

# Race/Ethnicity, Nativity, and Gender Disparities in Unmet Care Needs Among Older Adults in the United States

Zhiyong Lin, PhD<sup>1,2,\*</sup>  and Hui Liu, PhD<sup>3</sup> 

<sup>1</sup>Department of Sociology, The University of Texas at San Antonio, San Antonio, Texas, USA.

<sup>2</sup>Population Research Center, The University of Texas at Austin, Austin, Texas, USA.

<sup>3</sup>Center on Aging and the Life Course and Department of Sociology, Purdue University, West Lafayette, Indiana, USA.

\*Address correspondence to: Zhiyong Lin, PhD. E-mail: [zhiyong.lin@utsa.edu](mailto:zhiyong.lin@utsa.edu)

Decision Editor: Joseph E. Gaugler, PhD, FGSA

## Abstract

**Background and Objectives:** Although disparities in disability and the unequal distribution of care resources are widely discussed in the literature, there has been less research on disparities in experiencing unmet care needs among older adults. This study aims to investigate how unmet care needs are unevenly distributed across social groups with various intersecting identities, such as race/ethnicity, nativity, and gender, although considering their care needs and care networks, drawing on the conceptual framework of the pathway to unmet needs.

**Research Design and Methods:** The data for this study came from the National Health and Aging Trends Study (2011–2018), and the study sample consisted of 7,061 Medicare beneficiaries who needed assistance with daily activities. Questions about unmet care needs were in the form of consequences related to difficulty or lack of help with daily activities. Mixed-effects negative binomial regression models were used to predict rates of unmet needs.

**Results:** Older adults of color, especially women, experienced higher rates of unmet care needs compared with their White and male counterparts. Although Black–White and gender differences in unmet needs were mostly explained by unequal exposures to care needs and differential care networks, Hispanic women and foreign-born Hispanic men were still at a disadvantage even after adjusting for these covariates.

**Discussion and Implications:** These results emphasize the importance of adopting an intersectional approach to enhance the quality of long-term services and support for older adults facing social disadvantages.

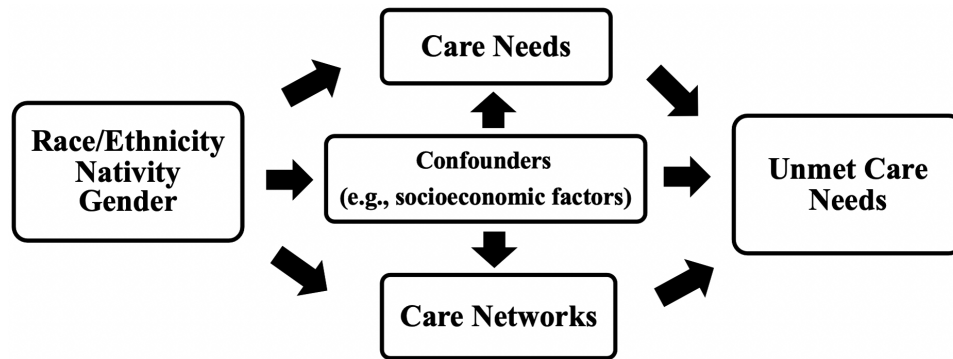
**Keywords:** Health disparities, Intersectionality, Long-term care, Minority aging

## Background and Objectives

About two in five older Americans aged 65 and older have a disability, with a large share of them in need of care (Okoro et al., 2018). At the same time, the number of potential family caregivers, who are the primary care providers for older Americans, is shrinking due to societal trends such as rising divorce rates, decreasing marriage and childbearing rates, and increased female participation in the labor market. The anticipated shortfall between the number of people who will need care or assistance and the number of family members available to provided care, often referred to as the “family care gap” (Gaugler, 2021), has caused growing public health and policy concerns about insufficient assistance to older adults who need care, known as unmet care needs, or simply unmet needs (Freedman & Spillman, 2014a). According to recent national estimates, about 20%–40% of older Americans in need of assistance with daily activities report unmet care needs (Potter, 2019; Rahman et al., 2022; Xiang et al., 2018). This is worrisome, given that unmet needs are an essential indicator of life quality for older adults and are associated with various adverse outcomes, including a heightened risk of falls, emergency department visits, and

mental health problems (Hass et al., 2017; Xiang et al., 2018).

Given the growing diversity of the aging population in the United States, it is essential to consider how various social identities shape older adults’ care-receiving experience. We examine how race/ethnicity, nativity, and gender interact to determine one’s unmet care needs in later life. Guided by the conceptual model of the pathway to unmet needs (Allen et al., 2014), we further examine how one’s exposure to care needs and care networks lead to unequal experiences of unmet care needs at the intersection of race/ethnicity, nativity, and gender. Using data from eight waves of the National Health and Aging Trends Study (NHATS, 2011–2018), which covers a nationally representative sample of Medicare beneficiaries above age 65, we address two research questions: (a) Does the risk of unmet care needs vary by race/ethnicity, nativity, and gender? (b) Do health disparities and differences in care networks contribute to social disparities in unmet care needs? Examining disparities in unmet care needs can inform practice and policy to identify the most vulnerable group of older adults who struggle most with the complications of health impairments and inadequate support.



**Figure 1.** Conceptual framework of the pathway to unmet care needs.

### Pathways to Unmet Care Needs

Allen et al. (2014) provide a conceptual framework to understand the pathways to unmet needs, as illustrated in Figure 1, positing two major processes. First, the level of need for assistance among older adults is determined by the severity of impairments. Individuals, caregivers, and health care systems are faced with challenges posed by the decline in physical function that accompanies severe impairment (Rundell et al., 2022). Moreover, recent research highlights that older adults with multimorbidity and cognitive impairment need additional support, which adds strain to caregivers (Beach et al., 2020; Erving & Frazier, 2021). In this study, we consider physical function, multimorbidity, and cognitive function to gain a comprehensive understanding of older adults' care needs.

Second, the availability and adequacy of various types of care resources in older adults' care networks will further determine whether the care needs are adequately met or not. Sociodemographic trends, such as declining marriage and childbearing rates and increasing rates of divorce and cohabitation, have challenged the pattern of traditional care arrangements in which spouses and children often take the primary responsibility of older care. Even older adults with accessible family caregiving tend to rely on more diverse care networks due to the increasing complexity of their care needs (Ellis et al., 2023; Jacobs et al., 2018). However, there is still limited knowledge about the implications of diversified care networks for unmet care needs, particularly across different social groups among older adults. Some studies have found that care network types are generally not associated with unmet care needs (Patterson et al., 2022). However, for older adults with dementia requiring intensive care, shared caregiving responsibilities among paid and unpaid caregivers are shown to be beneficial for care recipients (Hu et al., 2022). Other studies have also found that older adults, especially those of color, still prefer traditional family caregivers and may fare better in this care arrangement compared with those with more diverse care networks (Morales & Robert, 2022; Potter, 2019).

