
Heterogeneity by:	**HH-Index**	**Certification Year**	**Base-Year Employment**	**Hispanic Share**	**Share 80+**
SC	25.10006	-5.21E-07	1.35E-07	-0.16541	171.26486
	(13.50691)	(6.63E-07)	(1.23E-06)	(0.13602)	(81.47108)
SC x HHI	-0.02549**				
	(0.01027)				
SC x Certification Year		-0.27477			
		(0.45106)			
SC x B-Y Employment			-0.03286***		
			(0.01126)		
SC x Hispanic Share				-0.02785**	
				(0.01188)	
SC x Share 80+					-0.02836**
					(0.01161)
Observations	179,223	179,223	179,223	179,223	179,223
R-squared	0.17218	0.17307	0.17240	0.17279	0.17245
Mean of DV	-1.44e-05	-1.44e-05	-1.44e-05	-1.44e-05	-1.44e-05

Notes: This table reports the interactions of the Secure Communities (SC) program activation and several dependent variables. Each column is a TWFE model that includes the controls from our baseline (Table 2, Column 3). Only the coefficients on SC and the interactions are displayed for brevity; full regression results are available upon request. All models include year-quarter and county fixed effects. Robust standard errors, clustered at the county level, are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6: Labor Market Outcomes

Column:	(1)	(2)	(3)
Sample:	**All HHA Workers**	**Low-Skilled HHA Workers**	**High-Skilled HHA Workers**
Panel A:	**(Total # Workers/ Total PUMA Population) x 100**		
SC	-5.35054**	-5.29676***	0.05919
	(2.18833)	(2.02059)	(0.82183)
Observations	7,518	7,518	7,518
R-squared	0.73178	0.75369	0.27330
Mean	49.04	38.51	10.17
Panel B:	**(Total # Hours Worked/ Total PUMA Population) x 100**		
SC	-1.74411**	-1.73191**	0.01430
	(0.82731)	(0.77337)	(0.33022)
Observations	7,518	7,518	7,518
R-squared	0.72196	0.75071	0.26714
Mean	17.24	13.24	3.86
Panel C:	**Log Hourly Wages**		
SC	0.07079*	-0.00584	0.06740
	(0.04094)	(0.04124)	(0.05007)
Observations	6,905	6,277	4,608
R-squared	0.28891	0.25505	0.29413
Mean	2.62	2.38	3.26

Notes: Data are from the 2006–2012 American Community Survey (ACS). The sample includes working-age individuals (ages 20–64) whose current or most recent occupation is in Home Health, Personal Care, or Housekeeping, and whose industry is Home Health Care (NAICS 6216 or 6231). Outcomes are constructed at the PUMA-by-year level; effects are interpreted as percentage-point changes for labor-force participation and hours and as semi-elasticities for log hourly wages. Estimates are obtained using the Sun and Abraham (2020) estimator for staggered treatment adoption. All specifications include PUMA and year fixed effects and controls for 287(g) agreements, E-Verify mandates, sanctuary policies, and Bartik-style labor-demand shifters. Standard errors are clustered at the PUMA level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A2: Alternative SC Measure

Column:	**(1)**	**(2)**
Specification:	**Baseline**	**Fraction of Year Active**
SC	-0.04321**	-0.03508***
	(0.02196)	(0.01114)
Observations	200,849	200,849
R-Squared	0.18521	0.18536
Mean of DV	1.21e-10	1.21e-10

Notes: This table reports our baseline estimate (Table 2 column 3) in column 1. Column 2 uses a measure of SC activation equal to the fraction of the previous year that it was active. For example, if SC activated in June 2003 for county A, SC would take a value of 0.5 for 2003, and 1 for all subsequent years. Only the coefficients on SC are displayed for brevity; full regression results are available upon request. All models include year-quarter and county fixed effects. Robust standard errors, clustered at the county level, are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A3: Excluding Counties Treated Pre-2009

Column:	**(1)**	**(2)**
Specification:	**Baseline**	**Pre-2009 Excluded**
SC	-0.04254***	-0.03508***
	(0.01064)	(0.01114)
Observations	261,480	246,878
R-Squared	0.18328	0.19555
Mean of DV	1.21e-10	0.0165

Notes: This table reports our staggered DiD baseline (Table 2, column 4) in column 1. Column 2 estimates the same model but excludes counties that were treated before 2009. Only the coefficients on SC are displayed for brevity; full regression results are available upon request. All models include year-quarter and county fixed effects. Robust standard errors, clustered at the county level, are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A4: Effects of SC on the Labor Supply in Home Health, Personal Care, and Housekeeping Occupations by Sector

Column:	(1)	(2)	(3)	(4)
Sector:	**All Sectors**	**Nursing Homes**	**Health Sectors**	**Other Sectors**
Panel A:		**Labor Force Participation**		
SC	-14.83880**	0.14009	3.04513	-5.77107
	(6.41040)	(2.80054)	(3.00053)	(3.86209)
Observations	7,518	7,518	7,518	7,518
R-squared	0.78267	0.59330	0.47292	0.56666
Mean of DV	272.27	65.93	58.91	56.65
Panel B:		**Usual Hours of Work**		
SC	-5.11385**	0.59650	1.22147	-2.39979*
	(2.32733)	(0.97688)	(1.14913)	(1.25785)
Observations	7,518	7,518	7,518	7,518
R-squared	0.77531	0.56850	0.46819	0.57843
Mean of DV	94.21	24.34	21.64	18.88
Panel C:		**Log Hourly Wages**		
SC	-0.00288	-0.03007	0.00235	0.01178
	(0.01198)	(0.02700)	(0.01946)	(0.02312)
Observations	7,515	7,089	7,256	7,028
R-squared	0.43308	0.30814	0.31513	0.27016
Mean of DV	2.50	2.50	2.66	2.39

Figure A1: Random Timing Kernal Distribution

Notes: This figure shows the kernel density of estimates resulting from randomly assigning activation years to counties. The red line represents our baseline coefficient, and the distribution does not overlap with our main estimate. The simulation was run 1,000 times.