Center for Financial Security
UNIVERSITY OF WISCONSIN-MADISON
Retirement & Disability Research Center

Gargi Chaudhuri
University of Wisconsin La Crosse

Mary K. Hamman
University of Wisconsin La Crosse

Meghan Jenkins Morales
University of Wisconsin Madison

Stephanie Robert
University of Wisconsin Madison

Milanika Turner
Florida Agricultural and Mechanical University

The Geography of Long-Term Care: Implications for SSI and Understanding Disparities in Living Arrangements Among Older Adults

We gratefully acknowledge the research assistance of Marcos Alfaro, Grace Flandermeyer, Chinenye Nwume, Doris Pan, Aisling Polley, and Marlee Simpson, and the work of New York University Center for Urban Science and Progress (CUSP) capstone students Chih-Yun Lu, Jingxuan Xiao, and Sam Zierler in digitizing historical SSI report series. We also thank Anna Dmowska for answering questions and providing updated SocScape grids for our analysis, and we acknowledge helpful comments on an early version of this work from participants in the Household Finance Seminar at University of Wisconsin Madison's Center for Financial Security.

The research reported herein was derived in whole or in part from research activities performed pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Retirement and Disability Consortium. The opinions and conclusions expressed are solely those of the author(s) and do not represent the opinions or policy of SSA or any agency of the Federal Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of the contents of this report. Reference herein to any specific commercial product, process or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply endorsement, recommendation or favoring by the United States Government or any agency thereof.

Center for Financial Security

University of Wisconsin-Madison

1300 Linden Drive
Madison, WI 53706

608-890-0229
cfs@mailplus.wisc.edu
cfs.wisc.edu

Abstract

Research reveals that Black older adults are overrepresented in nursing homes and underrepresented in assisted living. It could be that community-based care facilities are more likely to locate in predominantly White areas. Using a national business database and a "racial landscapes" approach to characterizing local demographics, this project explores associations between the locations of LTC facilities by type across predominantly White and non-White areas of the U.S. Across the continental U.S. we find all types of LTC are less abundant in predominantly White than in predominantly non-White areas. Yet, these differences are almost entirely mediated by socioeconomic factors. Estimates based only on metropolitan areas indicate different relationships by facility type. Assisted living without nursing care and nursing homes are more abundant in predominantly White areas than in non-White areas, but the reverse is true for adult day centers and assisted living with nursing care. We find that historical redlining grades mediate these metro estimates. We also compare estimates across states that do and do not offer supplements to federal Supplemental Security Income (SSI) payments and by Medicaid Home and Community-Based Care (HCBS) waiver participation. We find higher abundance of non-nursing home facilities in predominantly non-White communities than in White communities in states that supplement SSI, but no consistent association with the adoption of HCBS waiver programs. Although our main estimates differ across states that do and do not supplement federal SSI payments, the mix of LTC offerings in a county does not appear to be predictive of county-level SSI enrollment.

Keywords: racial segregation, point-pattern data, home and community-based services, assisted living, nursing homes, adult day centers

JEL: I3 (welfare, well-being, and poverty) and L8 (industry studies: services).

1. Introduction

An estimated 70 percent of older adults will develop long-term care (LTC) needs at some point in their lives (U.S. Department of Health and Human Services, 2019). Although the bulk of LTC

services in the United States are provided by unpaid informal caregivers, approximately 48 percent of older adults will receive paid LTC services over their lifetime (U.S. Department of Health and Human Services, 2019). LTC services include assistance with activities of daily living (e.g., toileting, bathing, dressing), instrumental activities of daily living (e.g., medication and money management, housekeeping), and health maintenance tasks (Harris-Kojetin et al., 2019). Individuals may receive paid LTC services in the home (e.g., home care agency), in the community (e.g., adult day centers), or in a residential setting (e.g., assisted living facility or nursing home).

Adults receiving LTC services are often eligible for Social Security Disability Insurance (SSDI) or Supplemental Security Income (SSI), and because the population receiving LTC services is disproportionately over the age of 65, most receive Old-Age and Survivors Insurance (OASI). Thus, the LTC industry has a major impact on the daily lives of multiple public beneficiary populations. Evidence suggests that there are ongoing racial disparities in access to LTC services (Shippee et al., 2020; Smith et al., 2008) and these inequities may contribute to differences in well-being and economic security among beneficiary populations.

Those receiving SSI, in particular, are very low income and have few assets, making the cost of LTC especially daunting. Although most persons receiving SSI are White, systemic racism and barriers to economic advancement have created higher poverty rates and disability incidence among people of color. Moreover, many Americans faced with LTC needs rely on housing wealth to finance the services needed to remain living at home, or to move to an assisted living facility or a nursing home. Again, persistent disparities in access to housing, including overt racism in lending practices, have created unequal opportunities to acquire housing wealth (Joint Center for Housing Studies, 2019). These socioeconomic and racial disparities create systematic differences in the ability to pay for LTC across both individuals and local areas and, because the LTC industry is increasingly privatized, the locations of LTC facilities likely mirror these differences. This project aims to describe the spatial distribution of LTC facilities in the U.S., and to examine how that distribution is associated with the racial context of local areas. Our approach to this project is innovative in several ways. First, unlike most previous research on LTC facilities, which often looks at rates of facilities in a given area, we actually map the precise locations of different types of LTC facilities (nursing homes, assisted living facilities, and adult day centers) using a national longitudinal business database, spanning from 2000-2020. This allows us to characterize the spatial distribution of different types of LTC facilities across the U.S., including changes between

2000-2020. Second, we look at how the spatial distribution of LTC facilities is associated with the racial context of local areas by using a highly granular approach – we apply a racial and ethnic "landscapes" methodology rather than a zone-based approach based on census boundaries. We examine if racial/ethnic landscapes are associated with the spatial distribution of different types of LTC facilities, before and after controlling for other local socioeconomic characteristics. We then include measures of historical redlining to capture past discriminatory lending practices that created unequal access to mortgages to see if these historical policies play a role in any contemporary racial inequities in the distribution of LTC facilities. Moreover, our project is innovative in that we also test the extent to which state Medicaid policies and SSI state supplementation moderate the relationship between racial landscapes and LTC location. Our ultimate goal is to elucidate potential sources of racial disparities in LTC access and use, including how SSI payments and state LTC policy may affect racial disparities. This knowledge can inform SSI program projections across states and suggest avenues for improving access to LTC options across people and places.

1.1 Long-Term Care Overview

The focus of this project is on paid LTC services that are provided outside the home in three distinct LTC settings: adult day centers, assisted living facilities, and nursing homes. In our analyses, we also distinguish between assisted living facilities with and without nursing services. In this report, the term "nursing home" is used to refer to the large majority of nursing homes that receive either Medicare and/or Medicaid funding and are federally regulated by the Centers for Medicare and Medicaid Services. Unlike nursing homes, adult day centers and assisted living facilities are not federally regulated, and there is no standard definition of these settings across states. Assisted living facilities are generally defined as non-nursing home residential settings that provide or coordinate personal and health-related services (Fabius et al., 2022; Harris-Kojetin et al., 2019). Over the past 30 years, the assisted living industry has experienced tremendous growth. Although nursing homes continue to provide the highest level of care (Freedman and Spillman, 2014), assisted living has evolved over time to offer a complex array of services to individuals with greater needs (Grabowski et al., 2012). Adult day centers offer out-of-home supervised support, usually during daytime hours, to individuals with a range of LTC needs and are a critical resource for caregivers and older adults living in the community (Fields et al., 2014). Although the population receiving LTC services is predominately older adults, 37 percent of adult day center participants,

17 percent of nursing home residents, and 7 percent of assited living residents are under the age of 65 (Harris-Kojetin et al., 2019). According to 2016 estimates, there are roughly 4,600 adult day centers, 28,900 assisted living facilities, and 15,600 nursing homes providing care to over 2.4 million people in the U.S. (Harris-Kojetin et al., 2019). While we generally know that there is uneven geographic variation in the location of these different types of LTC settings, we know little about the factors associated with that geographic variation and how uneven geographic variation might impact equitable availability of LTC services across communities.

Affordability of paid LTC services.

The cost of paid LTC services in the U.S. varies based on the care setting, geographic location, and level of care required. In 2021, the annual median cost to attend an adult day center in the U.S. was $20,280 annually, compared to $54,000 annually to live in an assisted living facility, and over $100,000 annually to live in a nursing home (Genworth Financial, 2022). Although the out-of-pocket cost of living in an assisted living facility might appear to be less than living in a nursing home, Medicaid, the federal-state health insurance program for people with low-income, is the nation's largest payer of formal LTC services in the U.S.[1] and is more likely to cover nursing home care than assisted living care (Harris-Kojetin et al., 2019). For instance, even though access to assisted living facilities for Medicaid recipients has improved over time (Fabius et al., 2022), in 2016, less than 17 percent of assisted living residents in the U.S. received Medicaid funded services, compared to 62 percent of nursing home residents and 66 percent of adult day center participants (Harris-Kojetin et al., 2019). Most states allow people to "spend down" their income and assets to qualify for Medicaid, which has been described as a "long-term care insurance policy where the deductible is your life savings" (Crossley, 2018, p. 596). In many states, the asset and income limits that determine Medicaid eligibility are the same limits that determine Supplemental Security Income (SSI) eligibility, and the population served by SSI and Medicaid LTC programs has significant overlap. For low-income older adults, LTC options are curtailed by both personal resources and the availability of publicly-funded LTC facilities.

State variation in availability of home and community-based services.

[1]Although approximately 96% of older adults living in the United States are Medicare beneficiaries (Kasper and Freedman, 2018), Medicare only partially covers post-acute LTC services for a limited time (usually 100 days). Beginning in 2020, Medicare Advantage plans have the option to offer some non-medical LTC services to enrollees with chronic conditions, but it remains to be seen how this policy change will impact access to formal LTC services (Tumlinson et al., 2018).

Unlike most other Medicaid-funded services, including nursing home care, access to home and community-based services (HCBS) is not an entitlement and states vary in what they make available to residents. States apply for optional Medicaid waivers to provide HCBS rather than only nursing home care. HCBS encompass any Medicaid-funded LTC service provided outside of nursing homes including, but not limited to: case management, homemaker services, and personal care assistance in assisted living facilities and/or adult day centers (Sowers et al., 2016). Since HCBS are not an entitlement, nationwide waitlists for HCBS continue to grow with 20 states having waitlists for HCBS and older adults spending over two years, on average, waiting for services (Musumeci et al., 2019). HCBS waivers allow states (or even counties within a state) to expand Medicaid financial eligibility and offer benefits targeted to a particular group. States can also cap maximum enrollment for HCBS, but not nursing home care (Musumeci et al., 2019). Based on the design of the Medicaid waiver program, there is tremendous state variation in spending on HCBS and what specific services are covered in a given geographic area (Eiken et al., 2018). For instance, six percent of assisted living residents have Medicaid in New Hampshire compared to over 40 percent in New York (Fabius et al., 2022). This state-level difference in Medicaid policy likely affects the spatial distribution of different types of LTC services available to people in each state. If Medicaid does not help individuals pay for HCBS then there will likely be less demand for and access to HCBS and greater demand for Medicaid-covered nursing home care.

Variation in state supplements to Federal Supplemental Security Income (SSI).

Many people who qualify for Medicaid coverage are also eligible for federal SSI payments. This cash benefit is intended to assist people with very low income and assets by providing support for room and board expenses. As of 2020, 44 states and the District of Columbia provided additional payments to those eligible for federal SSI benefits, resulting in SSI payments varying significantly by state.

SSI benefits are a monthly cash payment, and the payment amount depends upon an applicant's other income, sources of in-kind support, marital status, and living arrangement. SSI benefits are reduced when individuals live in a nursing home or other institution for a month or more and when Medicaid covers at least half the cost of care. For example, in 2022 the maximum monthly federal SSI benefit an individual can receive is $841, but the maximum benefit when living in a Medicaid institution is $30. Because federal benefits are uniform across states, these

payments should not lead to geographic variation beyond that associated with income and assets of the population. However, state variation in supplemental SSI payments may create differences between states in the ability of residents with low income to pay for care that could influence LTC investment. For example, in California, the state provides an additional $524 per month to single individuals who live in state licensed nonmedical out of home care facilities (e.g., assisted living without nursing) (Social Security Administration 2022a). In Hawaii, individuals living in private nonmedical facilities with more than five residents receive an added $651.90 per month (Social Security Administration 2022b). These additional payments may reduce disparities in access to LTC facilities and may incentivize local LTC investment.

The changing LTC landscape.

Research suggests that community-dwelling older adults prefer to continue living at home, and if staying at home is no longer possible, most would prefer moving to an assisted living facility rather than a nursing home (Kasper et al., 2018). In response to both individual preferences and changes in public policy, efforts by the Medicaid program to "rebalance" LTC have involved shifting funding away from nursing homes and toward community-based alternatives (Archibald et al., 2018). A growing number of state Medicaid programs are also providing LTC services through capitated contracts with managed care organizations, instead of the traditional Medicaid fee-for-service delivery system, in an effort to contain Medicaid spending through improved care coordination and health outcomes (Lewis et al., 2018). This shift toward community care and the increased involvement of managed care organizations in LTC service provision continue to influence where and what types of LTC options are available in each neighborhood or region.

1.2 Racial Disparities and LTC Services

The U.S. formal LTC system was built and continues to evolve within the context of pervasive systemic racism. Although LTC has been noted as one of the most racially segregated aspects of the larger health care system (Rahman and Foster, 2015), the influence of systemic racism on access to and use of quality LTC options has generally received little attention. However, the ongoing COVID-19 pandemic and growing movement for racial justice have illuminated the pressing nature of an issue at the nexus of these two national crises: racial disparities in LTC (Jenkins Morales et al., 2021; Sloane et al., 2021; Shippee et al., 2020).

Racial disparities in use of nursing homes and assisted living facilities.

Historically, Black older adults were less likely to use nursing homes than Whites (Smith et al., 2008). Although a 1981 Institute of Medicine report concluded that racial discrimination was likely a significant barrier to nursing home admission, most research and conventional wisdom at the time attributed racial differences in nursing home use to "cultural differences" in preference for community care and acceptability of nursing home care (Smith et al., 2008). Since most people want to avoid moving to a nursing home, a coordinated effort to improve access to nursing homes for racial and ethnic minorities never gained momentum. However, the racial composition of nursing homes did shift over time and researchers have attributed this shift to changes in healthcare reimbursement policies, cutbacks in state-operated chronic care hospitals, and the expansion of private-pay assisted living facilities serving predominantly White older adults (Smith et al., 2008; Konetzka and Werner, 2009). Despite national efforts to shift care away from nursing homes and towards community-based alternatives, the number of Black nursing home residents has increased over time, outpacing population growth, as the number of White nursing home residents declined (Feng et al., 2011a; Harris-Kojetin et al., 2019). Recent national estimates suggest that Black older adults are *overrepresented* in U.S. nursing homes, comprising 8.7 percent of the older population and 14.3 percent of nursing home residents, and *underrepresented* in assisted living where only 4.1 percent of residents are Black (Harris-Kojetin et al., 2019). Research also suggests that older adults of color are more likely to prefer family care compared to Whites (Kasper et al., 2018) and stay in the community longer with greater impairment before entering a nursing home (Cai and Temkin-Greener, 2015). However, it remains unclear if these demographic shifts in nursing home use represent increased access to nursing homes, previously denied to older adults of color, or if White older adults are benefiting from private and public expansion of nursing home alternatives, such as assisted living, while older adults of color are left with nursing homes as the only viable residential LTC option.

A recent study using data from the National Health and Aging Trends Study (NHATS) examined if economic and health disparities among Black and White older adults help explain why Black older adults are currently overrepresented in nursing homes and underrepresented in assisted living facilities (Jenkins Morales and Robert, 2020). The results suggest that Black overrepresentation in nursing homes is explained in part by Black older adults having fewer financial resources and worse health than White older adults. However, economic and health disparities did *not* fully explain why Black older adults were less likely to move to an assisted

living facility than Whites. Although it is generally accepted that most older adults prefer to avoid moving to a nursing home, the results of this study suggest that due to racial disparities in health and economic opportunity, avoiding nursing home placement is a greater challenge for Black older adults. The results also suggest that Black underrepresentation in assisted living may be due to other unmeasured factors related to systemic racism that warrant further investigation (Jenkins Morales et al., 2021; Sloane et al., 2021). For instance, assisted living facilities are more likely to be in higher income areas with a lower proportion of Black older adults (Cornell et al., 2020), and this limited geographic proximity might contribute to racial disparities in access to assisted living, regardless of income, since Black older adults are more likely to live in lower income areas than economically similar whites (Ailshire and Garcia, 2018). Although differences in care preferences also might play a role, evidence suggests that Black older adults are less likely to be in a care arrangement that matches their preferences, and that both Black and White older adults generally prefer assisted living rather than a nursing home (Kasper et al., 2018).

1.3 Racial Disparities in Use of Adult Day Centers

Much less research has investigated racial and ethnic disparities in the use of adult day centers. Despite the potential benefits of adult day centers for both caregivers (Parker and Gitlin, 2021) and care recipients (Mossello et al., 2008), and the wish to receive such services (Brown et al., 2014), research suggests that Black caregivers are *less* likely to use respite services, like adult day centers, compared to Whites (Parker and Fabius, 2020). However, compared to other LTC options, adult day centers serve the largest proportion of people of color. In 2015 and 2016, over 58 percent of adult day center participants were people of color, compared to 25 percent of residents in nursing homes, and 19 percent of residents in assisted living facilities (Harris-Kojetin et al., 2019).

Redlining, racial segregation and LTC services.

Historical and current policies rooted in systemic racism maintain racial and economic segregation throughout the U.S., which subsequently impacts access to quality LTC options. For instance, color-coded maps created by the Home Owners' Loan Corporation (HOLC) in the 1930s outlined majority Black neighborhoods in red and determined that these areas were not secure to invest in, a practice termed "redlining." As a result of denying these communities access to investment capital, many continue to be low-to-moderate income neighborhoods to the present day (Mitchell and Franco, 2018). Redlining also impacted the value and lending practices related to commercial properties (An et al., 2019).

Although passage of the Fair Housing Act banned redlining in 1968, the impact of redlining and bias against issuing mortgages in predominately Black neighborhoods continues (Lynch et al., 2021). Local zoning ordinances also continue to maintain segregated neighborhoods in the U.S. For instance, particular areas might be zoned for single family homes to prevent more affordable multi-family housing from being built. Exclusionary zoning practices have also been used by municipalities to prevent undesirable LTC facilities from being built in certain areas, often away from affluent residential areas and other essential services (Chen, 2020).

Existing patterns of residential racial segregation in neighborhoods influence the use and development of paid LTC services since most people access care within their local area. For instance, nursing homes tend to be quite segregated by race with 14 percent of Black nursing home residents concentrated in a small number of nursing homes where the majority of residents are Black, leaving nearly half of all nursing homes in the U.S. with less than five percent of residents identifying as a person of color (Harris-Kojetin et al., 2019; Li et al., 2015). Evidence suggests that nursing homes serving higher rates of racial and ethnic minorities have higher rates of deficiencies, lower staffing ratios, a higher proportion of Medicaid residents, and are more likely to be for-profit (Campbell et al., 2016; Li et al., 2015; Smith et al., 2007).

1.4 Neighborhood and Geographical Variation in the Distribution of LTC Offerings

While LTC policy varies by geography, little research systematically examines geographical or neighborhood variation in the distribution of different types of LTC services. Given racial disparities in the use of different types of LTC, particularly the overrepresentation of Black older adults in nursing homes and underrepresentation in assisted living facilities (Feng et al., 2011a; Jenkins Morales and Robert, 2020), it is important to know if neighborhood and geographic variation in the location of nursing homes, assisted living facilities, and adult day centers might help explain these trends over time.

Neighborhoods and health.

The relative lack of research on geographic variation in LTC services is notable, particularly since research consistently shows that living in lower income communities is associated with a range of poor health outcomes (Cagney et al., 2005; Diez Roux and Mair, 2010; Freedman et al., 2011; Freedman et al., 2008). In fact, racial disparities in health are partly explained by the residential segregation of older adults of color into lower income neighborhoods (Cagney et al., 2005; Robert

and Lee, 2002; Robert and Ruel, 2006; Ruel and Robert, 2009). Similarly, we know that neighborhood variation in other services affects the health of older adults (Robert and Jenkins Morales, 2021). For example, older adults living in neighborhoods with lower access to health-supportive services (e.g., physicians, pharmacies, supermarkets, and recreational facilities) and with commercial decline (e.g., liquor stores, pawn shops, and fast food) have higher risk of poor self-rated health (Spring, 2018). In addition, older adults receiving HCBS who live in areas with a high number of social service organizations are less likely to have frequent hospitalizations (Kim and Xiang, 2021).

Geographic variation in access to a variety of LTC options.

Given the clear research on the importance of neighborhood economic and racial context to health broadly, we should expect that living in neighborhoods with lower income and a higher proportion of people of color is similarly associated with less access to a range of LTC options. Tyler and Fennel (2017) found that market areas with greater poverty had lower odds of having any type of community-based LTC service option and that urban areas generally had more LTC options compared to rural areas. They also found that 30 percent of rural local market areas where nursing homes had closed between 2006-2010 had no other nursing homes, assisted living facilities or adult day centers to provide needed services.

Geographic variation and nursing homes.

In the nursing home literature, there is clear documentation that the number of nursing homes and nursing home beds has declined over time, and that there is geographic variation in both the availability and quality of nursing home care. For example, Wang et al. (2019) demonstrated that the Medicaid/Medicare-certified beds per 100,000 people aged 65+ declined by 30% between 1996 and 2016, but that both the proportion and number of 5-star nursing homes (highest quality) *increased* between 2011 and 2016. Their research documents the high geographic variation in both the availability of and quality of nursing home care both by county and region of the country, and over time. For example, the decline in availability of all nursing home care, adjusted for county characteristics, was consistent across census divisions but was most pronounced in the Pacific region and least pronounced in the West-Central region. They also find a weak association between geographic availability and quality of nursing homes, suggesting that regions with more options for nursing home care are not necessarily the same regions with high

quality options. Moreover, competition between nursing homes doesn't necessarily bring about higher quality care (Wang et al., 2019).

Beyond documenting geographic variability in the availability and quality of nursing homes, some research looks at *characteristics* of differing geographic locations that might explain the geographic variation. Feng and colleagues (2011b) examined nursing home closures between 1999 and 2008 and found that closure rates were nearly twice as high in zip codes that are disproportionately low income and have populations with greater proportions of either Black or Hispanic people. Park and Martin (2018), looking at nursing homes in metropolitan statistical areas between 2011-2015, found that the quality rating of nursing homes is lower in nursing homes located in poverty-concentrated neighborhoods and in racial minority-concentrated neighborhoods, even after controlling for the nursing homes' composition. Consistent with these findings, Sharma et al. (2020) demonstrate that a key contributor to why dual eligible persons (individuals with Medicare and Medicaid) are more likely to be admitted to lower quality nursing homes is their further distance to high quality nursing homes.

Geographic variation and assisted living facilities.

Regarding assisted living facilities as a LTC option, Stevenson and Grabowski (2010) found that counties with higher assisted living penetration in 2007 generally had greater levels of educational attainment, median household income and median home values and a lower proportion of people of color. Importantly, they found these associations were particularly strong when comparing counties with no assisted living options (mostly rural) to those with the highest quartile of penetration. Ten years later, 2017 data similarly show that counties with the highest assisted living penetration had notably higher educational attainment, median income, and lower poverty and unemployment rates (Cornell et al., 2020).

There is minimal literature relating geographical trends in nursing home closures with the growth of assisted living. Cornell et al. (2020) found that increases in assisted living beds in a nursing home market reduces the percentage of low-care residents in that nursing home (potentially people not needing a high level of care); this effect was higher in markets with larger dual eligible populations. Silver et al. (2018) demonstrated that an increase of assisted living beds at the county level is associated with a reduction in nursing home private-pay resident days.

Geographic variation and adult day centers.

While little is known about the geographic variation of adult day centers specifically, one study suggests that adult day centers serving predominately people of color are more likely to be for-profit, receive a higher percent of revenue from Medicaid, and are more likely to provide transportation services compared to centers serving predominately non-Hispanic Whites (Lendon et al., 2021). Another recent study suggests that businesses offering services to older adults, including adult day centers, are more likely to be located in lower-income neighborhoods (Kim et al., 2022). Since adult day centers are a type of HCBS that is highly used by minoritized older adults (Harris-Kojetin et al., 2019), understanding the geographic variation in availability of adult day centers, and its relation to availability of nursing homes and assisted living facilities is an important step to understanding availability of options to meet LTC needs of older adults and whether geographic differences in options affects racial disparities in LTC use.

1.5 Summary

LTC in the U.S. is delivered through a complex patchwork of services. Given the aging of the population and growing racial/ethnic diversity among older adults, it is important to better understand how to improve equitable access to needed LTC services. We know that pervasive racial disparities in the use of LTC services continue, but we do not know how the spatial distribution of LTC facilities, and limited geographic access to LTC options potentially contributes to disparities in use. We also don't know if and how historical redlining practices influenced the development and geographic variation of LTC facilities, which could help explain current racial disparities in LTC service use. We also know that national- and state-level Medicaid policies produce regional variation in access to and quality of LTC services, but we do not know if more generous Medicaid HCBS waiver programs reduce potential racial and ethnic disparities in access to LTC options. Similarly, it is not known from the current literature if more generous SSI benefits reduce potential disparities in access to LTC services and if the spatial distribution of LTC offerings predict county-level SSI enrollment. Our study intends to help address some of these gaps in the literature. Such knowledge can help us better assess the degree of disparity in access to LTC options, particularly for minoritized and low-income older adults.

Drawing from current research, our aims and hypotheses are as follows:

1. Describe the spatial distribution of nursing homes, assisted living facilities, and adult day centers across the continental U.S.

2. Examine how the spatial distribution of LTC facilities is associated with the racial landscape across the U.S. We hypothesize that nursing homes and adult day centers are more likely to locate in predominantly non-White local areas while assisted living facilities are more likely to be located in predominantly White local areas.
3. Examine whether the socioeconomic context of the local area and/or historical redlining help explain any racial disparities in the distribution of LTC facilities. We hypothesize that controlling for area socioeconomic status will partly explain racial disparities in the distribution of LTC facilities. We also hypothesize that a history of redlining practices will partly explain racial disparities in the distribution of LTC facilities.
4. Test the moderating effects of state-level policy on the association between the racial landscape and the spatial distribution of LTC facilities. We expect states that supplement federal SSI payments and/or participate in Medicaid HCBS waiver programs will have smaller racial disparities in the distribution of LTC facilities of all types.
5. Explore how the spatial distribution of LTC offerings impact county-level SSI enrollment.

2. Methodology

Our empirical approach combines data from several sources to both produce visualizations and estimate statistical models that describe the spatial characteristics of LTC facilities and the association between their spatial distribution and demographics of the local area, including characteristics of the racial landscape. Additionally, we investigate the potential moderating role of Medicaid HCBS policies and state supplements to federal SSI payments. In this section, we describe each data source and the relevant details of the data structure for our methodological approach.

2.1 Data

LTC facility data.

Our LTC facility data come from a database commercially known as Data Axle, which is available for academic use via Wharton Research Data Services under the Infogroup name. Our project uses the Historic Business Series, which includes records for all US businesses from 1998 to present. Our analysis focuses on years 2000, 2010 and 2020. Each record in the database represents a business at a point in time and contains information about the type of business

(North American Industry Classification System (NAICS) codes and Standard Industrial Classification codes), the name of the business, estimates of employment size and sales volume, corporate structure when relevant, and the physical address (street address and longitude and latitude). From these data, we extract all records for the following NAICS codes:

- 623110 Skilled Nursing Facilities
- 623311 Assisted Living Facilities with on-site nursing
- 623312 Assisted Living Facilities without on-site nursing
- 624120 Adult Day Centers

SocScape racial landscapes data.

We utilize SocScape data which are high-resolution grids measuring ethnic and racial composition from 2000-2020. These grids can provide spatial covariates that describe local populations. They are derived from Decennial Census data for the entire U.S. (including those living in group quarters). Using the SocScape grids rather than a zone- or tract-based approach allows us to not only visualize spatial variability, but also to statistically analyze it at a more granular spatial resolution. SocScape achieves more granularity by disaggregating block-level data into finer units (cells) using dasymetric modeling. Unlike the traditional aggregated approach, SocScape grids do not arrange residents into cells in uninhabited areas nor in places where they do not actually reside. Additional shortcomings of aggregated population data identified by Dmowska et al. (2017) are: (1) the spatial resolution of census units varies as precision changes with location because blocks are not evenly sized; (2) the analysis of artificial Census units with a continuous population distribution results in the Modifiable Areal Unit Problem (MAUP)[2]; (3) census units are spatially mismatched with the type and size of unit(s) in which users are interested; and (4) boundaries of census units change over time.

Decennial census and American Community Survey (ACS)

To measure other characteristics of local areas that may influence facility locations, we use block-level data from Census-published tables based on the 2000 Decennial Census and the 2006-2010 and 2016-2020 five-year estimates of the ACS, obtained using the Census Application Programming Interface (API). Although these covariates follow the zone-based aggregation approach, when added to the model with SocScape population density controls,

[2] The MAUP is a statistical biasing effect that results from imposing artificial Census units onto a continuous distribution of the population and can significantly impact the results of hypothesis tests.

some of the limitations of the zone-based approach are mitigated. At this time, SocScape does not offer grids for socioeconomic covariates, though in theory the methodology could extend to this use case. We describe our measures below.

HCBS policy measures.

To understand whether state-level HCBS policies moderate relationships between local demographics and spatial patterns in LTC facilities, we infer state HCBS Medicaid waiver participation from Centers for Medicare and Medicaid Services (CMS) Form 64 expenditure data. We count the number of HCBS waiver programs the state reports and expenditures for in each 2000, 2010, and 2020. These measures are not sensitive enough to capture the heterogeneity in waiver programs. For example, there are exceptions to "state-wideness" requirements that may lead to states with the same waiver program to have very different penetration rates. Using the reported expenditures rather than counting waiver program participation may seem a logical choice for addressing this problem, but it conflates program generosity, costs of care, care availability, and participation. As such, including expenditure data as a predictor of facility density may lead to bias from reverse causality and we opt for a blunt but plausibly less biased measure.

HOLC neighborhood redlining grades.

The Home Owners' Loan Corporation (HOLC) redlining grades information we use is provided as an ArcGIS data layer from Esri and as tract-level summaries of these data prepared by Meier et al. (2020). These data cover only 142 cities and thus analysis that makes use of this information will be restricted to the subset of cities for which we have data coverage. The data code areas within cities at the census tract level as either A, B, C or D, with A indicating the lowest risk lending areas and D the highest.

2.2 Modeling Point-Pattern Data

Overview.

Our analysis uses methods to both describe and attempt to explain, though not necessarily causally, the spatial patterns of LTC facility locations. Previous research in this area uses aggregate information within geopolitical locations like state or county, census geographies like tract, or areas of economic activity like Metropolitan Statistical Areas or commuting zones. In contrast, we are looking at spatial patterns of LTC facility locations, not aggregating the number of points within an area. Though many disciplines analyze spatial data with the same properties

as the data we have for LTC facilities, and use the methods we describe in this section, these methods are less common in social science research. Given that this methodology is less common, we provide an intuitive overview. More technical details can be found in Baddeley et al. (2015).

The questions we want to answer about LTC facilities mirror questions frequently asked in ecological research. For example, researchers studying a forest may want to know about the distribution of different species of trees within the forest, and whether patterns in that spatial distribution are explained by measured environmental characteristics like soil quality or grade. We explore the spatial distribution of four different types of LTC facilities and determine the extent to which their locations are associated with demographic characteristics of local areas. Both research aims are accomplished using "marked-point pattern data."

Point-pattern data are simply data that include the precise coordinates for each study subject (i.e., LTC facility). Marked point-pattern data also include *information* about each point. Marks can be categorical, like the species of a tree or the type of LTC facility, or continuous, like the diameter of a tree trunk or the number of employees working at a facility. In analyzing data like these, we are interested in both the locations of the points overall and variations by type.

Dependent variable: Spatial intensity.

To answer questions about how the spatial pattern of study subjects is related to environmental factors, researchers generally begin by describing the "intensity" of the point-pattern data and then estimate the relationship between the intensity and environmental covariates. Intensity is a measure of the average number of points per unit area. Because intensity may vary over space (i.e., exhibit spatial heterogeneity) intensity can be expressed as a function, $\lambda(x)$, where x represents the coordinates that spatially identify a particular point.

To determine whether the spatial pattern of LTC facilities is related to local area characteristics, we use intensity as the dependent variable in a regression where local area characteristics are covariates. Importantly, the unit of analysis for the regression is the spatial area over which the intensity is calculated (e.g., square kilometer). Alternative approaches that use the facilities as the unit of analysis and model their types as a function of characteristics of the local area, for example using a multinomial logit, can only provide estimates of the association between area characteristics and the conditional probability of a facility type *given a facility exists at that location*. Using spatial intensity as the dependent variable retains areas

without any facilities, so estimates reflect associations between covariates and the joint probability of having a facility at all and a facility of a particular type. Intuitively, this is analogous to studying work hours and including persons who work zero hours rather than dropping them from the analysis.

Key covariates.

To measure the racial landscape of the local area, we use classifications in the SocScape high resolution grids described above. Figure 1 displays the SocScape racial landscape for Coconino County in northern Arizona in 2020. We use this example because it helps to illustrate both variation in dominant race and population density. Also, it shows the facility data in rural areas are very sparse, which causes problems for modeling as explained below.

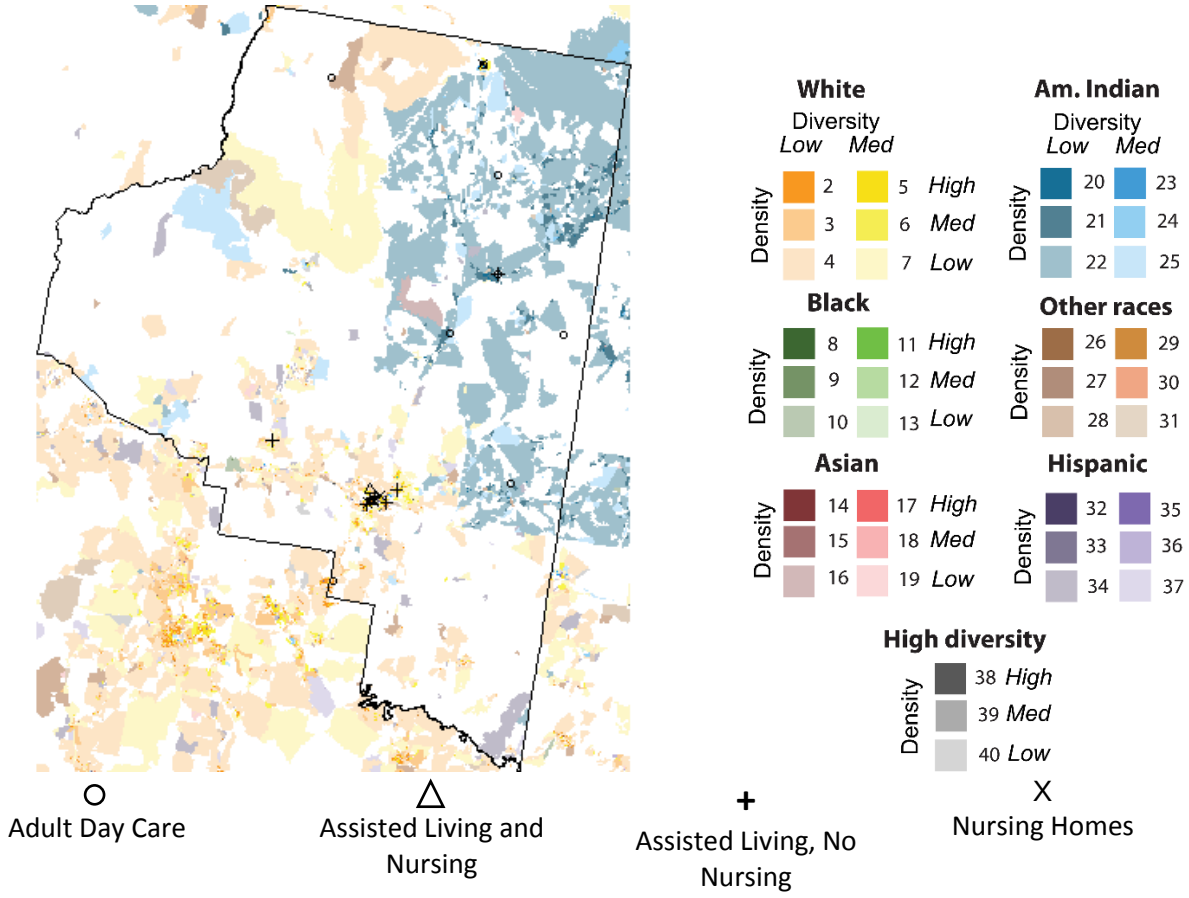
As shown in the legend in Figure 1, SocScape describes the local racial landscape using three dimensions: majority or "dominant" race or ethnicity, population density, and diversity (Dmowska et al., 2017). These dimensions combined yield 39 categories. Areas without any color (left white in the map) are uninhabited according to the National Land Cover Database and comprise a 40^{th} category.

Dominant racial or ethnic group is defined as the group with the highest percentage of the population in each cell of the SocScape high resolution grid and reflected by color family (e.g., blue color family for Native Americans, green color family for Black). Racial/ethnic groups in SocScape are based on Decennial Census single race classifications of non-Hispanic White, non-Hispanic Black, non-Hispanic Asian, non-Hispanic American Indian, non-Hispanic Native Hawaiians and Other Pacific Islanders, non-Hispanic other races, and Hispanic. The SocScape categorization combines non-Hispanic Native Hawaiians and Other Pacific Islanders and non-Hispanic Asians. Areas where no one race is dominant (dominant race < 50%) are labeled as High Diversity (grayscale color family).

Within populated areas, population density is described using three categories: Low Density (< 3 people/km^2), Medium Density (between 3 and 30 people/km^2), and High Density (> 30 people/km^2). In two populated areas with the same dominant racial group, the population could be more (or less) racially homogenous in one area than in the other. The SocScape diversity measure captures this difference. Diversity categories are based on standardized informational entropy (E) and dominant race and defined as: Low Diversity (E < 0.37 and

dominant race share > 80%), High Diversity (E > 0.73 and dominant race < 50%), and Medium Diversity (all other inhabited areas).[3]

Figure 1 SocScape Racial Landscape with Overlaid LTC Facility Locations
Coconino County, Arizona 2020



Note: This figure illustrates the racial landscape data for one county with facility locations overlaid to show (1) the measures are zoneless and flow across the county boundaries, (2) they offer a high level of spatial resolution so the demographic make-up is more specific to the local area around the facilities, (3) they include population density information, and (4) they use other landcover information to distinguish between habited and uninhabited areas. Our analysis collapses the full set of categories displayed in the legend to compare predominantly White and Non-White areas, while controlling for population density.

[3] Entropy, sometimes called Shannon entropy, is a concept from information theory used across disciplines to define the amount of uncertainty in a categorical variable's outcomes. In neighborhoods that are not very diverse, there is less uncertainty and lower E; in neighborhoods with much racial diversity E is high.

Modeling the association between local racial landscapes and facility locations.