In addition to the two major pathways mentioned previously, other socioeconomic, demographic, and environmental factors, may also contribute to varying levels of care needs and care networks. These factors, stratified by social positions, may lead to varying risks of unmet care needs. For instance, older adults who rely on Medicaid, come from low-income families or reside in publicly subsidized senior housing are more likely to experience unmet care needs (Allen

et al., 2014; Freedman & Spillman, 2014b). Although testing the full range of mechanisms is beyond the scope of this study, we have adjusted for major demographic and socioeconomic characteristics of older adults when examining the two major mechanisms of care needs and care networks. Taken together, the conceptual model illustrated in Figure 1 suggests that adequately meeting the care needs of older adults is a challenging task due to the complex interactions between care needs and care availability/adequacy associated with care networks. To reduce the unmet care needs of older adults, it is crucial to assess both the level of care needs and care networks' role in leading to the unmet care needs of older adults. More importantly, it is essential to consider their unequal distributions among older adults due to significant variations in individual family backgrounds, socioeconomic characteristics, and other social relationships available to help them, as we will discuss next.

### Race/Ethnicity, Nativity, and Gender Disparities in Unmet Care Needs

Previous literature provides sound evidence of disparities in unmet care needs, suggesting that older adults with disadvantaged status tend to have limited access to care networks (Berridge & Mor, 2018; Bookman & Kimbrel, 2011) and also face a significant burden of disease and impairment (Brown, 2018; Zhang et al., 2016), which lead to heightened demand for assistance and disparities in unmet needs (Allen et al., 2014). Race/ethnicity, nativity, and gender are often highlighted as fundamental causes underlying such disadvantages and advantages.

#### Race/ethnicity

The nation's legacy of racial oppression and structural inequality has resulted in significant racial disparities in health, education, income, and other sociodemographic characteristics. Black people enter old age after a lifetime of cumulative disadvantage (Dannefer, 2020). In relation to the conceptual framework on the pathway to unmet care needs (Figure 1), Black adults have higher levels of care need than their White counterparts due to their worse physical functioning, higher rates of physical and mental illnesses, and steeper decline in physical functioning over time (Brown, 2018; Erving & Frazier, 2021; Zhang et al., 2016). However, they also face difficulties in receiving adequate care to meet these care needs due to their limited access to multiple types of care resources. For example, Black adults often underutilize formal home and community-based support services potentially

due to situational factors such as environmental constraints that limit their access to available services and resources along with their unique experiences with race-based stressors that can influence their perceptions and utilization of support services (Nkimbeng & Parker, 2021). Also, compared with their White counterparts, Black adults report having fewer network ties from which to access potential support and greater emotional and financial support from their networks (Verdery & Campbell, 2019). Yet, recent studies have indicated that Black Americans often possess stronger cultural motivations, such as a sense of duty, obligation, expectations, and deeply held values, for providing care to their family members (Dilworth-Anderson et al., 2020; Nkimbeng & Parker, 2021). Consequently, they tend to have access to larger informal care networks compared with their White counterparts. Nevertheless, no studies have examined whether these disparities in health and care networks further lead to disadvantages in unmet care needs among Black adults relative to their White counterparts.

Currently, about 8% of the population aged 65 and older is Hispanic, and this number is expected to increase to 22% by 2060 (Mather et al., 2015). Yet, few studies have examined disparities in caregiving and unmet needs among Hispanics compared with White and Black populations. As the percentage of the Hispanic aging population continues to grow, understanding care needs of Hispanics becomes increasingly important. Although Hispanic adults tend to have similar or even better health and longevity than their White counterparts despite their lower socioeconomic status, often referred to as the Hispanic health paradox (Camacho-Rivera et al., 2015), several health issues such as diabetes and controlled high blood pressure are more prevalent in Hispanics than Whites (Centers for Disease Control and Prevention, 2015), indicating higher care needs. At the same time, the lower socioeconomic status of Hispanic families may indicate fewer available health care recourses. Indeed, similar to Black families, Hispanic families are also less likely than their White counterparts to use paid or outsourced care due to structural barriers (Edege, 2006). Nevertheless, no studies have examined whether unmet care needs are similar or different for Hispanics compared with their White and Black counterparts.

### Nativity

Nativity is another important determinant of disparities in health care access and health conditions, given the changing demographics of the United States (Mather et al., 2015; McGee & Claudio, 2018). Studies examining the link between nativity and health conditions primarily concentrate on Hispanic populations, given that two-thirds or more of Hispanic adults aged 65 and older are immigrants (Scommegna, 2013). Immigrants tend to have better health relative to their U.S.-born counterparts due to health selection, return migration of migrants in poor health, or healthy lifestyles of immigrants (Hill et al., 2012). However, this advantage erodes over time or is even reversed at older ages, especially for non-Whites immigrants who experience negative forms of acculturation and distress stemming from discrimination as they are incorporated into U.S. society (Brown, 2018; Guo et al., 2019). In terms of health care access, the immigrant population is generally less likely to have health insurance coverage and a usual source of care in comparison to the U.S.-born population (McGee & Claudio, 2018). Moreover, compared with their U.S.-born counterparts, immigrants of color may experience

additional disadvantages in caregiving experiences, such as language and cultural barriers, and a higher prevalence of chronic diseases. However, immigrants of color may also benefit from larger informal care networks compared with their White counterparts, thanks to their stronger cultural norms, beliefs, and attitudes toward family care (Dilworth-Anderson, et al., 2020). Therefore, in this study, within each race/ethnicity, we further explore how nativity status affects the occurrence of unmet care needs, especially among Hispanic adults.

### Gender

Gender is another key social construct that may have significant consequences for the availability and adequacy of care for older adults in need of assistance. Prevalence estimates for most chronic health conditions are higher for women than for men (Bird & Rieker, 2008), suggesting women have more varied or intensive care needs than men. Consequently, although women have a longer life expectancy, they require assistance for a more extended period (Fabius et al., 2022). Family remains the primary source of caregiving, with spouses often serving as primary caregivers independently (Pinquart & Sörensen, 2011). This leads women to rely more on non-spousal caregivers and formal services, resulting in larger care networks compared with men (Lima & Allen, 2001). Nonetheless, diverse care networks do not ensure sufficient care quality. Spouses generally provide higher-quality and more consistent care than other arrangements (Wolff et al., 2018). Nonspousal caregivers may exhibit less commitment, and care quality may vary based on socioeconomic status and demographics. Women, facing lower socioeconomic status, may encounter difficulties accessing high-quality formal care services, leading to higher rates of unmet care needs (Lima & Allen, 2001).