Prior studies based on the demographics of long-term care residents indicate White older adults are now less likely than Black older adults to live in nursing homes and more likely than Black older adults to live in assisted living facilities. To determine whether locations of facilities could help to explain these differences, we could estimate a simple linear model:

$$\lambda(\mathrm{x})_{\mathrm{ij}} = \beta_0 + \beta_1 White_i + \epsilon_{\mathrm{i}} \quad (1)$$

The dependent variable is the spatial intensity of facilities, $\lambda(x)$, of type j in location i. The independent variable in Equation (1), $White_i$, is a binary indicator equal to 1 if the SocScape estimated majority race in the area is White. In this simple model, $\widehat{\beta_1}$ provides an estimate of the difference in the spatial intensity of facilities of type j between areas where the estimated majority race is White and areas where it is not. Positive estimates of $\widehat{\beta_1}$ indicate type j facilities are more abundant in majority White than in majority non-White areas, and negative estimates indicate type j facilities are less abundant in majority White areas than they are in majority non-White areas. If facility locations contribute to the racial patterns of residency in the literature, then for regressions where j is nursing home we expect to find negative estimates of $\widehat{\beta_1}$, whereas in regressions where j is assisted living (either with or without nursing) we expect to $\widehat{\beta_1}$ to be positive.

Estimates of $\widehat{\beta_1}$ in Equation (1) are likely to be misleading because areas that are predominantly White have lower population density on average. We expect LTC facilities to be more abundant in areas with more people, so estimating Equation (1) without controlling for population density will lead to negative bias in $\widehat{\beta_1}$. On the other hand, because we retain the uninhabited areas in the analysis, $\widehat{\beta_1}$ in Equation (1) provides an estimate of the difference in facility intensity between areas that are predominantly White and all other areas – including uninhabited areas. Again, because facilities are likely to locate in more populated areas (and especially unlikely in uninhabited areas), this means $\widehat{\beta_1}$ could be a positively biased estimate of the difference in facilities attributable to racial composition alone. For these reasons, the simplest useful model to address our second aim must control for population density as follows:

$$\lambda(x)_{ij} = \beta_0 + \beta_1 White_i\, \beta_2 NonWhite + \beta_3 LowDensity_i + \beta_4 MedDensity_i + \beta_5 HighDensity + \epsilon_i \quad (2)$$

Both White and non-White and all three SocScape categories of population density are included in Equation (2) because uninhabited is the omitted category. Now the difference in

facility spatial intensity between predominantly White and Non-White areas is captured by the difference between β_1 and β_2.

To address our third aim (determine whether socioeconomic variables mediate disparities) we add covariates to Equation (2) intended to capture differences in local socioeconomic characteristics and long-term care need. These covariates are constructed from ACS and Decennial Census data sources described above and include: individuals with disabilities[4] per 1,000, share of persons with a high school education or above, median home value[5], labor force participation rate, unemployment rate, share of families with annual income below the federal poverty level, and share of households with no vehicle available. Adding these variables to the model changes the interpretation of $\widehat{\beta_1} - \widehat{\beta_2}$ from a measure of overall racial differences in facility intensities to a "residual" measure; it now captures only the component of racial differences unexplained by the added socioeconomic and demographic control variables.

Residual differences in facility intensity could reflect factors that may differ by the racial landscape of an area like differences in preferences for LTC by race, or racism in the institutions that locate LTC facility investments. These possible explanations are difficult to parse, but we offer some additional analysis to unpack any residual disparities using measures of historical redlining to capture past discriminatory lending practices that created unequal access to mortgages. These practices may be relevant to LTC facility locations because older adults often use housing wealth to finance LTC expenses. As explained above, historical redlining grids are available for 142 cities and so require us to restrict our geographic sample. We re-estimate our expanded version of Equation (2) in this subset of geographies and then add controls for the four redlining grades A through C, with D as the omitted category. We expect the legacy of mortgage discrimination to reduce the intensity of facilities of all types, and particularly of assisted living facilities, so we anticipate coefficients on these variables to be positive (representing higher intensities relative to grade D) and monotonically decreasing from A to C. Also, if the influence of discriminatory lending was contributing to our estimates in prior models, we expect the

[4] Disability status is based on the ACS definition of having one or more of the following difficulties: hearing, vision, cognitive, ambulatory, self-care, or independent living. While more detailed breakdowns may be desirable, such as for independent living or self-care alone, we are constrained by the information available in Census published tables at the block level.

[5] We also would like to include median rent but this information is missing for a large share of geographical areas and could not be included in the model.

estimated disparity when redlining grades are included in the model to be smaller than in prior models.

Modeling the potential moderating effects of policy.

If ability to pay for care is a key driver of facility locations and systematically differs by race and ethnicity, then we would expect geopolitical areas with policies that help individuals pay for LTC to have smaller disparities in facility locations. We can test this policy moderation hypothesis in the conventional way by expanding Equation (2) as follows:

$$\lambda(x)_{ij} = \gamma_0 + \gamma_1 White_i + \gamma_2 NonWhite_i + \gamma_3 White_i * Policy_i + \gamma_4 NonWhite_i * Policy_i + \rho_i + \epsilon_i \quad (3)$$

The dependent variable $\lambda(x)_{ij}$ represents facility intensity as above. Like in Equation (2), we include controls for population density in Equation (3) represented in the vector ρ_i for brevity, and both White and Non-White appear in the model because uninhabited is the omitted category. $Policy_i$ is the measure of the policy environment in location i. As described above, we are specifically interested in policies that provide Medicaid coverage of community-based LTC and in differences in SSI benefits attributable to state supplements. As explained, our Medicaid coverage of HCBS measure is constructed from a count of waiver programs for which the state reports spending on CMS Form 64. Our measure of SSI benefits is equal to 1 in states that provide any additional supplementation on top of federal benefit amounts.

We can interpret the parameters of interest in Equation (3) as follows: γ_1 and γ_2 provide the estimated facility intensities in predominantly White and non-White areas without the policy, and the difference, $\gamma_1 - \gamma_2$, provides an estimate of any racial disparity in facility intensities between predominantly White and non-White areas without the policy. For areas with the policy, the estimated facility in intensity is $\gamma_1 + \gamma_3$ for predominantly White areas and $\gamma_2 + \gamma_4$ for predominantly non-White areas. So, the estimated disparity in areas with the policy is given by $(\gamma_1 + \gamma_3) - (\gamma_2 + \gamma_4)$. We expect disparities to be smaller in areas with these policies because they help to moderate the impact of disparities in housing wealth and other socioeconomic factors that are known to be correlated with race and ability to pay for long-term care. So, we expect $\gamma_1 - \gamma_2 > (\gamma_1 + \gamma_3) - (\gamma_2 + \gamma_4)$, which is equivalent to saying we expect $\gamma_4 > \gamma_3$.

For nursing homes, our expectations are somewhat different. We expect the effects of HCBS waivers on facility intensity in both White and non-White areas to be negative because, in the absence of HCBS waivers, Medicaid provides coverage for nursing home care but does not

cover community-based options. So, in states without HCBS waivers, the out-of-pocket cost of nursing home care is lower than the out-of-pocket cost of community-based options, because there are no funded community-based options. Lack of coverage for community-based options is known as the institutional bias in Medicaid.

In addition, in states that do offer State Supplemental Payments to SSI recipients, nursing home residents are often ineligible for the state payment, or any supplement paid to nursing home residents is much smaller than the payment to community-dwelling SSI recipients. So, State Supplements also lead to a relative decline in the price of living in the community and should have a negative main effect on nursing home intensity.

In the cross-section, estimates of γ_3 and γ_4 will also capture all other unobserved differences between states with and without the policies of interest that are not otherwise captured in our model. Because policies are nonrandomly determined, this may lead to substantial bias in our estimates. To address this limitation, we use multiple decades of data and a modified difference-in-differences strategy. Specifically, if we estimate Equation (3) twice, with data from two different decades, we can then obtain a difference-in-differences estimate of the policy impact on the disparity in facility intensities, as illustrated in Table 1. The γ parameters reflect the estimates for Equation (3) in the first decade, and the δ parameters reflect the estimates in the second decade. We estimate Equation (3) twice rather than using a conventional panel data approach for computing efficiency, which we explain below.

Table 1 Illustration of Difference in Differences Estimation of Disparities in Facility Intensity

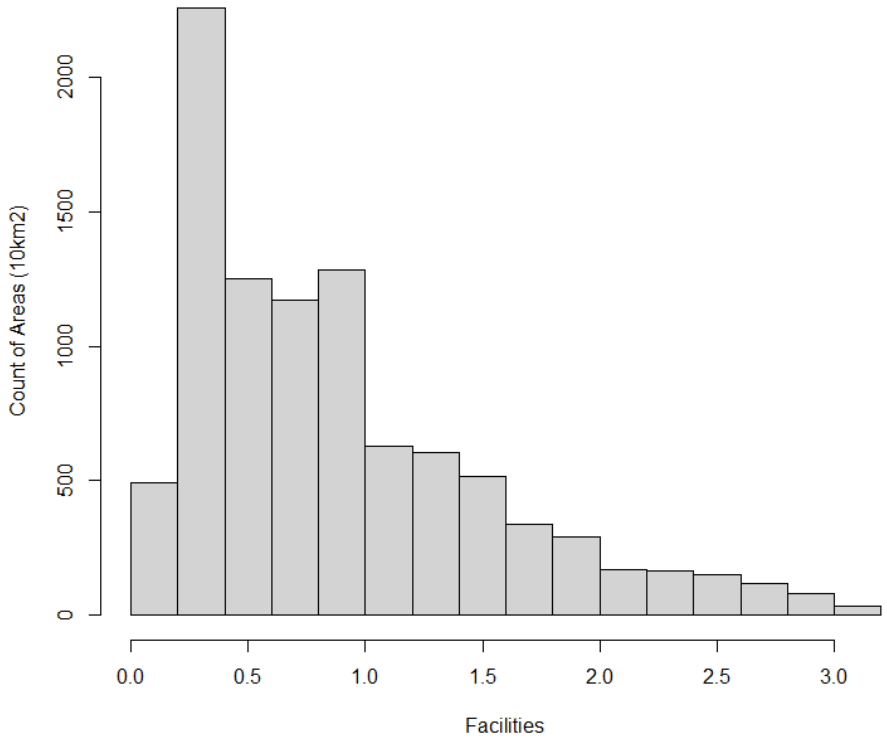
	Decade 1	Decade 2	
Policy	$(\gamma_1 + \gamma_3) - (\gamma_2 + \gamma_4)$	$(\delta_1 + \delta_3) - (\delta_2 + \delta_4)$	
No Policy	$\gamma_1 - \gamma_2$	$\delta_1 - \delta_2$	
Difference	$\gamma_3 - \gamma_4$	$\delta_3 - \delta_4$	DD = $(\gamma_3 - \gamma_4) - (\delta_3 - \delta_4)$

Choice of estimator.

Spatial intensity is essentially a count measure – a count of points per unit area – so Poisson regression is a common estimator. Figure 2 displays a histogram of the spatial intensity of all types of LTC facilities in 2020. The spatial unit of analysis is 10km^2, so this histogram illustrates the number of 10km^2 cells (called pixels) in a grid covering the entire US that include the

number of facilities shown on the x-axis. The distribution of intensity is not symmetrical, is truncated at zero, and exhibits substantial right skewness. Poisson regression is appropriate for modelling data with these characteristics.

Figure 2 Histogram of Estimated Spatial Intensity of all Types of LTC Facilities in the U.S. Facilities per $10km^2$



Note: Counts of facilities are computed by applying a grid with cells of size $10km^2$ across the continental U.S. and computing the number of facilities in each $10km^2$ area of the map defined by the grid. The histogram reflects the count of areas with the number of facilities shown on the x-axis.

Poisson regression alone will not allow for heterogeneity in the relationships between variables across spatial locations – it constrains all coefficients in the regression models above to be the same for all locations i, except in Equation (3) where we explicitly allow for heterogeneity across areas with different policy environments. Even in this model, the impact of each policy is constrained to be equal across all locations with the policy. In exploratory spatial research, Geographically Weighted Regression (GWR) is a useful technique for allowing spatial

heterogeneity. Conceptually, this approach estimates the regressions above separately for every location i including only the surrounding locations within a given bandwidth. Bandwidth can be selected by the researcher or following a data-driven process to select an optimal bandwidth. Though GWR could be useful for at least some of our analysis it is highly computationally intensive and is not feasible given our computing resources. Instead, we adopt a modified approach, which we argue offers rich multivariate descriptive analysis and allows for some spatial heterogeneity in a way that is consistent with the GWR approach.

Instead of estimating separate regressions for each location i, we estimate Equation (2), with and without the expanded set of covariates, separately for each state in the continental US and Washington, D.C.[6] From this exercise, we obtain matrices of estimates for $\beta_1 - \beta_2$, containing entries for each of the 49 locations. We then visualize the distributions of these estimates and report median estimates to summarize our overall findings.

Following the state-by-state estimation approach, we cannot directly estimate Equation (4) because the policies we are interested in do not vary spatially within a state; they only vary over time. While we could examine only states where there was a policy change and construct panels for these states consisting of two years, this would omit states without any policy change from our analysis. Instead, we first estimate Equation (2) separately by state in each decade and we subtract the estimated disparities in each decade, $\beta_1 - \beta_2$, across decades by state – yielding 49 (including Washington, D.C.) estimated coefficient differences. We report medians of these difference-in-differences estimates by changes in the policy environment, and also the full distributions of estimates.

Computing challenges and associated methodological constraints.

The data required for our analysis are very large; the SocScape diversity grid for 2020 alone is approximately 65GB. With the resources we have, it is not possible to produce estimates for the entire US. This is another reason why we must use the state-by-state estimation approach described above. Also, even with parallel computing, the run time required to produce estimates for all states for a single decade is approximately 8 hours.

As described, we use Poisson estimation and, conditional on covariates that include population density, we specify a model that assumes spatial homogeneity and independence of

[6] We initially attempted to produce separate estimates by county, but there were many rural counties with too few facilities to fit the model and we opted to aggregate up to state level rather than drop these counties from the analysis.

the points. A more complex model that allows for heterogeneity and point-to-point interactions would likely fit the data better but would be far more computationally intensive (Rajala et al., 2018). Our primary goal is descriptive analysis of LTC facility locations and thus we opt for methodological simplicity and leave further refinements to future work.

3. Results

In this section, we first describe the spatial distribution of LTC facilities over time and across states. These descriptions include average intensity (points per 10km^2) and changes in intensity over time that can be used to contextualize the magnitude of estimates in our regression analysis.

3.1 Descriptive Analysis of the Spatial Distribution of Long-Term Care Facilities

Table 1 summarizes the number of facilities by type in each decade (2000, 2010, and 2020), the proportion of facilities, and the mean intensity. In 2020, there were more assisted living facilities without nursing than any other facility type. This is a large shift in the mix of facilities from 2000. In 2000, nursing homes were the most abundant type of facility. Adult day centers became more common over time whereas assisted living with nursing care became less. The overall number of facilities increased from 55,567 in 2000 to 72,587 in 2020.

Table 2 LTC Facilities in the Continental US by Decade

	Count	Proportion	Intensity Facilities per 10km^2
2020			
Adult Day Centers	11,308	0.156	0.145
Assisted Living and Nursing	11,319	0.156	0.145
Assisted Living, No Nursing	26,781	0.369	0.343
Nursing Home	23,170	0.319	0.297
2010			
Adult Day Centers	11,426	0.163	0.146
Assisted Living and Nursing	10,636	0.151	0.136
Assisted Living, No Nursing	26,060	0.328	0.295
Nursing Home	25,130	0.358	0.322
2000			
Adult Day Centers	6,694	0.120	0.086
Assisted Living and Nursing	15,813	0.285	0.203
Assisted Living, No Nursing	12,358	0.222	0.158
Nursing Home	20,702	0.373	0.265

Note: Data source is Infogroup business database (commercially known as Data Axle). Facility types are based on NAICS codes.

To better understand changes in LTC facility abundance and mix over time, in Table 2 we report changes across the panels of Table 1. Here we see a large expansion in the number of facilities occurred from 2000 to 2010. Over 70 percent of the approximately 15 thousand net gain in facilities in that decade were assisted living facilities without nursing (10,702 of 14,685) and there was a loss of just over five thousand assisted living facilities with nursing. Growth slowed from 2010 to 2020 to a net gain of only 2,326 facilities. Only the assisted living industry experienced modest growth, whereas there was a decline in the number of adult day centers and nursing homes.

Notably, the numbers of facilities that open and close across each decade are high and may overstate the true values. We define openings and closures by matching the street address, city, state, and industry classification. We assume facilities that exist in the first decade and not the second have closed. Similarly, facilities that did not exist in the first decade and do in the second are defined as openings. This means we count facilities that change industry classification as distinct even if they have the same street address as in a prior year. If instead we simply look for matching addresses and ignore industry classification the estimates fall, and they fall most for both types of assisted living.

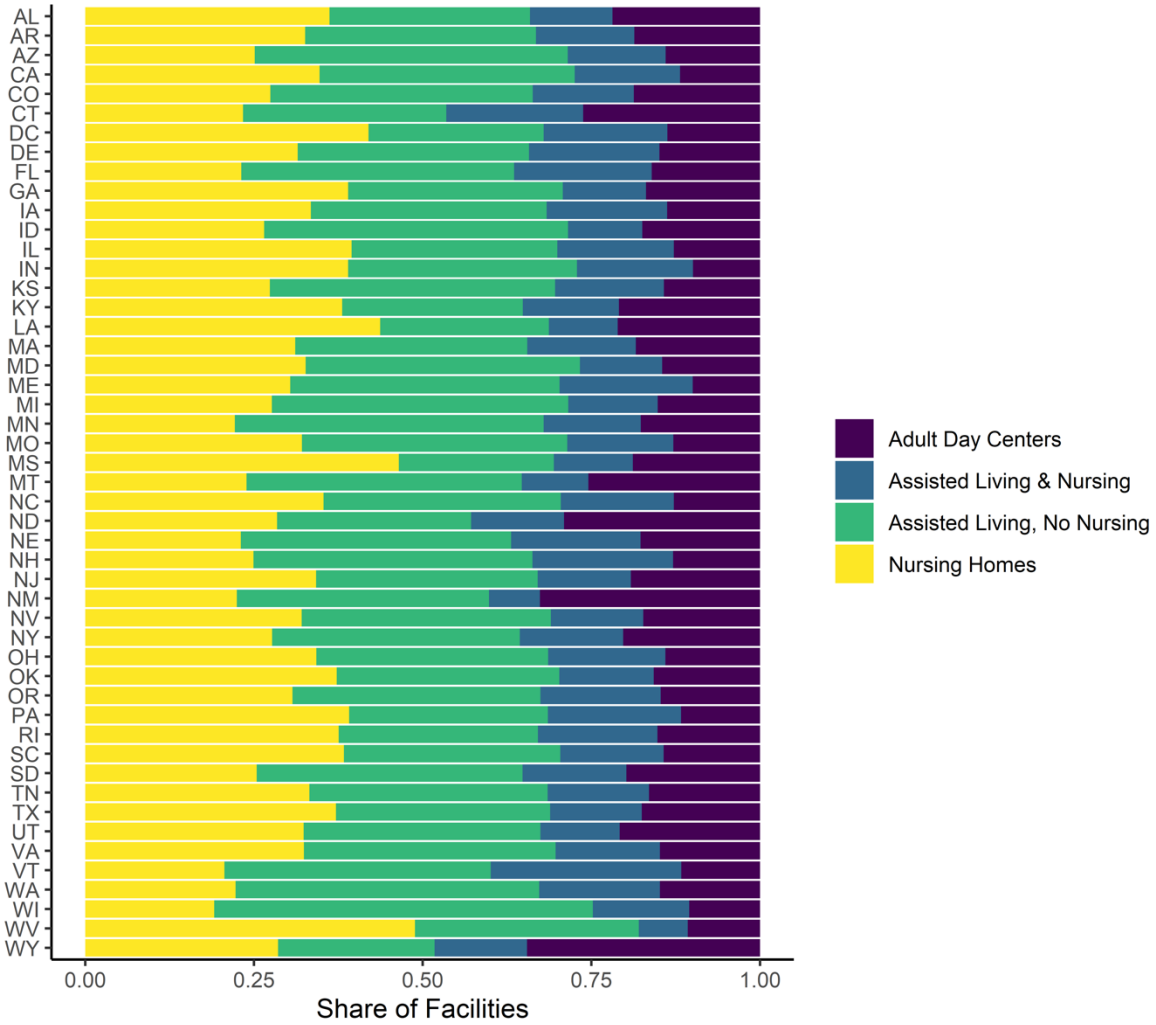
Table 3 Change Over Time in LTC Facilities in the Continental US

	Change in Count	Change in Share	Change in Intensity	Openings	Closures
2000 to 2010					
Adult Day Care	+4,732	+0.042	+0.061	19,677	5,279
Assisted Living and Nursing	-5,177	-0.133	-0.067	7,553	12,731
Assisted Living, No Nursing	+10,702	+0.106	+0.137	19,677	8,983
Nursing Home	+4,428	-0.015	+0.057	18,377	13,992
All Types	+14,685	n/a	+0.188	55,581	40,985
2010 to 2020					
Adult Day Care	-118	-0.007	-0.002	7,261	7,380
Assisted Living and Nursing	+683	+0.005	+0.009	7,332	6,776
Assisted Living, No Nursing	+3,721	+0.041	+0.048	16,018	12,563
Nursing Home	-1,960	-0.038	-0.025	14,141	16,419
All Types	+2,326	n/a	+0.030	44,752	43,138

Note: Data source is Infogroup business database (commercially known as Data Axle). Changes in counts are not the difference between openings and closures because the same facility could count as a closure and opening if it changes location, but a change in location would not change the overall count of facilities of a given type in that year. Also, openings and closures use street addresses to identify changes over time instead of longitude and latitude because there are small changes in the exact coordinates which lead to implausibly large estimates. This requires no missing values for street address, but we do not impose that restriction on the analysis sample, which is the source for the change in counts.

In 2020, there is considerable variation in the mix of facilities across states, as shown in Figure 3. For example, in Wyoming, New Mexico, North Dakota and Connecticut, adult day centers comprise more than 25 percent of total facilities. Nursing homes are most abundant in West Virginia, accounting for nearly 50 percent of all facilities, and least abundant in Wisconsin where other types comprise nearly 80 percent of the total. The proportions behind Figure 3 are reported in tabular form in Appendix Table A1 with values for 2010 and 2000.

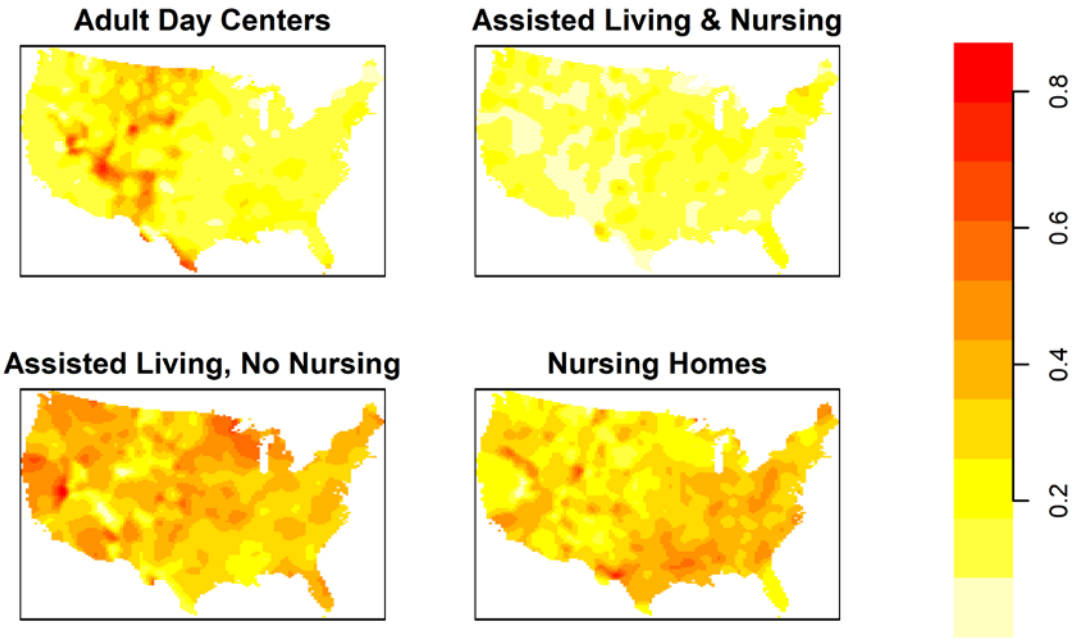
Figure 3 Distribution of LTC Facility Types by State, 2020



Note: Data source is Infogroup business database (commercially known as Data Axle). We report shares only for the continental U.S. (those in scope for this analysis) because we lack data on covariates for other states and territories. Appendix Table A1 contains a tabular reporting of the shares in this visual.

While Tables 2 and 3 and Figure 3 display variation in facilities over time and by state, they lack the ability to convey detailed information about the spatial distributions of facilities within states. With over 70 thousand facilities in 2020, plotting each point on a map of the US, as seen in Figure 1, where we displayed Coconino County, would not be helpful. The entire map would be covered in points, and patterns would be indiscernible. Instead, we plot kernel-smoothed estimates of the local spatial intensity by facility type in Figure 4. This is logically analogous to fitting a line to a scatterplot with many points using Locally Weighted Scatterplot Smoothing (LOWESS) to understand the relationship between two variables. Just like with LOWESS smoothing, kernel smoothing requires bandwidth selection. We use cross validation to choose an optimal bandwidth of 56.95km^2.

Figure 4 Kernel Smoothed Estimated Intensities of LTC Facilities in the Continental US by Type, 2020



Notes: Nonparametric probabilities are estimated at each pixel location with bandwidth $\sigma = 56.95km^2$ selected using cross validation.

From Figure 4, we learn assisted living with nursing is the least common type of facility in all areas of the country. Assisted living without nursing is especially common in northern

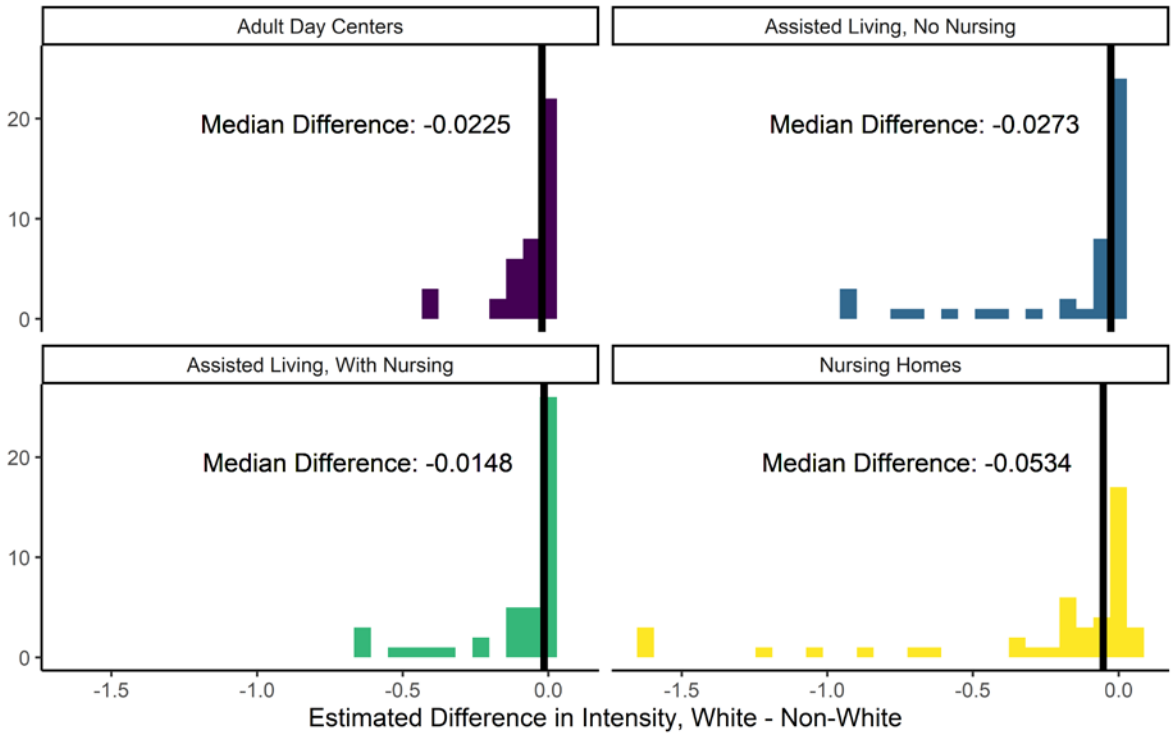
Wisconsin and Minnesota and in pockets of the southwest. Nursing homes appear most abundant in the south and more homogeneously distributed compared to adult day centers. Adult day centers comprise over 80 percent of facilities in rural areas of the west and southwest, particularly through the Rocky Mountain range and upper plains. In summary, there appears to be substantial spatial heterogeneity in facility locations when examined at this spatial scale. We also report these metrics at a more detailed spatial scale in the map books that accompany this report. In the next section we examine whether this heterogeneity is correlated with local racial landscapes.

3.2 Multivariate Estimates of Relationship between Facility Locations and Demographics

In this section, we present the results of our regression analysis. Because we estimated regressions separately by state, we present results graphically as histograms of the exponentiated coefficients, $\widehat{\beta_1} - \widehat{\beta_2}$ from estimating Equation (2) in each decade and controlling only for population density. Positive estimates indicate the facility is more abundant in predominantly White than in non-White areas. Negative differences mean the facilities are less abundant in White than in non-White areas. As shown, the median estimated difference for each facility type is negative, meaning facilities of all types are less abundant in predominately White than in non-White areas.

To interpret the magnitude of the estimates, it is helpful to refer to Tables 2 and 3 and compare the estimated differences to the average intensity and changes in intensities across decades. For example, the -0.0778 median estimated difference in the intensity of adult day centers in 2020 is an approximately 50 percent difference relative to the mean intensity. As Table 3 shows, average adult day center abundance increased by 0.061 facilities per $10km^2$ nationally from 2000 to 2010 and fell by 0.002 from 2010 to 2020. So, our estimates indicate the variation between predominantly White and predominantly non-White areas is larger than the size of the timeseries variation. The magnitudes of median estimated differences for other facility types and in other years are also non-trivial when compared to changes over time.

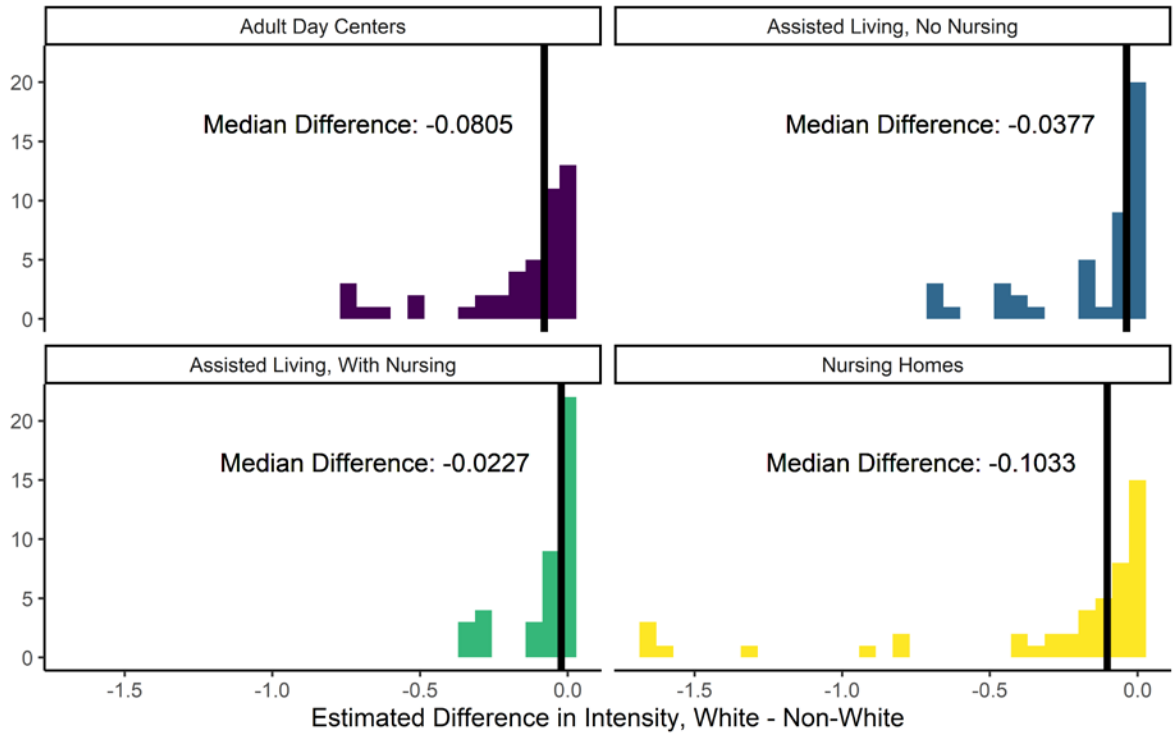
Figure 5 Estimates of Differences in LTC Facility Intensity (per 10km^2) between Majority White and Non-White Areas in the Continental US, 2000



Note: The results displayed reflect the estimates from separate regressions for each state and D.C. by facility type (4x49 = 196). Estimates can be interpreted as the number of facilities per 10km^2 in a majority White area minus the number in a majority non-White area of the state, controlling for population density. The distributions are heavily skewed left with outliers beyond the reported range above. For these visualizations we recoded outliers to the 5th and 95th percentile. A full tabular reporting of estimates by state (without recoding) is available in Appendix Table A2.

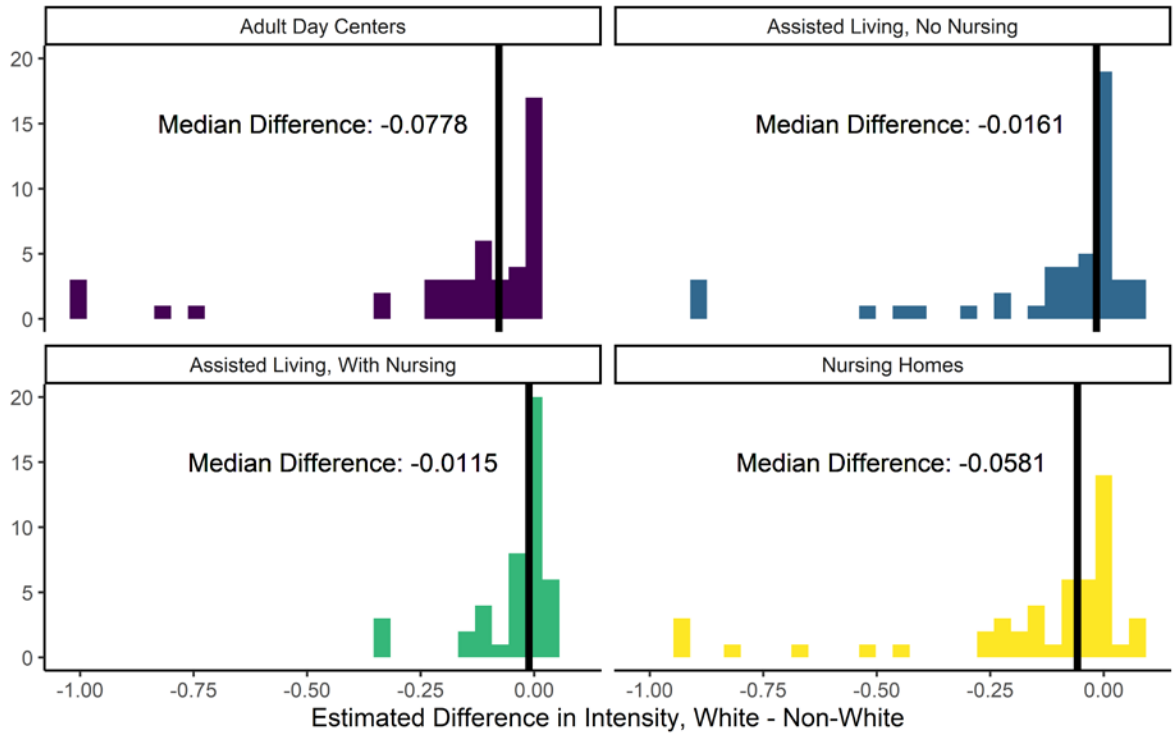
Comparing across decades, though all estimates remain negative, median estimated differences for adult day centers are more negative in 2010 and 2020, indicating they became even more abundant in predominantly non-White areas over time. The median estimate for assisted living without nursing also became more negative from 2000 to 2010, which indicates the increase in facilities reflected in Table 2 was concentrated in predominantly non-White areas. The estimates for nursing homes also suggest the expansion in that decade was more pronounced in predominantly non-White areas. Yet, when nursing home intensity fell from 2010 to 2020 and there was a net loss of nearly 2,000 facilities, the estimated disparity became more positive, which implies facilities in predominantly non-White areas were more likely to close and is consistent with prior research (Feng, Lepore, et al., 2011b).

Figure 6 Estimates of Differences in LTC Facility Intensity (per 10km^2) between Majority White and Non-White Areas in the Continental US, 2010



Note: The results displayed reflect the estimates from separate regressions for each state and D.C. by facility type (4x49 = 196). Estimates can be interpreted as the number of facilities per 10km^2 in a majority White area minus the number in a majority non-White area of the state, controlling for population density. The distributions are heavily skewed left with outliers beyond the reported range above. For these visualizations we recoded outliers to the 5th and 95th percentile. A full tabular reporting of estimates by state (without recoding) is available in Appendix Table A3.

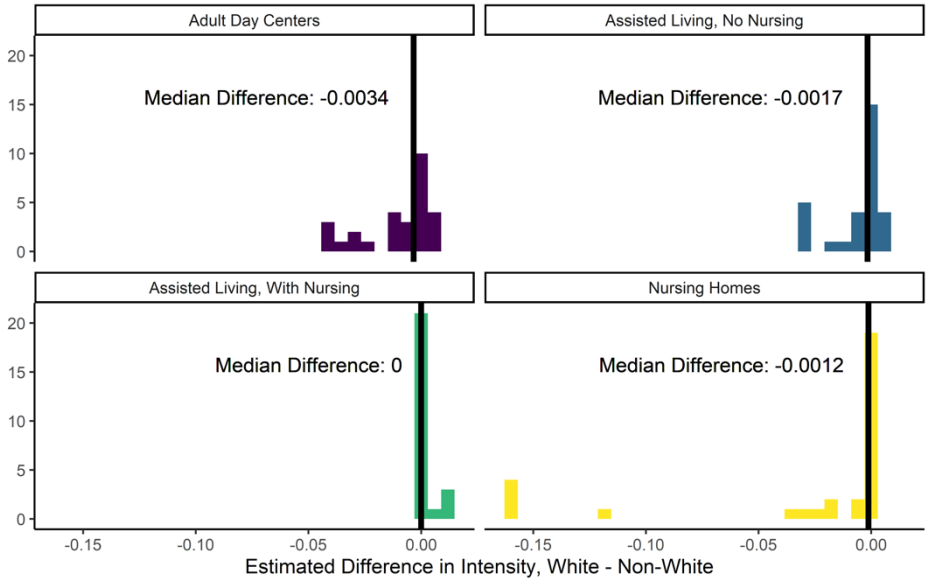
Figure 7 Estimates of Differences in LTC Facility Intensity (per 10km^2) between Majority White and Non-White Areas in the Continental US, 2020



Note: The results displayed reflect the estimates from separate regressions for each state and D.C. by facility type (4x49 = 196). Estimates can be interpreted as the number of facilities per 10km^2 in a majority White area minus the number in a majority non-White area of the state, controlling for population density. The distributions are heavily skewed left with outliers beyond the reported range above. For these visualizations we recoded outliers to the 5th and 95th percentile. A full tabular reporting of estimates by state (without recoding) is available in Appendix Table A4.

In Figure 8, we graphically report estimated differences for 2020 again with controls for socioeconomic differences between areas (Aim 3). After controlling for these factors, the estimated differences between White and non-White areas are still negative but are much smaller (in absolute value), falling by 90 percent to 100 percent. This suggests that estimates without these controls are primarily capturing racial differences in educational attainment, home values, labor force participation, unemployment, disability, poverty rates, age distribution or access to transportation.