### Intersectionality of race/ethnicity, nativity, and gender

We approach the issue of unmet care needs from an intersectional perspective, which recognizes that multiple dimensions of disadvantage simultaneously intersect and affect individuals' life conditions (Collins, 2015). In the United States, race/ethnicity, nativity, and gender are three critical dimensions of social stratification that intersect to structure differential access to resources, life chances, and risks, resulting in health inequalities across different life stages. For example, White men generally experience better health outcomes, such as self-rated physical health and psychological well-being, compared with all other racial-ethnic and gender groups, partly due to their privileged racial and gender positions (Erving & Frazier, 2021). In contrast, White women tend to report the highest levels of psychological distress, although Black women tend to report the poorest self-rated physical health across racial-ethnic and gender groups (Brown, 2018). Foreign-born Hispanic men and women tend to have health outcomes similar to their White counterparts on several measures (Boen & Hummer, 2019).

Such health disparities may also translate into disparities in care needs and resources available in later life, suggesting that the advantages and disadvantages people experience depend on the configuration of various social statuses, such as race/ethnicity, nativity, and gender. Older adults with multiple advantaged statuses, such as native-born White men, are more likely to have the resources to meet their care needs and gradually regain independence. However, those with multiple disadvantaged statuses, such as foreign-born Hispanic

women, may lack care resources and experience increasing unmet care needs, leading to adverse consequences, such as limitations on daily activities and unintended injuries. Therefore, the intersectional perspective suggests that unmet care needs are unevenly experienced by different social groups at the intersections of race/ethnicity, nativity, and gender, reflecting a stratification system across multiple dimensions of social life.

Despite the longstanding call from leading scholars for an intersectionality perspective to understand social disparities, previous studies have surprisingly overlooked the examination of social disparities in unmet care needs at the intersection of race/ethnicity, nativity, and gender. Our understanding of unmet needs within the Hispanic population is particularly limited. Furthermore, there has been a lack of empirical exploration into the roles of levels of care needs and care networks, as illustrated in [Figure 1](#), in contributing to unmet care needs across different social groups of older adults. To address these critical gaps, the current study aims to contribute valuable insights by providing one of the first comprehensive examinations of disparities in unmet care needs at the intersection of race/ethnicity, nativity, and gender. By utilizing a nationally representative population-based sample, this study will offer significant evidence on the specific pathways that contribute to these disparities in unmet needs. This research endeavor will fill a crucial gap in the existing literature and enhance our understanding of the complex factors underlying disparities in accessing necessary care.

## Research Design and Methods

### Data and Sample

Data were drawn from Rounds 1–8 of the NHATS (2011–2018). The NHATS is a nationally representative longitudinal study of Medicare beneficiaries, which provides health insurance for approximately 96% of adults aged 65 and older in the United States. All participants were U.S. citizens or permanent residents aged 65 and older residing in the U.S. for five continuous years to be eligible for this study. The initial NHATS sample ( $N = 8,245$ ) was first interviewed in 2011, and replenishment of the sample to maintain its ability to represent the older Medicare population was undertaken in 2015 (response rates for living sample persons were between 76% and 93%).

Our study sample was restricted to respondents who reported a need for assistance with any daily activities (37%–44% across waves) because having a need was a prerequisite for experiencing unmet care needs. NHATS respondents were classified as having a need for care if they had difficulty performing at least one of the following activities by themselves: eating, bathing, dressing, toileting, getting out of bed, getting around inside one's home or building, leaving one's home or building, doing laundry, preparing hot meals, shopping for personal items, paying bill/banking, and handling medications. We further excluded respondents in nursing homes for whom most caregiving information was not available (around 5% across waves) and those with missing data on independent variables (around 7% across waves). The final sample consisted of 19,601 person-year records (2,990 in 2011; 2,447 in 2012; 1,986 in 2013; 1,705 in 2014; 3,029 in 2015; 2,748 in 2016; 2,472 in 2017; and 2,224 in 2018). On average, an individual was observed about three times in the panel.

## Measurement

### Unmet care needs

Respondents who reported difficulty performing an activity by themselves were asked whether they had experienced a particular consequence because the activity was too difficult to carry out by themselves in the last month ([Freedman & Spillman, 2014b](#)). There were 12 questions in total regarding adverse consequences of unmet care needs: (a) having to stay in bed; (b) not being able to go places inside the home; (c) not being able to go places outside the home; (d) going without eating; (e) going without showering/bathing/washing up; (f) accidentally wetting or soiling clothes; (g) going without getting dressed; (g) going without clean laundry; (i) going without groceries or personal items; (j) going without a hot meal; (k) going without handling bills and banking matters, and (l) making a mistake in taking prescribed medicines. Percentages of older adults experiencing each adverse consequence of unmet care needs are reported in [Supplementary Table 1](#). Following previous studies, a summary indicator of the total number of adverse consequences was created, with higher values indicating more severe unmet needs ([Xiang et al., 2018](#)).

### Race/ethnicity, nativity, and gender

*Race/ethnicity* was categorized into three mutually exclusive categories: non-Hispanic White, non-Hispanic Black, and Hispanic. Other racial-ethnic groups were excluded from the analysis due to the small sample size (2%–3% across waves). *Gender* was coded as men (0) and women (1). *Nativity* was measured by a single item asking participants whether they were born in the United States or not, with two categories: U.S.-born (0) and the foreign-born (1).

### Level of care needs

NHATS collected information on a broad range of health and function-related characteristics for older adults. We assessed the level of care needs for three different types of health conditions: physical capacity, multimorbidity, and cognitive function. We used a validated score of self-reported physical capacity difficulties, ranging from 0 to 12 ([Berridge & Mor, 2018](#); [Rundell et al., 2022](#)). A higher score indicates a greater number of physical capacity limitations (e.g., unable to go up 20 stairs; unable to walk grasp small objects). For multimorbidity, respondents were asked whether a doctor had ever diagnosed them with certain chronic diseases, including heart attack, heart disease, high blood pressure, arthritis, osteoporosis, diabetes, lung disease, stroke, and cancer. Multimorbidity (or multiple chronic conditions) were defined as having at least two of these diseases. Cognitive function was based on a combination of self-reported diagnosis of dementia or Alzheimer's disease, the AD8 Dementia Screening Interview, and cognitive tests. Older adults were considered to have cognitive impairment if they were classified as having either possible or probable dementia (see [Kasper et al., 2013](#), for more details on NHATS dementia classifications).

### Care network types

A measure of care network types was created from the perspective of care recipients in NHATS. Each respondent was asked whether they received any care in the previous month, and to identify the relationship of each caregiver. A total of 42 caregiver types were included in NHATS. Historically, spouses

and adult children have been the primary caregivers for older adults with daily care needs (Wolff et al., 2018). However, as the availability of traditional caregivers has diminished, older adults are increasingly relying on support from nontraditional caregivers, including siblings, friends, and other nonkin caregivers (Jacobs et al., 2018). To capture the diverse caregiving networks, we categorized caregivers into five groups: spouse, adult children, extended kin, nonkin informal caregivers, and formal caregivers. NHATS also collected information on the use of assistive technologies in performing daily activities, mobility tasks, and dealing with health matters. In combination with informal and formal care, these technologies have increased the ability of older adults to maintain independence in activities of daily living (Freedman et al., 2017). Assistive technologies included assistive devices for daily activities and internet use for household tasks and obtaining information on health conditions. We conducted latent class analysis (LCA) to identify a unique care network typology and five care network classes: (a) spousal care, (b) care only from children, (c) care from children and others, (d) self-care through assistive technology, and (e) care only from others. Item-response probabilities associated with constructed five-class care networks and further explanation about the LCA can be found in [Supplementary Section A](#).