Figure 8 Estimated Difference in LTC Facility Intensity (per 10km^2) between Majority White and Non-White Areas in the Continental US in 2020, with Socioeconomic Controls



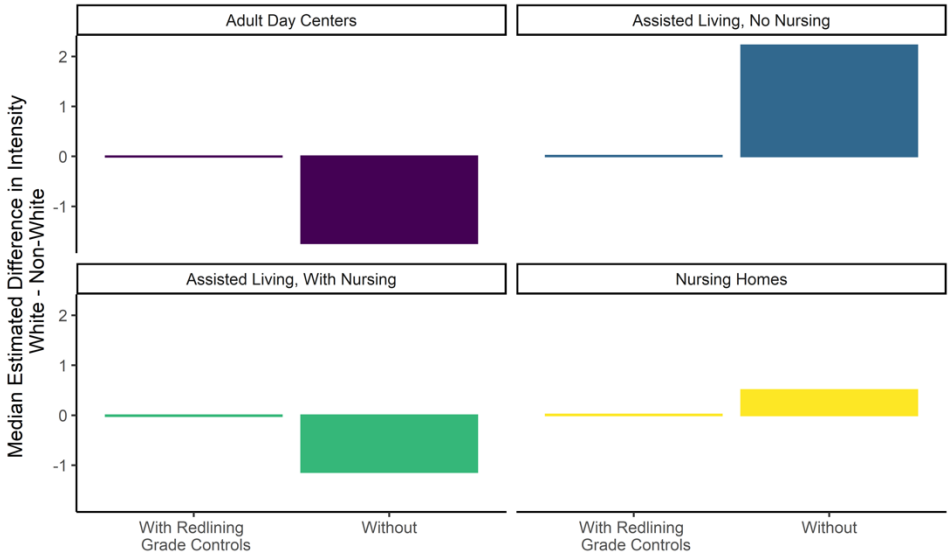
Note: The results displayed reflect the estimates from separate regressions for each state and D.C. by facility type (4x49 = 196). Estimates can be interpreted as the number of facilities per 10km^2 in a majority White area minus the number in a majority non-White area of the state, controlling for population density, individuals with disabilities per 1,000, share of persons with a high school education or above, median home value, labor force participation rate, unemployment rate, share of families with annual income below the federal poverty level, and share of households with no vehicle available. The distributions are heavily skewed left with outliers beyond the reported range above. For these visualizations we recoded outliers to the 5th and 95th percentile. A full tabular reporting of estimates by state (without recoding) is available in Appendix Table A4.

3.3 Accounting for Historical Redlining Grades

To further unpack the reasons for spatial variation by racial characteristics of local areas, we present estimates that control for historical redlining grades (Aim 3). These grades are only available for 142 metropolitan areas, so we first replicate analyses from Figure 7 for only these limited number of areas (controlling only for population density), then provide estimates after adding redlining grades. In attempting this estimation, we encountered many areas where the model would not converge when we controlled for redlining grades, generally due to too little variation in grades to identify the parameters. For accurate comparisons, we restrict the sample of areas to only those where we were able to produce estimates when controlling for redlining grades. In total, there are 12 cities behind the estimates for adult day centers, 22 for assisted living without nursing, 8 for assisted living with nursing, and 25 for nursing homes. We provide a full tabular reporting of estimates for all areas in Appendix Table A5.

Estimates based only on cities are quite different from estimates we produced by state, though this could reflect the limited sample for which we are able to obtain estimates. The estimates indicate assisted living without nursing care and nursing homes are relatively more abundant in predominantly White than non-White areas. Conversely, the densities of adult day centers and assisted living without nursing are higher in non-White areas. When we control for the historical redlining grades that created systematic differences in access to mortgages in these communities, all estimated gaps between White and non-White areas are much smaller (in absolute value), meaning most of the estimated disparity when we do not control for redlining grades may be attributable to that legacy of systemic racism in lending (though we were unable to simultaneously control for other demographic characteristics of local areas for this analysis).

Figure 9 Analysis of Spatial Patterns for Cities Only, 2020

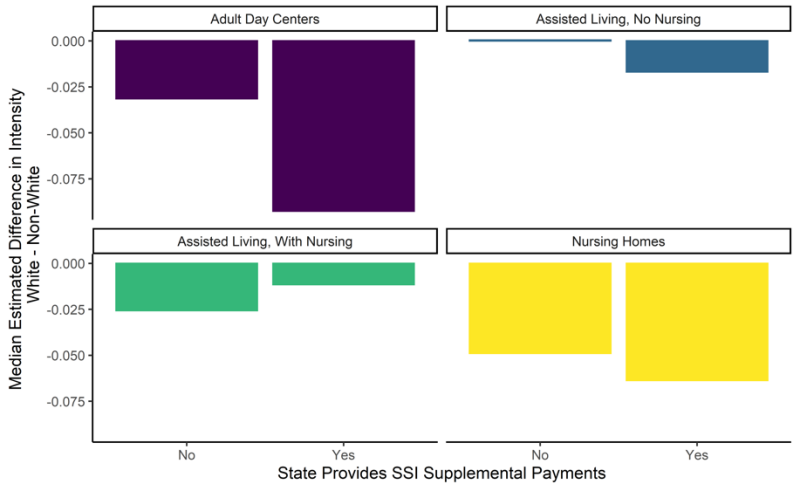


Note: Figure reports the median estimate across a consistent set of cities within each panel for which estimates could be produced, controlling for population density. The number of cities behind the estimates in each panel are: 12 for Adult Day Centers, 22 for Assisted Living without Nursing, 8 for Assisted Living with Nursing, and 25 for Nursing Homes. A full tabular reporting of estimates by city is provided in Appendix Table A5.

3.4 Estimated Policy Moderation

In this section, we explore whether two sets of policies – state supplements to federal SSI payments and HCBS waivers – appear to moderate the relationship we have estimated between racial landscapes of local areas and the patterns of long-term care facility locations. First, we present estimates based only on cross-state variation in 2020.

Figure 10 Differences in LTC Facility Intensities by State SSI Supplementation (controlling for population density), 2020



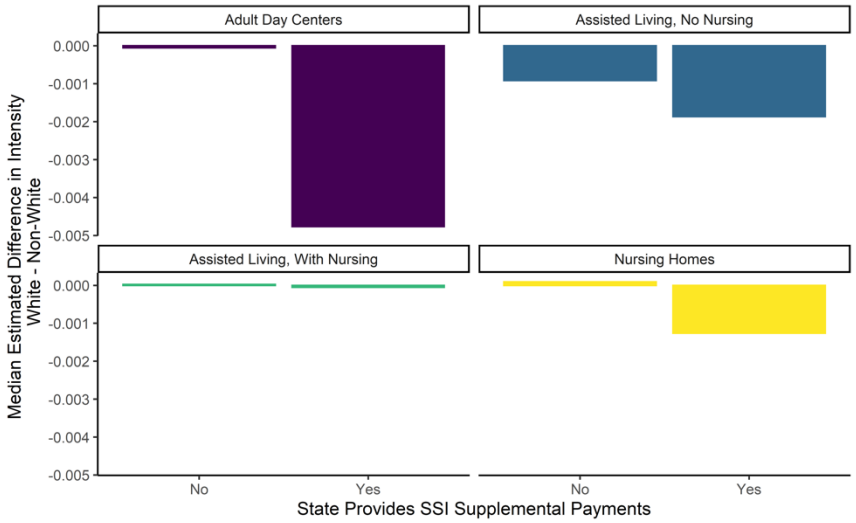
Note: Figure reports the median estimate across 48 states and D.C., controlling for population density. A full tabular reporting of estimates by city is provided in Appendix Table A6.

Figure 10 compares estimated gaps in facility intensity in 2020 between predominantly White and non-White areas in states that do and do not provide supplemental payments to SSI recipients based on models that control only for population density. Interestingly, we find the median estimate in states that do supplement SSI is much more negative for adult day centers than for states that do not. This means adult day centers are even more abundant in predominantly non-White areas of states that supplement SSI relative to their abundance in White areas of those same states. The same pattern exists for assisted living without nursing and nursing homes, but the median estimated difference is smaller for the assisted living facilities and the difference between states that do and do not supplement SSI is less pronounced for nursing homes. Because monthly SSI benefits, and state supplements in particular, are small relative to the monthly cost of long-term care, it is reasonable to expect any policy moderation to be strongest for adult day centers.

Because these estimates are based only on cross-state variation and do not control for socioeconomic differences, they are likely imperfect measures of any underlying causal association between SSI supplements and facility location. Nonetheless, it is interesting that the median estimates of differences in nursing home intensity are quite similar across states that do and do not provide SSI supplements because this is what we would expect if the estimates were

causal. SSI payments (both federal and state supplements) to nursing home residents are substantially smaller than payments to community-dwelling persons. Any impact of SSI supplements on nursing homes would likely come only indirectly through effects on the abundance of other types of facilities.

Figure 11 Differences in LTC Facility Intensities by State SSI Supplementation Including Socioeconomic Controls, 2020



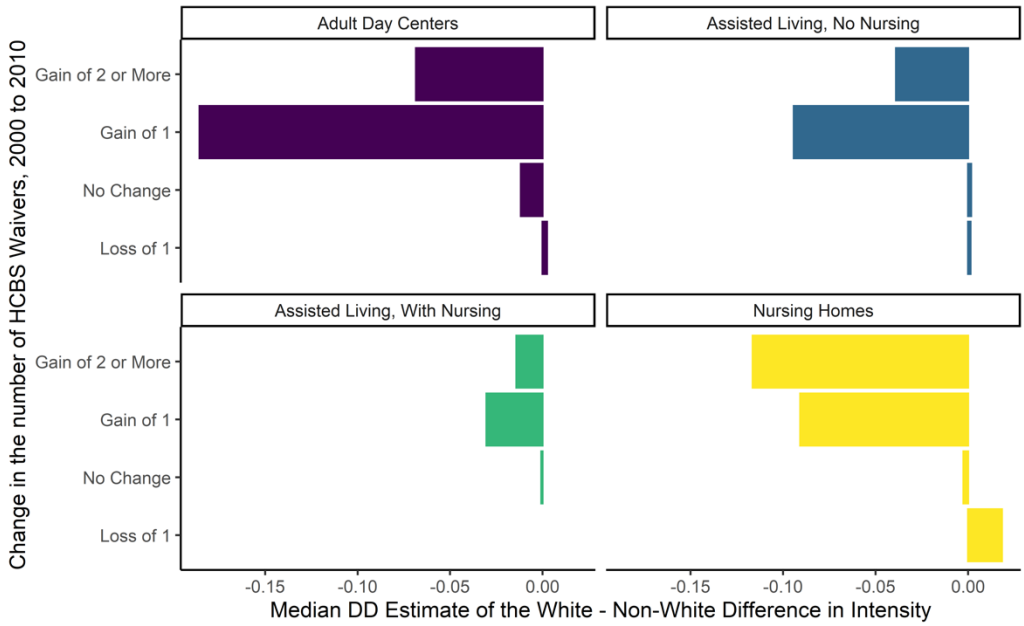
Note: Figure reports the median estimate across 48 states and D.C., controlling for population density, individuals with disabilities per 1,000, share of persons with a high school education or above, median home value, labor force participation rate, unemployment rate, share of families with annual income below the federal poverty level, and share of households with no vehicle available. A full tabular reporting of estimates by city is provided in Appendix Table A6.

When we examine the estimates based on models with socioeconomic controls (see Figure 11) the patterns across states that do and do not supplement SSI are the same for adult day centers and assisted living without nursing, though magnitudes of the medians are slightly different. Median estimates for assisted living with nursing when controlling for socioeconomic variables are effectively zero, and median estimates of differences in nursing home intensity are now positive (though close to zero) across states that do not supplement and negative across states that do, indicating nursing homes are relatively more abundant in White than in non-White areas in states that do not offer supplements and the reverse in states that do.

Next, we compare changes in estimates across decades by changes in states' participation in HCBS waiver programs. This approximates a difference-in-differences estimation strategy. Negative differences in estimates indicate facilities became more abundant in predominantly

non-White areas; positive differences indicate the opposite. We measure changes in the HCBS policy environment by changes in the number of waiver programs for which the state reports expenditures on CMS Form 64.

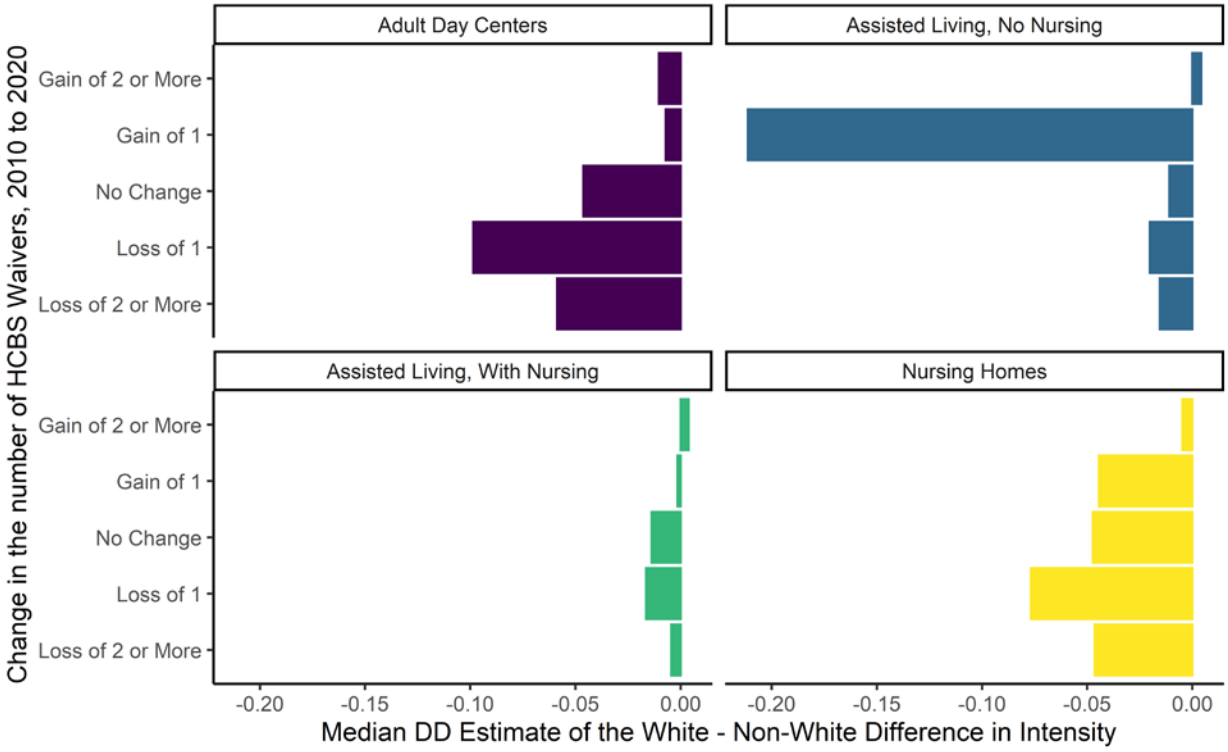
Figure 12 Median Difference in Differences Estimates by State HCBS Waivers, 2010 - 2000



Note: Figure reports the median difference-in-differences (across states and decades) estimate, controlling for population density. Appendix Table A7 reports the states in each policy category reflected on the y axis. DD estimates provide the change in the estimated disparity within each state across the decade, computed by differencing the estimates reported in Appendix Tables A2 and A3. Reported medians are computed by policy group.

Figures 12 and 13 summarize the median difference-in-differences (DD) estimates for the two decades. From 2000 to 2010, states that increased HCBS waiver participation had more negative DD estimates than states that did not change or reduced participation. This means the overall increases in facility intensity in non-White areas over this time period is coming primarily from states that increased HCBS waiver participation. However, waiver participation is non-random, and the patterns of estimates indicate the policy association may not be causal because patterns are similar for nursing homes which should be less effective (or even have an opposite effect). Moreover, in Figure 13 the estimates from 2010 to 2020 do not mirror the pattern in Figure 12. Overall, there is no clear association between HCBS waivers and the relative intensities of facilities across predominantly White and non-White areas.

Figure 13 Median Difference in Differences Estimates by State HCBS Waivers, 2020 – 2010

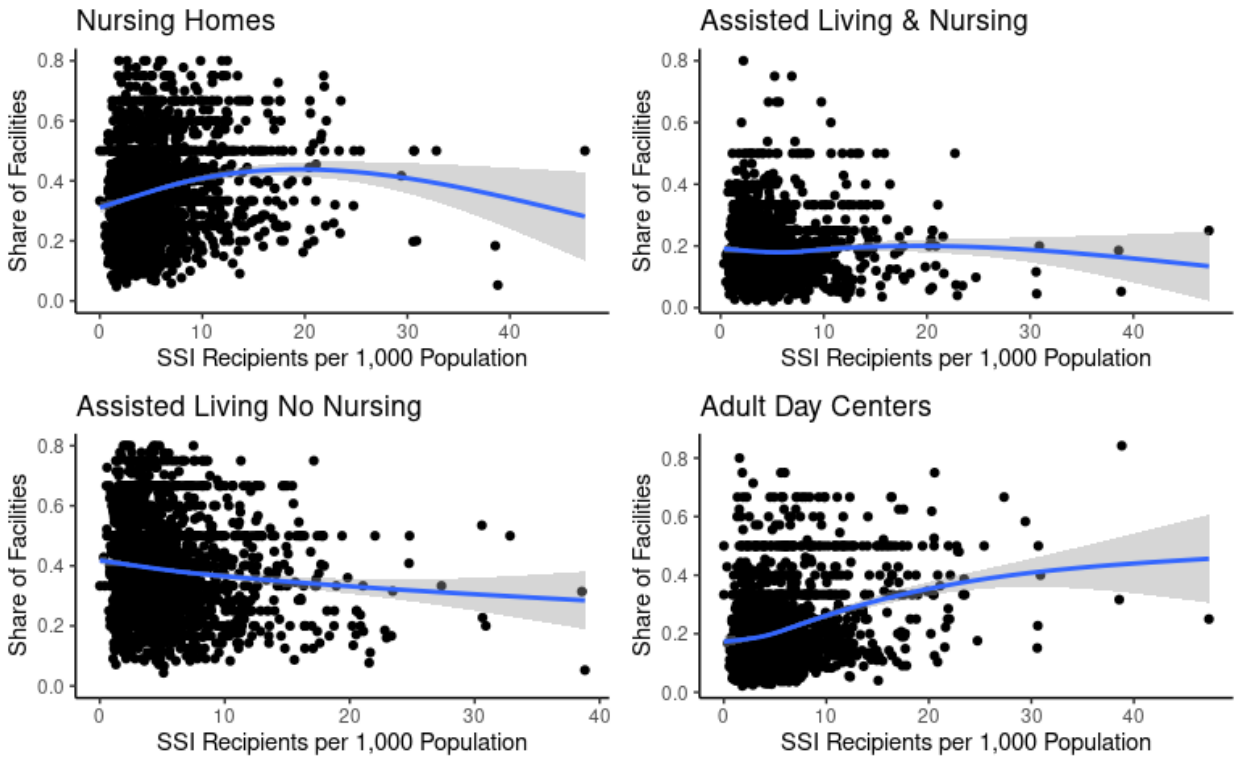


Note: Figure reports the median difference-in-differences (across states and decades) estimate, controlling for population density. Appendix Table A8 reports the states in each policy category reflected on the y axis. DD estimates provide the change in the estimated disparity within each state across the decade, computed by differencing the estimates reported in Appendix Tables A3 and A4. Reported medians are computed by policy group.

3.5 Association between Facility Relative Intensities and SSI Enrollment

Our policy analysis hypothesizes differences in state supplements to federal SSI payments may play a role in determining facility locations. If this relationship exists and is causal, we should expect to see different associations between facility intensities and SSI receipt. We examine these relationships for 2020 at the county level, comparing the number of SSI recipients age 65 and older per 1000 persons and the relative intensity (number of facilities of a given type divided by the total number of facilities) of each facility type. To capture potential complex nonlinear associations we use Locally Weighted Scatterplot Smoothing (LOWESS). The results are reported in Figure 14.

Figure 14 Associations between SSI Receipt and LTC Facility Mix (Share of Facilities)



Note: Analysis is conducted at the county level (based on availability of SSI enrollment data) and facility shares are computed from Infogroup business database, with types based on NAICS codes. Lines display LOWESS estimates of the bivariate relationship.

This exploratory analysis lends support to the hypothesis that local SSI receipt is differentially associated with LTC facility locations. The share of facilities that are nursing homes generally rises as the number of SSI recipients per 1000 persons increases. This is reasonable because the eligibility criteria for SSI and Medicaid are similar, if not the same. The direction of the relationship does reverse as SSI receipt rises above about 20 persons per 1000, but there are few counties with rates of receipt that high, and these exceptional points are driving the reversal in the association. Adult day centers also become more abundant as SSI receipt rises and, unlike nursing homes, the association appears to be monotonic. Neither type of assisted living facility exhibits as positive association with SSI receipt, and for assisted living without nursing, the association appears to be negative. These patterns are consistent with the high cost of care in these settings and the low purchasing power of SSI recipients.

4. Discussion

Prior research documenting systematic differences in LTC use by race combined with well-documented racial segregation in residential housing inspired the overall hypothesis for this study that LTC facilities may not be equally distributed across predominantly White and non-White local areas. Though persons in need of residential LTC may move out of their original neighborhood to obtain care, moves disrupt social relationships and community ties so all else equal, one might prefer to find care closer to home. If certain types of care are systematically less prevalent in predominantly non-White communities, then lack of availability could contribute to disparate access and use. Conversely, if some types of care are much more abundant than others in predominantly non-White communities, then that relative abundance could also explain disparities in use.

Using a novel dataset with precise locations of nursing homes, two types of assisted living facilities, and adult day facilities, as well as a zoneless approach to measuring racial composition of local areas, we find strong evidence of differences in the abundance of facilities across predominantly White and non-White areas. Using data across the continental U.S., we found that in unadjusted models, LTC facilities of all types were more abundant in predominantly non-White than in predominantly White areas. This finding is consistent with our hypotheses related to adult centers and nursing homes, but it is not consistent with our hypothesis related to assisted living facilities. For instance, research suggests that White older adults are overrepresented in assisted living facilities (Harris-Kojetin et al., 2019; Jenkins Morales and Robert, 2020) and that assisted living facilities are more likely to be located in higher income areas with a larger proportion of White residents (Cornell et al., 2020).

Yet, when we analyzed data only in metropolitan and micropolitan statistical areas (referred to as cities in this report), which include far fewer rural areas, we find patterns consistent with our expectations. In U.S. cities, our estimates indicate that predominantly non-White areas have approximately 1.7 more adult day centers per $10km^2$ than predominantly White areas; however, White areas have approximately 2.2 more assisted living facilities (without nursing care). Differences for nursing homes and assisted living with nursing are smaller, though estimates should be interpreted with caution because models converged only for a subset of cities. We can thus infer that there are different patterns in the geographic distribution of assisted living facilities, with cities having more located in White areas, and rural areas having more

located in non-White areas. This is an interesting finding that needs to be examined in more detail with future research.

We also find that controlling for socioeconomic characteristics of local areas substantially mediates estimated racial disparities in the spatial distribution of LTC facilities (Aim 3). This is expected because the neighborhoods in which people reside are not distributed evenly by race, and non-White individuals are more likely to live in lower socioeconomic neighborhoods, even controlling for their own socioeconomic status (Ailshire and Garcia, 2018). This mediation effect also suggests that differences in socioeconomic characteristics help explain why LTC facilities are more likely to locate in non-White areas. We explicitly examine the association between the racial landscape and the spatial distribution of LTC facilities *before and after* adjusting for socioeconomic characteristics because we learn something different from each model. The unadjusted model tells us if residents of predominately non-White local areas are less likely to have access to a given LTC facility; whereas the adjusted model tells us if potential racial differences are explained by disparities in health and socioeconomic resources that are rooted in a legacy of systemic racism. Since race is socially constructed, we would not expect any racial differences in the absence of systemic racism. Although we control for some factors that differ by race due to a legacy of systemic racism (e.g., share of families with annual income below the federal poverty level, unemployment rate, median home value, age ratio, etc.) there are a variety of other factors that we do not control for (e.g., differences in care preferences, exclusionary zoning policies, discriminatory practices by developers). Therefore, it is not surprising that even in the adjusted models, we find that LTC facilities are not equally distributed across predominantly White and non-White local areas.

Our socioeconomic controls also imperfectly capture the ability to pay for LTC, and we do not have information about zoning restrictions to incorporate into these models. Future research could build on this exploratory work to add information about zoning and refine the measures of socioeconomic factors, including examining measures of socioeconomic factors at different levels of geography.

We also analyzed the potential mediating role of historical redlining and found, consistent with expectations, that all race-based differences are smaller (in absolute value) after controlling for historical redlining. These findings suggest at least some of the differences we find in the racial disparities in the distribution of LTC facilities may be attributable to the lasting

effects of systemic racism in home mortgage loan policies. Though long-term care is very expensive across all states, public support to help low-income individuals and families pay for care varies significantly across states – and even within states. Our analysis indicates that states' policy regimes may influence LTC facility locations. In states with more generous supplements to SSI and with higher proportions of total Medicaid LTC spending allocated to HCBS, the differences we find in facility abundance between predominantly White and non-White areas are smaller than in states that do not offer SSI supplements or that spend less on HCBS. These results are in keeping with our expectation that these state level policies support equity in access to LTC.

4.1 Limitations

Our analysis is subject to several important limitations. Most notably, for several states and cities we analyzed, our Poisson point-process models failed to converge. This suggests a more complex spatial association may be present and further refinement of models is needed. Specifically, in states with very rural and very urban extremes where the assumption of spatial homogeneity is strongly violated, our models do not capture the variation in facility locations well. Further methodological work is needed to refine this approach. Nonetheless, we believe this work demonstrates the potential for finer levels of spatial granularity in the literature that explores the impact of neighborhood characteristics on health and LTC infrastructure.

While we focused on the important issue of the spatial distribution of LTC facilities, we did not assess differences in quality of those LTC facilities or the racial distribution within the facilities. One study suggests that Black assisted living residents are more likely to have higher levels of acuity and are more likely to live in assisted living facilities with fewer White residents and a higher proportion of residents with Medicaid (Fabius and Thomas, 2019). Another recent study found that Black and Hispanic assisted living residents were three times as likely to be dual eligible for Medicaid and Medicare than Whites, and that dual eligible residents were more likely to experience adverse health outcomes (Temkin-Greener et al., 2021). Even less is known about racial disparities in the quality of adult day centers. The first nationally representative study to examine differences in adult day centers by racial/ethnic case mix found that centers serving predominantly people of color were more likely to be for-profit, receive a higher percent of revenue from Medicaid, and provide transportation services compared to predominately non-

Hispanic White centers (Lendon et al., 2021). Future work needs to attend to racial disparities in the geographic distribution of high-quality LTC facilities.

4.2 Implications

The results of this project have implications for future research and policy. The methods we used have typically not been used in social science research and our successes, as well as our challenges, can inform future work. For instance, using spatial intensity as our dependent variable rather than having facilities as the unit of analysis provides a new contribution to the literature by retaining areas without any facilities, but also makes it more challenging to situate our findings in the current literature. Our use of SocScape data to map racial segregation and diversity can also inform future work in this area. Although this project only examines differences between White and non-White local areas in our regression analyses, SocScape data are a valuable free resource for researchers to examine a variety of racial and ethnic differences.

Our results related to state SSI supplements, although not causal, suggest supplementation may reduce disparities in access to LTC options. We attempted to gather specific supplement amounts to probe this result by generosity of the state supplement. At time of writing, these efforts are ongoing and pending FOIA requests in several states. We find no consistent association with HCBS waiver participation.

For SSA, this project provides a comprehensive look at the facilities that serve persons with long-term care needs, many of whom receive OASI, SSDI, or SSI. We find dramatic changes in the mix of facilities from 2000 to 2020, with a very large increase in assisted living facilities without nursing. Care in assisted living facilities is very expensive, and rising costs have outpaced inflation over our study period. Since SSI benefits have not kept pace with inflation and continue to be small relative to the costs of care in community-based settings and waitlists for Medicaid HCBS continue to grow (Musumeci et al., 2019), it is reasonable to assume the ability to pay for needed services is falling. Our work provides preliminary evidence that indicates the characteristics of the local population may lead to differential LTC investment, exacerbating disparities in health by race and socioeconomic status. The mechanism for this association may be differences in ability to pay for long-term care. SSI, SSDI, and OASI benefits may help individuals with these costs, but prior research indicates that many with long-term care needs rely on housing wealth to achieve care in community-based facilities like assisted living (Willink et al., 2019). Our work contributes to that literature in finding differences in facility

locations across communities are explained in part by the legacy of discriminatory mortgage lending during the era of redlining. Redlining created a legacy of differential housing wealth across predominantly White and non-White communities. Because housing wealth plays an important role in ability to pay for long-term care, it is not surprising we find redlining mediates the association between local racial composition and LTC facility locations.

5. Conclusion

This study demonstrated that there is uneven geographical distribution of LTC facilities (nursing homes, assisted living facilities, and adult day centers) across the U.S. We examined whether the geographic distribution of LTC facilities was associated with the racial landscape of local areas. Using data for the continental U.S., we found that LTC facilities of all types were more abundant in predominantly non-White areas than in White areas. However, estimates based only in metropolitan and micropolitan statistical areas indicate that adult day centers are relatively more abundant in predominantly non-White areas but that assisted living (without nursing) is less abundant in non-White areas. These results suggest that the geographic distribution of LTC facilities plays a role in producing racial disparities in LTC use. Moreover, we find demographically based differences in facility abundance are smaller (in absolute value) in states that provide supplemental payments to SSI recipients, but no association with HCBS waiver participation. These findings merit further analysis. HCBS waivers in theory should make long-term care more affordable to low-income persons and families but there is substantial local variation in program operations and access (e.g. waiting lists may restrict participation in some counties). The methods used in this paper are well-suited to analyzing policy differences at a more granular level. The key limitation is availability of comparable policy measures at local levels.

Our estimates indicate that in cities, nursing homes are more equally distributed across areas with different demographics than other types of facilities; the fact that they are more abundant in non-White than White areas when we analyze the entire continental US suggests that there may be rural/urban differences in how the racial composition of place affects LTC distribution. However, our state-based analysis as a whole produced methodological challenges in finding parsimonious models to fit states with very rural and very urban areas. Future work may be able to improve upon our estimates by adopting more complex models and estimators that are better suited to violations of spatial homogeneity.

References

Ailshire, J., and Garcia, C. (2018). Unequal places: The impacts of socioeconomic and race/ethnic differences in neighborhoods. *Generations*, *42*(2), 20–27. https://www.ingentaconnect.com/contentone/asag/gen/2018/00000042/00000002/art00004

An, B., Orlando, A. W., and Rodnyansky, S. (2019). The Physical Legacy of Racism: How Redlining Cemented the Modern Built Environment. *SSRN Electronic Journal*, *September*. https://doi.org/10.2139/ssrn.3500612

Archibald, N. D., Kruse, A. M., and Somers, S. A. (2018). The emerging role of managed care in long-term services and supports. *Public Policy and Aging Report*, *28*(2), 64–70. https://doi.org/10.1093/ppar/pry011

Brown, E. L., Friedemann, M., and Mauro, A. C. (2014). *Use of Adult Day Care Service Centers in an Ethnically Diverse Sample of Older Adults*. https://doi.org/10.1177/0733464812460431

Cai, X., and Temkin-Greener, H. (2015). Evidence of racial/ethnic disparities or differences? *Medical Care*, *53*(7), 18–20. https://doi.org/10.1097/MLR.0000000000000379

Campbell, L. J., Cai, X., Gao, S., and Li, Y. (2016). Racial/ethnic disparities in nursing home quality of life deficiencies, 2001 to 2011. *Gerontology and Geriatric Medicine*, *2*, 1–9. https://doi.org/10.1177/2333721416653561

Chen, S. (2020). Caring for Mom: Establishing Statutory Rights for Elder Care Facilities. *American Journal of Law and Medicine*, *46*(1), 111–132. https://doi.org/10.1177/0098858820919555

Cornell, P. Y., Zhang, W., Smith, L., Fashaw, S., and Thomas, K. S. (2020). Developments in the market for assisted living: Residential care availability in 2017. *JAMDA*, *21*, 1718–1723. https://doi.org/10.1016/j.jamda.2020.08.011

Crossley, M. (2018). Bundling justice: Medicaid's support for housing. *The Journal of Law, Medicine and Ethics*, *46*, 595–601. https://doi.org/10.1177/1073110518804209

Eiken, S., Sredl, K., Burwell, B., and Amos, A. (2018). *Medicaid Expenditures for Long-Term Services and Supports in FY 2016*. http://www.nhpf.org/library/the-basics/Basics_LTSS_03-27-14.pdf.

Fabius, C. D., Cornell, P. Y., Zhang, W., and Thomas, K. S. (2022). State Medicaid financing and access to large assisted living settings for Medicare–Medicaid dual-eligibles. *Medical Care Research and Review*, *79*(1), 69–77. https://doi.org/10.1177/1077558720987666

Fabius, C. D., and Thomas, K. S. (2019). Examining Black-White disparities among Medicare beneficiaries in assisted living settings in 2014. *Journal of the American Medical Directors Association*, *20*, 703–709. https://doi.org/10.1016/j.jamda.2018.09.032

Feng, Z., Fennell, M. L., Tyler, D. A., Clark, M., and Mor, V. (2011a). Growth of racial and ethnic minorities in us nursing homes driven by demographics and possible disparities in options. *Health Affairs*, *30*(7), 1358–1365. https://doi.org/10.1377/hlthaff.2011.0126

Feng, Z., Lepore, M., Clark, M. A., Tyler, D., Smith, D. B., Mor, V., and Fennell, M. L. (2011b). Geographic concentration and correlates of nursing home closures: 1999-2008. *Archives of Internal Medicine*, *171*(9), 806–813. https://doi.org/10.1001/archinternmed.2010.492

Fields, N. L., Anderson, K. A., and Dabelko-Schoeny, H. (2014). The effectiveness of adult day services for older adults: A review of the literature from 2000 to 2011. *Journal of Applied Gerontology*, *33*(2), 130–163. https://doi.org/10.1177/0733464812443308

Freedman, V. A., and Spillman, B. C. (2014). The residential continuum from home to nursing home: Size, characteristics and unmet needs of older adults. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 69*(7), S42–S50. https://doi.org/10.1093/geronb/gbu120

Genworth Financial. (2022). *2021 Genworth Cost of Care Survey*. https://www.genworth.com/about-us/industry-expertise/cost-of-care.html

Grabowski, D. C., Stevenson, D. G., and Cornell, P. Y. (2012). Assisted living expansion and the market for nursing home care. *Health Services Research, 47*(6), 2296–2315. https://doi.org/10.1111/j.1475-6773.2012.01425.x

Harris-Kojetin, L., Sengupta, M., Lendon, J. P., Rome, V., Valverde, R., and Caffrey, C. (2019). *Long-term Care Providers and Services Users in the United States, 2015-2016* (Vol. 3, Issue 43). https://www.cdc.gov/nchs/nsltcp/index.htm

Jenkins Morales, M., Miller, V. J., and Hamler, T. (2021). Dismantling systemic racism in long-term services and supports : A call to action for social workers. *Journal of Gerontological Social Work*. https://doi.org/10.1080/01634372.2021.1942375

Jenkins Morales, M., and Robert, S. A. (2020). Black-White disparities in moves to assisted living and nursing homes among older Medicare beneficiaries. *J Gerontol B Psychol Sci Soc Sci*, *75*(9), 1972–1982. https://doi.org/10.1093/geronb/gbz141

Joint Center for Housing Studies. (2019). *Housing America's Older Adults*. https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Housing_Americas_Older_Adults_2019.pdf

Kasper, J. D., Wolff, J. L., and Skehan, M. (2018). Care arrangements of older adults: What they prefer, what they have, and implications for quality of life. *The Gerontologist*, *59*(5), 1–11. https://doi.org/10.1093/geront/gny127

Kim, M. H., Clarke, P. J., and Dunkle, R. E. (2022). Urban Neighborhood Characteristics and the Spatial Distribution of Home and Community-Based Service Organizations in Michigan Metropolitan Statistical Areas. *Research on Aging*, *44*(2), 156–163. https://doi.org/10.1177/01640275211005079

Kim, Min Hee, and Xiaoling Xiang. "Hospitalization trajectories in home-and community-based services recipients: the influence of physician and social care density." *The Journals of Gerontology: Series B* 76.8 (2021): 1679-1690.

Konetzka, T., and Werner, R. M. (2009). Disparities in Long-Term Care: Building Equity into Policy. *Medical Care Research and Review*, *66*(5), 491–521. https://www.researchgate.net/publication/239921906

Lendon, J. P., Rome, V., and Sengupta, M. (2021). Variations between adult day services centers in the United States by the racial and ethnic case-mix of center participants. *Journal of Applied Gerontology*, *40*(9), 1029–1038. https://doi.org/10.1177/0733464820934996

Lewis, E., Eiken, S., Amos, A., and Saucier, P. (2018). *The Growth of Managed Long-Term Services and Supports Programs: 2017 Update*. https://www.medicaid.gov/medicaid/managed-care/managed-long-term-services-and-supports/index.html

Li, Y., Harrington, C., Temkin-Greener, H., You, K., Cai, X., Cen, X., and Mukamel, D. B. (2015). Deficiencies in care at nursing homes and racial/ethnic disparities across homes fell, 2006-11. *Health Affairs*, *34*(7), 1139–1146. https://doi.org/10.1377/hlthaff.2015.0094

Lynch, E. E., Malcoe, L. H., Laurent, S. E., Richardson, J., Mitchell, B. C., and Meier, H. C. S. (2021). The legacy of structural racism: Associations between historic redlining, current

mortgage lending, and health. *SSM - Population Health*, *14*. https://doi.org/10.1016/j.ssmph.2021.100793

Mossello, E., Caleri, V., Razzi, E., Bari, M. Di, Cantini, C., Tonon, E., Lopilato, E., Marini, M., Simoni, D., Cavallini, M. C., Biagini, C. A., and Masotti, G. (2008). Day Care for older dementia patients: Favorable effects on behavioral and psychological symptoms and caregiver stress. *International Journal of Geriatric Psychiatry*, *23*, 1066–1072. https://doi.org/10.1002/gps

Musumeci, M., Chidambaram, P., and O'Malley Watts, M. (2019). *Key Questions About Medicaid Home and Community-Based Services Waiver Waiting Lists*. http://files.kff.org/attachment/Issue-Brief-Key-Questions-About-Medicaid-Home-and-Community-Based-Services-Waiver-Waiting-Lists

Parker, L. J., and Fabius, C. D. (2020). *Racial Differences in Respite Use among Black and White Caregivers for People Living with Dementia*. https://doi.org/10.1177/0898264320951379

Parker, L. J., and Gitlin, L. N. (2021). *Does Adult Day Service Use Improve Well-Being of Black Caregivers of People Living With Dementia ? 5*(4), 1–7.

Shippee, T. P., Akosionu, O., Ng, W., Woodhouse, M., Duan, Y., Thao, M. S., and Bowblis, J. R. (2020). COVID-19 pandemic: Exacerbating racial/ethnic disparities in long-term services and supports. *Journal of Aging and Social Policy*, *32*(4–5), 323–333. https://doi.org/10.1080/08959420.2020.1772004

Sloane, P. D., Yearby, R., Konetzka, R. T., Li, Y., Espinoza, R., and Zimmerman, S. (2021). Addressing Systemic Racism in Nursing Homes: A Time for Action. *Journal of the American Medical Directors Association*, *22*(4), 886–892. https://doi.org/10.1016/j.jamda.2021.02.023

Smith, D. B., Feng, Z., Fennel, M. L., Zinn, J. S., and Mor, V. (2007). Separate and unequal: Racial segregation and disparities in quality across U.S. nursing homes. *Health Affairs*, *26*(5), 1448–1458. https://doi.org/10.1377/hlthaff.26.5.1448

Smith, D. B., Feng, Z., Fennell, M. L., Zinn, J., and Mor, V. (2008). Racial disparities in access to long-term care: The illusive pursuit of equity. *Journal of Health Politics*, *33*(5). https://doi.org/10.1215/03616878-2008-022

Social Security Administration. (2022a). *Supplemental Seucirty Income (SSI) in California. https://www.ssa.gov/pubs/EN-05-11108.pdf*

Social Security Administration. (2022b). *Supplemental Security Income (SSI) in Hawaii*. https://www.ssa.gov/pubs/EN-05-11108.pdf

Sowers, M., Claypool, H., and Musumeci, M. (2016). *Streamlining Medicaid Home and Community-Based Services: Key Policy Questions*.