#### Control variables

Allen et al. (2014) conceptual framework and relevant literature (Beach et al., 2020; Hu et al., 2022; Xiang et al., 2018) guided the selection of possible predictors of unmet care needs, including a set of demographic and socioeconomic covariates. Demographic information was assessed by age, marital status (married/partnered = 1, widowed/divorced/never married = 0), number of children, living arrangement (living alone = 1; living with others = 0), and whether they lived in any residential care settings (e.g., continuing-care retirement communities and assisted living facilities, yes = 1; no = 0). The socioeconomic variables included educational attainment (measured in years completed), household income (total annual household income from all possible sources), and Medicaid coverage. The NHATS provided missing imputation to replace missing values in the income variable (DeMatteis et al., 2016). Income was log-transformed ( $\ln + 1$ ) due to its highly skewed distribution. All analytic variables, including levels of care needs and care network types, are time-varying. Race/ethnicity, nativity, gender, and educational attainment are time-invariant.

#### Analytical Strategies

We began with descriptive analysis using chi-square tests and *t*-tests to compare sample characteristics by unmet need status at baseline. Next, we estimated a series of mixed-effects negative binomial regression models to predict the number of adverse consequences of unmet care needs, presenting IRRs and 95% confidence intervals for ease of interpretation. The mixed-effects models are helpful for identifying both time-invariant and time-varying predictors of unmet care needs by taking advantage of the longitudinal design of the data. To understand the basic patterns of disparities in unmet care needs, Model 1 included race/ethnicity, nativity, and gender, as well as other sociodemographic covariates. To understand whether disparities in unmet care needs can be explained by levels of care needs and care network types, we separately added these two sets of factors in Models 2 and 3. Model 4

included all covariates. The analysis was first conducted for the total sample. Guided by the intersectionality approach, we further stratified the analysis by separate race/ethnicity groups: Non-Hispanic Whites, Non-Hispanic Blacks, and Hispanics, although including an interaction term of gender and nativity to examine the unique experiences of each race/ethnicity-nativity-gender subgroup (Erving & Frazier, 2021). To address the potential bias introduced by attrition and death, we applied the Heckman-type corrections by first modeling the probabilities of deceased and nonrespondent identities, and then adding these two predicted probabilities in the final models (Raudenbush & Bryk, 2002). We further accounted for the complex survey design in our analysis by applying weights provided by the NHATS (Freedman et al., 2020).

## Results

### Descriptive Statistics

Table 1 presents weighted sample characteristics stratified by unmet needs status (whether they report any adverse consequence of unmet care needs or not) in the baseline 2011 sample. About 30% of the sample who needed assistance with daily activities experienced unmet care needs. In general, older adults who reported unmet care needs were more likely to be foreign-born, in communities of color, less educated, unpartnered, and report higher levels of care needs than those without unmet needs. In terms of care network types, older adults who were primarily cared for by spouses (Class 1) and those who performed self-care through assistive technology (Class 4) were less likely to report unmet needs than those who were cared for by children and others (Class 3) or by others only (Class 5).

### Multivariate Models

Table 2 presents the results of mixed-effects negative binomial regression models predicting rates of unmet needs. The results from Model 1 indicate that older adults of color and women reported significantly higher rates of unmet care needs than their non-Hispanic White and male counterparts. Specifically, non-Hispanic Black and Hispanic older adults had incidence rate ratios (IRR) of unmet care needs that were 1.22 times and 1.48 times higher, respectively, than their non-Hispanic White counterparts. Older women had an IRR of 1.27 times higher rate of unmet care needs compared with older men. Models 2 and 3 included the level of care needs and care network types separately, and both explained substantial proportions of racial/ethnic and gender disparities in unmet care needs. For example, in Model 2, all three health indicators (measures for levels of care needs) were significantly associated with higher rates of unmet care needs, and the Black-White and Hispanic-White differences in the incidence rate ratio of unmet care needs were considerably reduced after including these health indicators. [Supplementary Table 2](#) showed descriptive statistics of key variables included in the analysis by race/ethnicity and gender. In most health indicators older adults of color had higher probabilities of needing care than their non-Hispanic White counterparts.

Results from Model 3 in [Table 2](#) indicate that older adults who received support from children only (Class 2), children and others (Class 3), and those who only received support from others (Class 5) had higher rates of unmet care needs compared with spouse care recipients (Class

**Table 1.** Weighted Sample Characteristics by Unmet Needs Status, National Health and Aging Trends Study 2011

Characteristic	No unmet needs 69.62%	Have unmet needs 30.38%	<i>p</i> Value <sup>a</sup>
Race (%)			
White	84.40	78.14	<.001
Black	8.53	10.23	.103
Hispanic	7.07	11.73	<.001
Women	62.25	64.88	.216
Foreign-born	8.98	13.74	<.001
Level of care needs			
Physical capacity	4.01 (0.09)	7.29 (0.13)	<.001
Multimorbidity (%)	56.70	71.88	<.001
Cognitive impairment (%)	23.29	33.83	<.001
Care network types (%)			
Class 1: Spousal care	44.46	32.72	<.001
Class 2: Care only from children	15.88	13.43	.128
Class 3: Care from children and others	21.26	41.21	<.001
Class 4: Self-care through assistive technology	10.56	5.30	<.001
Class 5: Care only from others	7.83	7.34	.691
Age	76.91 (0.22)	77.18 (0.30)	.445
Married (%)	54.61	46.84	.003
Number of children	2.98 (0.06)	3.01 (0.07)	.673
Live alone (%)	31.80	34.02	.315
Medicaid coverage (%)	11.86	22.49	<.001
Education (in years)	12.48 (0.10)	11.79 (0.18)	<.001
Income (in \$10k)	4.73 (0.69)	3.37 (0.15)	.053

Notes: Values for categorical variables are in percent. The mean values, followed by linearized standard errors in parentheses, are presented for all other variables. Sampling weights and design factors were accounted for when estimating prevalence/means.

<sup>a</sup>*p* Value is based on the chi-square test or *t*-test.

1). Furthermore, non-Hispanic Black and Hispanic older adults were more likely than their non-Hispanic White counterparts to be part of these three care networks (see [Supplementary Table 2](#)). After including all covariates in Model 4, the Black–White differences in unmet care needs were no longer significant, suggesting that disparities in unmet care needs were primarily driven by differences in adverse health outcomes and diverse care networks. Hispanic older adults had the highest level of unmet care needs among all three racial/ethnic groups, and these differences remained marginally significant even after controlling for all covariates. Foreign-born older adults had higher rates of unmet needs than U.S.-born only when levels of care needs were controlled for (Models 2 and 4), suggesting that facing the same health difficulties, immigrants had more difficulties meeting their care needs than natives.