Stevenson, David G., and David C. Grabowski. "Sizing up the market for assisted living." *Health Affairs* 29.1 (2010): 35-43.

Temkin-Greener, H., Mao, Y., McGarry, B., Zimmerman, S., and Li, Y. (2021). Health Care Use and Outcomes in Assisted Living Communities: Race, Ethnicity, and Dual Eligibility. *Medical Care Research and Review*. https://doi.org/10.1177/10775587211050189

Tumlinson, A., Burke, M., and Alkema, G. (2018). *The CHRONIC Care Act of 2018: Advancing Care for Adults with Complex Needs*. www.TheSCANFoundation.org

U.S. Department of Health and Human Services. (2019). *What is the Lifetime Risk of Needing and Receiving Long-Term Services and Supports?* https://aspe.hhs.gov/basic-report/what-lifetime-risk-needing-and-receiving-long-term-services-and-supports

Willink, A., Davis, K., Mulcahy, J., Wolff, J. L., and Kasper, J. (2019). *The Financial Hardship Faced by Older Americans Needing Long-Term Services and Supports*. https://www.commonwealthfund.org/sites/default/files/2019-01/Willink_financial_hardship_older_americans_LTSS_ib_0.pdf

Wang, Yun, Qiuli Zhang, Erica S. Spatz, Yan Gao, Sheila Eckenrode, Florence Johnson, Shih-Yieh Ho, Shuang Hu, Chao Xing, and Harlan M. Krumholz. "Persistent geographic variations in availability and quality of nursing home care in the United States: 1996 to 2016." *BMC geriatrics* 19, no. 1 (2019): 1-11.

Appendix

Table A1 Share of LTC Facilities by Type Within State, 2000, 2010 and 2020

State	Year	Adult Day Centers	Assisted Living and Nursing	Assisted Living, No Nursing	Nursing Homes
AL	2000	0.15	0.27	0.21	0.38
AL	2010	0.21	0.11	0.28	0.41
AL	2020	0.22	0.12	0.3	0.36
AR	2000	0.04	0.17	0.28	0.51
AR	2010	0.17	0.14	0.3	0.39
AR	2020	0.19	0.15	0.34	0.33
AZ	2000	0.16	0.35	0.19	0.31
AZ	2010	0.16	0.14	0.39	0.3
AZ	2020	0.14	0.15	0.46	0.25
CA	2000	0.05	0.34	0.37	0.23
CA	2010	0.12	0.18	0.44	0.26
CA	2020	0.12	0.16	0.38	0.35
CO	2000	0.26	0.33	0.14	0.27
CO	2010	0.25	0.18	0.29	0.28
CO	2020	0.19	0.15	0.39	0.27
CT	2000	0.09	0.2	0.17	0.53
CT	2010	0.27	0.17	0.23	0.32
CT	2020	0.26	0.2	0.3	0.23
DC	2000	0.12	0.2	0.21	0.48
DC	2010	0.12	0.17	0.22	0.49
DC	2020	0.14	0.18	0.26	0.42
DE	2000	0.04	0.3	0.39	0.26
DE	2010	0.13	0.13	0.36	0.38
DE	2020	0.15	0.19	0.34	0.31
FL	2000	0.12	0.47	0.2	0.22
FL	2010	0.14	0.24	0.34	0.29
FL	2020	0.16	0.2	0.4	0.23
GA	2000	0.11	0.28	0.12	0.49
GA	2010	0.17	0.12	0.25	0.46
GA	2020	0.17	0.12	0.32	0.39
IA	2000	0.17	0.25	0.14	0.44
IA	2010	0.15	0.15	0.3	0.4
IA	2020	0.14	0.18	0.35	0.33
ID	2000	0.23	0.31	0.23	0.23
ID	2010	0.21	0.09	0.45	0.24
ID	2020	0.17	0.11	0.45	0.27
IL	2000	0.15	0.19	0.14	0.51
IL	2010	0.16	0.15	0.23	0.46
IL	2020	0.13	0.17	0.3	0.39

Table A1 Share of LTC Facilities by Type Within State, 2000, 2010 and 2020 (Continued)

State	Year	Adult Day Centers	Assisted Living and Nursing	Assisted Living, No Nursing	Nursing Homes
IN	2000	0.12	0.22	0.16	0.49
IN	2010	0.12	0.13	0.32	0.43
IN	2020	0.1	0.17	0.34	0.39
KS	2000	0.06	0.21	0.36	0.37
KS	2010	0.15	0.15	0.4	0.3
KS	2020	0.14	0.16	0.42	0.27
KY	2000	0.23	0.22	0.1	0.45
KY	2010	0.23	0.1	0.18	0.48
KY	2020	0.21	0.14	0.27	0.38
LA	2000	0.17	0.19	0.1	0.54
LA	2010	0.25	0.07	0.16	0.52
LA	2020	0.21	0.1	0.25	0.44
MA	2000	0.13	0.21	0.16	0.5
MA	2010	0.16	0.15	0.24	0.44
MA	2020	0.18	0.16	0.34	0.31
MD	2000	0.14	0.23	0.26	0.38
MD	2010	0.14	0.12	0.31	0.43
MD	2020	0.14	0.12	0.41	0.33
ME	2000	0.07	0.41	0.22	0.31
ME	2010	0.09	0.23	0.32	0.36
ME	2020	0.1	0.2	0.4	0.3
MI	2000	0.13	0.19	0.35	0.33
MI	2010	0.17	0.11	0.45	0.27
MI	2020	0.15	0.13	0.44	0.28
MN	2000	0.23	0.29	0.18	0.31
MN	2010	0.2	0.13	0.39	0.27
MN	2020	0.18	0.14	0.46	0.22
MO	2000	0.03	0.29	0.32	0.35
MO	2010	0.13	0.16	0.36	0.35
MO	2020	0.13	0.16	0.39	0.32
MS	2000	0.07	0.28	0.04	0.6
MS	2010	0.17	0.09	0.15	0.59
MS	2020	0.19	0.12	0.23	0.46
MT	2000	0.31	0.19	0.17	0.34
MT	2010	0.29	0.11	0.35	0.25
MT	2020	0.25	0.1	0.41	0.24
NC	2000	0.08	0.19	0.1	0.63
NC	2010	0.14	0.13	0.27	0.47
NC	2020	0.13	0.17	0.35	0.35
ND	2000	0.49	0.29	0.05	0.17
ND	2010	0.42	0.1	0.2	0.28
ND	2020	0.29	0.14	0.29	0.28

Table A1 Share of LTC Facilities by Type Within State, 2000, 2010 and 2020 (Continued)

State	Year	Adult Day Centers	Assisted Living and Nursing	Assisted Living, No Nursing	Nursing Homes
NE	2000	2000.000.14	0.31	0.23	0.32
NE	2010	0.17	0.14	0.39	0.3
NE	2020	0.18	0.19	0.4	0.23
NH	2000	0.08	0.42	0.22	0.27
NH	2010	0.1	0.22	0.34	0.35
NH	2020	0.13	0.21	0.41	0.25
NJ	2000	0.09	0.29	0.23	0.39
NJ	2010	0.18	0.14	0.25	0.42
NJ	2020	0.19	0.14	0.33	0.34
NM	2000	0.29	0.2	0.2	0.31
NM	2010	0.33	0.09	0.3	0.28
NM	2020	0.33	0.08	0.37	0.22
NV	2000	0.06	0.36	0.26	0.32
NV	2010	0.15	0.12	0.41	0.32
NV	2020	0.17	0.14	0.37	0.32
NY	2000	0.11	0.29	0.24	0.36
NY	2010	0.16	0.15	0.33	0.36
NY	2020	0.2	0.15	0.37	0.28
OH	2000	0.13	0.26	0.15	0.46
OH	2010	0.16	0.16	0.28	0.4
OH	2020	0.14	0.17	0.34	0.34
OK	2000	0.04	0.18	0.36	0.41
OK	2010	0.19	0.11	0.33	0.38
OK	2020	0.16	0.14	0.33	0.37
OR	2000	0.25	0.31	0.16	0.28
OR	2010	0.2	0.21	0.33	0.26
OR	2020	0.15	0.18	0.37	0.31
PA	2000	0.05	0.37	0.17	0.42
PA	2010	0.1	0.18	0.27	0.46
PA	2020	0.12	0.2	0.29	0.39
RI	2000	0.06	0.51	0.15	0.27
RI	2010	0.11	0.18	0.23	0.48
RI	2020	0.15	0.18	0.3	0.38
SC	2000	0.12	0.36	0.14	0.38
SC	2010	0.14	0.18	0.25	0.43
SC	2020	0.14	0.15	0.32	0.38
SD	2000	0.3	0.34	0.15	0.22
SD	2010	0.23	0.12	0.34	0.31
SD	2020	0.2	0.15	0.39	0.25
TN	2000	0.16	0.32	0.12	0.39
TN	2010	0.2	0.15	0.27	0.38
TN	2020	0.16	0.15	0.35	0.33

Table A1 Share of LTC Facilities by Type Within State, 2000, 2010 and 2020 (Continued)

State	Year	Adult Day Care	Assisted Living and Nursing	Assisted Living, No Nursing	Nursing Homes
TX	2000	0.12	0.19	0.2	0.48
TX	2010	0.2	0.13	0.28	0.38
TX	2020	0.18	0.14	0.32	0.37
UT	2000	0.23	0.24	0.12	0.41
UT	2010	0.25	0.11	0.27	0.36
UT	2020	0.21	0.12	0.35	0.32
VA	2000	0.04	0.29	0.22	0.45
VA	2010	0.11	0.14	0.3	0.45
VA	2020	0.15	0.15	0.37	0.32
VT	2000	0.06	0.45	0.22	0.28
VT	2010	0.06	0.26	0.35	0.32
VT	2020	0.12	0.28	0.39	0.21
WA	2000	0.24	0.25	0.25	0.27
WA	2010	0.19	0.2	0.35	0.26
WA	2020	0.15	0.18	0.45	0.22
WI	2000	0.13	0.3	0.25	0.31
WI	2010	0.13	0.14	0.51	0.22
WI	2020	0.1	0.14	0.56	0.19
WV	2000	0.06	0.13	0.21	0.6
WV	2010	0.08	0.05	0.34	0.53
WV	2020	0.11	0.07	0.33	0.49
WY	2000	0.38	0.28	0.08	0.25
WY	2010	0.41	0.12	0.18	0.29
WY	2020	0.35	0.14	0.23	0.29

Notes: Estimates report differences in the number of facilities per 10km^2 in areas predominately made up of the listed demographic group relative to areas that are uninhabited or non-residential. Differences compute the difference between estimates for predominately White minus predominantly non-White areas. Some models did not converge and therefore not all states have estimates reported for all facility type and demographic group combinations and some differences are missing.

Table A2 Estimated Differences in Facility Intensity (White – Non-White) Per 10km^2, 2000

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
AL	All Types	Non-White	0.55	0.46	0.65	NA
AL	All Types	White	0.50	0.38	0.65	-0.05
AL	Nursing Homes	Non-White	0.24	0.18	0.31	NA
AL	Nursing Homes	White	0.23	0.15	0.35	-0.01
AL	Assisted Living, With Nursing	Non-White	0.10	0.07	0.15	NA
AL	Assisted Living, With Nursing	White	0.08	0.05	0.14	-0.02
AL	Assisted Living, No Nursing	Non-White	0.11	0.08	0.16	NA
AL	Assisted Living, No Nursing	White	0.10	0.06	0.19	-0.01
AL	Adult Day Centers	Non-White	0.11	0.08	0.17	NA
AL	Adult Day Centers	White	0.08	0.04	0.16	-0.03
AR	All Types	Non-White	0.33	0.27	0.40	NA
AR	All Types	White	0.34	0.25	0.46	0.01
AR	Nursing Homes	Non-White	0.17	0.13	0.22	NA
AR	Nursing Homes	White	0.15	0.10	0.23	-0.02
AR	Assisted Living, With Nursing	Non-White	0.03	0.02	0.06	NA
AR	Assisted Living, With Nursing	White	0.04	0.02	0.12	0.01
AR	Assisted Living, No Nursing	Non-White	0.12	0.09	0.17	NA
AR	Assisted Living, No Nursing	White	0.12	0.07	0.20	-0.01
AR	Adult Day Centers	Non-White	0.02	0.01	0.04	NA
AR	Adult Day Centers	White	0.01	0.00	0.03	-0.01
AZ	All Types	Non-White	0.05	0.04	0.07	NA
AZ	All Types	White	0.11	0.08	0.15	0.06
AZ	Nursing Homes	Non-White	0.02	0.01	0.02	NA
AZ	Nursing Homes	White	0.04	0.03	0.07	0.03
AZ	Assisted Living, With Nursing	Non-White	0.02	0.01	0.02	NA
AZ	Assisted Living, With Nursing	White	0.02	0.01	0.04	0.01
AZ	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA
AZ	Assisted Living, No Nursing	White	0.02	0.01	0.05	0.01
AZ	Adult Day Centers	Non-White	0.02	0.01	0.03	NA
AZ	Adult Day Centers	White	0.03	0.01	0.05	0.01
CA	All Types	Non-White	0.26	0.24	0.28	NA
CA	All Types	White	0.18	0.16	0.20	-0.08
CA	Nursing Homes	Non-White	0.06	0.05	0.07	NA
CA	Nursing Homes	White	0.04	0.03	0.05	-0.02
CA	Assisted Living, With Nursing	Non-White	0.05	0.04	0.06	NA
CA	Assisted Living, With Nursing	White	0.03	0.03	0.04	-0.01
CA	Assisted Living, No Nursing	Non-White	0.12	0.11	0.14	NA
CA	Assisted Living, No Nursing	White	0.09	0.08	0.10	-0.03
CA	Adult Day Centers	Non-White	0.03	0.02	0.04	NA
CA	Adult Day Centers	White	0.02	0.01	0.03	-0.01
CO	All Types	Non-White	0.13	0.11	0.15	NA

Table A2 Estimated Differences in Facility Intensity, 2000 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
CO	All Types	White	0.07	0.05	0.09	-0.06
CO	Nursing Homes	Non-White	0.04	0.03	0.06	NA
CO	Nursing Homes	White	0.02	0.01	0.03	-0.02
CO	Assisted Living, With Nursing	Non-White	0.03	0.02	0.04	NA
CO	Assisted Living, With Nursing	White	0.02	0.01	0.03	-0.01
CO	Assisted Living, No Nursing	Non-White	0.01	0.01	0.02	NA
CO	Assisted Living, No Nursing	White	0.02	0.01	0.06	0.01
CO	Adult Day Centers	Non-White	0.05	0.04	0.07	NA
CO	Adult Day Centers	White	0.03	0.02	0.05	-0.02
CT	All Types	Non-White	5.13	4.10	6.43	NA
CT	All Types	White	1.62	1.11	2.35	-3.51
CT	Nursing Homes	Non-White	2.74	2.01	3.74	NA
CT	Nursing Homes	White	0.96	0.57	1.61	-1.78
CT	Assisted Living, With Nursing	Non-White	0.57	0.30	1.10	NA
CT	Assisted Living, With Nursing	White	0.36	0.14	0.93	-0.21
CT	Assisted Living, No Nursing	Non-White	1.07	0.66	1.72	NA
CT	Assisted Living, No Nursing	White	0.35	0.16	0.79	-0.72
CT	Adult Day Centers	Non-White	0.61	0.33	1.14	NA
CT	Adult Day Centers	White	0.52	0.14	1.98	-0.09
DC	All Types	Non-White	26.23	14.52	47.36	NA
DC	All Types	White	17.71	8.03	39.04	-8.52
DC	Nursing Homes	Non-White	14.12	6.34	31.43	NA
DC	Nursing Homes	White	12.90	4.39	37.95	-1.22
DC	Assisted Living, No Nursing	Non-White	4.75	1.19	19.00	NA
DC	Assisted Living, No Nursing	White	3.10	0.51	18.67	-1.66
DC	Adult Day Centers	Non-White	7.12	2.30	22.07	NA
DE	All Types	Non-White	3.64	2.37	5.58	NA
DE	All Types	White	2.33	1.20	4.54	-1.31
DE	Nursing Homes	Non-White	0.54	0.17	1.68	NA
DE	Nursing Homes	White	2.11	0.21	20.93	1.57
DE	Assisted Living, With Nursing	Non-White	1.52	0.79	2.93	NA
DE	Assisted Living, With Nursing	White	1.10	0.32	3.82	-0.42
DE	Assisted Living, No Nursing	Non-White	1.63	0.85	3.12	NA
DE	Assisted Living, No Nursing	White	0.67	0.26	1.70	-0.96
FL	All Types	Non-White	0.78	0.71	0.87	NA
FL	All Types	White	0.49	0.42	0.56	-0.30
FL	Nursing Homes	Non-White	0.19	0.15	0.23	NA
FL	Nursing Homes	White	0.16	0.12	0.22	-0.03
FL	Assisted Living, With Nursing	Non-White	0.27	0.22	0.32	NA
FL	Assisted Living, With Nursing	White	0.15	0.12	0.18	-0.12
FL	Assisted Living, No Nursing	Non-White	0.16	0.13	0.20	NA

Table A2 Estimated Differences in Facility Intensity, 2000 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
FL	Assisted Living, No Nursing	White	0.20	0.14	0.28	0.04
FL	Adult Day Centers	Non-White	0.14	0.11	0.17	NA
FL	Adult Day Centers	White	0.10	0.07	0.14	-0.04
GA	All Types	Non-White	0.88	0.78	1.00	NA
GA	All Types	White	0.52	0.44	0.62	-0.36
GA	Nursing Homes	Non-White	0.44	0.37	0.53	NA
GA	Nursing Homes	White	0.25	0.19	0.31	-0.20
GA	Assisted Living, With Nursing	Non-White	0.17	0.13	0.22	NA
GA	Assisted Living, With Nursing	White	0.07	0.05	0.10	-0.10
GA	Assisted Living, No Nursing	Non-White	0.11	0.08	0.15	NA
GA	Assisted Living, No Nursing	White	0.11	0.07	0.20	0.01
GA	Adult Day Centers	Non-White	0.14	0.10	0.19	NA
GA	Adult Day Centers	White	0.11	0.07	0.19	-0.03
IA	All Types	Non-White	0.62	0.51	0.75	NA
IA	All Types	White	0.68	0.34	1.36	0.06
IA	Nursing Homes	Non-White	0.21	0.15	0.29	NA
IA	Nursing Homes	White	0.05	0.02	0.18	-0.15
IA	Assisted Living, With Nursing	Non-White	0.09	0.06	0.15	NA
IA	Assisted Living, With Nursing	White	0.07	0.01	0.52	-0.03
IA	Assisted Living, No Nursing	Non-White	0.16	0.10	0.23	NA
IA	Assisted Living, No Nursing	White	0.10	0.02	0.41	-0.06
IA	Adult Day Centers	Non-White	0.16	0.11	0.24	NA
IA	Adult Day Centers	White	0.11	0.03	0.37	-0.05
ID	All Types	Non-White	0.05	0.04	0.06	NA
ID	All Types	White	0.06	0.03	0.11	0.01
ID	Nursing Homes	Non-White	0.01	0.01	0.02	NA
ID	Nursing Homes	White	0.02	0.00	0.07	0.00
ID	Assisted Living, With Nursing	Non-White	0.01	0.00	0.01	NA
ID	Assisted Living, With Nursing	White	0.01	0.00	0.03	0.00
ID	Assisted Living, No Nursing	Non-White	0.01	0.01	0.02	NA
ID	Assisted Living, No Nursing	White	0.01	0.00	0.05	0.00
ID	Adult Day Centers	Non-White	0.02	0.01	0.03	NA
ID	Adult Day Centers	White	0.01	0.01	0.03	-0.01
IL	All Types	Non-White	1.10	0.98	1.25	NA
IL	All Types	White	0.51	0.43	0.62	-0.59
IL	Nursing Homes	Non-White	0.58	0.49	0.68	NA
IL	Nursing Homes	White	0.27	0.21	0.35	-0.30
IL	Assisted Living, With Nursing	Non-White	0.15	0.11	0.21	NA
IL	Assisted Living, With Nursing	White	0.08	0.05	0.13	-0.07
IL	Assisted Living, No Nursing	Non-White	0.17	0.13	0.24	NA
IL	Assisted Living, No Nursing	White	0.10	0.06	0.17	-0.07

Table A2 Estimated Differences in Facility Intensity, 2000 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
IL	Adult Day Centers	Non-White	0.23	0.17	0.30	NA
IL	Adult Day Centers	White	0.07	0.05	0.11	-0.15
IN	All Types	Non-White	1.57	1.33	1.85	NA
IN	All Types	White	0.78	0.54	1.12	-0.79
IN	Nursing Homes	Non-White	0.67	0.53	0.85	NA
IN	Nursing Homes	White	0.50	0.30	0.83	-0.17
IN	Assisted Living, With Nursing	Non-White	0.30	0.21	0.44	NA
IN	Assisted Living, With Nursing	White	0.22	0.07	0.63	-0.09
IN	Assisted Living, No Nursing	Non-White	0.28	0.19	0.42	NA
IN	Assisted Living, No Nursing	White	0.19	0.07	0.52	-0.09
IN	Adult Day Centers	Non-White	0.29	0.20	0.43	NA
IN	Adult Day Centers	White	0.10	0.05	0.22	-0.19
KS	All Types	Non-White	0.17	0.14	0.20	NA
KS	All Types	White	0.14	0.09	0.20	-0.03
KS	Nursing Homes	Non-White	0.04	0.03	0.06	NA
KS	Nursing Homes	White	0.04	0.02	0.08	0.00
KS	Assisted Living, With Nursing	Non-White	0.02	0.01	0.03	NA
KS	Assisted Living, With Nursing	White	0.01	0.00	0.02	-0.01
KS	Assisted Living, No Nursing	Non-White	0.09	0.07	0.11	NA
KS	Assisted Living, No Nursing	White	0.06	0.03	0.11	-0.03
KS	Adult Day Centers	Non-White	0.02	0.01	0.04	NA
KS	Adult Day Centers	White	0.02	0.00	0.07	-0.01
KY	All Types	Non-White	1.08	0.90	1.29	NA
KY	All Types	White	0.35	0.23	0.56	-0.72
KY	Nursing Homes	Non-White	0.54	0.41	0.69	NA
KY	Nursing Homes	White	0.20	0.10	0.41	-0.34
KY	Assisted Living, With Nursing	Non-White	0.22	0.14	0.33	NA
KY	Assisted Living, With Nursing	White	0.25	0.09	0.67	0.03
KY	Assisted Living, No Nursing	Non-White	0.11	0.06	0.20	NA
KY	Assisted Living, No Nursing	White	0.14	0.04	0.51	0.02
KY	Adult Day Centers	Non-White	0.23	0.16	0.34	NA
KY	Adult Day Centers	White	0.25	0.10	0.59	0.02
LA	All Types	Non-White	0.35	0.30	0.41	NA
LA	All Types	White	0.24	0.19	0.31	-0.11
LA	Nursing Homes	Non-White	0.20	0.16	0.25	NA
LA	Nursing Homes	White	0.15	0.10	0.21	-0.05
LA	Assisted Living, With Nursing	Non-White	0.05	0.03	0.08	NA
LA	Assisted Living, With Nursing	White	0.04	0.02	0.07	-0.01
LA	Assisted Living, No Nursing	Non-White	0.02	0.01	0.05	NA
LA	Assisted Living, No Nursing	White	0.02	0.01	0.04	-0.01
LA	Adult Day Centers	Non-White	0.07	0.05	0.10	NA

Table A2 Estimated Differences in Facility Intensity, 2000 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
LA	Adult Day Centers	White	0.04	0.02	0.07	-0.03
MA	All Types	Non-White	5.36	4.57	6.29	NA
MA	All Types	White	1.71	1.27	2.30	-3.65
MA	Nursing Homes	Non-White	2.29	1.80	2.92	NA
MA	Nursing Homes	White	0.56	0.36	0.87	-1.74
MA	Assisted Living, With Nursing	Non-White	0.87	0.59	1.29	NA
MA	Assisted Living, With Nursing	White	0.21	0.10	0.43	-0.66
MA	Assisted Living, No Nursing	Non-White	1.20	0.87	1.66	NA
MA	Assisted Living, No Nursing	White	0.46	0.25	0.84	-0.74
MA	Adult Day Centers	Non-White	0.79	0.53	1.17	NA
MA	Adult Day Centers	White	0.34	0.16	0.76	-0.44
MD	All Types	Non-White	4.06	3.37	4.90	NA
MD	All Types	White	1.86	1.44	2.40	-2.20
MD	Nursing Homes	Non-White	1.60	1.19	2.16	NA
MD	Nursing Homes	White	0.71	0.47	1.08	-0.89
MD	Assisted Living, With Nursing	Non-White	0.82	0.53	1.27	NA
MD	Assisted Living, With Nursing	White	0.28	0.16	0.50	-0.54
MD	Assisted Living, No Nursing	Non-White	0.98	0.66	1.45	NA
MD	Assisted Living, No Nursing	White	0.38	0.22	0.63	-0.60
MD	Adult Day Centers	Non-White	0.79	0.52	1.20	NA
MD	Adult Day Centers	White	0.18	0.09	0.33	-0.61
ME	All Types	Non-White	0.20	0.16	0.25	NA
ME	Nursing Homes	Non-White	0.05	0.03	0.08	NA
ME	Assisted Living, With Nursing	Non-White	0.09	0.07	0.13	NA
ME	Assisted Living, No Nursing	Non-White	0.04	0.03	0.07	NA
ME	Adult Day Centers	Non-White	0.01	0.00	0.03	NA
MI	All Types	Non-White	0.56	0.48	0.65	NA
MI	All Types	White	0.19	0.16	0.23	-0.37
MI	Nursing Homes	Non-White	0.21	0.16	0.26	NA
MI	Nursing Homes	White	0.08	0.06	0.11	-0.13
MI	Assisted Living, With Nursing	Non-White	0.05	0.03	0.08	NA
MI	Assisted Living, With Nursing	White	0.02	0.01	0.05	-0.02
MI	Assisted Living, No Nursing	Non-White	0.17	0.13	0.22	NA
MI	Assisted Living, No Nursing	White	0.06	0.04	0.09	-0.11
MI	Adult Day Centers	Non-White	0.14	0.11	0.19	NA
MI	Adult Day Centers	White	0.05	0.03	0.07	-0.10
MN	All Types	Non-White	0.26	0.22	0.31	NA
MN	All Types	White	0.12	0.08	0.16	-0.14
MN	Nursing Homes	Non-White	0.09	0.07	0.12	NA
MN	Nursing Homes	White	0.04	0.02	0.08	-0.05
MN	Assisted Living, With Nursing	Non-White	0.04	0.03	0.07	NA

Table A2 Estimated Differences in Facility Intensity, 2000 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
MN	Assisted Living, With Nursing	White	0.01	0.01	0.02	-0.03
MN	Assisted Living, No Nursing	Non-White	0.04	0.03	0.06	NA
MN	Assisted Living, No Nursing	White	0.02	0.01	0.06	-0.02
MN	Adult Day Centers	Non-White	0.08	0.06	0.11	NA
MN	Adult Day Centers	White	0.02	0.01	0.04	-0.06
MO	All Types	Non-White	0.77	0.67	0.88	NA
MO	All Types	White	0.24	0.19	0.30	-0.53
MO	Nursing Homes	Non-White	0.29	0.23	0.36	NA
MO	Nursing Homes	White	0.09	0.06	0.13	-0.20
MO	Assisted Living, With Nursing	Non-White	0.15	0.11	0.21	NA
MO	Assisted Living, With Nursing	White	0.03	0.02	0.05	-0.12
MO	Assisted Living, No Nursing	Non-White	0.33	0.26	0.40	NA
MO	Assisted Living, No Nursing	White	0.13	0.08	0.21	-0.19
MO	Adult Day Centers	Non-White	0.04	0.02	0.07	NA
MO	Adult Day Centers	White	0.01	0.00	0.02	-0.03
MS	All Types	Non-White	0.27	0.21	0.34	NA
MS	All Types	White	0.26	0.19	0.35	-0.01
MS	Nursing Homes	Non-White	0.17	0.13	0.22	NA
MS	Nursing Homes	White	0.17	0.12	0.26	0.00
MS	Assisted Living, With Nursing	Non-White	0.06	0.03	0.09	NA
MS	Assisted Living, With Nursing	White	0.04	0.02	0.08	-0.01
MS	Assisted Living, No Nursing	Non-White	0.01	0.00	0.03	NA
MS	Assisted Living, No Nursing	White	0.01	0.00	0.02	0.00
MS	Adult Day Centers	Non-White	0.03	0.02	0.06	NA
MS	Adult Day Centers	White	0.02	0.01	0.06	-0.01
MT	All Types	Non-White	0.04	0.03	0.05	NA
MT	All Types	White	0.05	0.02	0.09	0.01
MT	Nursing Homes	Non-White	0.01	0.01	0.02	NA
MT	Nursing Homes	White	0.02	0.00	0.09	0.01
MT	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
MT	Assisted Living, With Nursing	White	0.00	0.00	0.05	0.00
MT	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA
MT	Assisted Living, No Nursing	White	0.00	0.00	0.02	0.00
MT	Adult Day Centers	Non-White	0.02	0.01	0.03	NA
MT	Adult Day Centers	White	0.01	0.00	0.03	-0.01
NC	All Types	Non-White	1.29	1.13	1.46	NA
NC	All Types	White	1.04	0.87	1.24	-0.25
NC	Nursing Homes	Non-White	0.78	0.67	0.92	NA
NC	Nursing Homes	White	0.63	0.50	0.78	-0.16
NC	Assisted Living, With Nursing	Non-White	0.15	0.10	0.22	NA
NC	Assisted Living, With Nursing	White	0.17	0.11	0.28	0.02

Table A2 Estimated Differences in Facility Intensity, 2000 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
NC	Assisted Living, No Nursing	Non-White	0.12	0.08	0.18	NA
NC	Assisted Living, No Nursing	White	0.09	0.05	0.16	-0.03
NC	Adult Day Centers	Non-White	0.17	0.12	0.24	NA
NC	Adult Day Centers	White	0.11	0.06	0.19	-0.06
ND	All Types	Non-White	0.07	0.06	0.10	NA
ND	All Types	White	0.11	0.06	0.22	0.04
ND	Nursing Homes	Non-White	0.01	0.00	0.02	NA
ND	Nursing Homes	White	0.01	0.00	0.09	0.00
ND	Assisted Living, With Nursing	Non-White	0.02	0.01	0.03	NA
ND	Assisted Living, With Nursing	White	0.02	0.00	0.07	0.00
ND	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA
ND	Assisted Living, No Nursing	White	0.00	0.00	0.01	0.00
ND	Adult Day Centers	Non-White	0.05	0.04	0.07	NA
ND	Adult Day Centers	White	0.04	0.01	0.10	-0.01
NE	All Types	Non-White	0.11	0.09	0.14	NA
NE	All Types	White	0.08	0.04	0.13	-0.04
NE	Nursing Homes	Non-White	0.04	0.03	0.06	NA
NE	Nursing Homes	White	0.02	0.01	0.06	-0.02
NE	Assisted Living, With Nursing	Non-White	0.01	0.01	0.03	NA
NE	Assisted Living, With Nursing	White	0.01	0.00	0.02	-0.01
NE	Assisted Living, No Nursing	Non-White	0.04	0.03	0.07	NA
NE	Assisted Living, No Nursing	White	0.04	0.01	0.09	-0.01
NE	Adult Day Centers	Non-White	0.03	0.02	0.04	NA
NE	Adult Day Centers	White	0.01	0.00	0.04	-0.02
NH	All Types	Non-White	0.73	0.51	1.04	NA
NH	All Types	White	0.97	0.13	7.14	0.24
NH	Assisted Living, With Nursing	Non-White	0.29	0.17	0.49	NA
NH	Assisted Living, With Nursing	White	0.29	0.04	2.20	-0.01
NJ	All Types	Non-White	2.74	2.28	3.30	NA
NJ	All Types	White	1.32	1.03	1.70	-1.42
NJ	Nursing Homes	Non-White	1.17	0.88	1.55	NA
NJ	Nursing Homes	White	0.48	0.32	0.71	-0.69
NJ	Assisted Living, With Nursing	Non-White	0.67	0.46	0.97	NA
NJ	Assisted Living, With Nursing	White	0.32	0.19	0.53	-0.35
NJ	Assisted Living, No Nursing	Non-White	0.75	0.53	1.07	NA
NJ	Assisted Living, No Nursing	White	0.32	0.19	0.53	-0.43
NJ	Adult Day Centers	Non-White	0.16	0.08	0.35	NA
NJ	Adult Day Centers	White	0.05	0.02	0.11	-0.12
NM	All Types	Non-White	0.05	0.04	0.06	NA
NM	All Types	White	0.08	0.06	0.11	0.03
NM	Nursing Homes	Non-White	0.01	0.01	0.02	NA

Table A2 Estimated Differences in Facility Intensity, 2000 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
NM	Nursing Homes	White	0.01	0.01	0.02	0.00
NM	Assisted Living, With Nursing	Non-White	0.01	0.00	0.01	NA
NM	Assisted Living, With Nursing	White	0.01	0.00	0.02	0.00
NM	Assisted Living, No Nursing	Non-White	0.01	0.01	0.02	NA
NM	Assisted Living, No Nursing	White	0.01	0.01	0.02	0.00
NM	Adult Day Centers	Non-White	0.02	0.01	0.02	NA
NM	Adult Day Centers	White	0.02	0.01	0.04	0.00
NV	All Types	Non-White	0.01	0.01	0.02	NA
NV	All Types	White	0.00	0.00	0.01	-0.01
NV	Nursing Homes	Non-White	0.00	0.00	0.01	NA
NV	Nursing Homes	White	0.00	0.00	0.00	0.00
NV	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
NV	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
NV	Assisted Living, No Nursing	Non-White	0.01	0.00	0.01	NA
NV	Assisted Living, No Nursing	White	0.00	0.00	0.01	0.00
NV	Adult Day Centers	Non-White	0.00	0.00	0.00	NA
NV	Adult Day Centers	White	0.00	0.00	0.00	0.00
NY	All Types	Non-White	1.35	1.20	1.52	NA
NY	All Types	White	0.33	0.28	0.39	-1.02
NY	Nursing Homes	Non-White	0.45	0.37	0.56	NA
NY	Nursing Homes	White	0.12	0.09	0.16	-0.33
NY	Assisted Living, With Nursing	Non-White	0.38	0.30	0.48	NA
NY	Assisted Living, With Nursing	White	0.16	0.11	0.22	-0.22
NY	Assisted Living, No Nursing	Non-White	0.33	0.26	0.42	NA
NY	Assisted Living, No Nursing	White	0.07	0.05	0.10	-0.26
NY	Adult Day Centers	Non-White	0.16	0.11	0.22	NA
NY	Adult Day Centers	White	0.03	0.02	0.04	-0.13
OH	All Types	Non-White	3.75	3.37	4.17	NA
OH	All Types	White	1.07	0.90	1.27	-2.68
OH	Nursing Homes	Non-White	1.77	1.51	2.07	NA
OH	Nursing Homes	White	0.70	0.53	0.93	-1.06
OH	Assisted Living, With Nursing	Non-White	0.67	0.52	0.86	NA
OH	Assisted Living, With Nursing	White	0.20	0.14	0.29	-0.47
OH	Assisted Living, No Nursing	Non-White	0.75	0.59	0.94	NA
OH	Assisted Living, No Nursing	White	0.30	0.20	0.47	-0.44
OH	Adult Day Centers	Non-White	0.57	0.44	0.74	NA
OH	Adult Day Centers	White	0.18	0.12	0.29	-0.38
OK	All Types	Non-White	0.37	0.32	0.43	NA
OK	All Types	White	0.30	0.23	0.39	-0.08
OK	Nursing Homes	Non-White	0.11	0.08	0.14	NA
OK	Nursing Homes	White	0.09	0.05	0.14	-0.02

Table A2 Estimated Differences in Facility Intensity, 2000 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
OK	Assisted Living, With Nursing	Non-White	0.05	0.03	0.07	NA
OK	Assisted Living, With Nursing	White	0.03	0.02	0.06	-0.01
OK	Assisted Living, No Nursing	Non-White	0.19	0.15	0.23	NA
OK	Assisted Living, No Nursing	White	0.13	0.09	0.19	-0.06
OK	Adult Day Centers	Non-White	0.02	0.01	0.03	NA
OK	Adult Day Centers	White	0.02	0.00	0.13	0.00
OR	All Types	Non-White	0.06	0.05	0.08	NA
OR	All Types	White	0.07	0.05	0.11	0.01
OR	Nursing Homes	Non-White	0.02	0.01	0.03	NA
OR	Nursing Homes	White	0.07	0.03	0.21	0.05
OR	Assisted Living, With Nursing	Non-White	0.01	0.01	0.02	NA
OR	Assisted Living, With Nursing	White	0.03	0.01	0.07	0.02
OR	Assisted Living, No Nursing	Non-White	0.01	0.01	0.02	NA
OR	Assisted Living, No Nursing	White	0.01	0.00	0.05	0.00
OR	Adult Day Centers	Non-White	0.02	0.02	0.03	NA
OR	Adult Day Centers	White	0.03	0.02	0.06	0.01
PA	All Types	Non-White	2.49	2.25	2.74	NA
PA	All Types	White	0.71	0.60	0.85	-1.77
PA	Nursing Homes	Non-White	1.04	0.90	1.21	NA
PA	Nursing Homes	White	0.40	0.29	0.55	-0.64
PA	Assisted Living, With Nursing	Non-White	0.88	0.75	1.04	NA
PA	Assisted Living, With Nursing	White	0.20	0.16	0.26	-0.68
PA	Assisted Living, No Nursing	Non-White	0.46	0.36	0.57	NA
PA	Assisted Living, No Nursing	White	0.25	0.16	0.41	-0.20
PA	Adult Day Centers	Non-White	0.11	0.07	0.18	NA
PA	Adult Day Centers	White	0.02	0.01	0.05	-0.09
RI	All Types	Non-White	9.08	6.46	12.78	NA
RI	All Types	White	3.60	1.83	7.07	-5.48
RI	Nursing Homes	Non-White	3.73	2.17	6.43	NA
RI	Nursing Homes	White	1.54	0.34	6.97	-2.20
RI	Assisted Living, With Nursing	Non-White	2.48	1.24	4.96	NA
RI	Assisted Living, With Nursing	White	0.81	0.31	2.14	-1.67
RI	Assisted Living, No Nursing	Non-White	3.10	1.71	5.59	NA
RI	Assisted Living, No Nursing	White	1.51	0.19	12.15	-1.59
RI	Adult Day Centers	Non-White	0.29	0.04	2.06	NA
SC	All Types	Non-White	0.69	0.58	0.82	NA
SC	All Types	White	0.53	0.42	0.67	-0.16
SC	Nursing Homes	Non-White	0.26	0.20	0.35	NA
SC	Nursing Homes	White	0.22	0.15	0.33	-0.04
SC	Assisted Living, With Nursing	Non-White	0.19	0.14	0.27	NA
SC	Assisted Living, With Nursing	White	0.14	0.09	0.21	-0.06