### Intersectional Analysis by Race/Ethnicity, Nativity, and Gender

[Table 3](#) presents results from mixed-effects binomial logistic regression analyses for three race/ethnic subsamples. Women, regardless of their racial–ethnic background,

had higher levels of unmet care needs compared with men (Model 1). However, Model 3 results indicate that, after adjusting for care needs and care networks, gender disparities in unmet care needs among White and Black older adults disappeared or even reversed, and there is no significant difference in their nativity status. This suggests that differences in care needs and care networks are the main drivers of gender disparities in unmet care needs among these groups. Gender disparities remained significant among Hispanics, and these disparities were further complicated by their nativity. Nativity status was only significant among Hispanic men, with foreign-born Hispanic men reporting much higher rates of unmet needs compared with U.S.-born Hispanic men (2.03,  $p < .01$ ). U.S.-born Hispanic women also had higher rates of unmet needs than U.S.-born Hispanic men (1.61,  $p < .05$ ), but there was no significant difference between U.S.-born and foreign-born Hispanic women (calculation based on the interaction term). To visually illustrate the disparities in unmet care needs among Hispanics by nativity and gender, we display the predicted rates of unmet needs in [Figure 2](#). It shows a clear disadvantage for foreign-born Hispanic men and Hispanic women, compared with U.S.-born Hispanic men

**Table 2.** Mixed-Effects Negative Binomial Regression Models Predicting Rates of Unmet Care Needs, National Health and Aging Trends Study 2011–2018 (N of person-years = 19,601, N of persons = 7,061)

Characteristic	Model 1	Model 2	Model 3	Model 4
Race (ref. = White)				
Black	1.22*** (1.10, 1.35)	0.95 (0.87, 1.04)	1.12 <sup>†</sup> (1.02, 1.23)	0.94 (0.86, 1.02)
Hispanic	1.48*** (1.23, 1.79)	1.16 <sup>†</sup> (0.98, 1.37)	1.43*** (1.19, 1.72)	1.16 <sup>†</sup> (0.98, 1.37)
Women	1.27*** (1.16, 1.38)	0.85*** (0.78, 0.92)	1.18*** (1.09, 1.29)	0.85*** (0.79, 0.92)
Foreign-born (vs. U.S.-born)	1.09 (0.93, 1.28)	1.16 <sup>†</sup> (1.00, 1.33)	1.13 (0.97, 1.32)	1.17 <sup>†</sup> (1.01, 1.34)
Level of care needs				
Physical capacity		1.23*** (1.22, 1.25)		1.22*** (1.20, 1.23)
Multimorbidity		1.25*** (1.16, 1.34)		1.24*** (1.15, 1.33)
Cognitive impairment		1.26*** (1.19, 1.33)		1.26*** (1.18, 1.33)
Care network types (ref. = Class 1) <sup>a</sup>				
Class 2			1.13 <sup>†</sup> (1.00, 1.28)	1.16 <sup>†</sup> (1.03, 1.30)
Class 3			2.45*** (2.22, 2.70)	1.48*** (1.35, 1.63)
Class 4			0.98 (0.85, 1.13)	1.16 <sup>†</sup> (1.01, 1.33)
Class 5			1.68*** (1.47, 1.92)	1.48*** (1.31, 1.68)
Age	1.08*** (1.04, 1.12)	0.86*** (0.83, 0.89)	0.96 <sup>†</sup> (0.92, 1.00)	0.84*** (0.81, 0.87)
Married	0.84*** (0.76, 0.92)	0.92 <sup>†</sup> (0.84, 1.00)	1.03 (0.94, 1.14)	1.04 (0.95, 1.14)
Number of children	1.03 (0.99, 1.07)	1.02 (0.99, 1.06)	1.03 (0.99, 1.07)	1.03 <sup>†</sup> (0.99, 1.06)
Live alone	1.03 (0.95, 1.11)	1.06 (0.99, 1.14)	0.97 (0.90, 1.05)	1.02 (0.95, 1.10)
Medicaid coverage	1.31*** (1.21, 1.42)	1.12** (1.04, 1.21)	1.24*** (1.15, 1.34)	1.11*** (1.03, 1.19)
Education (in years)	0.98 (0.94, 1.02)	1.11*** (1.07, 1.16)	1.00 (0.96, 1.04)	1.11*** (1.07, 1.16)
Income (log)	0.97 (0.94, 1.01)	1.00 (0.97, 1.04)	0.98 (0.95, 1.02)	1.01 (0.98, 1.04)
Attribution status				
Died	1.53*** (1.38, 1.69)	1.12** (1.03, 1.23)	1.40*** (1.27, 1.53)	1.11 <sup>†</sup> (1.02, 1.21)
Loss to follow up	1.16** (1.06, 1.26)	1.02 (0.94, 1.10)	1.14** (1.05, 1.24)	1.02 (0.95, 1.10)
Constant	0.19*** (0.17, 0.21)	0.08*** (0.07, 0.09)	0.14*** (0.12, 0.16)	0.07*** (0.06, 0.08)
Within person variance	1.27***	0.81***	1.07***	0.80***
Likelihood-ratio test of alpha	2,318.16***	1,686.73***	1,984.12***	1,661.96***
Wald chi-square test	425.91***	2,657.48***	1,029.20***	2,744.32***

Notes: Results are presented in incidence rate ratios, with 95% confidence intervals in parentheses. ref. = reference category.

<sup>a</sup>Class 1: Spousal care; Class 2: Care only from children; Class 3: Care from children and others; Class 4: Self-care through assistive technology; and Class 5: Care only from others.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

<sup>†</sup>  $p < .10$  (two-tailed tests).

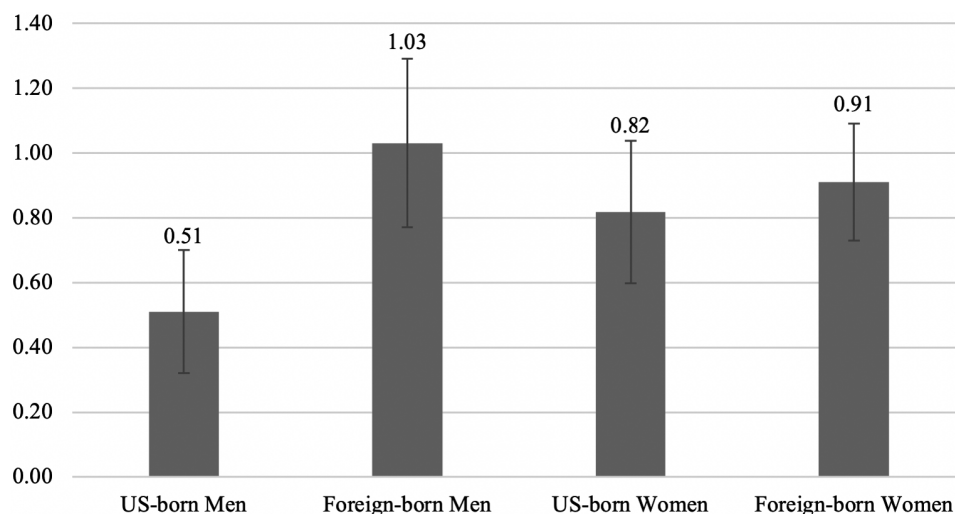
**Table 3.** Partial Results From Mixed-Effects Negative Binomial Regression Models Predicting Rates of Unmet Care Needs by Race/Ethnicity, National Health and Aging Trends Study 2011–2018

Characteristic	White (13,801 person-years, 5,000 persons)			Black (4,551 person-years, 1,599 persons)			Hispanic (1,249 person-years, 462 persons)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Women	1.27*** (1.14, 1.41)	1.27*** (1.14, 1.41)	0.83*** (0.75, 0.91)	1.21* (1.01, 1.46)	1.21* (1.00, 1.46)	0.85† (0.72, 1.02)	1.39* (1.03, 1.87)	1.92* (1.15, 3.20)	1.61* (1.03, 2.52)
Foreign-born	0.97 (0.77, 1.22)	1.02 (0.69, 1.52)	0.94 (0.66, 1.34)	1.02 (0.73, 1.42)	1.02 (0.55, 1.88)	1.45 (0.83, 2.53)	1.25 (0.92, 1.70)	1.70* (1.03, 2.80)	2.03** (1.31, 3.14)
Women * Foreign-born		0.92 (0.57, 1.50)	1.15 (0.75, 1.76)		1.00 (0.49, 2.08)	0.70 (0.36, 1.34)		0.62 (0.34, 1.14)	0.54* (0.32, 0.92)
Level of care needs									
Physical capacity			1.23*** (1.22, 1.25)			1.20*** (1.17, 1.22)			1.18*** (1.14, 1.22)
Multimorbidity			1.24*** (1.14, 1.35)			1.21* (1.04, 1.40)			1.36* (1.06, 1.74)
Cognitive impairment			1.21*** (1.13, 1.31)			1.29*** (1.16, 1.44)			1.30** (1.07, 1.57)
Care network types (ref. = Class 1) <sup>a</sup>									
Class 2			1.20* (1.04, 1.38)			1.14 (0.88, 1.47)			1.24 (0.87, 1.75)
Class 3			1.45*** (1.30, 1.62)			1.59*** (1.27, 1.99)			1.65** (1.21, 2.24)
Class 4			1.17* (1.01, 1.36)			1.20 (0.85, 1.70)			0.72 (0.31, 1.68)
Class 5			1.38*** (1.18, 1.63)			1.63*** (1.26, 2.12)			1.77** (1.17, 2.68)

Notes: All models adjust for both time-varying and time-constant demographic and socioeconomic characteristics of older adult at different survey years. Results are presented in incidence rate ratios, with 95% confidence intervals in parentheses. ref. = reference category.

<sup>a</sup>Class 1: Spousal care; Class 2: Care only from children; Class 3: Care from children and others; Class 4: Self-care through assistive technology; and Class 5: Care only from others.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . †  $p < .10$  (two-tailed tests).

**Figure 2.** Predicted rates of unmet care needs (with 95% confidence intervals) by nativity and gender among Hispanic older adults.



and other race-nativity-gender groups (results not shown, available upon request).

## Discussion

One in three older Americans who require daily support do not receive enough assistance from their care networks (Freedman & Spillman, 2014a; Potter, 2019), and those from disadvantaged social groups are particularly vulnerable to the lack of support and the various adverse consequences for their later life well-being (Berridge & Mor, 2018; Bookman & Kimbrel, 2011). This study examines the full extent and nature of social disparities in unmet care needs at the intersections of race/ethnicity, nativity, and gender. For the first time, this study provided nationally representative population-based evidence on racial-ethnic disparities in unmet care needs, indicating that Black and Hispanic adults tend to report higher rates of unmet care needs than their White counterparts. This pattern is further complicated by gender and nativity. Next, we discuss our major findings and their implications.

First, we found that Black older adults report higher rates of unmet care needs than their White counterparts, and this racial difference in unmet care needs is mostly explained by different levels of care needs between the groups. These findings are consistent with a recent study (Berridge & Mor, 2018), which suggests that Black-White disparities in physical capacity and dementia status account for most of the unadjusted racial differences in the prevalence of unmet care needs. These results suggest that intervention programs supporting Black older adults should focus more on addressing inequities that create disparities in care needs to reduce Black-White differences in unmet needs. One possible intervention is to enhance access to affordable and high-quality healthcare services, particularly for Black older adults who often encounter greater barriers to healthcare due to structural racism and discrimination. Interventions that target social determinants of health, such as income and education, could also help to reduce disparities in care needs between Black and White older adults.

Second, we found that Hispanic older adults experience the highest rates of unmet care needs across all examined racial-ethnic groups, and this Hispanic disadvantage is not fully explained by either level of care needs or care network types. This finding of the Hispanic disadvantage in unmet care needs is somewhat surprising and unexpected, given the well-documented Hispanic health paradox (Camacho-Rivera et al., 2015) and the emphasis on familism in Hispanic families (Nkimbeng & Parker, 2021). Previous studies have documented health inequalities between Hispanic and White older adults in functional limitations and several chronic diseases (Boen & Hummer, 2019; Brown, 2018). Extending this line of literature, we provide additional evidence that older Hispanics are further disadvantaged in their ability to obtain adequate care to meet their care needs deriving from these health problems. One possibility is that Hispanic older adults are more likely than White older adults to live in socially and economically disadvantaged areas with limited resources (Clarke & Gallagher, 2013), which may lead to inequalities in unmet care needs. Because environments complement individual attributes and social support to help older adults adapt to health declines in later life, Hispanic-White differences in unmet care needs may be accounted for by environmental attributes. In addition, disparities in access to paid long-term

services and supports, reluctance to use state-based services, and distrust in health care/senior service systems may also contribute to the higher rates of unmet care needs experienced by Hispanic older adults.