Table A2 Estimated Differences in Facility Intensity, 2000 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
SC	Assisted Living, No Nursing	Non-White	0.13	0.09	0.20	NA
SC	Assisted Living, No Nursing	White	0.10	0.06	0.19	-0.03
SC	Adult Day Centers	Non-White	0.13	0.08	0.19	NA
SC	Adult Day Centers	White	0.13	0.07	0.24	0.00
SD	All Types	Non-White	0.07	0.05	0.09	NA
SD	All Types	White	0.08	0.04	0.13	0.01
SD	Nursing Homes	Non-White	0.02	0.01	0.03	NA
SD	Nursing Homes	White	0.10	0.01	0.78	0.08
SD	Assisted Living, With Nursing	Non-White	0.02	0.01	0.03	NA
SD	Assisted Living, With Nursing	White	0.10	0.02	0.46	0.08
SD	Assisted Living, No Nursing	Non-White	0.01	0.00	0.02	NA
SD	Assisted Living, No Nursing	White	0.05	0.01	0.45	0.04
SD	Adult Day Centers	Non-White	0.03	0.02	0.05	NA
SD	Adult Day Centers	White	0.03	0.01	0.06	-0.01
TN	All Types	Non-White	0.94	0.80	1.11	NA
TN	All Types	White	0.46	0.36	0.60	-0.48
TN	Nursing Homes	Non-White	0.41	0.32	0.52	NA
TN	Nursing Homes	White	0.24	0.16	0.36	-0.17
TN	Assisted Living, With Nursing	Non-White	0.22	0.16	0.31	NA
TN	Assisted Living, With Nursing	White	0.10	0.06	0.16	-0.12
TN	Assisted Living, No Nursing	Non-White	0.16	0.11	0.24	NA
TN	Assisted Living, No Nursing	White	0.08	0.03	0.20	-0.08
TN	Adult Day Centers	Non-White	0.17	0.11	0.25	NA
TN	Adult Day Centers	White	0.05	0.03	0.10	-0.11
TX	All Types	Non-White	0.18	0.16	0.19	NA
TX	All Types	White	0.13	0.11	0.14	-0.05
TX	Nursing Homes	Non-White	0.07	0.06	0.08	NA
TX	Nursing Homes	White	0.06	0.05	0.07	-0.01
TX	Assisted Living, With Nursing	Non-White	0.02	0.01	0.03	NA
TX	Assisted Living, With Nursing	White	0.01	0.01	0.02	-0.01
TX	Assisted Living, No Nursing	Non-White	0.05	0.04	0.06	NA
TX	Assisted Living, No Nursing	White	0.04	0.03	0.05	-0.01
TX	Adult Day Centers	Non-White	0.03	0.03	0.04	NA
TX	Adult Day Centers	White	0.01	0.01	0.01	-0.02
UT	All Types	Non-White	0.03	0.02	0.04	NA
UT	All Types	White	0.03	0.01	0.08	0.01
UT	Nursing Homes	Non-White	0.01	0.01	0.02	NA
UT	Nursing Homes	White	0.01	0.00	0.03	-0.01
UT	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
UT	Assisted Living, With Nursing	White	0.00	0.00	0.04	0.00
UT	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA

Table A2 Estimated Differences in Facility Intensity, 2000 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
UT	Assisted Living, No Nursing	White	0.00	0.00	0.04	0.00
UT	Adult Day Centers	Non-White	0.01	0.00	0.01	NA
UT	Adult Day Centers	White	0.01	0.00	0.06	0.00
VA	All Types	Non-White	1.16	0.98	1.38	NA
VA	All Types	White	0.64	0.51	0.81	-0.52
VA	Nursing Homes	Non-White	0.65	0.50	0.83	NA
VA	Nursing Homes	White	0.42	0.30	0.59	-0.22
VA	Assisted Living, With Nursing	Non-White	0.35	0.24	0.49	NA
VA	Assisted Living, With Nursing	White	0.21	0.14	0.33	-0.13
VA	Assisted Living, No Nursing	Non-White	0.31	0.22	0.45	NA
VA	Assisted Living, No Nursing	White	0.26	0.16	0.44	-0.05
VA	Adult Day Centers	Non-White	0.05	0.02	0.13	NA
VA	Adult Day Centers	White	0.03	0.01	0.09	-0.02
VT	All Types	Non-White	1.34	0.98	1.83	NA
VT	Nursing Homes	Non-White	0.38	0.21	0.66	NA
VT	Assisted Living, With Nursing	Non-White	0.45	0.27	0.76	NA
VT	Assisted Living, No Nursing	Non-White	0.27	0.14	0.53	NA
VT	Adult Day Centers	Non-White	0.13	0.05	0.34	NA
WA	All Types	Non-White	0.16	0.14	0.19	NA
WA	All Types	White	0.14	0.11	0.19	-0.02
WA	Nursing Homes	Non-White	0.03	0.02	0.04	NA
WA	Nursing Homes	White	0.04	0.02	0.08	0.01
WA	Assisted Living, With Nursing	Non-White	0.02	0.01	0.03	NA
WA	Assisted Living, With Nursing	White	0.05	0.02	0.11	0.03
WA	Assisted Living, No Nursing	Non-White	0.03	0.02	0.04	NA
WA	Assisted Living, No Nursing	White	0.05	0.03	0.09	0.02
WA	Adult Day Centers	Non-White	0.09	0.07	0.11	NA
WA	Adult Day Centers	White	0.10	0.06	0.16	0.01
WI	All Types	Non-White	0.63	0.54	0.74	NA
WI	All Types	White	0.28	0.20	0.39	-0.35
WI	Nursing Homes	Non-White	0.21	0.16	0.27	NA
WI	Nursing Homes	White	0.08	0.04	0.16	-0.13
WI	Assisted Living, With Nursing	Non-White	0.06	0.04	0.10	NA
WI	Assisted Living, With Nursing	White	0.03	0.01	0.06	-0.03
WI	Assisted Living, No Nursing	Non-White	0.16	0.11	0.21	NA
WI	Assisted Living, No Nursing	White	0.08	0.04	0.16	-0.08
WI	Adult Day Centers	Non-White	0.18	0.13	0.23	NA
WI	Adult Day Centers	White	0.08	0.05	0.14	-0.09
WV	All Types	Non-White	0.61	0.45	0.81	NA
WV	All Types	White	0.38	0.12	1.23	-0.23
WV	Nursing Homes	Non-White	0.38	0.26	0.56	NA

Table A2 Estimated Differences in Facility Intensity, 2000 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
WV	Nursing Homes	White	0.25	0.06	1.08	-0.12
WV	Assisted Living, With Nursing	Non-White	0.10	0.04	0.22	NA
WV	Assisted Living, With Nursing	White	0.10	0.01	0.87	0.00
WV	Assisted Living, No Nursing	Non-White	0.14	0.07	0.26	NA
WV	Adult Day Centers	Non-White	0.06	0.02	0.17	NA
WY	All Types	Non-White	0.02	0.01	0.02	NA
WY	Nursing Homes	Non-White	0.01	0.00	0.01	NA
WY	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
WY	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA
WY	Adult Day Centers	Non-White	0.01	0.00	0.01	NA

Notes: Estimates report differences in the number of facilities per 10km^2 in areas predominately made up of the listed demographic group relative to areas that are uninhabited or non-residential. Differences compute the difference between estimates for predominately White minus predominantly non-White areas. Some models did not converge and therefore not all states have estimates reported for all facility type and demographic group combinations and some differences are missing.

Table A3 Estimated Differences in Facility Intensity (White – Non-White) Per 10km^2, 2010

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
AL	Nursing Homes	Non-White	0.48	0.40	0.57	NA
AL	Nursing Homes	White	0.30	0.22	0.41	-0.17
AL	Assisted Living, With Nursing	Non-White	0.08	0.05	0.13	NA
AL	Assisted Living, With Nursing	White	0.05	0.03	0.10	-0.03
AL	Assisted Living, No Nursing	Non-White	0.18	0.13	0.24	NA
AL	Assisted Living, No Nursing	White	0.15	0.09	0.23	-0.03
AL	Adult Day Centers	Non-White	0.25	0.19	0.32	NA
AL	Adult Day Centers	White	0.19	0.12	0.30	-0.06
AR	Nursing Homes	Non-White	0.13	0.10	0.17	NA
AR	Nursing Homes	White	0.14	0.09	0.23	0.01
AR	Assisted Living, With Nursing	Non-White	0.03	0.02	0.05	NA
AR	Assisted Living, With Nursing	White	0.03	0.01	0.07	0.00
AR	Assisted Living, No Nursing	Non-White	0.09	0.07	0.13	NA
AR	Assisted Living, No Nursing	White	0.07	0.04	0.11	-0.03
AR	Adult Day Centers	Non-White	0.09	0.06	0.13	NA
AR	Adult Day Centers	White	0.05	0.03	0.09	-0.04
AZ	Nursing Homes	Non-White	0.04	0.03	0.05	NA
AZ	Nursing Homes	White	0.08	0.05	0.11	0.04
AZ	Assisted Living, With Nursing	Non-White	0.01	0.01	0.02	NA
AZ	Assisted Living, With Nursing	White	0.02	0.01	0.04	0.01
AZ	Assisted Living, No Nursing	Non-White	0.01	0.01	0.02	NA
AZ	Assisted Living, No Nursing	White	0.02	0.01	0.04	0.01
AZ	Adult Day Centers	Non-White	0.04	0.03	0.05	NA
AZ	Adult Day Centers	White	0.04	0.03	0.07	0.01
CA	Nursing Homes	Non-White	0.10	0.09	0.12	NA
CA	Nursing Homes	White	0.07	0.06	0.08	-0.03
CA	Assisted Living, With Nursing	Non-White	0.03	0.02	0.04	NA
CA	Assisted Living, With Nursing	White	0.02	0.02	0.03	-0.01
CA	Assisted Living, No Nursing	Non-White	0.13	0.12	0.15	NA
CA	Assisted Living, No Nursing	White	0.11	0.09	0.12	-0.02
CA	Adult Day Centers	Non-White	0.09	0.08	0.10	NA
CA	Adult Day Centers	White	0.05	0.04	0.06	-0.04
CO	Nursing Homes	Non-White	0.06	0.05	0.08	NA
CO	Nursing Homes	White	0.03	0.02	0.06	-0.03
CO	Assisted Living, With Nursing	Non-White	0.02	0.01	0.03	NA
CO	Assisted Living, With Nursing	White	0.02	0.01	0.04	0.00
CO	Assisted Living, No Nursing	Non-White	0.02	0.01	0.03	NA
CO	Assisted Living, No Nursing	White	0.02	0.01	0.03	0.00
CO	Adult Day Centers	Non-White	0.08	0.06	0.09	NA
CO	Adult Day Centers	White	0.04	0.03	0.07	-0.03
CT	Nursing Homes	Non-White	2.44	1.71	3.49	NA

Table A3 Estimated Differences in Facility Intensity, 2010 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
CT	Nursing Homes	White	0.81	0.49	1.35	-1.63
CT	Assisted Living, With Nursing	Non-White	0.58	0.30	1.11	NA
CT	Assisted Living, With Nursing	White	0.27	0.12	0.64	-0.30
CT	Assisted Living, No Nursing	Non-White	1.13	0.70	1.82	NA
CT	Assisted Living, No Nursing	White	0.44	0.23	0.83	-0.69
CT	Adult Day Centers	Non-White	1.82	1.27	2.62	NA
CT	Adult Day Centers	White	0.50	0.30	0.82	-1.33
DC	Nursing Homes	Non-White	38.61	24.32	61.27	NA
DC	Nursing Homes	White	59.35	27.56	127.81	20.74
DC	Assisted Living, With Nursing	Non-White	6.47	2.09	20.07	NA
DC	Assisted Living, With Nursing	White	14.12	3.19	62.51	7.65
DC	Assisted Living, No Nursing	Non-White	10.75	4.47	25.82	NA
DC	Assisted Living, No Nursing	White	11.13	3.27	37.86	0.38
DC	Adult Day Centers	Non-White	6.47	2.09	20.08	NA
DC	Adult Day Centers	White	5.83	1.10	30.98	-0.65
DE	Nursing Homes	Non-White	2.29	1.35	3.86	NA
DE	Nursing Homes	White	1.49	0.61	3.64	-0.79
DE	Assisted Living, No Nursing	Non-White	1.81	1.00	3.28	NA
DE	Assisted Living, No Nursing	White	1.34	0.50	3.62	-0.47
DE	Adult Day Centers	Non-White	0.66	0.25	1.77	NA
DE	Adult Day Centers	White	1.21	0.13	11.42	0.55
FL	Nursing Homes	Non-White	0.28	0.24	0.33	NA
FL	Nursing Homes	White	0.16	0.13	0.20	-0.12
FL	Assisted Living, With Nursing	Non-White	0.15	0.12	0.19	NA
FL	Assisted Living, With Nursing	White	0.08	0.07	0.11	-0.07
FL	Assisted Living, No Nursing	Non-White	0.21	0.17	0.25	NA
FL	Assisted Living, No Nursing	White	0.14	0.11	0.17	-0.07
FL	Adult Day Centers	Non-White	0.20	0.16	0.24	NA
FL	Adult Day Centers	White	0.10	0.08	0.14	-0.09
GA	Nursing Homes	Non-White	0.51	0.43	0.59	NA
GA	Nursing Homes	White	0.25	0.20	0.31	-0.26
GA	Assisted Living, With Nursing	Non-White	0.10	0.07	0.14	NA
GA	Assisted Living, With Nursing	White	0.09	0.06	0.15	-0.01
GA	Assisted Living, No Nursing	Non-White	0.15	0.11	0.19	NA
GA	Assisted Living, No Nursing	White	0.10	0.07	0.14	-0.04
GA	Adult Day Centers	Non-White	0.32	0.26	0.39	NA
GA	Adult Day Centers	White	0.17	0.12	0.23	-0.15
IA	Nursing Homes	Non-White	0.35	0.28	0.45	NA
IA	Nursing Homes	White	0.21	0.09	0.49	-0.14
IA	Assisted Living, With Nursing	Non-White	0.10	0.06	0.16	NA
IA	Assisted Living, With Nursing	White	0.04	0.01	0.15	-0.06

Table A3 Estimated Differences in Facility Intensity, 2010 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
IA	Assisted Living, No Nursing	Non-White	0.21	0.16	0.29	NA
IA	Assisted Living, No Nursing	White	0.12	0.05	0.25	-0.09
IA	Adult Day Centers	Non-White	0.25	0.19	0.33	NA
IA	Adult Day Centers	White	0.11	0.05	0.26	-0.13
ID	Nursing Homes	Non-White	0.02	0.01	0.03	NA
ID	Nursing Homes	White	0.04	0.01	0.30	0.02
ID	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
ID	Assisted Living, No Nursing	Non-White	0.02	0.01	0.02	NA
ID	Assisted Living, No Nursing	White	0.02	0.01	0.05	0.00
ID	Adult Day Centers	Non-White	0.02	0.01	0.03	NA
ID	Adult Day Centers	White	0.02	0.01	0.05	0.00
IL	Nursing Homes	Non-White	0.63	0.53	0.74	NA
IL	Nursing Homes	White	0.32	0.25	0.41	-0.31
IL	Assisted Living, With Nursing	Non-White	0.17	0.12	0.23	NA
IL	Assisted Living, With Nursing	White	0.08	0.05	0.13	-0.09
IL	Assisted Living, No Nursing	Non-White	0.35	0.28	0.44	NA
IL	Assisted Living, No Nursing	White	0.19	0.14	0.26	-0.16
IL	Adult Day Centers	Non-White	0.45	0.37	0.54	NA
IL	Adult Day Centers	White	0.15	0.11	0.20	-0.30
IN	Nursing Homes	Non-White	0.86	0.69	1.06	NA
IN	Nursing Homes	White	0.45	0.28	0.71	-0.41
IN	Assisted Living, With Nursing	Non-White	0.26	0.17	0.39	NA
IN	Assisted Living, With Nursing	White	0.18	0.07	0.46	-0.07
IN	Assisted Living, No Nursing	Non-White	0.55	0.42	0.72	NA
IN	Assisted Living, No Nursing	White	0.37	0.21	0.64	-0.18
IN	Adult Day Centers	Non-White	0.46	0.34	0.63	NA
IN	Adult Day Centers	White	0.22	0.11	0.42	-0.25
KS	Nursing Homes	Non-White	0.06	0.04	0.08	NA
KS	Nursing Homes	White	0.05	0.02	0.09	-0.01
KS	Assisted Living, With Nursing	Non-White	0.01	0.01	0.02	NA
KS	Assisted Living, With Nursing	White	0.01	0.00	0.01	-0.01
KS	Assisted Living, No Nursing	Non-White	0.10	0.08	0.12	NA
KS	Assisted Living, No Nursing	White	0.08	0.04	0.16	-0.02
KS	Adult Day Centers	Non-White	0.07	0.05	0.09	NA
KS	Adult Day Centers	White	0.02	0.01	0.05	-0.05
KY	Nursing Homes	Non-White	0.75	0.61	0.94	NA
KY	Nursing Homes	White	0.65	0.31	1.36	-0.10
KY	Assisted Living, With Nursing	Non-White	0.11	0.06	0.20	NA
KY	Assisted Living, With Nursing	White	0.03	0.01	0.08	-0.08
KY	Assisted Living, No Nursing	Non-White	0.24	0.16	0.36	NA
KY	Assisted Living, No Nursing	White	0.09	0.04	0.22	-0.14

Table A3 Estimated Differences in Facility Intensity, 2010 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
KY	Adult Day Centers	Non-White	0.50	0.39	0.64	NA
KY	Adult Day Centers	White	0.16	0.08	0.32	-0.34
LA	Nursing Homes	Non-White	0.26	0.22	0.31	NA
LA	Nursing Homes	White	0.21	0.15	0.28	-0.05
LA	Assisted Living, With Nursing	Non-White	0.03	0.02	0.05	NA
LA	Assisted Living, With Nursing	White	0.03	0.01	0.06	0.00
LA	Assisted Living, No Nursing	Non-White	0.05	0.03	0.07	NA
LA	Assisted Living, No Nursing	White	0.04	0.02	0.06	-0.01
LA	Adult Day Centers	Non-White	0.15	0.12	0.19	NA
LA	Adult Day Centers	White	0.08	0.06	0.12	-0.07
MA	Nursing Homes	Non-White	2.78	2.26	3.42	NA
MA	Nursing Homes	White	1.12	0.77	1.65	-1.65
MA	Assisted Living, With Nursing	Non-White	0.83	0.57	1.20	NA
MA	Assisted Living, With Nursing	White	0.26	0.12	0.55	-0.57
MA	Assisted Living, No Nursing	Non-White	1.79	1.39	2.31	NA
MA	Assisted Living, No Nursing	White	0.86	0.51	1.43	-0.93
MA	Adult Day Centers	Non-White	0.92	0.66	1.30	NA
MA	Adult Day Centers	White	0.38	0.22	0.66	-0.54
MD	Nursing Homes	Non-White	3.76	3.19	4.43	NA
MD	Nursing Homes	White	2.13	1.63	2.78	-1.63
MD	Assisted Living, With Nursing	Non-White	1.15	0.82	1.61	NA
MD	Assisted Living, With Nursing	White	0.85	0.50	1.44	-0.30
MD	Assisted Living, No Nursing	Non-White	1.84	1.45	2.34	NA
MD	Assisted Living, No Nursing	White	0.99	0.71	1.38	-0.85
MD	Adult Day Centers	Non-White	1.50	1.13	1.98	NA
MD	Adult Day Centers	White	1.01	0.64	1.60	-0.49
ME	Nursing Homes	Non-White	0.08	0.06	0.11	NA
ME	Assisted Living, With Nursing	Non-White	0.05	0.03	0.07	NA
ME	Assisted Living, With Nursing	White	0.04	0.00	0.28	-0.01
ME	Assisted Living, No Nursing	Non-White	0.06	0.04	0.09	NA
ME	Assisted Living, No Nursing	White	0.07	0.01	0.54	0.01
ME	Adult Day Centers	Non-White	0.02	0.01	0.04	NA
MI	Nursing Homes	Non-White	0.18	0.14	0.23	NA
MI	Nursing Homes	White	0.07	0.05	0.09	-0.11
MI	Assisted Living, With Nursing	Non-White	0.05	0.04	0.09	NA
MI	Assisted Living, With Nursing	White	0.03	0.02	0.06	-0.02
MI	Assisted Living, No Nursing	Non-White	0.22	0.18	0.28	NA
MI	Assisted Living, No Nursing	White	0.08	0.06	0.11	-0.14
MI	Adult Day Centers	Non-White	0.24	0.19	0.29	NA
MI	Adult Day Centers	White	0.08	0.06	0.11	-0.16
MN	Nursing Homes	Non-White	0.11	0.09	0.14	NA

Table A3 Estimated Differences in Facility Intensity, 2010 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
MN	Nursing Homes	White	0.05	0.03	0.08	-0.07
MN	Assisted Living, With Nursing	Non-White	0.03	0.02	0.05	NA
MN	Assisted Living, With Nursing	White	0.01	0.01	0.03	-0.02
MN	Assisted Living, No Nursing	Non-White	0.13	0.10	0.16	NA
MN	Assisted Living, No Nursing	White	0.10	0.06	0.16	-0.03
MN	Adult Day Centers	Non-White	0.15	0.12	0.19	NA
MN	Adult Day Centers	White	0.07	0.04	0.11	-0.08
MO	Nursing Homes	Non-White	0.37	0.31	0.45	NA
MO	Nursing Homes	White	0.17	0.12	0.25	-0.20
MO	Assisted Living, With Nursing	Non-White	0.11	0.07	0.15	NA
MO	Assisted Living, With Nursing	White	0.04	0.02	0.06	-0.07
MO	Assisted Living, No Nursing	Non-White	0.29	0.24	0.36	NA
MO	Assisted Living, No Nursing	White	0.15	0.10	0.23	-0.15
MO	Adult Day Centers	Non-White	0.16	0.12	0.21	NA
MO	Adult Day Centers	White	0.04	0.03	0.07	-0.12
MS	Nursing Homes	Non-White	0.36	0.29	0.44	NA
MS	Nursing Homes	White	0.28	0.21	0.38	-0.08
MS	Assisted Living, With Nursing	Non-White	0.03	0.01	0.05	NA
MS	Assisted Living, With Nursing	White	0.03	0.01	0.07	0.00
MS	Assisted Living, No Nursing	Non-White	0.07	0.05	0.11	NA
MS	Assisted Living, No Nursing	White	0.13	0.06	0.27	0.06
MS	Adult Day Centers	Non-White	0.14	0.10	0.19	NA
MS	Adult Day Centers	White	0.12	0.07	0.20	-0.02
MT	Nursing Homes	Non-White	0.01	0.00	0.01	NA
MT	Nursing Homes	White	0.01	0.00	0.02	0.00
MT	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
MT	Assisted Living, No Nursing	Non-White	0.01	0.01	0.02	NA
MT	Assisted Living, No Nursing	White	0.01	0.00	0.04	0.00
MT	Adult Day Centers	Non-White	0.02	0.01	0.03	NA
MT	Adult Day Centers	White	0.02	0.01	0.05	0.00
NC	Nursing Homes	Non-White	0.57	0.47	0.68	NA
NC	Nursing Homes	White	0.40	0.31	0.51	-0.17
NC	Assisted Living, With Nursing	Non-White	0.12	0.08	0.19	NA
NC	Assisted Living, With Nursing	White	0.18	0.10	0.30	0.05
NC	Assisted Living, No Nursing	Non-White	0.32	0.25	0.41	NA
NC	Assisted Living, No Nursing	White	0.28	0.20	0.39	-0.04
NC	Adult Day Centers	Non-White	0.37	0.30	0.47	NA
NC	Adult Day Centers	White	0.23	0.16	0.33	-0.14
ND	Nursing Homes	Non-White	0.02	0.01	0.03	NA
ND	Nursing Homes	White	0.03	0.00	0.22	0.01
ND	Assisted Living, With Nursing	Non-White	0.01	0.00	0.02	NA

Table A3 Estimated Differences in Facility Intensity, 2010 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
ND	Assisted Living, No Nursing	Non-White	0.02	0.01	0.03	NA
ND	Assisted Living, No Nursing	White	0.02	0.01	0.09	0.01
ND	Adult Day Centers	Non-White	0.05	0.04	0.07	NA
ND	Adult Day Centers	White	0.07	0.03	0.21	0.02
NE	Nursing Homes	Non-White	0.06	0.04	0.08	NA
NE	Nursing Homes	White	0.03	0.01	0.07	-0.03
NE	Assisted Living, With Nursing	Non-White	0.02	0.01	0.04	NA
NE	Assisted Living, With Nursing	White	0.04	0.00	0.28	0.02
NE	Assisted Living, No Nursing	Non-White	0.09	0.07	0.12	NA
NE	Assisted Living, No Nursing	White	0.07	0.03	0.15	-0.02
NE	Adult Day Centers	Non-White	0.08	0.06	0.10	NA
NE	Adult Day Centers	White	0.01	0.00	0.03	-0.07
NH	Nursing Homes	Non-White	0.24	0.14	0.41	NA
NH	Nursing Homes	White	0.11	0.01	0.85	-0.13
NH	Assisted Living, With Nursing	Non-White	0.16	0.09	0.32	NA
NH	Assisted Living, No Nursing	Non-White	0.25	0.15	0.43	NA
NH	Adult Day Centers	Non-White	0.16	0.09	0.32	NA
NJ	Nursing Homes	Non-White	2.57	2.15	3.08	NA
NJ	Nursing Homes	White	1.26	0.96	1.65	-1.32
NJ	Assisted Living, With Nursing	Non-White	0.56	0.38	0.82	NA
NJ	Assisted Living, With Nursing	White	0.21	0.13	0.36	-0.34
NJ	Assisted Living, No Nursing	Non-White	1.03	0.78	1.38	NA
NJ	Assisted Living, No Nursing	White	0.56	0.38	0.82	-0.47
NJ	Adult Day Centers	Non-White	1.10	0.83	1.45	NA
NJ	Adult Day Centers	White	0.28	0.19	0.41	-0.82
NM	Nursing Homes	Non-White	0.02	0.02	0.03	NA
NM	Nursing Homes	White	0.02	0.01	0.04	0.00
NM	Assisted Living, With Nursing	Non-White	0.01	0.00	0.01	NA
NM	Assisted Living, With Nursing	White	0.01	0.00	0.03	0.00
NM	Assisted Living, No Nursing	Non-White	0.01	0.01	0.02	NA
NM	Assisted Living, No Nursing	White	0.01	0.01	0.02	0.00
NM	Adult Day Centers	Non-White	0.03	0.02	0.04	NA
NM	Adult Day Centers	White	0.03	0.02	0.04	0.00
NV	Nursing Homes	Non-White	0.01	0.00	0.01	NA
NV	Nursing Homes	White	0.00	0.00	0.00	0.00
NV	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
NV	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
NV	Assisted Living, No Nursing	Non-White	0.01	0.00	0.01	NA
NV	Assisted Living, No Nursing	White	0.00	0.00	0.01	0.00
NV	Adult Day Centers	Non-White	0.01	0.01	0.01	NA
NV	Adult Day Centers	White	0.00	0.00	0.01	0.00

Table A3 Estimated Differences in Facility Intensity, 2010 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
NY	Nursing Homes	Non-White	0.48	0.40	0.59	NA
NY	Nursing Homes	White	0.13	0.10	0.16	-0.36
NY	Assisted Living, With Nursing	Non-White	0.19	0.14	0.26	NA
NY	Assisted Living, With Nursing	White	0.07	0.04	0.10	-0.12
NY	Assisted Living, No Nursing	Non-White	0.49	0.40	0.59	NA
NY	Assisted Living, No Nursing	White	0.09	0.07	0.12	-0.39
NY	Adult Day Centers	Non-White	0.33	0.26	0.41	NA
NY	Adult Day Centers	White	0.06	0.04	0.08	-0.27
OH	Nursing Homes	Non-White	1.71	1.46	2.01	NA
OH	Nursing Homes	White	0.90	0.67	1.21	-0.81
OH	Assisted Living, With Nursing	Non-White	0.48	0.35	0.64	NA
OH	Assisted Living, With Nursing	White	0.21	0.14	0.32	-0.27
OH	Assisted Living, No Nursing	Non-White	1.11	0.92	1.35	NA
OH	Assisted Living, No Nursing	White	0.50	0.36	0.68	-0.62
OH	Adult Day Centers	Non-White	0.89	0.72	1.09	NA
OH	Adult Day Centers	White	0.22	0.16	0.32	-0.66
OK	Nursing Homes	Non-White	0.18	0.15	0.23	NA
OK	Nursing Homes	White	0.12	0.08	0.18	-0.07
OK	Assisted Living, With Nursing	Non-White	0.02	0.01	0.03	NA
OK	Assisted Living, With Nursing	White	0.01	0.01	0.03	0.00
OK	Assisted Living, No Nursing	Non-White	0.13	0.10	0.17	NA
OK	Assisted Living, No Nursing	White	0.09	0.06	0.14	-0.04
OK	Adult Day Centers	Non-White	0.10	0.08	0.13	NA
OK	Adult Day Centers	White	0.06	0.04	0.10	-0.04
OR	Nursing Homes	Non-White	0.02	0.01	0.03	NA
OR	Nursing Homes	White	0.01	0.01	0.02	-0.01
OR	Assisted Living, With Nursing	Non-White	0.01	0.01	0.02	NA
OR	Assisted Living, With Nursing	White	0.01	0.00	0.02	-0.01
OR	Assisted Living, No Nursing	Non-White	0.02	0.02	0.03	NA
OR	Assisted Living, No Nursing	White	0.01	0.01	0.03	-0.01
OR	Adult Day Centers	Non-White	0.03	0.03	0.04	NA
OR	Adult Day Centers	White	0.02	0.01	0.04	-0.01
PA	Nursing Homes	Non-White	1.38	1.22	1.57	NA
PA	Nursing Homes	White	0.49	0.38	0.65	-0.89
PA	Assisted Living, With Nursing	Non-White	0.41	0.33	0.52	NA
PA	Assisted Living, With Nursing	White	0.14	0.09	0.20	-0.27
PA	Assisted Living, No Nursing	Non-White	0.68	0.57	0.81	NA
PA	Assisted Living, No Nursing	White	0.28	0.20	0.39	-0.40
PA	Adult Day Centers	Non-White	0.35	0.28	0.45	NA
PA	Adult Day Centers	White	0.16	0.09	0.29	-0.19
RI	Nursing Homes	Non-White	3.65	2.02	6.59	NA

Table A3 Estimated Differences in Facility Intensity, 2010 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
RI	Nursing Homes	White	1.71	0.73	4.04	-1.94
RI	Assisted Living, With Nursing	Non-White	1.36	0.51	3.62	NA
RI	Assisted Living, With Nursing	White	0.44	0.13	1.53	-0.92
RI	Assisted Living, No Nursing	Non-White	1.33	0.50	3.55	NA
RI	Assisted Living, No Nursing	White	0.86	0.23	3.31	-0.47
RI	Adult Day Centers	Non-White	1.60	0.67	3.85	NA
RI	Adult Day Centers	White	0.82	0.19	3.65	-0.78
SC	Nursing Homes	Non-White	0.54	0.44	0.66	NA
SC	Nursing Homes	White	0.36	0.27	0.48	-0.18
SC	Assisted Living, With Nursing	Non-White	0.12	0.08	0.19	NA
SC	Assisted Living, With Nursing	White	0.09	0.05	0.15	-0.03
SC	Assisted Living, No Nursing	Non-White	0.18	0.13	0.26	NA
SC	Assisted Living, No Nursing	White	0.13	0.09	0.21	-0.05
SC	Adult Day Centers	Non-White	0.23	0.17	0.31	NA
SC	Adult Day Centers	White	0.15	0.09	0.25	-0.08
SD	Nursing Homes	Non-White	0.03	0.02	0.05	NA
SD	Nursing Homes	White	0.05	0.02	0.13	0.02
SD	Assisted Living, With Nursing	Non-White	0.01	0.00	0.02	NA
SD	Assisted Living, No Nursing	Non-White	0.02	0.01	0.04	NA
SD	Assisted Living, No Nursing	White	0.05	0.01	0.18	0.03
SD	Adult Day Centers	Non-White	0.02	0.01	0.04	NA
SD	Adult Day Centers	White	0.02	0.01	0.05	0.00
TN	Nursing Homes	Non-White	0.54	0.44	0.67	NA
TN	Nursing Homes	White	0.35	0.24	0.51	-0.19
TN	Assisted Living, With Nursing	Non-White	0.15	0.10	0.23	NA
TN	Assisted Living, With Nursing	White	0.06	0.04	0.11	-0.09
TN	Assisted Living, No Nursing	Non-White	0.29	0.21	0.38	NA
TN	Assisted Living, No Nursing	White	0.24	0.14	0.39	-0.05
TN	Adult Day Centers	Non-White	0.39	0.31	0.50	NA
TN	Adult Day Centers	White	0.16	0.10	0.24	-0.24
TX	Nursing Homes	Non-White	0.12	0.11	0.13	NA
TX	Nursing Homes	White	0.09	0.08	0.11	-0.03
TX	Assisted Living, With Nursing	Non-White	0.02	0.01	0.02	NA
TX	Assisted Living, With Nursing	White	0.02	0.01	0.02	0.00
TX	Assisted Living, No Nursing	Non-White	0.05	0.04	0.06	NA
TX	Assisted Living, No Nursing	White	0.04	0.03	0.05	-0.01
TX	Adult Day Centers	Non-White	0.08	0.07	0.09	NA
TX	Adult Day Centers	White	0.03	0.02	0.03	-0.05
UT	Nursing Homes	Non-White	0.01	0.01	0.02	NA
UT	Nursing Homes	White	0.01	0.01	0.03	0.00
UT	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA

Table A3 Estimated Differences in Facility Intensity, 2010 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
UT	Assisted Living, With Nursing	White	0.00	0.00	0.04	0.00
UT	Assisted Living, No Nursing	Non-White	0.01	0.00	0.01	NA
UT	Assisted Living, No Nursing	White	0.01	0.00	0.02	0.00
UT	Adult Day Centers	Non-White	0.02	0.01	0.03	NA
UT	Adult Day Centers	White	0.03	0.01	0.07	0.01
VA	Nursing Homes	Non-White	0.98	0.83	1.16	NA
VA	Nursing Homes	White	0.71	0.54	0.93	-0.27
VA	Assisted Living, With Nursing	Non-White	0.18	0.12	0.27	NA
VA	Assisted Living, With Nursing	White	0.11	0.06	0.18	-0.07
VA	Assisted Living, No Nursing	Non-White	0.51	0.41	0.64	NA
VA	Assisted Living, No Nursing	White	0.45	0.31	0.63	-0.07
VA	Adult Day Centers	Non-White	0.28	0.21	0.37	NA
VA	Adult Day Centers	White	0.17	0.10	0.29	-0.10
VT	Nursing Homes	Non-White	0.25	0.13	0.49	NA
VT	Assisted Living, With Nursing	Non-White	0.14	0.06	0.34	NA
VT	Assisted Living, No Nursing	Non-White	0.54	0.35	0.83	NA
VT	Adult Day Centers	Non-White	0.08	0.03	0.26	NA
WA	Nursing Homes	Non-White	0.05	0.04	0.07	NA
WA	Nursing Homes	White	0.05	0.03	0.08	0.00
WA	Assisted Living, With Nursing	Non-White	0.02	0.01	0.03	NA
WA	Assisted Living, With Nursing	White	0.03	0.01	0.05	0.01
WA	Assisted Living, No Nursing	Non-White	0.04	0.03	0.06	NA
WA	Assisted Living, No Nursing	White	0.05	0.03	0.08	0.01
WA	Adult Day Centers	Non-White	0.10	0.08	0.12	NA
WA	Adult Day Centers	White	0.08	0.05	0.12	-0.02
WI	Nursing Homes	Non-White	0.19	0.14	0.25	NA
WI	Nursing Homes	White	0.13	0.07	0.26	-0.06
WI	Assisted Living, With Nursing	Non-White	0.09	0.06	0.14	NA
WI	Assisted Living, With Nursing	White	0.07	0.03	0.14	-0.02
WI	Assisted Living, No Nursing	Non-White	0.47	0.39	0.56	NA
WI	Assisted Living, No Nursing	White	0.12	0.09	0.16	-0.35
WI	Adult Day Centers	Non-White	0.25	0.20	0.32	NA
WI	Adult Day Centers	White	0.07	0.04	0.11	-0.19
WV	Nursing Homes	Non-White	0.65	0.51	0.84	NA
WV	Nursing Homes	White	0.28	0.12	0.65	-0.38
WV	Assisted Living, With Nursing	Non-White	0.07	0.03	0.15	NA
WV	Assisted Living, With Nursing	White	0.03	0.00	0.26	-0.04
WV	Assisted Living, No Nursing	Non-White	0.37	0.27	0.52	NA
WV	Adult Day Centers	Non-White	0.11	0.06	0.21	NA
WY	Nursing Homes	Non-White	0.01	0.00	0.01	NA
WY	Nursing Homes	White	0.01	0.00	0.11	0.01

Table A3 Estimated Differences in Facility Intensity, 2010 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
WY	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
WY	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA
WY	Adult Day Centers	Non-White	0.02	0.01	0.02	NA
WY	Adult Day Centers	White	0.02	0.00	0.07	0.00

Notes: Estimates report differences in the number of facilities per 10km^2 in areas predominately made up of the listed demographic group relative to areas that are uninhabited or non-residential. Differences compute the difference between estimates for predominately White minus predominantly non-White areas. Some models did not converge and therefore not all states have estimates reported for all facility type and demographic group combinations and some differences are missing.