More importantly, we found that these racial-ethnic differences in unmet care needs are further complicated at the intersection of gender and nativity. Across all racial-ethnic groups, women report higher rates of unmet care needs than do men. This gender difference in unmet care needs is mostly explained by gender differences in care needs and care networks. Yet, even after care needs and care network types are controlled, Hispanic women still report higher rates of unmet care needs than Hispanic men. Nativity further complicates the disparities in unmet care needs among Hispanics. We found that foreign-born Hispanic men are the most disadvantaged group not only compared with U.S.-born Hispanic men but also compared with all White and Black older adults. Studies on older immigrants have also found that those who migrated at advanced ages tend to have a lower income, lack access to health care, and weaker social relationships than those who arrived in the United States during early life (Guo et al., 2019). Because a large proportion of older Hispanic men migrated in mid- and later life, it is possible that unmet care needs occur at exceptionally high rates among those older immigrants, thus contributing to the foreign-born Hispanic men's disadvantage in unmet needs. It is also possible that the availability of family members could vary by nativity, and as a result, immigrant families may face unique challenges. For example, immigrant families may be geographically separated between countries, limiting their opportunities for receiving care from family members who may reside in a different location. Future studies should provide empirical evidence for these mechanisms and further explore other amenable mechanisms that could imply policies to reduce unmet care needs among older Hispanic immigrant men. Yet, nativity matters little for Hispanic women, as foreign-born and U.S.-born Hispanic women are not significantly different from each other in terms of unmet care needs. The unique variations in unmet care needs among older Hispanics compared with other groups highlight the importance of adopting an intersectionality approach to fully comprehend and address disparities in unmet care needs.

Several limitations of this study are worth noting. First, although this study has shown that foreign-born Hispanics are more likely than their U.S.-born counterparts to experience an increased risk of unmet care needs, it does not provide empirical evidence on how their immigration status limits their capacity to obtain adequate care, due to limitations in data. As the aging population of the United States becomes more diverse, with one in five older Americans expected to be foreign-born by 2050 (Scommegna, 2013), future research efforts should be made to obtain a comprehensive understanding of the potential pathways to unmet needs among older immigrants. Second, the use of income and Medicaid coverage as measures of the economic status of older adults has some limitations. These measures may not fully capture an individual's wealth or financial resources, particularly among older adults who may have accumulated assets such as property or savings over their lifetime. Lastly, the sample sizes in the NHATS have precluded the analysis of disparities in unmet care needs among other racial/ethnic groups such as Asian older adults and American Indian/Alaska Native older adults. To gain a more comprehensive understanding of

unmet care needs disparities, future analyses, and additional data collection efforts should prioritize investigating disparities between and within racially and ethnically diverse samples of U.S.-born and foreign-born older adults (Schure et al., 2015; Wu & Qi, 2022).

Despite these limitations, this study is among the first to empirically demonstrate disparities in unmet care needs from an intersectionality perspective. We contribute to existing research by including Hispanic older adults and uncovering unique disadvantages for Hispanic women and foreign-born Hispanic men in unmet care needs. Our findings offer insight into addressing the issue and identifying specific targets for future policy initiatives. Health professionals and policymakers should acknowledge that older adults relying on diverse sources of care beyond their spouse and children face higher rates of unmet needs, requiring frequent monitoring to prevent negative outcomes. To enhance care quality and independence for vulnerable members of the aging population, future policies should expand the availability and coverage of existing long-term care services and develop new models of supportive care.

## Supplementary Material

Supplementary data are available at *The Gerontologist* online.

## Funding

This research was supported by the National Institute on Aging (grants P30AG066614 and R01AG061118) and by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (grant P2CHD042849). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

## Conflict of Interest

None.

## Data Availability

Data used in this study can be accessed through <https://nhats.org/>. This study was not pre-registered.

## References

- Allen, S. M., Piette, E. R., & Mor, V. (2014). The adverse consequences of unmet need among older persons living in the community: Dual-eligible versus Medicare-only beneficiaries. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 69(7), S51–S58. doi:10.1093/geronb/gbu124
- Beach, S. R., Schulz, R., Friedman, E. M., Rodakowski, J., Martzolf, G. R., & James, A. (2020). Adverse consequences of unmet needs for care in high-need/high-cost older adults. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 75(2), 459–470. doi:10.1093/geronb/gby021
- Berridge, C., & Mor, V. (2018). Disparities in the prevalence of unmet needs and their consequences among black and white older adults. *Journal of Aging and Health*, 30(9), 1427–1449. doi:10.1177/0898264317721347
- Bird, C. E., & Rieker, P. P. (2008). *Gender and health: The effects of constrained choices and social policies*. Cambridge University Press.
- Boen, C. E., & Hummer, R. A. (2019). Longer—but harder—lives? The Hispanic Health Paradox and the social determinants of racial, ethnic, and immigrant–native health disparities from midlife through late life. *Journal of Health and Social Behavior*, 60(4), 434–452. doi:10.1177/0022146519884538
- Bookman, A., & Kimbrel, D. (2011). Families and elder care in the twenty-first century. *Future of Children*, 21(2), 117–140. doi:10.1353/foc.2011.0018
- Brown, T. H. (2018). Racial stratification, immigration, and health inequality: A life course–intersectional approach. *Social Forces*, 96(4), 1507–1540. doi:10.1093/sf/soy013
- Camacho-Rivera, M., Kawachi, I., Bennett, G. G., & Subramanian, S. V. (2015). Revisiting the Hispanic health paradox: The relative contributions of nativity, country of origin, and race/ethnicity to childhood asthma. *Journal of Immigrant and Minority Health*, 17(3), 826–833. doi:10.1007/s10903-013-9974-6
- Centers for Disease Control and Prevention. (2015). *Hispanic health*. U.S. Department of Health & Human Services.
- Clarke, P., & Gallagher, N. A. (2013). Optimizing mobility in later life: The role of the urban built environment for older adults aging in place. *Journal of Urban Health*, 90(6), 997–1009. doi:10.1007/s11524-013-9800-4
- Collins, P. H. (2015). Intersectionality's definitional dilemmas. *Annual Review of Sociology*, 41, 1–20. doi:10.1146/annurev-soc-073014-112142
- Dannefer, D. (2020). Systemic and reflexive: Foundations of cumulative dis/advantage and life-course processes. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 75(6), 1249–1263. doi:10.1093/geronb/gby118
- DeMatteis, J. M., Freedman, V. A., & Kasper, J. D. (2016). *National health and aging trends study round 5 income imputation*. NHATS Technical Paper #15. Johns Hopkins University School of Public Health.
- Dilworth-Anderson, P., Moon, H., Aranda, M. P., & Bowers, B. J. (2020). Dementia caregiving research: Expanding and reframing the lens of diversity, inclusivity, and intersectionality. *Gerontologist*, 60(5), 797–805. doi:10.1093/geront/gnaa050
- Edge, L. (2006). Race, ethnicity, culture, and disparities in health care. *Journal of General Internal Medicine*, 21, 667–669. doi:10.1111/j.1525-1497.2006.0512.x
- Ellis, K. R., Koumoutzis, A., Lewis, J. P., Lin, Z., Zhou, Y., Chopik, W. J., & Gonzalez, R. (2023). Conceptualizing and operationalizing collaboration among multiple caregivers of older adults. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 78(S1), S27–S37. doi:10.1093/geronb/gbac139
- Erving, C. L., & Frazier, C. (2021). The association between multiple chronic conditions and depressive symptoms: Intersectional distinctions by race, nativity, and gender. *Journal of Health and Social Behavior*, 62(4), 599–617. doi:10.1177/00221465211040174
- Fabius, C. D., Parker, L. J., & Thorpe, R. J. (2022). The influence of race and gender on receiving assistance with daily activities among older Americans. *Innovation in Aging*, 6(2), 1–10. doi:10.1093/geroni/igab060
- Freedman, V. A., Hu, M., Dematteis, J., & Kasper, J. D. (2020). *Accounting for sample design in NHATS and NSOC analyses: Frequently asked questions*.
- Freedman, V. A., Kasper, J. D., & Spillman, B. C. (2017). Successful aging through successful accommodation with assistive devices. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 72(2), 300–309. doi:10.1093/geronb/gbw102
- Freedman, V. A., & Spillman, B. C. (2014a). Disability and care needs among older Americans. *The Milbank Quarterly*, 92(3), 509–541. doi:10.1111/1468-0009.12076
- Freedman, V. A., & Spillman, B. C. (2014b). 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. doi:10.1093/geronb/gbu120
- Gaugler, J. (2021). *Bridging the family care gap*. Academic Press.