Table A4.1 Estimated Differences in Facility Intensity (White – Non-White) Per 10km^2, 2020

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
AL	Nursing Homes	Non-White	0.42	0.34	0.52	NA
AL	Nursing Homes	White	0.34	0.24	0.48	-0.08
AL	Assisted Living, With Nursing	Non-White	0.07	0.04	0.12	NA
AL	Assisted Living, With Nursing	White	0.07	0.03	0.14	0.00
AL	Assisted Living, No Nursing	Non-White	0.18	0.13	0.25	NA
AL	Assisted Living, No Nursing	White	0.27	0.17	0.42	0.08
AL	Adult Day Centers	Non-White	0.25	0.19	0.33	NA
AL	Adult Day Centers	White	0.24	0.15	0.38	-0.01
AR	Nursing Homes	Non-White	0.09	0.06	0.13	NA
AR	Nursing Homes	White	0.08	0.05	0.13	-0.01
AR	Assisted Living, With Nursing	Non-White	0.03	0.02	0.06	NA
AR	Assisted Living, With Nursing	White	0.03	0.01	0.08	0.00
AR	Assisted Living, No Nursing	Non-White	0.08	0.05	0.11	NA
AR	Assisted Living, No Nursing	White	0.06	0.04	0.10	-0.02
AR	Adult Day Centers	Non-White	0.12	0.09	0.17	NA
AR	Adult Day Centers	White	0.11	0.06	0.19	-0.01
AZ	Nursing Homes	Non-White	0.04	0.03	0.05	NA
AZ	Nursing Homes	White	0.06	0.04	0.08	0.01
AZ	Assisted Living, With Nursing	Non-White	0.01	0.01	0.02	NA
AZ	Assisted Living, With Nursing	White	0.02	0.01	0.03	0.01
AZ	Assisted Living, No Nursing	Non-White	0.02	0.01	0.03	NA
AZ	Assisted Living, No Nursing	White	0.05	0.03	0.08	0.03
AZ	Adult Day Centers	Non-White	0.02	0.02	0.03	NA
AZ	Adult Day Centers	White	0.03	0.02	0.04	0.00
CA	Nursing Homes	Non-White	0.20	0.19	0.22	NA
CA	Nursing Homes	White	0.12	0.11	0.14	-0.08
CA	Assisted Living, With Nursing	Non-White	0.04	0.03	0.05	NA
CA	Assisted Living, With Nursing	White	0.03	0.02	0.04	-0.01
CA	Assisted Living, No Nursing	Non-White	0.10	0.09	0.11	NA
CA	Assisted Living, No Nursing	White	0.10	0.09	0.12	0.00
CA	Adult Day Centers	Non-White	0.09	0.08	0.11	NA
CA	Adult Day Centers	White	0.06	0.05	0.07	-0.03
CO	Nursing Homes	Non-White	0.07	0.05	0.08	NA
CO	Nursing Homes	White	0.04	0.03	0.06	-0.03
CO	Assisted Living, With Nursing	Non-White	0.01	0.00	0.01	NA
CO	Assisted Living, With Nursing	White	0.01	0.00	0.01	0.00
CO	Assisted Living, No Nursing	Non-White	0.04	0.03	0.06	NA
CO	Assisted Living, No Nursing	White	0.03	0.02	0.05	-0.01
CO	Adult Day Centers	Non-White	0.06	0.05	0.08	NA
CO	Adult Day Centers	White	0.05	0.03	0.07	-0.01
CT	Nursing Homes	Non-White	1.44	0.93	2.24	NA

Table A4.1 Estimated Differences in Facility Intensity, 2020 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
CT	Nursing Homes	White	0.79	0.45	1.39	-0.65
CT	Assisted Living, With Nursing	Non-White	1.26	0.80	2.01	NA
CT	Assisted Living, With Nursing	White	0.84	0.44	1.60	-0.42
CT	Assisted Living, No Nursing	Non-White	2.33	1.53	3.54	NA
CT	Assisted Living, No Nursing	White	1.21	0.72	2.05	-1.12
CT	Adult Day Centers	Non-White	2.32	1.53	3.52	NA
CT	Adult Day Centers	White	1.10	0.65	1.89	-1.21
DC	Nursing Homes	Non-White	51.33	33.80	77.96	NA
DC	Nursing Homes	White	101.94	45.40	228.91	50.60
DC	Assisted Living, With Nursing	Non-White	4.68	1.17	18.70	NA
DC	Assisted Living, With Nursing	White	8.59	1.70	43.39	3.91
DC	Assisted Living, No Nursing	Non-White	9.23	3.46	24.59	NA
DC	Assisted Living, No Nursing	White	6.07	1.73	21.25	-3.16
DC	Adult Day Centers	Non-White	6.93	2.23	21.48	NA
DC	Adult Day Centers	White	21.13	4.44	100.53	14.20
DE	Nursing Homes	Non-White	2.08	1.12	3.86	NA
DE	Nursing Homes	White	0.78	0.31	1.95	-1.30
DE	Assisted Living, With Nursing	Non-White	0.21	0.03	1.48	NA
DE	Assisted Living, With Nursing	White	0.08	0.01	0.68	-0.13
DE	Assisted Living, No Nursing	Non-White	0.88	0.33	2.34	NA
DE	Assisted Living, No Nursing	White	0.37	0.11	1.22	-0.50
DE	Adult Day Centers	Non-White	0.43	0.11	1.72	NA
DE	Adult Day Centers	White	0.10	0.02	0.53	-0.33
FL	Nursing Homes	Non-White	0.32	0.27	0.37	NA
FL	Nursing Homes	White	0.24	0.19	0.30	-0.08
FL	Assisted Living, With Nursing	Non-White	0.21	0.17	0.25	NA
FL	Assisted Living, With Nursing	White	0.16	0.13	0.21	-0.04
FL	Assisted Living, No Nursing	Non-White	0.26	0.22	0.31	NA
FL	Assisted Living, No Nursing	White	0.18	0.15	0.22	-0.08
FL	Adult Day Centers	Non-White	0.32	0.27	0.37	NA
FL	Adult Day Centers	White	0.15	0.12	0.19	-0.17
GA	Nursing Homes	Non-White	0.52	0.44	0.61	NA
GA	Nursing Homes	White	0.33	0.26	0.41	-0.19
GA	Assisted Living, With Nursing	Non-White	0.08	0.05	0.12	NA
GA	Assisted Living, With Nursing	White	0.06	0.04	0.10	-0.02
GA	Assisted Living, No Nursing	Non-White	0.20	0.15	0.26	NA
GA	Assisted Living, No Nursing	White	0.14	0.10	0.20	-0.06
GA	Adult Day Centers	Non-White	0.30	0.24	0.37	NA
GA	Adult Day Centers	White	0.14	0.10	0.19	-0.16
IA	Nursing Homes	Non-White	0.21	0.16	0.27	NA
IA	Nursing Homes	White	0.26	0.12	0.54	0.04

Table A4.1 Estimated Differences in Facility Intensity, 2020 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
IA	Assisted Living, With Nursing	Non-White	0.08	0.05	0.12	NA
IA	Assisted Living, With Nursing	White	0.17	0.05	0.58	0.10
IA	Assisted Living, No Nursing	Non-White	0.13	0.09	0.18	NA
IA	Assisted Living, No Nursing	White	0.11	0.06	0.20	-0.02
IA	Adult Day Centers	Non-White	0.14	0.10	0.20	NA
IA	Adult Day Centers	White	0.08	0.04	0.15	-0.06
ID	Nursing Homes	Non-White	0.02	0.01	0.03	NA
ID	Nursing Homes	White	0.02	0.01	0.03	-0.01
ID	Assisted Living, With Nursing	Non-White	0.01	0.00	0.01	NA
ID	Assisted Living, No Nursing	Non-White	0.01	0.01	0.02	NA
ID	Assisted Living, No Nursing	White	0.05	0.01	0.16	0.03
ID	Adult Day Centers	Non-White	0.02	0.01	0.03	NA
ID	Adult Day Centers	White	0.02	0.01	0.04	0.00
IL	Nursing Homes	Non-White	0.57	0.48	0.67	NA
IL	Nursing Homes	White	0.34	0.27	0.43	-0.23
IL	Assisted Living, With Nursing	Non-White	0.11	0.08	0.16	NA
IL	Assisted Living, With Nursing	White	0.06	0.04	0.10	-0.05
IL	Assisted Living, No Nursing	Non-White	0.28	0.22	0.35	NA
IL	Assisted Living, No Nursing	White	0.18	0.13	0.25	-0.10
IL	Adult Day Centers	Non-White	0.26	0.20	0.33	NA
IL	Adult Day Centers	White	0.13	0.09	0.18	-0.13
IN	Nursing Homes	Non-White	0.99	0.81	1.21	NA
IN	Nursing Homes	White	0.74	0.51	1.06	-0.25
IN	Assisted Living, With Nursing	Non-White	0.13	0.07	0.23	NA
IN	Assisted Living, With Nursing	White	0.11	0.05	0.23	-0.02
IN	Assisted Living, No Nursing	Non-White	0.41	0.30	0.57	NA
IN	Assisted Living, No Nursing	White	0.36	0.22	0.57	-0.06
IN	Adult Day Centers	Non-White	0.30	0.21	0.43	NA
IN	Adult Day Centers	White	0.13	0.07	0.24	-0.17
KS	Nursing Homes	Non-White	0.04	0.03	0.06	NA
KS	Nursing Homes	White	0.05	0.03	0.08	0.00
KS	Assisted Living, With Nursing	Non-White	0.01	0.01	0.02	NA
KS	Assisted Living, With Nursing	White	0.01	0.00	0.02	0.00
KS	Assisted Living, No Nursing	Non-White	0.07	0.06	0.09	NA
KS	Assisted Living, No Nursing	White	0.08	0.05	0.12	0.00
KS	Adult Day Centers	Non-White	0.06	0.05	0.08	NA
KS	Adult Day Centers	White	0.04	0.02	0.07	-0.02
KY	Nursing Homes	Non-White	0.50	0.38	0.66	NA
KY	Nursing Homes	White	0.44	0.26	0.74	-0.06
KY	Assisted Living, With Nursing	Non-White	0.23	0.15	0.35	NA
KY	Assisted Living, With Nursing	White	0.09	0.03	0.22	-0.14

Table A4.1 Estimated Differences in Facility Intensity, 2020 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
KY	Assisted Living, No Nursing	Non-White	0.32	0.23	0.46	NA
KY	Assisted Living, No Nursing	White	0.33	0.14	0.75	0.01
KY	Adult Day Centers	Non-White	0.39	0.29	0.53	NA
KY	Adult Day Centers	White	0.16	0.08	0.32	-0.23
LA	Nursing Homes	Non-White	0.27	0.22	0.33	NA
LA	Nursing Homes	White	0.20	0.15	0.27	-0.07
LA	Assisted Living, With Nursing	Non-White	0.04	0.03	0.07	NA
LA	Assisted Living, With Nursing	White	0.05	0.02	0.09	0.00
LA	Assisted Living, No Nursing	Non-White	0.07	0.05	0.11	NA
LA	Assisted Living, No Nursing	White	0.06	0.03	0.09	-0.02
LA	Adult Day Centers	Non-White	0.15	0.12	0.20	NA
LA	Adult Day Centers	White	0.10	0.06	0.15	-0.05
MA	Nursing Homes	Non-White	2.14	1.59	2.87	NA
MA	Nursing Homes	White	1.11	0.75	1.66	-1.02
MA	Assisted Living, With Nursing	Non-White	0.83	0.52	1.34	NA
MA	Assisted Living, With Nursing	White	0.47	0.26	0.87	-0.36
MA	Assisted Living, No Nursing	Non-White	1.93	1.42	2.64	NA
MA	Assisted Living, No Nursing	White	1.51	0.96	2.38	-0.42
MA	Adult Day Centers	Non-White	1.72	1.24	2.38	NA
MA	Adult Day Centers	White	0.65	0.41	1.01	-1.07
MD	Nursing Homes	Non-White	4.50	3.69	5.50	NA
MD	Nursing Homes	White	2.67	2.01	3.55	-1.83
MD	Assisted Living, With Nursing	Non-White	0.84	0.48	1.48	NA
MD	Assisted Living, With Nursing	White	0.88	0.46	1.69	0.04
MD	Assisted Living, No Nursing	Non-White	2.73	2.09	3.58	NA
MD	Assisted Living, No Nursing	White	1.51	1.10	2.08	-1.22
MD	Adult Day Centers	Non-White	2.07	1.52	2.82	NA
MD	Adult Day Centers	White	1.34	0.87	2.07	-0.73
ME	Nursing Homes	Non-White	0.06	0.04	0.09	NA
ME	Nursing Homes	White	0.06	0.01	0.25	0.00
ME	Assisted Living, With Nursing	Non-White	0.03	0.02	0.06	NA
ME	Assisted Living, With Nursing	White	0.02	0.01	0.07	-0.01
ME	Assisted Living, No Nursing	Non-White	0.07	0.04	0.10	NA
ME	Assisted Living, No Nursing	White	0.06	0.02	0.16	-0.01
ME	Adult Day Centers	Non-White	0.01	0.00	0.03	NA
MI	Nursing Homes	Non-White	0.33	0.27	0.41	NA
MI	Nursing Homes	White	0.15	0.11	0.21	-0.18
MI	Assisted Living, With Nursing	Non-White	0.09	0.06	0.13	NA
MI	Assisted Living, With Nursing	White	0.05	0.03	0.09	-0.04
MI	Assisted Living, No Nursing	Non-White	0.26	0.20	0.33	NA
MI	Assisted Living, No Nursing	White	0.13	0.10	0.17	-0.13

Table A4.1 Estimated Differences in Facility Intensity, 2020 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
MI	Adult Day Centers	Non-White	0.23	0.18	0.30	NA
MI	Adult Day Centers	White	0.09	0.06	0.13	-0.15
MN	Nursing Homes	Non-White	0.12	0.10	0.16	NA
MN	Nursing Homes	White	0.08	0.05	0.11	-0.05
MN	Assisted Living, With Nursing	Non-White	0.04	0.02	0.06	NA
MN	Assisted Living, With Nursing	White	0.02	0.01	0.04	-0.01
MN	Assisted Living, No Nursing	Non-White	0.13	0.10	0.16	NA
MN	Assisted Living, No Nursing	White	0.08	0.06	0.12	-0.04
MN	Adult Day Centers	Non-White	0.14	0.11	0.18	NA
MN	Adult Day Centers	White	0.05	0.03	0.07	-0.09
MO	Nursing Homes	Non-White	0.33	0.27	0.40	NA
MO	Nursing Homes	White	0.20	0.14	0.27	-0.14
MO	Assisted Living, With Nursing	Non-White	0.07	0.05	0.11	NA
MO	Assisted Living, With Nursing	White	0.03	0.02	0.06	-0.04
MO	Assisted Living, No Nursing	Non-White	0.24	0.19	0.30	NA
MO	Assisted Living, No Nursing	White	0.18	0.13	0.27	-0.05
MO	Adult Day Centers	Non-White	0.13	0.10	0.18	NA
MO	Adult Day Centers	White	0.04	0.03	0.07	-0.09
MS	Nursing Homes	Non-White	0.27	0.21	0.35	NA
MS	Nursing Homes	White	0.22	0.15	0.31	-0.05
MS	Assisted Living, With Nursing	Non-White	0.04	0.02	0.07	NA
MS	Assisted Living, With Nursing	White	0.04	0.02	0.10	0.00
MS	Assisted Living, No Nursing	Non-White	0.07	0.04	0.11	NA
MS	Assisted Living, No Nursing	White	0.07	0.04	0.13	0.00
MS	Adult Day Centers	Non-White	0.15	0.11	0.20	NA
MS	Adult Day Centers	White	0.09	0.05	0.15	-0.06
MT	Nursing Homes	Non-White	0.01	0.01	0.02	NA
MT	Nursing Homes	White	0.01	0.00	0.02	0.00
MT	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
MT	Assisted Living, No Nursing	Non-White	0.01	0.00	0.01	NA
MT	Assisted Living, No Nursing	White	0.05	0.01	0.41	0.05
MT	Adult Day Centers	Non-White	0.02	0.01	0.02	NA
MT	Adult Day Centers	White	0.02	0.01	0.03	0.00
NC	Nursing Homes	Non-White	0.67	0.55	0.81	NA
NC	Nursing Homes	White	0.43	0.33	0.56	-0.24
NC	Assisted Living, With Nursing	Non-White	0.17	0.11	0.25	NA
NC	Assisted Living, With Nursing	White	0.19	0.12	0.31	0.02
NC	Assisted Living, No Nursing	Non-White	0.35	0.27	0.46	NA
NC	Assisted Living, No Nursing	White	0.34	0.24	0.47	-0.02
NC	Adult Day Centers	Non-White	0.30	0.22	0.40	NA
NC	Adult Day Centers	White	0.20	0.13	0.30	-0.10

Table A4.1 Estimated Differences in Facility Intensity, 2020 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
ND	Nursing Homes	Non-White	0.03	0.02	0.04	NA
ND	Nursing Homes	White	0.01	0.00	0.02	-0.02
ND	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
ND	Assisted Living, No Nursing	Non-White	0.01	0.01	0.02	NA
ND	Assisted Living, No Nursing	White	0.01	0.00	0.04	0.00
ND	Adult Day Centers	Non-White	0.03	0.02	0.04	NA
ND	Adult Day Centers	White	0.02	0.01	0.06	-0.01
NE	Nursing Homes	Non-White	0.04	0.03	0.07	NA
NE	Nursing Homes	White	0.03	0.01	0.06	-0.02
NE	Assisted Living, With Nursing	Non-White	0.02	0.01	0.04	NA
NE	Assisted Living, With Nursing	White	0.01	0.00	0.04	-0.01
NE	Assisted Living, No Nursing	Non-White	0.08	0.06	0.11	NA
NE	Assisted Living, No Nursing	White	0.07	0.04	0.14	-0.01
NE	Adult Day Centers	Non-White	0.05	0.04	0.08	NA
NE	Adult Day Centers	White	0.06	0.03	0.12	0.01
NH	Nursing Homes	Non-White	0.12	0.05	0.30	NA
NH	Nursing Homes	White	0.05	0.01	0.42	-0.08
NH	Assisted Living, With Nursing	Non-White	0.10	0.04	0.27	NA
NH	Assisted Living, With Nursing	White	0.09	0.01	0.79	-0.01
NH	Assisted Living, No Nursing	Non-White	0.18	0.08	0.37	NA
NH	Assisted Living, No Nursing	White	0.29	0.03	2.36	0.11
NH	Adult Day Centers	Non-White	0.15	0.07	0.33	NA
NH	Adult Day Centers	White	0.05	0.01	0.21	-0.10
NJ	Nursing Homes	Non-White	1.94	1.54	2.45	NA
NJ	Nursing Homes	White	1.14	0.84	1.55	-0.80
NJ	Assisted Living, With Nursing	Non-White	0.42	0.26	0.69	NA
NJ	Assisted Living, With Nursing	White	0.30	0.17	0.55	-0.12
NJ	Assisted Living, No Nursing	Non-White	0.60	0.39	0.91	NA
NJ	Assisted Living, No Nursing	White	0.47	0.29	0.76	-0.13
NJ	Adult Day Centers	Non-White	1.13	0.83	1.53	NA
NJ	Adult Day Centers	White	0.30	0.20	0.45	-0.82
NM	Nursing Homes	Non-White	0.02	0.01	0.02	NA
NM	Nursing Homes	White	0.01	0.01	0.02	0.00
NM	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
NM	Assisted Living, With Nursing	White	0.00	0.00	0.01	0.00
NM	Assisted Living, No Nursing	Non-White	0.01	0.01	0.02	NA
NM	Assisted Living, No Nursing	White	0.01	0.01	0.02	0.00
NM	Adult Day Centers	Non-White	0.02	0.02	0.03	NA
NM	Adult Day Centers	White	0.02	0.01	0.03	0.00
NV	Nursing Homes	Non-White	0.01	0.01	0.02	NA
NV	Nursing Homes	White	0.01	0.00	0.01	-0.01

Table A4.1 Estimated Differences in Facility Intensity, 2020 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
NV	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
NV	Assisted Living, With Nursing	White	0.00	0.00	0.01	0.00
NV	Assisted Living, No Nursing	Non-White	0.01	0.01	0.01	NA
NV	Assisted Living, No Nursing	White	0.01	0.00	0.01	0.00
NV	Adult Day Centers	Non-White	0.01	0.01	0.01	NA
NV	Adult Day Centers	White	0.01	0.00	0.01	0.00
NY	Nursing Homes	Non-White	0.41	0.32	0.52	NA
NY	Nursing Homes	White	0.14	0.11	0.19	-0.26
NY	Assisted Living, With Nursing	Non-White	0.19	0.13	0.28	NA
NY	Assisted Living, With Nursing	White	0.10	0.06	0.15	-0.10
NY	Assisted Living, No Nursing	Non-White	0.45	0.36	0.57	NA
NY	Assisted Living, No Nursing	White	0.15	0.11	0.20	-0.30
NY	Adult Day Centers	Non-White	0.29	0.21	0.38	NA
NY	Adult Day Centers	White	0.06	0.05	0.09	-0.22
OH	Nursing Homes	Non-White	1.28	1.04	1.56	NA
OH	Nursing Homes	White	0.83	0.61	1.13	-0.44
OH	Assisted Living, With Nursing	Non-White	0.48	0.35	0.66	NA
OH	Assisted Living, With Nursing	White	0.33	0.21	0.51	-0.15
OH	Assisted Living, No Nursing	Non-White	1.15	0.92	1.43	NA
OH	Assisted Living, No Nursing	White	0.71	0.52	0.96	-0.44
OH	Adult Day Centers	Non-White	0.79	0.62	1.01	NA
OH	Adult Day Centers	White	0.45	0.31	0.67	-0.34
OK	Nursing Homes	Non-White	0.18	0.14	0.22	NA
OK	Nursing Homes	White	0.14	0.10	0.20	-0.03
OK	Assisted Living, With Nursing	Non-White	0.03	0.02	0.05	NA
OK	Assisted Living, With Nursing	White	0.02	0.01	0.04	-0.01
OK	Assisted Living, No Nursing	Non-White	0.08	0.06	0.11	NA
OK	Assisted Living, No Nursing	White	0.06	0.04	0.10	-0.01
OK	Adult Day Centers	Non-White	0.09	0.06	0.12	NA
OK	Adult Day Centers	White	0.08	0.05	0.14	0.00
OR	Nursing Homes	Non-White	0.03	0.02	0.04	NA
OR	Nursing Homes	White	0.03	0.02	0.04	0.00
OR	Assisted Living, With Nursing	Non-White	0.01	0.01	0.02	NA
OR	Assisted Living, With Nursing	White	0.01	0.00	0.01	-0.01
OR	Assisted Living, No Nursing	Non-White	0.02	0.02	0.03	NA
OR	Assisted Living, No Nursing	White	0.01	0.01	0.02	-0.01
OR	Adult Day Centers	Non-White	0.03	0.02	0.04	NA
OR	Adult Day Centers	White	0.02	0.01	0.03	-0.01
PA	Nursing Homes	Non-White	1.05	0.89	1.23	NA
PA	Nursing Homes	White	0.54	0.42	0.71	-0.50
PA	Assisted Living, With Nursing	Non-White	0.40	0.31	0.51	NA

Table A4.1 Estimated Differences in Facility Intensity, 2020 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
PA	Assisted Living, With Nursing	White	0.28	0.19	0.42	-0.12
PA	Assisted Living, No Nursing	Non-White	0.55	0.44	0.68	NA
PA	Assisted Living, No Nursing	White	0.31	0.23	0.42	-0.24
PA	Adult Day Centers	Non-White	0.46	0.36	0.58	NA
PA	Adult Day Centers	White	0.22	0.14	0.33	-0.24
RI	Nursing Homes	Non-White	1.37	0.57	3.30	NA
RI	Nursing Homes	White	1.48	0.39	5.62	0.11
RI	Assisted Living, With Nursing	Non-White	0.79	0.25	2.44	NA
RI	Assisted Living, With Nursing	White	0.44	0.09	2.04	-0.35
RI	Assisted Living, No Nursing	Non-White	0.82	0.26	2.54	NA
RI	Assisted Living, No Nursing	White	1.12	0.24	5.10	0.30
RI	Adult Day Centers	Non-White	2.65	1.42	4.92	NA
RI	Adult Day Centers	White	1.32	0.38	4.54	-1.33
SC	Nursing Homes	Non-White	0.53	0.42	0.66	NA
SC	Nursing Homes	White	0.40	0.29	0.56	-0.13
SC	Assisted Living, With Nursing	Non-White	0.15	0.10	0.23	NA
SC	Assisted Living, With Nursing	White	0.12	0.07	0.22	-0.03
SC	Assisted Living, No Nursing	Non-White	0.16	0.11	0.24	NA
SC	Assisted Living, No Nursing	White	0.11	0.07	0.18	-0.05
SC	Adult Day Centers	Non-White	0.23	0.16	0.33	NA
SC	Adult Day Centers	White	0.12	0.07	0.20	-0.11
SD	Nursing Homes	Non-White	0.05	0.03	0.07	NA
SD	Nursing Homes	White	0.12	0.04	0.35	0.07
SD	Assisted Living, With Nursing	Non-White	0.01	0.00	0.02	NA
SD	Assisted Living, With Nursing	White	0.05	0.01	0.24	0.04
SD	Assisted Living, No Nursing	Non-White	0.01	0.01	0.03	NA
SD	Assisted Living, No Nursing	White	0.03	0.01	0.08	0.01
SD	Adult Day Centers	Non-White	0.03	0.02	0.04	NA
SD	Adult Day Centers	White	0.04	0.02	0.08	0.01
TN	Nursing Homes	Non-White	0.66	0.54	0.82	NA
TN	Nursing Homes	White	0.44	0.31	0.62	-0.22
TN	Assisted Living, With Nursing	Non-White	0.18	0.11	0.27	NA
TN	Assisted Living, With Nursing	White	0.09	0.05	0.16	-0.09
TN	Assisted Living, No Nursing	Non-White	0.33	0.25	0.45	NA
TN	Assisted Living, No Nursing	White	0.31	0.20	0.48	-0.02
TN	Adult Day Centers	Non-White	0.34	0.26	0.46	NA
TN	Adult Day Centers	White	0.16	0.10	0.25	-0.19
TX	Nursing Homes	Non-White	0.12	0.10	0.13	NA
TX	Nursing Homes	White	0.07	0.06	0.08	-0.05
TX	Assisted Living, With Nursing	Non-White	0.02	0.01	0.03	NA
TX	Assisted Living, With Nursing	White	0.02	0.01	0.02	0.00

Table A4.1 Estimated Differences in Facility Intensity, 2020 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
TX	Assisted Living, No Nursing	Non-White	0.05	0.04	0.06	NA
TX	Assisted Living, No Nursing	White	0.04	0.03	0.05	-0.01
TX	Adult Day Centers	Non-White	0.06	0.05	0.07	NA
TX	Adult Day Centers	White	0.03	0.02	0.03	-0.04
UT	Nursing Homes	Non-White	0.02	0.01	0.03	NA
UT	Nursing Homes	White	0.02	0.01	0.04	0.00
UT	Assisted Living, With Nursing	Non-White	0.01	0.00	0.01	NA
UT	Assisted Living, With Nursing	White	0.01	0.00	0.03	0.00
UT	Assisted Living, No Nursing	Non-White	0.01	0.00	0.01	NA
UT	Assisted Living, No Nursing	White	0.02	0.01	0.05	0.01
UT	Adult Day Centers	Non-White	0.02	0.01	0.03	NA
UT	Adult Day Centers	White	0.01	0.01	0.03	0.00
VA	Nursing Homes	Non-White	0.86	0.69	1.08	NA
VA	Nursing Homes	White	0.71	0.52	0.97	-0.15
VA	Assisted Living, With Nursing	Non-White	0.19	0.11	0.30	NA
VA	Assisted Living, With Nursing	White	0.22	0.12	0.39	0.03
VA	Assisted Living, No Nursing	Non-White	0.43	0.31	0.59	NA
VA	Assisted Living, No Nursing	White	0.36	0.24	0.52	-0.07
VA	Adult Day Centers	Non-White	0.57	0.44	0.75	NA
VA	Adult Day Centers	White	0.45	0.29	0.69	-0.12
VT	Nursing Homes	Non-White	0.08	0.02	0.34	NA
VT	Nursing Homes	White	0.04	0.00	0.44	-0.05
VT	Assisted Living, No Nursing	Non-White	0.42	0.22	0.77	NA
VT	Assisted Living, No Nursing	White	0.28	0.03	2.20	-0.14
VT	Adult Day Centers	Non-White	0.16	0.06	0.44	NA
WA	Nursing Homes	Non-White	0.05	0.03	0.07	NA
WA	Nursing Homes	White	0.04	0.03	0.07	0.00
WA	Assisted Living, With Nursing	Non-White	0.02	0.01	0.04	NA
WA	Assisted Living, With Nursing	White	0.03	0.01	0.05	0.00
WA	Assisted Living, No Nursing	Non-White	0.07	0.05	0.09	NA
WA	Assisted Living, No Nursing	White	0.07	0.05	0.10	0.00
WA	Adult Day Centers	Non-White	0.07	0.06	0.10	NA
WA	Adult Day Centers	White	0.06	0.04	0.10	-0.01
WI	Nursing Homes	Non-White	0.29	0.22	0.37	NA
WI	Nursing Homes	White	0.13	0.08	0.21	-0.15
WI	Assisted Living, With Nursing	Non-White	0.09	0.06	0.15	NA
WI	Assisted Living, With Nursing	White	0.07	0.03	0.14	-0.03
WI	Assisted Living, No Nursing	Non-White	0.35	0.28	0.45	NA
WI	Assisted Living, No Nursing	White	0.13	0.10	0.18	-0.22
WI	Adult Day Centers	Non-White	0.20	0.14	0.27	NA
WI	Adult Day Centers	White	0.10	0.06	0.17	-0.10

Table A4.1 Estimated Differences in Facility Intensity, 2020 (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
WV	Nursing Homes	Non-White	0.55	0.40	0.76	NA
WV	Nursing Homes	White	0.41	0.21	0.80	-0.14
WV	Assisted Living, With Nursing	Non-White	0.08	0.03	0.20	NA
WV	Assisted Living, With Nursing	White	0.03	0.00	0.24	-0.06
WV	Assisted Living, No Nursing	Non-White	0.34	0.23	0.52	NA
WV	Assisted Living, No Nursing	White	0.23	0.09	0.59	-0.11
WV	Adult Day Centers	Non-White	0.16	0.09	0.30	NA
WY	Nursing Homes	Non-White	0.00	0.00	0.01	NA
WY	Nursing Homes	White	0.02	0.00	0.12	0.01
WY	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA
WY	Adult Day Centers	Non-White	0.01	0.00	0.01	NA
WY	Adult Day Centers	White	0.03	0.00	0.25	0.02

Notes: Estimates report differences in the number of facilities per 10km^2 in areas predominately made up of the listed demographic group relative to areas that are uninhabited or non-residential. Differences compute the difference between estimates for predominately White minus predominantly non-White areas. Some models did not converge and therefore not all states have estimates reported for all facility type and demographic group combinations and some differences are missing.

Table A4.2 Estimated Differences in Facility Intensity (White – Non-White) Per 10km^2, 2020 Adjusting for Socioeconomic Differences

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
AR	Nursing Homes	Non-White	0.00	0.00	0.00	NA
AR	Nursing Homes	White	0.00	0.00	0.00	0.00
AR	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
AR	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
AR	Assisted Living, No Nursing	Non-White	0.00	0.00	0.02	NA
AR	Assisted Living, No Nursing	White	0.00	0.00	0.02	0.00
AR	Adult Day Centers	Non-White	0.00	0.00	0.01	NA
AR	Adult Day Centers	White	0.00	0.00	0.01	0.00
AZ	Nursing Homes	Non-White	0.00	0.00	0.00	NA
AZ	Nursing Homes	White	0.00	0.00	0.00	0.00
AZ	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
AZ	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
AZ	Assisted Living, No Nursing	Non-White	0.00	0.00	0.00	NA
AZ	Assisted Living, No Nursing	White	0.00	0.00	0.00	0.00
AZ	Adult Day Centers	Non-White	0.00	0.00	0.02	NA
AZ	Adult Day Centers	White	0.00	0.00	0.02	0.01
CO	Nursing Homes	Non-White	0.01	0.00	0.05	NA
CO	Nursing Homes	White	0.01	0.00	0.03	-0.03
CO	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
CO	Assisted Living, With Nursing	White	0.00	0.00	0.01	0.00
CO	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA
CO	Assisted Living, No Nursing	White	0.00	0.00	0.01	0.00
CO	Adult Day Centers	Non-White	0.00	0.00	0.02	NA
CO	Adult Day Centers	White	0.00	0.00	0.01	-0.01
CT	Nursing Homes	Non-White	1.06	0.11	10.66	NA
CT	Nursing Homes	White	0.86	0.08	9.53	-2.04
CT	Assisted Living, With Nursing	Non-White	1.70	0.13	22.37	NA
CT	Assisted Living, With Nursing	White	1.73	0.11	28.33	0.35
CT	Assisted Living, No Nursing	Non-White	0.55	0.07	4.32	NA
CT	Assisted Living, No Nursing	White	0.45	0.05	4.08	-0.96
CT	Adult Day Centers	Non-White	0.26	0.03	2.72	NA
CT	Adult Day Centers	White	0.19	0.02	2.26	-0.72
DE	Nursing Homes	Non-White	4.96	0.19	126.60	NA
DE	Nursing Homes	White	1.92	0.06	58.97	-30.45
DE	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
DE	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
DE	Assisted Living, No Nursing	Non-White	0.39	0.01	16.86	NA
DE	Assisted Living, No Nursing	White	0.15	0.00	6.70	-2.33
DE	Adult Day Centers	Non-White	0.00	0.00	0.38	NA
DE	Adult Day Centers	White	0.00	0.00	0.12	0.00

Table A4.2 Estimated Differences in Facility Intensity 2020, Additional Controls (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
GA	Nursing Homes	Non-White	0.00	0.00	0.01	NA
GA	Nursing Homes	White	0.00	0.00	0.01	-0.02
GA	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
GA	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
GA	Assisted Living, No Nursing	Non-White	0.00	0.00	0.00	NA
GA	Assisted Living, No Nursing	White	0.00	0.00	0.00	0.00
GA	Adult Day Centers	Non-White	0.00	0.00	0.01	NA
GA	Adult Day Centers	White	0.00	0.00	0.00	-0.01
IA	Nursing Homes	Non-White	0.03	0.00	0.21	NA
IA	Nursing Homes	White	0.06	0.01	0.46	0.27
IA	Assisted Living, With Nursing	Non-White	0.01	0.00	0.10	NA
IA	Assisted Living, With Nursing	White	0.01	0.00	0.32	0.09
IA	Assisted Living, No Nursing	Non-White	0.01	0.00	0.04	NA
IA	Assisted Living, No Nursing	White	0.01	0.00	0.04	-0.01
IA	Adult Day Centers	Non-White	0.02	0.00	0.20	NA
IA	Adult Day Centers	White	0.01	0.00	0.20	-0.03
ID	Nursing Homes	Non-White	0.00	0.00	0.00	NA
ID	Nursing Homes	White	0.00	0.00	0.00	0.00
ID	Assisted Living, No Nursing	Non-White	0.00	0.00	0.00	NA
ID	Assisted Living, No Nursing	White	0.00	0.00	0.00	0.00
ID	Adult Day Centers	Non-White	0.00	0.00	0.02	NA
ID	Adult Day Centers	White	0.00	0.00	0.02	0.00
IL	Nursing Homes	Non-White	0.06	0.03	0.15	NA
IL	Nursing Homes	White	0.05	0.02	0.12	-0.16
IL	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
IL	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
IL	Assisted Living, No Nursing	Non-White	0.01	0.00	0.04	NA
IL	Assisted Living, No Nursing	White	0.01	0.00	0.03	-0.02
IL	Adult Day Centers	Non-White	0.00	0.00	0.02	NA
IL	Adult Day Centers	White	0.00	0.00	0.02	-0.01
KY	Nursing Homes	Non-White	0.00	0.00	0.01	NA
KY	Nursing Homes	White	0.00	0.00	0.02	0.00
KY	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
KY	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
KY	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA
KY	Assisted Living, No Nursing	White	0.00	0.00	0.01	0.01
KY	Adult Day Centers	Non-White	0.01	0.00	0.04	NA
KY	Adult Day Centers	White	0.00	0.00	0.02	-0.04
LA	Nursing Homes	Non-White	0.00	0.00	0.01	NA
LA	Nursing Homes	White	0.00	0.00	0.01	-0.01
LA	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA

Table A4.2 Estimated Differences in Facility Intensity 2020, Additional Controls (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
LA	Assisted Living, With Nursing	White	0.00	0.00	0.01	0.00
LA	Assisted Living, No Nursing	Non-White	0.00	0.00	0.00	NA
LA	Assisted Living, No Nursing	White	0.00	0.00	0.00	0.00
LA	Adult Day Centers	Non-White	0.00	0.00	0.01	NA
LA	Adult Day Centers	White	0.00	0.00	0.00	-0.01
ME	Nursing Homes	Non-White	0.00	0.00	0.01	NA
ME	Nursing Homes	White	0.00	0.00	0.01	0.00
ME	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
ME	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
ME	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA
ME	Assisted Living, No Nursing	White	0.00	0.00	0.01	0.00
MI	Nursing Homes	Non-White	0.03	0.01	0.10	NA
MI	Nursing Homes	White	0.02	0.00	0.06	-0.12
MI	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
MI	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
MI	Assisted Living, No Nursing	Non-White	0.01	0.00	0.02	NA
MI	Assisted Living, No Nursing	White	0.00	0.00	0.01	-0.03
MI	Adult Day Centers	Non-White	0.01	0.00	0.04	NA
MI	Adult Day Centers	White	0.00	0.00	0.02	-0.03
MO	Nursing Homes	Non-White	0.00	0.00	0.00	NA
MO	Nursing Homes	White	0.00	0.00	0.00	0.00
MO	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
MO	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
MO	Assisted Living, No Nursing	Non-White	0.00	0.00	0.00	NA
MO	Assisted Living, No Nursing	White	0.00	0.00	0.00	0.00
MO	Adult Day Centers	Non-White	0.00	0.00	0.00	NA
MO	Adult Day Centers	White	0.00	0.00	0.00	0.00
MS	Nursing Homes	Non-White	0.01	0.00	0.02	NA
MS	Nursing Homes	White	0.01	0.00	0.02	-0.01
MS	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
MS	Assisted Living, With Nursing	White	0.00	0.00	0.01	0.00
MS	Assisted Living, No Nursing	Non-White	0.01	0.00	0.04	NA
MS	Assisted Living, No Nursing	White	0.00	0.00	0.04	0.00
MS	Adult Day Centers	Non-White	0.00	0.00	0.02	NA
MS	Adult Day Centers	White	0.00	0.00	0.02	-0.01
MT	Nursing Homes	Non-White	0.00	0.00	0.03	NA
MT	Nursing Homes	White	0.00	0.00	0.02	0.00
MT	Assisted Living, No Nursing	Non-White	0.00	0.00	0.10	NA
MT	Assisted Living, No Nursing	White	0.03	0.00	1.69	0.27
MT	Adult Day Centers	Non-White	0.02	0.00	1.80	NA
MT	Adult Day Centers	White	0.02	0.00	1.63	-0.02

Table A4.2 Estimated Differences in Facility Intensity 2020, Additional Controls (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
NC	Nursing Homes	Non-White	0.01	0.00	0.03	NA
NC	Nursing Homes	White	0.01	0.00	0.02	-0.04
NC	Assisted Living, With Nursing	Non-White	0.00	0.00	0.01	NA
NC	Assisted Living, With Nursing	White	0.00	0.00	0.01	0.00
NC	Assisted Living, No Nursing	Non-White	0.01	0.00	0.02	NA
NC	Assisted Living, No Nursing	White	0.01	0.00	0.02	0.00
NC	Adult Day Centers	Non-White	0.02	0.00	0.08	NA
NC	Adult Day Centers	White	0.01	0.00	0.06	-0.04
ND	Nursing Homes	Non-White	0.00	0.00	0.00	NA
ND	Nursing Homes	White	0.00	0.00	0.00	0.00
ND	Assisted Living, No Nursing	Non-White	0.00	0.00	0.00	NA
ND	Assisted Living, No Nursing	White	0.00	0.00	0.00	0.00
ND	Adult Day Centers	Non-White	0.00	0.00	0.00	NA
ND	Adult Day Centers	White	0.00	0.00	0.00	0.00
NE	Nursing Homes	Non-White	0.01	0.00	0.13	NA
NE	Nursing Homes	White	0.00	0.00	0.10	-0.02
NE	Assisted Living, With Nursing	Non-White	0.00	0.00	0.02	NA
NE	Assisted Living, With Nursing	White	0.00	0.00	0.01	0.00
NE	Assisted Living, No Nursing	Non-White	0.00	0.00	0.04	NA
NE	Assisted Living, No Nursing	White	0.00	0.00	0.05	0.01
NE	Adult Day Centers	Non-White	0.01	0.00	0.14	NA
NE	Adult Day Centers	White	0.01	0.00	0.21	0.01
NH	Nursing Homes	Non-White	0.61	0.00	231.64	NA
NH	Nursing Homes	White	0.32	0.00	171.24	-2.89
NH	Assisted Living, With Nursing	Non-White	0.00	0.00	0.10	NA
NH	Assisted Living, With Nursing	White	0.00	0.00	0.05	0.00
NH	Assisted Living, No Nursing	Non-White	0.02	0.00	0.81	NA
NH	Assisted Living, No Nursing	White	0.04	0.00	2.38	0.18
NH	Adult Day Centers	Non-White	0.04	0.00	12.10	NA
NH	Adult Day Centers	White	0.03	0.00	14.99	-0.06
NM	Nursing Homes	Non-White	0.00	0.00	0.01	NA
NM	Nursing Homes	White	0.00	0.00	0.00	0.00
NM	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
NM	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
NM	Assisted Living, No Nursing	Non-White	0.00	0.00	0.00	NA
NM	Assisted Living, No Nursing	White	0.00	0.00	0.00	0.00
NM	Adult Day Centers	Non-White	0.00	0.00	0.00	NA
NM	Adult Day Centers	White	0.00	0.00	0.00	0.00
OK	Nursing Homes	Non-White	0.00	0.00	0.00	NA
OK	Nursing Homes	White	0.00	0.00	0.00	0.00
OK	Assisted Living, With Nursing	Non-White	0.02	0.00	0.23	NA

Table A4.2 Estimated Differences in Facility Intensity 2020, Additional Controls (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
OK	Assisted Living, With Nursing	White	0.01	0.00	0.22	-0.03
OK	Assisted Living, No Nursing	Non-White	0.01	0.00	0.03	NA
OK	Assisted Living, No Nursing	White	0.01	0.00	0.03	-0.01
OK	Adult Day Centers	Non-White	0.00	0.00	0.04	NA
OK	Adult Day Centers	White	0.00	0.00	0.05	0.01
OR	Nursing Homes	Non-White	0.00	0.00	0.00	NA
OR	Nursing Homes	White	0.00	0.00	0.00	0.00
OR	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
OR	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
OR	Assisted Living, No Nursing	Non-White	0.00	0.00	0.00	NA
OR	Assisted Living, No Nursing	White	0.00	0.00	0.00	0.00
OR	Adult Day Centers	Non-White	0.00	0.00	0.00	NA
OR	Adult Day Centers	White	0.00	0.00	0.00	0.00
SC	Nursing Homes	Non-White	0.00	0.00	0.00	NA
SC	Nursing Homes	White	0.00	0.00	0.00	0.00
SC	Assisted Living, With Nursing	Non-White	0.00	0.00	0.04	NA
SC	Assisted Living, With Nursing	White	0.00	0.00	0.03	-0.01
SC	Assisted Living, No Nursing	Non-White	0.00	0.00	0.00	NA
SC	Assisted Living, No Nursing	White	0.00	0.00	0.00	0.00
SC	Adult Day Centers	Non-White	0.00	0.00	0.00	NA
SC	Adult Day Centers	White	0.00	0.00	0.00	0.00
SD	Nursing Homes	Non-White	0.00	0.00	0.00	NA
SD	Nursing Homes	White	0.00	0.00	0.01	0.00
SD	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
SD	Assisted Living, With Nursing	White	0.00	0.00	0.01	0.00
SD	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA
SD	Assisted Living, No Nursing	White	0.00	0.00	0.01	0.00
SD	Adult Day Centers	Non-White	0.00	0.00	0.03	NA
SD	Adult Day Centers	White	0.00	0.00	0.02	0.00
UT	Nursing Homes	Non-White	0.00	0.00	0.01	NA
UT	Nursing Homes	White	0.00	0.00	0.01	0.00
UT	Assisted Living, No Nursing	Non-White	0.00	0.00	0.00	NA
UT	Assisted Living, No Nursing	White	0.00	0.00	0.01	0.00
UT	Adult Day Centers	Non-White	0.00	0.00	0.02	NA
UT	Adult Day Centers	White	0.00	0.00	0.03	0.00
VT	Nursing Homes	Non-White	0.00	0.00	0.04	NA
VT	Nursing Homes	White	0.00	0.00	0.02	0.00
VT	Assisted Living, No Nursing	Non-White	0.01	0.00	2.77	NA
VT	Assisted Living, No Nursing	White	0.01	0.00	2.58	-0.04
WA	Nursing Homes	Non-White	0.00	0.00	0.00	NA
WA	Nursing Homes	White	0.00	0.00	0.00	0.00

Table A4.2 Estimated Differences in Facility Intensity 2020, Additional Controls (Continued)

State	Facility Type	Demographic Group	Estimate	CI95.lo	CI95.hi	Difference
WA	Assisted Living, With Nursing	Non-White	0.00	0.00	0.00	NA
WA	Assisted Living, With Nursing	White	0.00	0.00	0.00	0.00
WA	Assisted Living, No Nursing	Non-White	0.00	0.00	0.00	NA
WA	Assisted Living, No Nursing	White	0.00	0.00	0.00	0.00
WA	Adult Day Centers	Non-White	0.00	0.00	0.00	NA
WA	Adult Day Centers	White	0.00	0.00	0.00	0.00
WI	Nursing Homes	Non-White	0.00	0.00	0.03	NA
WI	Nursing Homes	White	0.00	0.00	0.02	-0.02
WI	Assisted Living, With Nursing	Non-White	0.01	0.00	0.13	NA
WI	Assisted Living, With Nursing	White	0.02	0.00	0.16	0.02
WI	Assisted Living, No Nursing	Non-White	0.01	0.00	0.02	NA
WI	Assisted Living, No Nursing	White	0.00	0.00	0.01	-0.03
WI	Adult Day Centers	Non-White	0.00	0.00	0.05	NA
WI	Adult Day Centers	White	0.00	0.00	0.04	-0.01
WV	Nursing Homes	Non-White	0.00	0.00	0.02	NA
WV	Nursing Homes	White	0.00	0.00	0.02	0.01
WV	Assisted Living, With Nursing	Non-White	0.00	0.00	0.13	NA
WV	Assisted Living, With Nursing	White	0.00	0.00	0.09	0.00
WV	Assisted Living, No Nursing	Non-White	0.00	0.00	0.01	NA
WV	Assisted Living, No Nursing	White	0.00	0.00	0.01	0.00
WY	Nursing Homes	Non-White	0.00	0.00	1.08	NA
WY	Nursing Homes	White	0.00	0.00	6.86	0.01
WY	Adult Day Centers	Non-White	0.00	0.00	0.15	NA
WY	Adult Day Centers	White	0.00	0.00	2.11	0.01

Notes: Estimates report differences in the number of facilities per 10km^2 in areas predominately made up of the listed demographic group relative to areas that are uninhabited or non-residential. Differences compute the difference between estimates for predominately White minus predominantly non-White areas. Some models did not converge and therefore not all states have estimates reported for all facility type and demographic group combinations and some differences are missing. In addition to population density, these regressions control for socioeconomic differences between areas within each state, which include age ratio, individuals with disabilities per 1,000 population, share of persons with a high school education or above, median home value, labor force participation rate, unemployment rate, share of families with income below the federal poverty level, and share of households with no vehicle available.

Table A5 Estimated Differences in Facility Intensity (White – Non-White) per km^2 in Metro Areas with and Without Controlling for Redlining Grades, 2020

CBSA Name	Facility Type	Demographic Group	Control-ing for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Akron, OH	Adult Day Centers	Non-White	yes	0.03	0.00	0.46	NA
Akron, OH	Adult Day Centers	White	yes	0.04	0.00	1.32	0.01
Akron, OH	Adult Day Centers	Non-White	no	2.66	0.37	18.88	NA
Akron, OH	Adult Day Centers	White	no	2.64	0.14	49.94	-0.02
Akron, OH	Nursing Homes	Non-White	yes	0.04	0.00	0.38	NA
Akron, OH	Nursing Homes	White	yes	0.05	0.00	0.81	0.01
Akron, OH	Nursing Homes	Non-White	no	8.03	2.59	24.89	NA
Akron, OH	Nursing Homes	White	no	8.53	1.20	60.75	0.50
Albany-Schenectady-Troy, NY	Assisted Living, No Nursing	Non-White	yes	0.04	0.00	0.42	NA
Albany-Schenectady-Troy, NY	Assisted Living, No Nursing	White	yes	0.03	0.00	0.31	-0.01
Albany-Schenectady-Troy, NY	Assisted Living, No Nursing	Non-White	no	12.23	3.94	37.92	NA
Albany-Schenectady-Troy, NY	Assisted Living, No Nursing	White	no	7.24	1.63	32.09	-4.99
Albany-Schenectady-Troy, NY	Nursing Homes	Non-White	yes	0.15	0.02	0.94	NA
Albany-Schenectady-Troy, NY	Nursing Homes	White	yes	0.22	0.02	2.16	0.07
Albany-Schenectady-Troy, NY	Nursing Homes	Non-White	no	8.17	2.04	32.69	NA
Albany-Schenectady-Troy, NY	Nursing Homes	White	no	15.61	2.05	118.72	7.44

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Controlling for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Baltimore-Columbia-Towson, MD	Adult Day Centers	Non-White	yes	0.01	0.00	0.16	NA
Baltimore-Columbia-Towson, MD	Adult Day Centers	White	yes	0.01	0.00	0.13	0.00
Baltimore-Columbia-Towson, MD	Adult Day Centers	Non-White	no	3.41	0.48	24.24	NA
Baltimore-Columbia-Towson, MD	Adult Day Centers	White	no	2.54	0.32	20.35	-0.87
Baltimore-Columbia-Towson, MD	Assisted Living, No Nursing	Non-White	yes	0.26	0.10	0.68	NA
Baltimore-Columbia-Towson, MD	Assisted Living, No Nursing	White	yes	0.11	0.04	0.31	-0.15
Baltimore-Columbia-Towson, MD	Assisted Living, No Nursing	Non-White	no	23.20	11.06	48.67	NA
Baltimore-Columbia-Towson, MD	Assisted Living, No Nursing	White	no	9.79	4.09	23.43	-13.41
Baltimore-Columbia-Towson, MD	Assisted Living, With Nursing	Non-White	yes	0.02	0.00	0.36	NA
Baltimore-Columbia-Towson, MD	Assisted Living, With Nursing	White	yes	0.00	0.00	0.10	-0.02
Baltimore-Columbia-Towson, MD	Assisted Living, With Nursing	Non-White	no	3.36	0.47	23.82	NA
Baltimore-Columbia-Towson, MD	Assisted Living, With Nursing	White	no	0.67	0.06	7.78	-2.69
Baltimore-Columbia-Towson, MD	Nursing Homes	Non-White	yes	0.12	0.02	0.85	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Controlling for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Baltimore-Columbia-Towson, MD	Nursing Homes	White	yes	0.13	0.02	1.01	0.01
Baltimore-Columbia-Towson, MD	Nursing Homes	Non-White	no	85.38	58.13	125.39	NA
Baltimore-Columbia-Towson, MD	Nursing Homes	White	no	91.50	47.45	176.45	6.13
Battle Creek, MI	Assisted Living, No Nursing	Non-White	yes	0.12	0.02	0.88	NA
Battle Creek, MI	Assisted Living, No Nursing	White	yes	0.06	0.00	1.25	-0.06
Battle Creek, MI	Assisted Living, No Nursing	Non-White	no	7.50	1.06	53.24	NA
Battle Creek, MI	Assisted Living, No Nursing	White	no	3.66	0.18	73.13	-3.84
Birmingham-Hoover, AL	Assisted Living, No Nursing	Non-White	yes	0.03	0.00	0.69	NA
Birmingham-Hoover, AL	Assisted Living, No Nursing	White	yes	0.12	0.01	2.62	0.09
Birmingham-Hoover, AL	Assisted Living, No Nursing	Non-White	no	1.51	0.21	10.73	NA
Birmingham-Hoover, AL	Assisted Living, No Nursing	White	no	8.26	0.62	110.41	6.75
Birmingham-Hoover, AL	Nursing Homes	Non-White	yes	0.86	0.15	4.99	NA
Birmingham-Hoover, AL	Nursing Homes	White	yes	0.50	0.08	3.33	-0.36
Birmingham-Hoover, AL	Nursing Homes	Non-White	no	10.48	5.00	21.98	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Controlling for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Birmingham-Hoover, AL	Nursing Homes	White	no	21.56	4.06	114.58	11.09
Canton-Massillon, OH	Nursing Homes	Non-White	yes	0.12	0.01	2.20	NA
Canton-Massillon, OH	Nursing Homes	White	yes	0.11	0.00	3.22	0.00
Canton-Massillon, OH	Nursing Homes	Non-White	no	7.57	1.07	53.71	NA
Canton-Massillon, OH	Nursing Homes	White	no	6.83	0.34	136.37	-0.73
Charlotte-Concord-Gastonia, NC-SC	Nursing Homes	Non-White	yes	4.08	1.07	15.54	NA
Charlotte-Concord-Gastonia, NC-SC	Nursing Homes	White	yes	1.48	0.23	9.45	-2.60
Charlotte-Concord-Gastonia, NC-SC	Nursing Homes	Non-White	no	48.47	21.78	107.90	NA
Charlotte-Concord-Gastonia, NC-SC	Nursing Homes	White	no	83.02	13.87	496.82	34.54
Columbus, OH	Adult Day Centers	Non-White	yes	0.09	0.01	0.85	NA
Columbus, OH	Adult Day Centers	White	yes	0.09	0.01	1.10	0.00
Columbus, OH	Adult Day Centers	Non-White	no	4.18	0.59	29.70	NA
Columbus, OH	Adult Day Centers	White	no	5.18	0.49	54.80	1.00
Columbus, OH	Assisted Living, No Nursing	Non-White	yes	0.11	0.01	0.81	NA
Columbus, OH	Assisted Living, No Nursing	White	yes	0.17	0.01	1.85	0.06

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Controlling for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Columbus, OH	Assisted Living, No Nursing	Non-White	no	8.21	2.05	32.82	NA
Columbus, OH	Assisted Living, No Nursing	White	no	12.65	1.56	102.82	4.44
Columbus, OH	Nursing Homes	Non-White	yes	0.03	0.00	0.51	NA
Columbus, OH	Nursing Homes	White	yes	0.02	0.00	0.48	-0.01
Columbus, OH	Nursing Homes	Non-White	no	4.22	0.59	29.97	NA
Columbus, OH	Nursing Homes	White	no	3.09	0.27	35.03	-1.13
Dayton, OH	Assisted Living, No Nursing	Non-White	yes	0.21	0.02	2.00	NA
Dayton, OH	Assisted Living, No Nursing	White	yes	0.11	0.01	1.31	-0.10
Dayton, OH	Assisted Living, No Nursing	Non-White	no	5.96	0.84	42.31	NA
Dayton, OH	Assisted Living, No Nursing	White	no	4.24	0.40	44.95	-1.72
Dayton, OH	Nursing Homes	Non-White	yes	0.06	0.01	0.51	NA
Dayton, OH	Nursing Homes	White	yes	0.37	0.02	6.23	0.30
Dayton, OH	Nursing Homes	Non-White	no	11.92	2.98	47.67	NA
Dayton, OH	Nursing Homes	White	no	67.14	5.63	801.03	55.21
Des Moines-West Des Moines, IA	Adult Day Centers	Non-White	yes	0.07	0.01	0.81	NA
Des Moines-West Des Moines, IA	Adult Day Centers	White	yes	0.04	0.00	0.60	-0.03

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Controlling for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Des Moines-West Des Moines, IA	Adult Day Centers	Non-White	no	8.44	2.72	26.18	NA
Des Moines-West Des Moines, IA	Adult Day Centers	White	no	4.24	0.55	32.61	-4.20
Des Moines-West Des Moines, IA	Assisted Living, No Nursing	Non-White	yes	0.13	0.02	0.76	NA
Des Moines-West Des Moines, IA	Assisted Living, No Nursing	White	yes	0.05	0.01	0.34	-0.07
Des Moines-West Des Moines, IA	Assisted Living, No Nursing	Non-White	no	5.66	1.42	22.64	NA
Des Moines-West Des Moines, IA	Assisted Living, No Nursing	White	no	2.82	0.52	15.38	-2.85
Des Moines-West Des Moines, IA	Assisted Living, With Nursing	Non-White	yes	0.24	0.05	1.08	NA
Des Moines-West Des Moines, IA	Assisted Living, With Nursing	White	yes	0.62	0.06	6.71	0.38
Des Moines-West Des Moines, IA	Assisted Living, With Nursing	Non-White	no	14.15	5.89	33.98	NA
Des Moines-West Des Moines, IA	Assisted Living, With Nursing	White	no	38.97	4.20	361.27	24.82
Des Moines-West Des Moines, IA	Nursing Homes	Non-White	yes	0.04	0.00	0.41	NA
Des Moines-West Des Moines, IA	Nursing Homes	White	yes	0.04	0.00	0.43	0.00
Des Moines-West Des Moines, IA	Nursing Homes	Non-White	no	2.85	0.40	20.21	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Controlling for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Des Moines-West Des Moines, IA	Nursing Homes	White	no	2.88	0.30	27.18	0.03
El Paso, TX	Assisted Living, No Nursing	Non-White	yes	0.11	0.01	1.89	NA
El Paso, TX	Assisted Living, No Nursing	White	yes	2.76	0.13	59.27	2.66
El Paso, TX	Assisted Living, No Nursing	Non-White	no	10.26	1.45	72.83	NA
El Paso, TX	Assisted Living, No Nursing	White	no	119.38	6.31	2258.02	109.12
Erie, PA	Assisted Living, No Nursing	Non-White	yes	0.15	0.01	1.55	NA
Erie, PA	Assisted Living, No Nursing	White	yes	0.20	0.01	3.99	0.05
Erie, PA	Assisted Living, No Nursing	Non-White	no	5.97	0.84	42.35	NA
Erie, PA	Assisted Living, No Nursing	White	no	8.18	0.48	140.01	2.21
Flint, MI	Adult Day Centers	Non-White	yes	0.12	0.01	1.06	NA
Flint, MI	Adult Day Centers	White	yes	0.06	0.00	1.07	-0.05
Flint, MI	Adult Day Centers	Non-White	no	19.38	7.27	51.63	NA
Flint, MI	Adult Day Centers	White	no	11.18	1.87	66.89	-8.20
Flint, MI	Assisted Living, No Nursing	Non-White	yes	0.02	0.00	0.39	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Control-ing for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Flint, MI	Assisted Living, No Nursing	White	yes	0.05	0.00	1.04	0.02
Flint, MI	Assisted Living, No Nursing	Non-White	no	4.95	0.70	35.13	NA
Flint, MI	Assisted Living, No Nursing	White	no	10.10	1.04	97.71	5.15
Flint, MI	Nursing Homes	Non-White	yes	0.08	0.01	0.59	NA
Flint, MI	Nursing Homes	White	yes	0.04	0.00	0.46	-0.04
Flint, MI	Nursing Homes	Non-White	no	9.66	2.42	38.62	NA
Flint, MI	Nursing Homes	White	no	6.13	0.99	37.99	-3.53
Grand Rapids-Wyoming, MI	Assisted Living, With Nursing	Non-White	yes	0.13	0.01	2.35	NA
Grand Rapids-Wyoming, MI	Assisted Living, With Nursing	White	yes	0.05	0.00	1.08	-0.08
Grand Rapids-Wyoming, MI	Assisted Living, With Nursing	Non-White	no	3.25	0.46	23.07	NA
Grand Rapids-Wyoming, MI	Assisted Living, With Nursing	White	no	1.40	0.10	19.86	-1.85
Grand Rapids-Wyoming, MI	Nursing Homes	Non-White	yes	0.25	0.03	1.96	NA
Grand Rapids-Wyoming, MI	Nursing Homes	White	yes	0.38	0.02	6.36	0.13

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Control-ing for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Grand Rapids-Wyoming, MI	Nursing Homes	Non-White	no	6.57	1.64	26.29	NA
Grand Rapids-Wyoming, MI	Nursing Homes	White	no	11.69	0.94	145.45	5.12
Jackson, MS	Nursing Homes	Non-White	yes	0.63	0.15	2.71	NA
Jackson, MS	Nursing Homes	White	yes	0.95	0.07	12.76	0.32
Jackson, MS	Nursing Homes	Non-White	no	10.98	2.75	43.92	NA
Jackson, MS	Nursing Homes	White	no	55.85	4.44	703.12	44.87
Jacksonville, FL	Assisted Living, No Nursing	Non-White	yes	0.01	0.00	0.19	NA
Jacksonville, FL	Assisted Living, No Nursing	White	yes	0.02	0.00	0.34	0.01
Jacksonville, FL	Assisted Living, No Nursing	Non-White	no	3.58	0.50	25.43	NA
Jacksonville, FL	Assisted Living, No Nursing	White	no	4.19	0.46	38.06	0.61
Kalamazoo-Portage, MI	Assisted Living, No Nursing	Non-White	yes	0.26	0.02	3.35	NA
Kalamazoo-Portage, MI	Assisted Living, No Nursing	White	yes	0.35	0.02	7.59	0.08
Kalamazoo-Portage, MI	Assisted Living, No Nursing	Non-White	no	15.46	2.18	109.72	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Controlling for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Kalamazoo-Portage, MI	Assisted Living, No Nursing	White	no	25.04	1.32	473.54	9.58
Lima, OH	Nursing Homes	Non-White	yes	0.15	0.01	2.67	NA
Lima, OH	Nursing Homes	White	yes	0.08	0.00	2.94	-0.07
Lima, OH	Nursing Homes	Non-White	no	13.13	1.85	93.22	NA
Lima, OH	Nursing Homes	White	no	6.69	0.30	148.29	-6.44
Los Angeles-Long Beach-Glendale, CA	Adult Day Centers	Non-White	yes	0.02	0.00	0.09	NA
Los Angeles-Long Beach-Glendale, CA	Adult Day Centers	White	yes	0.01	0.00	0.04	-0.01
Los Angeles-Long Beach-Glendale, CA	Adult Day Centers	Non-White	no	15.90	10.37	24.38	NA
Los Angeles-Long Beach-Glendale, CA	Adult Day Centers	White	no	6.37	3.35	12.10	-9.53
Los Angeles-Long Beach-Glendale, CA	Assisted Living, No Nursing	Non-White	yes	0.04	0.02	0.07	NA
Los Angeles-Long Beach-Glendale, CA	Assisted Living, No Nursing	White	yes	0.05	0.02	0.11	0.02
Los Angeles-Long Beach-Glendale, CA	Assisted Living, No Nursing	Non-White	no	13.04	7.86	21.63	NA
Los Angeles-Long Beach-Glendale, CA	Assisted Living, No Nursing	White	no	14.21	8.11	24.91	1.17
Los Angeles-Long Beach-Glendale, CA	Assisted Living, With Nursing	Non-White	yes	0.03	0.01	0.07	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Controlling for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Los Angeles-Long Beach-Glendale, CA	Assisted Living, With Nursing	White	yes	0.04	0.02	0.10	0.01
Los Angeles-Long Beach-Glendale, CA	Assisted Living, With Nursing	Non-White	no	8.04	4.18	15.45	NA
Los Angeles-Long Beach-Glendale, CA	Assisted Living, With Nursing	White	no	8.82	4.30	18.11	0.79
Los Angeles-Long Beach-Glendale, CA	Nursing Homes	Non-White	yes	0.34	0.23	0.49	NA
Los Angeles-Long Beach-Glendale, CA	Nursing Homes	White	yes	0.36	0.25	0.53	0.03
Los Angeles-Long Beach-Glendale, CA	Nursing Homes	Non-White	no	83.08	68.43	100.88	NA
Los Angeles-Long Beach-Glendale, CA	Nursing Homes	White	no	76.50	59.20	98.86	-6.58
Muskegon, MI	Nursing Homes	Non-White	yes	0.17	0.02	1.72	NA
Muskegon, MI	Nursing Homes	White	yes	0.23	0.01	3.48	0.06
Muskegon, MI	Nursing Homes	Non-White	no	20.16	5.04	80.63	NA
Muskegon, MI	Nursing Homes	White	no	23.81	2.48	228.88	3.64
New Haven-Milford, CT	Assisted Living, With Nursing	Non-White	yes	0.07	0.00	1.35	NA
New Haven-Milford, CT	Assisted Living, With Nursing	White	yes	0.06	0.00	1.02	-0.02
New Haven-Milford, CT	Assisted Living, With Nursing	Non-White	no	4.20	0.59	29.84	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Control-ing for Redlining	Estimate	CI95.lo	CI95.hi	Difference
New Haven-Milford, CT	Assisted Living, With Nursing	White	no	3.23	0.29	35.64	-0.97
Oklahoma City, OK	Adult Day Centers	Non-White	yes	0.06	0.01	0.65	NA
Oklahoma City, OK	Adult Day Centers	White	yes	0.01	0.00	0.19	-0.05
Oklahoma City, OK	Adult Day Centers	Non-White	no	3.36	0.47	23.86	NA
Oklahoma City, OK	Adult Day Centers	White	no	0.76	0.04	13.07	-2.60
Oklahoma City, OK	Assisted Living, With Nursing	Non-White	yes	0.09	0.01	0.71	NA
Oklahoma City, OK	Assisted Living, With Nursing	White	yes	0.06	0.01	0.61	-0.03
Oklahoma City, OK	Assisted Living, With Nursing	Non-White	no	6.70	1.68	26.79	NA
Oklahoma City, OK	Assisted Living, With Nursing	White	no	5.40	0.63	46.21	-1.30
Phoenix-Mesa-Scottsdale, AZ	Adult Day Centers	Non-White	yes	0.07	0.00	1.19	NA
Phoenix-Mesa-Scottsdale, AZ	Adult Day Centers	White	yes	0.14	0.01	1.86	0.07
Phoenix-Mesa-Scottsdale, AZ	Adult Day Centers	Non-White	no	5.73	0.81	40.71	NA
Phoenix-Mesa-Scottsdale, AZ	Adult Day Centers	White	no	11.51	1.02	130.34	5.78
Phoenix-Mesa-Scottsdale, AZ	Assisted Living, No Nursing	Non-White	yes	0.04	0.00	0.52	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Control-ing for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Phoenix-Mesa-Scottsdale, AZ	Assisted Living, No Nursing	White	yes	0.15	0.01	2.34	0.12
Phoenix-Mesa-Scottsdale, AZ	Assisted Living, No Nursing	Non-White	no	11.45	2.86	45.79	NA
Phoenix-Mesa-Scottsdale, AZ	Assisted Living, No Nursing	White	no	41.59	6.19	279.37	30.14
Phoenix-Mesa-Scottsdale, AZ	Nursing Homes	Non-White	yes	0.71	0.08	6.62	NA
Phoenix-Mesa-Scottsdale, AZ	Nursing Homes	White	yes	0.39	0.04	3.55	-0.32
Phoenix-Mesa-Scottsdale, AZ	Nursing Homes	Non-White	no	51.44	26.77	98.87	NA
Phoenix-Mesa-Scottsdale, AZ	Nursing Homes	White	no	31.73	8.09	124.42	-19.72
Pittsburgh, PA	Adult Day Centers	Non-White	yes	0.03	0.00	0.40	NA
Pittsburgh, PA	Adult Day Centers	White	yes	0.04	0.00	0.56	0.01
Pittsburgh, PA	Adult Day Centers	Non-White	no	4.13	1.03	16.52	NA
Pittsburgh, PA	Adult Day Centers	White	no	4.73	0.72	31.15	0.60
Pittsburgh, PA	Nursing Homes	Non-White	yes	0.25	0.08	0.77	NA
Pittsburgh, PA	Nursing Homes	White	yes	0.23	0.07	0.79	-0.02
Pittsburgh, PA	Nursing Homes	Non-White	no	10.79	4.49	25.92	NA
Pittsburgh, PA	Nursing Homes	White	no	10.90	3.66	32.43	0.11

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Control-ing for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Pueblo, CO	Assisted Living, No Nursing	Non-White	yes	0.63	0.11	3.52	NA
Pueblo, CO	Assisted Living, No Nursing	White	yes	0.57	0.08	4.29	-0.06
Pueblo, CO	Assisted Living, No Nursing	Non-White	no	22.36	5.59	89.39	NA
Pueblo, CO	Assisted Living, No Nursing	White	no	27.33	3.85	194.03	4.98
Pueblo, CO	Nursing Homes	Non-White	yes	0.46	0.07	3.14	NA
Pueblo, CO	Nursing Homes	White	yes	1.52	0.10	22.78	1.06
Pueblo, CO	Nursing Homes	Non-White	no	22.59	5.65	90.32	NA
Pueblo, CO	Nursing Homes	White	no	107.66	8.05	1439.09	85.07
Richmond, VA	Adult Day Centers	Non-White	yes	0.16	0.02	1.44	NA
Richmond, VA	Adult Day Centers	White	yes	0.67	0.04	12.77	0.52
Richmond, VA	Adult Day Centers	Non-White	no	28.26	10.61	75.30	NA
Richmond, VA	Adult Day Centers	White	no	55.40	4.14	740.54	27.14
Richmond, VA	Assisted Living, With Nursing	Non-White	yes	0.13	0.01	1.27	NA
Richmond, VA	Assisted Living, With Nursing	White	yes	0.04	0.00	0.57	-0.09
Richmond, VA	Assisted Living, With Nursing	Non-White	no	7.19	1.01	51.07	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Control-ing for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Richmond, VA	Assisted Living, With Nursing	White	no	4.29	0.38	48.62	-2.90
Richmond, VA	Nursing Homes	Non-White	yes	0.11	0.01	1.38	NA
Richmond, VA	Nursing Homes	White	yes	0.01	0.00	0.30	-0.10
Richmond, VA	Nursing Homes	Non-White	no	7.21	1.02	51.22	NA
Richmond, VA	Nursing Homes	White	no	1.79	0.09	33.79	-5.43
Roanoke, VA	Assisted Living, No Nursing	Non-White	yes	0.20	0.02	1.89	NA
Roanoke, VA	Assisted Living, No Nursing	White	yes	0.14	0.01	1.54	-0.06
Roanoke, VA	Assisted Living, No Nursing	Non-White	no	6.52	0.92	46.25	NA
Roanoke, VA	Assisted Living, No Nursing	White	no	5.09	0.52	49.62	-1.43
Rochester, NY	Assisted Living, No Nursing	Non-White	yes	0.05	0.01	0.49	NA
Rochester, NY	Assisted Living, No Nursing	White	yes	0.19	0.02	2.25	0.14
Rochester, NY	Assisted Living, No Nursing	Non-White	no	4.93	0.69	35.01	NA
Rochester, NY	Assisted Living, No Nursing	White	no	12.56	1.23	128.24	7.63

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Control-ing for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Rochester, NY	Assisted Living, With Nursing	Non-White	yes	0.03	0.00	0.33	NA
Rochester, NY	Assisted Living, With Nursing	White	yes	0.30	0.01	6.55	0.27
Rochester, NY	Assisted Living, With Nursing	Non-White	no	4.95	0.70	35.15	NA
Rochester, NY	Assisted Living, With Nursing	White	no	32.55	1.92	550.95	27.60
Rochester, NY	Nursing Homes	Non-White	yes	0.04	0.00	0.40	NA
Rochester, NY	Nursing Homes	White	yes	0.12	0.01	1.37	0.08
Rochester, NY	Nursing Homes	Non-White	no	4.96	0.70	35.25	NA
Rochester, NY	Nursing Homes	White	no	8.86	0.93	84.74	3.90
San Antonio-New Braunfels, TX	Adult Day Centers	Non-White	yes	0.62	0.16	2.35	NA
San Antonio-New Braunfels, TX	Adult Day Centers	White	yes	0.32	0.03	3.29	-0.30
San Antonio-New Braunfels, TX	Adult Day Centers	Non-White	no	21.32	9.58	47.45	NA
San Antonio-New Braunfels, TX	Adult Day Centers	White	no	14.09	1.56	126.88	-7.23
San Antonio-New Braunfels, TX	Assisted Living, No Nursing	Non-White	yes	0.08	0.01	0.97	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Controlling for Redlining	Estimate	CI95.lo	CI95.hi	Difference
San Antonio-New Braunfels, TX	Assisted Living, No Nursing	White	yes	0.07	0.00	1.49	-0.02
San Antonio-New Braunfels, TX	Assisted Living, No Nursing	Non-White	no	3.57	0.50	25.33	NA
San Antonio-New Braunfels, TX	Assisted Living, No Nursing	White	no	3.71	0.21	65.37	0.14
San Antonio-New Braunfels, TX	Nursing Homes	Non-White	yes	0.49	0.14	1.78	NA
San Antonio-New Braunfels, TX	Nursing Homes	White	yes	0.30	0.05	2.03	-0.19
San Antonio-New Braunfels, TX	Nursing Homes	Non-White	no	17.79	7.41	42.75	NA
San Antonio-New Braunfels, TX	Nursing Homes	White	no	17.64	3.17	98.16	-0.15
San Diego-Carlsbad, CA	Assisted Living, No Nursing	Non-White	yes	0.35	0.10	1.29	NA
San Diego-Carlsbad, CA	Assisted Living, No Nursing	White	yes	0.28	0.07	1.14	-0.08
San Diego-Carlsbad, CA	Assisted Living, No Nursing	Non-White	no	34.39	14.31	82.62	NA
San Diego-Carlsbad, CA	Assisted Living, No Nursing	White	no	48.39	14.66	159.79	14.00
Shreveport-Bossier City, LA	Nursing Homes	Non-White	yes	0.06	0.00	1.82	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Controlling for Redlining	Estimate	CI95.lo	CI95.hi	Difference
Shreveport-Bossier City, LA	Nursing Homes	White	yes	0.08	0.01	1.07	0.02
Shreveport-Bossier City, LA	Nursing Homes	Non-White	no	12.27	3.07	49.07	NA
Shreveport-Bossier City, LA	Nursing Homes	White	no	9.80	1.10	87.69	-2.47
Tulsa, OK	Assisted Living, No Nursing	Non-White	yes	0.09	0.00	1.94	NA
Tulsa, OK	Assisted Living, No Nursing	White	yes	0.03	0.00	0.70	-0.07
Tulsa, OK	Assisted Living, No Nursing	Non-White	no	7.15	1.01	50.74	NA
Tulsa, OK	Assisted Living, No Nursing	White	no	2.19	0.10	48.46	-4.96
Tulsa, OK	Nursing Homes	Non-White	yes	0.79	0.24	2.61	NA
Tulsa, OK	Nursing Homes	White	yes	0.97	0.15	6.12	0.18
Tulsa, OK	Nursing Homes	Non-White	no	84.17	47.80	148.21	NA
Tulsa, OK	Nursing Homes	White	no	178.53	33.60	948.56	94.35
Winston-Salem, NC	Adult Day Centers	Non-White	yes	0.47	0.04	6.05	NA
Winston-Salem, NC	Adult Day Centers	White	yes	0.06	0.00	1.47	-0.40
Winston-Salem, NC	Adult Day Centers	Non-White	no	14.02	3.51	56.04	NA
Winston-Salem, NC	Adult Day Centers	White	no	7.92	0.50	126.64	-6.09
York-Hanover, PA	Nursing Homes	Non-White	yes	0.41	0.03	5.27	NA
York-Hanover, PA	Nursing Homes	White	yes	0.07	0.00	2.26	-0.34
York-Hanover, PA	Nursing Homes	Non-White	no	21.44	3.02	152.19	NA

Table A5 Estimated Differences in Facility Intensity Metro Areas (Continued)

CBSA Name	Facility Type	Demographic Group	Control-ing for Redlining	Estimate	CI95.lo	CI95.hi	Difference
York-Hanover, PA	Nursing Homes	White	no	8.19	0.27	244.13	-13.25
Youngstown-Warren-Boardman, OH-PA	Assisted Living, No Nursing	Non-White	yes	0.11	0.01	0.90	NA
Youngstown-Warren-Boardman, OH-PA	Assisted Living, No Nursing	White	yes	0.14	0.02	1.36	0.03
Youngstown-Warren-Boardman, OH-PA	Assisted Living, No Nursing	Non-White	no	8.19	2.05	32.74	NA
Youngstown-Warren-Boardman, OH-PA	Assisted Living, No Nursing	White	no	10.42	1.71	63.46	2.23

Table A6 Estimated Differences in Facility Intensity (White – Non-White) Per 10km^2, 2020 by State SSI Supplementation

State	Facility Type	SSI?	No Additional Controls	With Additional Controls
AR	Nursing Homes	Yes	-0.01	0.00
AR	Assisted Living, With Nursing	Yes	0.00	0.00
AR	Assisted Living, No Nursing	Yes	-0.02	0.00
AR	Adult Day Centers	Yes	-0.01	0.00
AZ	Nursing Homes	No	0.01	0.00
AZ	Assisted Living, With Nursing	No	0.01	0.00
AZ	Assisted Living, No Nursing	No	0.03	0.00
AZ	Adult Day Centers	No	0.00	0.01
CO	Nursing Homes	Yes	-0.03	-0.03
CO	Assisted Living, With Nursing	Yes	0.00	0.00
CO	Assisted Living, No Nursing	Yes	-0.01	0.00
CO	Adult Day Centers	Yes	-0.01	-0.01
CT	Nursing Homes	Yes	-0.65	-2.04
CT	Assisted Living, With Nursing	Yes	-0.42	0.35
CT	Assisted Living, No Nursing	Yes	-1.12	-0.96
CT	Adult Day Centers	Yes	-1.21	-0.72
DE	Nursing Homes	Yes	-1.30	-30.45
DE	Assisted Living, With Nursing	Yes	-0.13	0.00
DE	Assisted Living, No Nursing	Yes	-0.50	-2.33
DE	Adult Day Centers	Yes	-0.33	0.00
GA	Nursing Homes	Yes	-0.19	-0.02
GA	Assisted Living, With Nursing	Yes	-0.02	0.00
GA	Assisted Living, No Nursing	Yes	-0.06	0.00
GA	Adult Day Centers	Yes	-0.16	-0.01
IA	Nursing Homes	Yes	0.04	0.27
IA	Assisted Living, With Nursing	Yes	0.10	0.09
IA	Assisted Living, No Nursing	Yes	-0.02	-0.01
IA	Adult Day Centers	Yes	-0.06	-0.03
ID	Nursing Homes	Yes	-0.01	0.00
ID	Assisted Living, No Nursing	Yes	0.03	0.00
ID	Adult Day Centers	Yes	0.00	0.00
IL	Nursing Homes	Yes	-0.23	-0.16
IL	Assisted Living, With Nursing	Yes	-0.05	0.00
IL	Assisted Living, No Nursing	Yes	-0.10	-0.02
IL	Adult Day Centers	Yes	-0.13	-0.01
KY	Nursing Homes	Yes	-0.06	0.00
KY	Assisted Living, With Nursing	Yes	-0.14	0.00
KY	Assisted Living, No Nursing	Yes	0.01	0.01
KY	Adult Day Centers	Yes	-0.23	-0.04

Table A6 Estimated Differences in Facility Intensity (Continued)

State	Facility Type	SSI?	No Additional Controls	With Additional Controls
LA	Nursing Homes	Yes	-0.07	-0.01
LA	Assisted Living, With Nursing	Yes	0.00	0.00
LA	Assisted Living, No Nursing	Yes	-0.02	0.00
LA	Adult Day Centers	Yes	-0.05	-0.01
ME	Nursing Homes	Yes	0.00	0.00
ME	Assisted Living, With Nursing	Yes	-0.01	0.00
ME	Assisted Living, No Nursing	Yes	-0.01	0.00
MI	Nursing Homes	Yes	-0.18	-0.12
MI	Assisted Living, With Nursing	Yes	-0.04	0.00
MI	Assisted Living, No Nursing	Yes	-0.13	-0.03
MI	Adult Day Centers	Yes	-0.15	-0.03
MO	Nursing Homes	Yes	-0.14	0.00
MO	Assisted Living, With Nursing	Yes	-0.04	0.00
MO	Assisted Living, No Nursing	Yes	-0.05	0.00
MO	Adult Day Centers	Yes	-0.09	0.00
MS	Nursing Homes	No	-0.05	-0.01
MS	Assisted Living, With Nursing	No	0.00	0.00
MS	Assisted Living, No Nursing	No	0.00	0.00
MS	Adult Day Centers	No	-0.06	-0.01
MT	Nursing Homes	Yes	0.00	0.00
MT	Assisted Living, No Nursing	Yes	0.05	0.27
MT	Adult Day Centers	Yes	0.00	-0.02
NC	Nursing Homes	Yes	-0.24	-0.04
NC	Assisted Living, With Nursing	Yes	0.02	0.00
NC	Assisted Living, No Nursing	Yes	-0.02	0.00
NC	Adult Day Centers	Yes	-0.10	-0.04
ND	Nursing Homes	No	-0.02	0.00
ND	Assisted Living, No Nursing	No	0.00	0.00
ND	Adult Day Centers	No	-0.01	0.00
NE	Nursing Homes	Yes	-0.02	-0.02
NE	Assisted Living, With Nursing	Yes	-0.01	0.00
NE	Assisted Living, No Nursing	Yes	-0.01	0.01
NE	Adult Day Centers	Yes	0.01	0.01
NH	Nursing Homes	Yes	-0.08	-2.89
NH	Assisted Living, With Nursing	Yes	-0.01	0.00
NH	Assisted Living, No Nursing	Yes	0.11	0.18
NH	Adult Day Centers	Yes	-0.10	-0.06
NM	Nursing Homes	Yes	0.00	0.00
NM	Assisted Living, With Nursing	Yes	0.00	0.00
NM	Assisted Living, No Nursing	Yes	0.00	0.00

Table A6 Estimated Differences in Facility Intensity (Continued)

State	Facility Type	SSI?	No Additional Controls	With Additional Controls
NM	Adult Day Centers	Yes	0.00	0.00
OK	Nursing Homes	Yes	-0.03	0.00
OK	Assisted Living, With Nursing	Yes	-0.01	-0.03
OK	Assisted Living, No Nursing	Yes	-0.01	-0.01
OK	Adult Day Centers	Yes	0.00	0.01
OR	Nursing Homes	Yes	0.00	0.00
OR	Assisted Living, With Nursing	Yes	-0.01	0.00
OR	Assisted Living, No Nursing	Yes	-0.01	0.00
OR	Adult Day Centers	Yes	-0.01	0.00
SC	Nursing Homes	Yes	-0.13	0.00
SC	Assisted Living, With Nursing	Yes	-0.03	-0.01
SC	Assisted Living, No Nursing	Yes	-0.05	0.00
SC	Adult Day Centers	Yes	-0.11	0.00
SD	Nursing Homes	Yes	0.07	0.00
SD	Assisted Living, With Nursing	Yes	0.04	0.00
SD	Assisted Living, No Nursing	Yes	0.01	0.00
SD	Adult Day Centers	Yes	0.01	0.00
UT	Nursing Homes	Yes	0.00	0.00
UT	Assisted Living, No Nursing	Yes	0.01	0.00
UT	Adult Day Centers	Yes	0.00	0.00
VT	Nursing Homes	Yes	-0.05	0.00
VT	Assisted Living, No Nursing	Yes	-0.14	-0.04
WA	Nursing Homes	Yes	0.00	0.00
WA	Assisted Living, With Nursing	Yes	0.00	0.00
WA	Assisted Living, No Nursing	Yes	0.00	0.00
WA	Adult Day Centers	Yes	-0.01	0.00
WI	Nursing Homes	Yes	-0.15	-0.02
WI	Assisted Living, With Nursing	Yes	-0.03	0.02
WI	Assisted Living, No Nursing	Yes	-0.22	-0.03
WI	Adult Day Centers	Yes	-0.10	-0.01
WV	Nursing Homes	No	-0.14	0.01
WV	Assisted Living, With Nursing	No	-0.06	0.00
WV	Assisted Living, No Nursing	No	-0.11	0.00
WY	Nursing Homes	Yes	0.01	0.01
WY	Adult Day Centers	Yes	0.02	0.01

Notes: Table reports differences in the number of facilities per 10km^2 predominately White -minus predominantly non-White areas. The estimates used to compute these differences are reported in Tables A4.1 and A4.2 with confidence intervals. Missing states and state-faculty type combinations reflect cases where models did not converge for specifications containing the full set of socioeconomic controls, which includes age ratio, individuals with disabilities per 1,000 population, share of persons with a high school education or above, median home value, labor force participation rate, unemployment rate, share of families with income below the federal poverty level, and share of households with no vehicle available.