- Guo, M., Stensland, M., Li, M., Dong, X., & Tiwari, A. (2019). Is migration at older age associated with poorer psychological well-being? Evidence from Chinese older immigrants in the United States. *Gerontologist*, 59(5), 865–876. doi:10.1093/geront/gny066
- Hass, Z., DePalma, G., Craig, B. A., Xu, H., Sands, L. P., & Pruchno, R. (2017). Unmet need for help with activities of daily living disabilities and emergency department admissions among older Medicare recipients. *Gerontologist*, 57(2), 206–210. doi:10.1093/geront/gnv142
- Hill, T. D., Angel, J. L., Balistreri, K. S., & Herrera, A. P. (2012). Immigrant status and cognitive functioning in late-life: An examination of gender variations in the healthy immigrant effect. *Social Science & Medicine*, 75(12), 2076–2084. doi:10.1016/j.socscimed.2012.04.005
- Hu, M., Freedman, V. A., Patterson, S. E., & Lewis, N. (2022). Shared care networks assisting older adults: New insights from the national health and aging trends study. *Gerontologist*, 63(5), 840–850. doi:10.1093/geront/gnac155
- Jacobs, M. T., Broese Van Groenou, M. I., Aartsen, M. J., & Deeg, D. J. H. (2018). Diversity in older adults' care networks: The added value of individual beliefs and social network proximity. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 73(2), 326–336. doi:10.1093/geronb/gbw012
- Kasper, J. D., Freedman, V. A., & Spillman, B. (2013). *Classification of persons by dementia status in the National Health and Aging Trends Study. NHATS Technical Paper #5*. Johns Hopkins University School of Public Health.
- Lima, J. C., & Allen, S. M. (2001). Targeting risk for unmet need: Not enough help versus no help at all. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 56(5), S302–10. doi:10.1093/geronb/56.5.s302
- Mather, M., Jacobsen, L. A., & Pollard, K. M. (2015). Aging in the United States. In *Population Bulletin* (Vol. 70, Issue 2). Population Reference Bureau.
- McGee, S. A., & Claudio, L. (2018). Nativity as a determinant of health disparities among children. *Journal of Immigrant and Minority Health*, 20(3), 517–528. doi:10.1007/s10903-017-0667-4
- Morales, M. J., & Robert, S. A. (2022). Examining consequences related to unmet care needs across the long-term care continuum. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 77(S1), 63–73. doi:10.1093/geronb/gbab210
- Nkimbeng, M. J., & Parker, L. J. (2021). Diverse, culturally rich approaches to family care in the United States. In *Bridging the family care gap* (pp. 43–69). Elsevier Inc. doi:10.1016/B978-0-12-813898-4.00002-6
- Okoro, C., Hollis, N., Cyrus, A., & Griffin-Black, S. (2018). Prevalence of disabilities and health care by disability status and type among adults—United States, 2016. *Morbidity and Mortality Weekly Report*, 67, 882–887. doi:10.15585/mmwr.mm6732a3
- Patterson, S. E., Schoeni, R. F., Freedman, V. A., & Seltzer, J. A. (2022). Care received and unmet care needs among older parents in biological and step families. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 77(S1), S51–S62. doi:10.1093/geronb/gbab178
- Pinquart, M., & Sörensen, S. (2011). Spouses, adult children, and children-in-law as caregivers of older adults: A meta-analytic comparison. *Psychology and Aging*, 26(1), 1–14. doi:10.1037/a0021863
- Potter, A. J. (2019). Care configurations and unmet care needs in older men and women. *Journal of Applied Gerontology*, 38(10), 1351–1370. doi:10.1177/0733464817733239
- Rahman, M., Rosenberg, M., Flores, G., Parsell, N., Akter, S., Alam, A., Rahman, M., & Edejer, T. (2022). A systematic review and meta-analysis of unmet needs for healthcare and long-term care among older people. *Health Economics Review*, 12(60), 1–10. doi:10.1186/s13561-022-00398-4
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. Sage Publications.
- Rundell, S. D., Patel, K. V., Phelan, E. A., Jones, B. L., & Marcum, Z. A. (2022). Trajectories of physical capacity among community-dwelling older adults in the United States. *Archives of Gerontology and Geriatrics*, 100, 104643. doi:10.1016/j.archger.2022.104643
- Schure, M. B., Conte, K. P., & Goins, R. T. (2015). Unmet assistance need among older American Indians: The Native Elder Care Study. *Gerontologist*, 55(6), 920–928. doi:10.1093/geront/gnt211
- Scommegna, P. (2013). Elderly immigrants in the United States. In *Today's Research on Aging* (Issue 29).
- Verdery, A., & Campbell, C. (2019). Social support in America: Stratification and trends in access over two decades. *Social Forces*, 98(2), 725–752. doi:10.1093/sf/soz008
- Wolff, J. L., Mulcahy, J., Huang, J., Roth, D. L., Covinsky, K., & Kasper, J. D. (2018). Family caregivers of older adults, 1999–2015: Trends in characteristics, circumstances, and role-related appraisal. *Gerontologist*, 58(6), 1021–1032. doi:10.1093/geront/gnx093
- Wu, B., & Qi, X. (2022). Addressing health disparities among older Asian American populations: Research, data, and policy. *Public Policy & Aging Report*, 32(3), 105–111. doi:10.1093/ppar/prac015
- Xiang, X., An, R., & Heinemann, A. (2018). Depression and unmet needs for assistance with daily activities among community-dwelling older adults. *Gerontologist*, 58(3), 428–437. doi:10.1093/geront/gnw262
- Zhang, Z., Hayward, M. D., & Yu, Y. L. (2016). Life course pathways to racial disparities in cognitive impairment among older Americans. *Journal of Health and Social Behavior*, 57(2), 184–199. doi:10.1177/0022146516645925