Table A7 Difference in Differences Estimates of Disparities in Facility Intensity (White – Non-White) Per 10km^2, 2000 to 2010 Reported by Changes in State HCBS Waiver Participation

State	Facility Type	Change in HCBS Waivers	DD
AL	Adult Day Centers	Gain of 2 or More	-0.03
AL	All Types	Gain of 2 or More	-0.07
AL	Assisted Living, No Nursing	Gain of 2 or More	-0.03
AL	Assisted Living, With Nursing	Gain of 2 or More	-0.01
AL	Nursing Homes	Gain of 2 or More	-0.16
AZ	Adult Day Centers	Gain of 2 or More	0.00
AZ	All Types	Gain of 2 or More	0.04
AZ	Assisted Living, No Nursing	Gain of 2 or More	0.00
AZ	Assisted Living, With Nursing	Gain of 2 or More	0.00
AZ	Nursing Homes	Gain of 2 or More	0.01
AR	Adult Day Centers	Gain of 2 or More	-0.03
AR	All Types	Gain of 2 or More	-0.09
AR	Assisted Living, No Nursing	Gain of 2 or More	-0.02
AR	Assisted Living, With Nursing	Gain of 2 or More	-0.01
AR	Nursing Homes	Gain of 2 or More	0.03
CA	Adult Day Centers	Gain of 2 or More	-0.03
CA	All Types	Gain of 2 or More	0.00
CA	Assisted Living, No Nursing	Gain of 2 or More	0.01
CA	Assisted Living, With Nursing	Gain of 2 or More	0.01
CA	Nursing Homes	Gain of 2 or More	-0.01
CO	Adult Day Centers	Gain of 2 or More	-0.01
CO	All Types	Gain of 2 or More	0.02
CO	Assisted Living, No Nursing	Gain of 2 or More	-0.01
CO	Assisted Living, With Nursing	Gain of 2 or More	0.02
CO	Nursing Homes	Gain of 2 or More	0.00
CT	Adult Day Centers	Gain of 1	-1.24
CT	All Types	Gain of 1	-1.11
CT	Assisted Living, No Nursing	Gain of 1	0.02
CT	Assisted Living, With Nursing	Gain of 1	-0.09
CT	Nursing Homes	Gain of 1	0.15
DE	Adult Day Centers	Gain of 2 or More	0.27
DE	All Types	Gain of 2 or More	0.22
DE	Assisted Living, No Nursing	Gain of 2 or More	0.49
DE	Assisted Living, With Nursing	Gain of 2 or More	0.42
DE	Nursing Homes	Gain of 2 or More	-2.36
DC	Adult Day Centers	Gain of 1	6.47
DC	All Types	Gain of 1	34.73
DC	Assisted Living, No Nursing	Gain of 1	2.04
DC	Assisted Living, With Nursing	Gain of 1	7.65
DC	Nursing Homes	Gain of 1	21.97

Table A7 Difference in Differences Estimates 2000 - 2010 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
FL	Adult Day Centers	Gain of 2 or More	-0.05
FL	All Types	Gain of 2 or More	-0.10
FL	Assisted Living, No Nursing	Gain of 2 or More	-0.11
FL	Assisted Living, With Nursing	Gain of 2 or More	0.05
FL	Nursing Homes	Gain of 2 or More	-0.09
GA	Adult Day Centers	Gain of 2 or More	-0.12
GA	All Types	Gain of 2 or More	-0.14
GA	Assisted Living, No Nursing	Gain of 2 or More	-0.05
GA	Assisted Living, With Nursing	Gain of 2 or More	0.09
GA	Nursing Homes	Gain of 2 or More	-0.06
ID	Adult Day Centers	Loss of 1	0.01
ID	All Types	Loss of 1	0.02
ID	Assisted Living, No Nursing	Loss of 1	0.00
ID	Nursing Homes	Loss of 1	0.01
IL	Adult Day Centers	Gain of 2 or More	-0.15
IL	All Types	Gain of 2 or More	-0.18
IL	Assisted Living, No Nursing	Gain of 2 or More	-0.09
IL	Assisted Living, With Nursing	Gain of 2 or More	-0.02
IL	Nursing Homes	Gain of 2 or More	-0.01
IN	Adult Day Centers	No Change	-0.06
IN	All Types	No Change	-0.21
IN	Assisted Living, No Nursing	No Change	-0.10
IN	Assisted Living, With Nursing	No Change	0.01
IN	Nursing Homes	No Change	-0.24
IA	Adult Day Centers	Gain of 1	-0.08
IA	All Types	Gain of 1	-0.38
IA	Assisted Living, No Nursing	Gain of 1	-0.03
IA	Assisted Living, With Nursing	Gain of 1	-0.03
IA	Nursing Homes	Gain of 1	0.01
KS	Adult Day Centers	Gain of 2 or More	-0.04
KS	All Types	Gain of 2 or More	-0.05
KS	Assisted Living, No Nursing	Gain of 2 or More	0.01
KS	Assisted Living, With Nursing	Gain of 2 or More	0.01
KS	Nursing Homes	Gain of 2 or More	-0.01
KY	Adult Day Centers	Gain of 1	-0.36
KY	All Types	Gain of 1	-0.10
KY	Assisted Living, No Nursing	Gain of 1	-0.17
KY	Assisted Living, With Nursing	Gain of 1	-0.12
KY	Nursing Homes	Gain of 1	0.24
LA	Adult Day Centers	Gain of 2 or More	-0.03
LA	All Types	Gain of 2 or More	0.01

Table A7 Difference in Differences Estimates 2000 - 2010 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
LA	Assisted Living, No Nursing	Gain of 2 or More	-0.01
LA	Assisted Living, With Nursing	Gain of 2 or More	0.01
LA	Nursing Homes	Gain of 2 or More	0.00
MD	Adult Day Centers	Gain of 2 or More	0.13
MD	All Types	Gain of 2 or More	-1.68
MD	Assisted Living, No Nursing	Gain of 2 or More	-0.24
MD	Assisted Living, With Nursing	Gain of 2 or More	0.24
MD	Nursing Homes	Gain of 2 or More	-0.74
MA	Adult Day Centers	Gain of 2 or More	-0.10
MA	All Types	Gain of 2 or More	-0.01
MA	Assisted Living, No Nursing	Gain of 2 or More	-0.19
MA	Assisted Living, With Nursing	Gain of 2 or More	0.09
MA	Nursing Homes	Gain of 2 or More	0.08
MI	Adult Day Centers	Gain of 2 or More	-0.06
MI	All Types	Gain of 2 or More	-0.08
MI	Assisted Living, No Nursing	Gain of 2 or More	-0.04
MI	Assisted Living, With Nursing	Gain of 2 or More	0.00
MI	Nursing Homes	Gain of 2 or More	0.01
MN	Adult Day Centers	Gain of 1	-0.02
MN	All Types	Gain of 1	-0.03
MN	Assisted Living, No Nursing	Gain of 1	-0.02
MN	Assisted Living, With Nursing	Gain of 1	0.02
MN	Nursing Homes	Gain of 1	-0.01
MS	Adult Day Centers	Gain of 1	-0.01
MS	All Types	Gain of 1	-0.11
MS	Assisted Living, No Nursing	Gain of 1	0.06
MS	Assisted Living, With Nursing	Gain of 1	0.01
MS	Nursing Homes	Gain of 1	-0.08
MO	Adult Day Centers	Gain of 2 or More	-0.09
MO	All Types	Gain of 2 or More	0.02
MO	Assisted Living, No Nursing	Gain of 2 or More	0.05
MO	Assisted Living, With Nursing	Gain of 2 or More	0.05
MO	Nursing Homes	Gain of 2 or More	0.00
MT	Adult Day Centers	Gain of 2 or More	0.01
MT	All Types	Gain of 2 or More	0.00
MT	Assisted Living, No Nursing	Gain of 2 or More	0.00
MT	Nursing Homes	Gain of 2 or More	-0.01
NE	Adult Day Centers	Gain of 2 or More	-0.05
NE	All Types	Gain of 2 or More	-0.04
NE	Assisted Living, No Nursing	Gain of 2 or More	-0.01
NE	Assisted Living, With Nursing	Gain of 2 or More	0.02

Table A7 Difference in Differences Estimates 2000 - 2010 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
NE	Nursing Homes	Gain of 2 or More	-0.01
NV	Adult Day Centers	No Change	0.00
NV	All Types	No Change	-0.01
NV	Assisted Living, No Nursing	No Change	0.00
NV	Assisted Living, With Nursing	No Change	0.00
NV	Nursing Homes	No Change	0.00
NH	All Types	Gain of 1	-0.86
NJ	Adult Day Centers	Gain of 2 or More	-0.70
NJ	All Types	Gain of 2 or More	-1.31
NJ	Assisted Living, No Nursing	Gain of 2 or More	-0.05
NJ	Assisted Living, With Nursing	Gain of 2 or More	0.00
NJ	Nursing Homes	Gain of 2 or More	-0.63
NM	Adult Day Centers	Gain of 2 or More	0.00
NM	All Types	Gain of 2 or More	0.00
NM	Assisted Living, No Nursing	Gain of 2 or More	0.00
NM	Assisted Living, With Nursing	Gain of 2 or More	0.00
NM	Nursing Homes	Gain of 2 or More	0.00
NY	Adult Day Centers	Gain of 2 or More	-0.14
NY	All Types	Gain of 2 or More	-0.17
NY	Assisted Living, No Nursing	Gain of 2 or More	-0.13
NY	Assisted Living, With Nursing	Gain of 2 or More	0.10
NY	Nursing Homes	Gain of 2 or More	-0.02
NC	Adult Day Centers	Gain of 2 or More	-0.09
NC	All Types	Gain of 2 or More	-0.14
NC	Assisted Living, No Nursing	Gain of 2 or More	-0.01
NC	Assisted Living, With Nursing	Gain of 2 or More	0.03
NC	Nursing Homes	Gain of 2 or More	-0.01
ND	Adult Day Centers	Gain of 2 or More	0.04
ND	All Types	Gain of 2 or More	0.02
ND	Assisted Living, No Nursing	Gain of 2 or More	0.01
ND	Nursing Homes	Gain of 2 or More	0.01
OH	Adult Day Centers	Gain of 1	-0.28
OH	All Types	Gain of 1	0.23
OH	Assisted Living, No Nursing	Gain of 1	-0.17
OH	Assisted Living, With Nursing	Gain of 1	0.20
OH	Nursing Homes	Gain of 1	0.25
OK	Adult Day Centers	Gain of 2 or More	-0.04
OK	All Types	Gain of 2 or More	-0.06
OK	Assisted Living, No Nursing	Gain of 2 or More	0.02
OK	Assisted Living, With Nursing	Gain of 2 or More	0.01
OK	Nursing Homes	Gain of 2 or More	-0.04

Table A7 Difference in Differences Estimates 2000 - 2010 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
OR	Adult Day Centers	Gain of 2 or More	-0.02
OR	All Types	Gain of 2 or More	0.01
OR	Assisted Living, No Nursing	Gain of 2 or More	-0.01
OR	Assisted Living, With Nursing	Gain of 2 or More	-0.02
OR	Nursing Homes	Gain of 2 or More	-0.06
PA	Adult Day Centers	Gain of 2 or More	-0.11
PA	All Types	Gain of 2 or More	-0.05
PA	Assisted Living, No Nursing	Gain of 2 or More	-0.20
PA	Assisted Living, With Nursing	Gain of 2 or More	0.41
PA	Nursing Homes	Gain of 2 or More	-0.25
RI	All Types	Gain of 1	1.62
RI	Assisted Living, No Nursing	Gain of 1	1.12
RI	Assisted Living, With Nursing	Gain of 1	0.75
RI	Nursing Homes	Gain of 1	0.26
SC	Adult Day Centers	Gain of 2 or More	-0.08
SC	All Types	Gain of 2 or More	-0.01
SC	Assisted Living, No Nursing	Gain of 2 or More	-0.02
SC	Assisted Living, With Nursing	Gain of 2 or More	0.02
SC	Nursing Homes	Gain of 2 or More	-0.14
SD	Adult Day Centers	No Change	0.01
SD	All Types	No Change	0.01
SD	Assisted Living, No Nursing	No Change	-0.01
SD	Nursing Homes	No Change	-0.06
TN	Adult Day Centers	Gain of 2 or More	-0.12
TN	All Types	Gain of 2 or More	-0.02
TN	Assisted Living, No Nursing	Gain of 2 or More	0.03
TN	Assisted Living, With Nursing	Gain of 2 or More	0.03
TN	Nursing Homes	Gain of 2 or More	-0.02
TX	Adult Day Centers	Gain of 2 or More	-0.03
TX	All Types	Gain of 2 or More	-0.03
TX	Assisted Living, No Nursing	Gain of 2 or More	0.01
TX	Assisted Living, With Nursing	Gain of 2 or More	0.01
TX	Nursing Homes	Gain of 2 or More	-0.02
UT	Adult Day Centers	Gain of 1	0.00
UT	All Types	Gain of 1	0.05
UT	Assisted Living, No Nursing	Gain of 1	0.00
UT	Assisted Living, With Nursing	Gain of 1	0.00
UT	Nursing Homes	Gain of 1	0.00
VA	Adult Day Centers	Gain of 2 or More	-0.08
VA	All Types	Gain of 2 or More	0.16
VA	Assisted Living, No Nursing	Gain of 2 or More	-0.02

Table A7 Difference in Differences Estimates 2000 - 2010 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
VA	Assisted Living, With Nursing	Gain of 2 or More	0.06
VA	Nursing Homes	Gain of 2 or More	-0.05
WA	Adult Day Centers	No Change	-0.03
WA	All Types	No Change	0.02
WA	Assisted Living, No Nursing	No Change	-0.01
WA	Assisted Living, With Nursing	No Change	-0.02
WA	Nursing Homes	No Change	-0.01
WV	All Types	Gain of 1	-0.38
WV	Assisted Living, With Nursing	Gain of 1	-0.04
WV	Nursing Homes	Gain of 1	-0.25
WI	Adult Day Centers	Gain of 1	-0.09
WI	All Types	Gain of 1	-0.32
WI	Assisted Living, No Nursing	Gain of 1	-0.27
WI	Assisted Living, With Nursing	Gain of 1	0.01
WI	Nursing Homes	Gain of 1	0.07

Notes: Table reports differences-in differences estimates computed as the cross-decade difference in differences in the estimated number of facilities per 10km^2 in predominately White -minus the same estimate in predominantly non-White areas. The estimates used to compute these differences are reported in Tables A2 and A3. Missing states and state-faculty type combinations reflect cases where models did not converge

Table A8 Difference in Differences Estimates of Disparities in Facility Intensity (White – Non-White) Per 10km^2, 2010 to 2020 Reported by Changes in State HCBS Waiver Participation

State	Facility Type	Change in HCBS Waivers	DD
AL	Adult Day Centers	Gain of 1	0.05
AL	All Types	Gain of 1	-0.02
AL	Assisted Living, No Nursing	Gain of 1	0.12
AL	Assisted Living, With Nursing	Gain of 1	0.03
AL	Nursing Homes	Gain of 1	0.09
AZ	Adult Day Centers	No Change	0.00
AZ	Adult Day Centers	No Change	0.00
AZ	All Types	No Change	-0.05
AZ	All Types	No Change	-0.05
AZ	Assisted Living, No Nursing	No Change	0.02
AZ	Assisted Living, No Nursing	No Change	0.02
AZ	Assisted Living, With Nursing	No Change	0.00
AZ	Assisted Living, With Nursing	No Change	0.00
AZ	Nursing Homes	No Change	-0.02
AZ	Nursing Homes	No Change	-0.02
AR	Adult Day Centers	Loss of 2 or More	0.03
AR	Adult Day Centers	Loss of 2 or More	0.03
AR	All Types	Loss of 2 or More	0.04
AR	All Types	Loss of 2 or More	0.04
AR	Assisted Living, No Nursing	Loss of 2 or More	0.01
AR	Assisted Living, No Nursing	Loss of 2 or More	0.01
AR	Assisted Living, With Nursing	Loss of 2 or More	0.00
AR	Assisted Living, With Nursing	Loss of 2 or More	0.00
AR	Nursing Homes	Loss of 2 or More	-0.02
AR	Nursing Homes	Loss of 2 or More	-0.02
CA	Adult Day Centers	Loss of 1	0.00
CA	All Types	Loss of 1	-0.01
CA	Assisted Living, No Nursing	Loss of 1	0.02
CA	Assisted Living, With Nursing	Loss of 1	0.00
CA	Nursing Homes	Loss of 1	-0.05
CO	Adult Day Centers	Loss of 2 or More	0.02
CO	Adult Day Centers	Loss of 2 or More	0.02
CO	All Types	Loss of 2 or More	0.00
CO	All Types	Loss of 2 or More	0.00
CO	Assisted Living, No Nursing	Loss of 2 or More	-0.01
CO	Assisted Living, No Nursing	Loss of 2 or More	-0.01
CO	Assisted Living, With Nursing	Loss of 2 or More	-0.01
CO	Assisted Living, With Nursing	Loss of 2 or More	-0.01
CO	Nursing Homes	Loss of 2 or More	0.00
CO	Nursing Homes	Loss of 2 or More	0.00
CT	Adult Day Centers	No Change	0.11

Table A8 Difference in Differences Estimates 2010 to 2020 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
CT	Adult Day Centers	No Change	0.11
CT	All Types	No Change	0.87
CT	All Types	No Change	0.87
CT	Assisted Living, No Nursing	No Change	-0.43
CT	Assisted Living, No Nursing	No Change	-0.43
CT	Assisted Living, With Nursing	No Change	-0.12
CT	Assisted Living, With Nursing	No Change	-0.12
CT	Nursing Homes	No Change	0.98
CT	Nursing Homes	No Change	0.98
DE	Adult Day Centers	Gain of 1	-0.88
DE	Adult Day Centers	Gain of 1	-0.88
DE	All Types	Gain of 1	-0.96
DE	All Types	Gain of 1	-0.96
DE	Assisted Living, No Nursing	Gain of 1	-0.03
DE	Assisted Living, No Nursing	Gain of 1	-0.03
DE	Assisted Living, With Nursing	Gain of 1	-0.13
DE	Assisted Living, With Nursing	Gain of 1	-0.13
DE	Nursing Homes	Gain of 1	-0.51
DE	Nursing Homes	Gain of 1	-0.51
DC	Adult Day Centers	Gain of 1	14.85
DC	All Types	Gain of 1	9.53
DC	Assisted Living, No Nursing	Gain of 1	-3.54
DC	Assisted Living, With Nursing	Gain of 1	-3.74
DC	Nursing Homes	Gain of 1	29.86
FL	Adult Day Centers	Loss of 1	-0.08
FL	All Types	Loss of 1	0.05
FL	Assisted Living, No Nursing	Loss of 1	-0.01
FL	Assisted Living, With Nursing	Loss of 1	0.02
FL	Nursing Homes	Loss of 1	0.04
GA	Adult Day Centers	Loss of 2 or More	-0.01
GA	Adult Day Centers	Loss of 2 or More	-0.01
GA	All Types	Loss of 2 or More	0.13
GA	All Types	Loss of 2 or More	0.13
GA	Assisted Living, No Nursing	Loss of 2 or More	-0.01
GA	Assisted Living, No Nursing	Loss of 2 or More	-0.01
GA	Assisted Living, With Nursing	Loss of 2 or More	-0.01
GA	Assisted Living, With Nursing	Loss of 2 or More	-0.01
GA	Nursing Homes	Loss of 2 or More	0.07
GA	Nursing Homes	Loss of 2 or More	0.07
ID	Adult Day Centers	No Change	0.00
ID	Adult Day Centers	No Change	0.00
ID	All Types	No Change	-0.01

Table A8 Difference in Differences Estimates 2010 to 2020 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
ID	All Types	No Change	-0.01
ID	Assisted Living, No Nursing	No Change	0.03
ID	Assisted Living, No Nursing	No Change	0.03
ID	Nursing Homes	No Change	-0.02
ID	Nursing Homes	No Change	-0.02
IL	Adult Day Centers	Loss of 2 or More	0.17
IL	Adult Day Centers	Loss of 2 or More	0.17
IL	All Types	Loss of 2 or More	0.28
IL	All Types	Loss of 2 or More	0.28
IL	Assisted Living, No Nursing	Loss of 2 or More	0.06
IL	Assisted Living, No Nursing	Loss of 2 or More	0.06
IL	Assisted Living, With Nursing	Loss of 2 or More	0.03
IL	Assisted Living, With Nursing	Loss of 2 or More	0.03
IL	Nursing Homes	Loss of 2 or More	0.08
IL	Nursing Homes	Loss of 2 or More	0.08
IN	Adult Day Centers	Loss of 1	0.08
IN	All Types	Loss of 1	0.23
IN	Assisted Living, No Nursing	Loss of 1	0.13
IN	Assisted Living, With Nursing	Loss of 1	0.05
IN	Nursing Homes	Loss of 1	0.16
IA	Adult Day Centers	Loss of 1	0.07
IA	Adult Day Centers	Loss of 1	0.07
IA	All Types	Loss of 1	0.33
IA	All Types	Loss of 1	0.33
IA	Assisted Living, No Nursing	Loss of 1	0.07
IA	Assisted Living, No Nursing	Loss of 1	0.07
IA	Assisted Living, With Nursing	Loss of 1	0.15
IA	Assisted Living, With Nursing	Loss of 1	0.15
IA	Nursing Homes	Loss of 1	0.19
IA	Nursing Homes	Loss of 1	0.19
KS	Adult Day Centers	Loss of 2 or More	0.03
KS	All Types	Loss of 2 or More	0.03
KS	Assisted Living, No Nursing	Loss of 2 or More	0.02
KS	Assisted Living, With Nursing	Loss of 2 or More	0.00
KS	Nursing Homes	Loss of 2 or More	0.01
KY	Adult Day Centers	Loss of 1	0.11
KY	Adult Day Centers	Loss of 1	0.11
KY	All Types	Loss of 1	0.33
KY	All Types	Loss of 1	0.33
KY	Assisted Living, No Nursing	Loss of 1	0.15
KY	Assisted Living, No Nursing	Loss of 1	0.15
KY	Assisted Living, With Nursing	Loss of 1	-0.06

Table A8 Difference in Differences Estimates 2010 to 2020 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
KY	Assisted Living, With Nursing	Loss of 1	-0.06
KY	Nursing Homes	Loss of 1	0.05
KY	Nursing Homes	Loss of 1	0.05
LA	Adult Day Centers	Loss of 1	0.01
LA	Adult Day Centers	Loss of 1	0.01
LA	All Types	Loss of 1	-0.05
LA	All Types	Loss of 1	-0.05
LA	Assisted Living, No Nursing	Loss of 1	0.00
LA	Assisted Living, No Nursing	Loss of 1	0.00
LA	Assisted Living, With Nursing	Loss of 1	0.01
LA	Assisted Living, With Nursing	Loss of 1	0.01
LA	Nursing Homes	Loss of 1	-0.02
LA	Nursing Homes	Loss of 1	-0.02
ME	All Types	No Change	0.14
ME	All Types	No Change	0.14
ME	Assisted Living, No Nursing	No Change	-0.01
ME	Assisted Living, No Nursing	No Change	-0.01
ME	Assisted Living, With Nursing	No Change	0.00
ME	Assisted Living, With Nursing	No Change	0.00
MD	Adult Day Centers	Loss of 1	-0.24
MD	All Types	Loss of 1	-0.62
MD	Assisted Living, No Nursing	Loss of 1	-0.37
MD	Assisted Living, With Nursing	Loss of 1	0.34
MD	Nursing Homes	Loss of 1	-0.20
MA	Adult Day Centers	Gain of 1	-0.53
MA	All Types	Gain of 1	0.40
MA	Assisted Living, No Nursing	Gain of 1	0.51
MA	Assisted Living, With Nursing	Gain of 1	0.21
MA	Nursing Homes	Gain of 1	0.63
MI	Adult Day Centers	Loss of 1	0.01
MI	Adult Day Centers	Loss of 1	0.01
MI	All Types	Loss of 1	-0.02
MI	All Types	Loss of 1	-0.02
MI	Assisted Living, No Nursing	Loss of 1	0.01
MI	Assisted Living, No Nursing	Loss of 1	0.01
MI	Assisted Living, With Nursing	Loss of 1	-0.01
MI	Assisted Living, With Nursing	Loss of 1	-0.01
MI	Nursing Homes	Loss of 1	-0.07
MI	Nursing Homes	Loss of 1	-0.07
MN	Adult Day Centers	Loss of 1	-0.01
MN	All Types	Loss of 1	-0.03
MN	Assisted Living, No Nursing	Loss of 1	-0.01

Table A8 Difference in Differences Estimates 2010 to 2020 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
MN	Assisted Living, With Nursing	Loss of 1	0.00
MN	Nursing Homes	Loss of 1	0.02
MS	Adult Day Centers	No Change	-0.04
MS	Adult Day Centers	No Change	-0.04
MS	All Types	No Change	0.03
MS	All Types	No Change	0.03
MS	Assisted Living, No Nursing	No Change	-0.06
MS	Assisted Living, No Nursing	No Change	-0.06
MS	Assisted Living, With Nursing	No Change	0.00
MS	Assisted Living, With Nursing	No Change	0.00
MS	Nursing Homes	No Change	0.03
MS	Nursing Homes	No Change	0.03
MO	Adult Day Centers	Loss of 1	0.03
MO	Adult Day Centers	Loss of 1	0.03
MO	All Types	Loss of 1	0.23
MO	All Types	Loss of 1	0.23
MO	Assisted Living, No Nursing	Loss of 1	0.09
MO	Assisted Living, No Nursing	Loss of 1	0.09
MO	Assisted Living, With Nursing	Loss of 1	0.03
MO	Assisted Living, With Nursing	Loss of 1	0.03
MO	Nursing Homes	Loss of 1	0.07
MO	Nursing Homes	Loss of 1	0.07
MT	Adult Day Centers	No Change	0.00
MT	Adult Day Centers	No Change	0.00
MT	All Types	No Change	0.01
MT	All Types	No Change	0.01
MT	Assisted Living, No Nursing	No Change	0.04
MT	Assisted Living, No Nursing	No Change	0.04
MT	Nursing Homes	No Change	0.00
MT	Nursing Homes	No Change	0.00
NE	Adult Day Centers	Loss of 1	0.07
NE	Adult Day Centers	Loss of 1	0.07
NE	All Types	Loss of 1	0.09
NE	All Types	Loss of 1	0.09
NE	Assisted Living, No Nursing	Loss of 1	0.02
NE	Assisted Living, No Nursing	Loss of 1	0.02
NE	Assisted Living, With Nursing	Loss of 1	-0.03
NE	Assisted Living, With Nursing	Loss of 1	-0.03
NE	Nursing Homes	Loss of 1	0.01
NE	Nursing Homes	Loss of 1	0.01
NV	Adult Day Centers	Gain of 1	0.00
NV	All Types	Gain of 1	-0.01

Table A8 Difference in Differences Estimates 2010 to 2020 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
NV	Assisted Living, No Nursing	Gain of 1	0.00
NV	Assisted Living, With Nursing	Gain of 1	0.00
NV	Nursing Homes	Gain of 1	0.00
NH	All Types	Loss of 1	0.77
NH	All Types	Loss of 1	0.77
NH	Nursing Homes	Loss of 1	0.05
NH	Nursing Homes	Loss of 1	0.05
NJ	Adult Day Centers	No Change	0.00
NJ	All Types	No Change	1.29
NJ	Assisted Living, No Nursing	No Change	0.35
NJ	Assisted Living, With Nursing	No Change	0.22
NJ	Nursing Homes	No Change	0.51
NM	Adult Day Centers	Loss of 1	0.00
NM	Adult Day Centers	Loss of 1	0.00
NM	All Types	Loss of 1	-0.02
NM	All Types	Loss of 1	-0.02
NM	Assisted Living, No Nursing	Loss of 1	0.00
NM	Assisted Living, No Nursing	Loss of 1	0.00
NM	Assisted Living, With Nursing	Loss of 1	0.00
NM	Assisted Living, With Nursing	Loss of 1	0.00
NM	Nursing Homes	Loss of 1	0.00
NM	Nursing Homes	Loss of 1	0.00
NY	Adult Day Centers	No Change	0.05
NY	All Types	No Change	0.21
NY	Assisted Living, No Nursing	No Change	0.09
NY	Assisted Living, With Nursing	No Change	0.03
NY	Nursing Homes	No Change	0.09
NC	Adult Day Centers	Loss of 2 or More	0.04
NC	Adult Day Centers	Loss of 2 or More	0.04
NC	All Types	Loss of 2 or More	0.13
NC	All Types	Loss of 2 or More	0.13
NC	Assisted Living, No Nursing	Loss of 2 or More	0.02
NC	Assisted Living, No Nursing	Loss of 2 or More	0.02
NC	Assisted Living, With Nursing	Loss of 2 or More	-0.03
NC	Assisted Living, With Nursing	Loss of 2 or More	-0.03
NC	Nursing Homes	Loss of 2 or More	-0.07
NC	Nursing Homes	Loss of 2 or More	-0.07
ND	Adult Day Centers	Loss of 1	-0.03
ND	Adult Day Centers	Loss of 1	-0.03
ND	All Types	Loss of 1	-0.05
ND	All Types	Loss of 1	-0.05
ND	Assisted Living, No Nursing	Loss of 1	-0.01

Table A8 Difference in Differences Estimates 2010 to 2020 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
ND	Assisted Living, No Nursing	Loss of 1	-0.01
ND	Nursing Homes	Loss of 1	-0.03
ND	Nursing Homes	Loss of 1	-0.03
OH	Adult Day Centers	Loss of 1	0.32
OH	All Types	Loss of 1	0.87
OH	Assisted Living, No Nursing	Loss of 1	0.18
OH	Assisted Living, With Nursing	Loss of 1	0.12
OH	Nursing Homes	Loss of 1	0.37
OK	Adult Day Centers	Loss of 2 or More	0.04
OK	Adult Day Centers	Loss of 2 or More	0.04
OK	All Types	Loss of 2 or More	0.07
OK	All Types	Loss of 2 or More	0.07
OK	Assisted Living, No Nursing	Loss of 2 or More	0.02
OK	Assisted Living, No Nursing	Loss of 2 or More	0.02
OK	Assisted Living, With Nursing	Loss of 2 or More	0.00
OK	Assisted Living, With Nursing	Loss of 2 or More	0.00
OK	Nursing Homes	Loss of 2 or More	0.03
OK	Nursing Homes	Loss of 2 or More	0.03
OR	Adult Day Centers	Loss of 1	0.01
OR	Adult Day Centers	Loss of 1	0.01
OR	All Types	Loss of 1	-0.04
OR	All Types	Loss of 1	-0.04
OR	Assisted Living, No Nursing	Loss of 1	0.00
OR	Assisted Living, No Nursing	Loss of 1	0.00
OR	Assisted Living, With Nursing	Loss of 1	0.00
OR	Assisted Living, With Nursing	Loss of 1	0.00
OR	Nursing Homes	Loss of 1	0.00
OR	Nursing Homes	Loss of 1	0.00
PA	Adult Day Centers	Loss of 2 or More	-0.04
PA	All Types	Loss of 2 or More	0.64
PA	Assisted Living, No Nursing	Loss of 2 or More	0.16
PA	Assisted Living, With Nursing	Loss of 2 or More	0.16
PA	Nursing Homes	Loss of 2 or More	0.39
RI	Adult Day Centers	Loss of 1	-0.55
RI	All Types	Loss of 1	3.88
RI	Assisted Living, No Nursing	Loss of 1	0.77
RI	Assisted Living, With Nursing	Loss of 1	0.57
RI	Nursing Homes	Loss of 1	2.04
SC	Adult Day Centers	Loss of 1	-0.03
SC	Adult Day Centers	Loss of 1	-0.03
SC	All Types	Loss of 1	-0.02
SC	All Types	Loss of 1	-0.02

Table A8 Difference in Differences Estimates 2010 to 2020 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
SC	Assisted Living, No Nursing	Loss of 1	0.00
SC	Assisted Living, No Nursing	Loss of 1	0.00
SC	Assisted Living, With Nursing	Loss of 1	0.01
SC	Assisted Living, With Nursing	Loss of 1	0.01
SC	Nursing Homes	Loss of 1	0.05
SC	Nursing Homes	Loss of 1	0.05
SD	Adult Day Centers	Gain of 1	0.01
SD	Adult Day Centers	Gain of 1	0.01
SD	All Types	Gain of 1	0.01
SD	All Types	Gain of 1	0.01
SD	Assisted Living, No Nursing	Gain of 1	-0.02
SD	Assisted Living, No Nursing	Gain of 1	-0.02
SD	Nursing Homes	Gain of 1	0.06
SD	Nursing Homes	Gain of 1	0.06
TN	Adult Day Centers	Loss of 1	0.05
TN	All Types	Loss of 1	0.03
TN	Assisted Living, No Nursing	Loss of 1	0.03
TN	Assisted Living, With Nursing	Loss of 1	0.00
TN	Nursing Homes	Loss of 1	-0.03
TX	Adult Day Centers	No Change	0.01
TX	All Types	No Change	0.00
TX	Assisted Living, No Nursing	No Change	0.00
TX	Assisted Living, With Nursing	No Change	0.00
TX	Nursing Homes	No Change	-0.02
UT	Adult Day Centers	Loss of 1	-0.01
UT	Adult Day Centers	Loss of 1	-0.01
UT	All Types	Loss of 1	-0.05
UT	All Types	Loss of 1	-0.05
UT	Assisted Living, No Nursing	Loss of 1	0.01
UT	Assisted Living, No Nursing	Loss of 1	0.01
UT	Assisted Living, With Nursing	Loss of 1	0.00
UT	Nursing Homes	Loss of 1	0.00
UT	Nursing Homes	Loss of 1	0.00
VA	Adult Day Centers	No Change	-0.02
VA	All Types	No Change	-0.20
VA	Assisted Living, No Nursing	No Change	0.00
VA	Assisted Living, With Nursing	No Change	0.10
VA	Nursing Homes	No Change	0.13
WA	Adult Day Centers	Gain of 2 or More	0.01
WA	Adult Day Centers	Gain of 2 or More	0.01
WA	All Types	Gain of 2 or More	-0.04
WA	All Types	Gain of 2 or More	-0.04

Table A8 Difference in Differences Estimates 2010 to 2020 (Continued)

State	Facility Type	Change in HCBS Waivers	DD
WA	Assisted Living, No Nursing	Gain of 2 or More	0.00
WA	Assisted Living, No Nursing	Gain of 2 or More	0.00
WA	Assisted Living, With Nursing	Gain of 2 or More	0.00
WA	Assisted Living, With Nursing	Gain of 2 or More	0.00
WA	Nursing Homes	Gain of 2 or More	0.00
WA	Nursing Homes	Gain of 2 or More	0.00
WV	All Types	No Change	0.54
WV	All Types	No Change	0.54
WV	Assisted Living, With Nursing	No Change	-0.02
WV	Assisted Living, With Nursing	No Change	-0.02
WV	Nursing Homes	No Change	0.23
WV	Nursing Homes	No Change	0.23
WI	Adult Day Centers	Loss of 1	0.09
WI	Adult Day Centers	Loss of 1	0.09
WI	All Types	Loss of 1	0.07
WI	All Types	Loss of 1	0.07
WI	Assisted Living, No Nursing	Loss of 1	0.13
WI	Assisted Living, No Nursing	Loss of 1	0.13
WI	Assisted Living, With Nursing	Loss of 1	0.00
WI	Assisted Living, With Nursing	Loss of 1	0.00
WI	Nursing Homes	Loss of 1	-0.10
WI	Nursing Homes	Loss of 1	-0.10
WY	Adult Day Centers	No Change	0.02
WY	Adult Day Centers	No Change	0.02
WY	All Types	No Change	0.01
WY	All Types	No Change	0.01
WY	Nursing Homes	No Change	0.00
WY	Nursing Homes	No Change	0.00

Notes: Table reports differences-in differences estimates computed as the cross-decade difference in differences in the estimated number of facilities per 10km^2 in predominately White -minus the same estimate in predominantly non-White areas. The estimates used to compute these differences are reported in Tables A3 and A4.1. Missing states and state-faculty type combinations reflect cases where models did not converge

Center for Financial Security

School of Human Ecology
University of Wisconsin-Madison

1300 Linden Drive
Madison, WI 53706

608-890-0229
cfs@mailplus.wisc.edu
cfs.wisc.edu