Drivers of Food Service Need and Use among Non-Hispanic Black and Hispanic Men with Chronic Conditions in the United States

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Abstract

Proper nutrition plays an important role in the management of chronic health conditions. Food insecurity is predominant and differs across certain races and ethnicities, which highlights the importance of community-based food service access and utilization. In this context, we examined factors associated with community-based food service needs and utilization among middle-aged and older non-Hispanic black and Hispanic men with chronic conditions. We analyzed data from 1,982 men who completed an Internet-delivered, cross-sectional survey. Using multinomial logistic regression, we identified factors associated with food service needs and use by race and ethnicity. Whereas 17% of men reported needing food services, only 6% utilized them. Factors such as age, household size, household income, and number of chronic conditions significantly influenced food service utilization. Compared to men who did not need food services, each additional year of age decreased the odds of needing food services (regardless of use) in the past year (needed but not used: OR = 0.963, $p < .001$; needed and used: OR = 0.974, $p < .05$). However, each additional chronic condition increased the odds of needing food services (regardless of use) (needed but not used: OR = 1.101, $p < .001$; needed and used: OR = 1.095, $p < .001$). This study underscores the importance of tailored interventions to address food insecurity and improve the uptake of eligible food services among at-risk populations. By leveraging cultural values and community resources, practitioners and policymakers can enhance engagement with food services and improve health outcomes.

Keywords: Food service utilization, non-Hispanic black men, Hispanic men, chronic conditions

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Introduction

Food insecurity, or insufficient access to food, is closely linked to quality of life, declines in physical and mental well-being (Coleman-Jensen et al., 2014), and susceptibility to various chronic diseases and their health consequences (Gundersen & Ziliak, 2015). Nutritional insecurity has been used to describe a common condition often observed among adults who cannot access or pay for enough food to meet their basic needs (Shlisky et al., 2017).

Food insecurity might lead to the higher prevalence of chronic health conditions, even among people who understand the

importance of eating healthy (Garcia et al., 2018; Leung et al., 2020). Previous studies demonstrate a correlation between food insecurity and various health outcomes, including cardiometabolic risk factors (Saiz Jr et al., 2016), hypertension (Seligman et al., 2010), diabetes (Seligman et al., 2007), adverse sleep outcomes (Ding et al., 2015), and underuse of medications due to cost-related issues (Afulani et al., 2015). Certain racial and ethnic subgroups, and/or people with certain diseases or chronic health conditions, are more likely to struggle with not having enough food (Berkowitz et al., 2017; Strings et al., 2016), and this lack of food can exacerbate other health problems like obesity and type 2 diabetes (Gucciardi et al., 2014; Hernandez et al., 2017). Across the country, Hispanic/Latino and non-Hispanic black families experience almost two times more likely not to have enough food compared to non-Hispanic white families (i.e., 19.1% vs. 10%) (Coleman-Jensen et al., 2014). Furthermore, Hispanic households face twice the prevalence insecurity compared to non-Hispanic white households (Coleman-Jensen et al., 2022). Therefore, food insecurity has been associated with health disparities, with notably higher prevalence rates still observed among non-Hispanic Blacks and Hispanics and economically disadvantaged groups. Additionally, there may be gender differences in perceptions of what constitutes a sufficient food availability, which could lead to varying responses to food insecurity questions between men and women (Croson & Gneezy, 2009). Whereas studies examining individual-level consumption and nutrition consistently have found that men generally consume more calories than women (D'Souza & Tandon, 2015; Ratsavong et al., 2020; Zhao et al., 2020) and men may experience higher levels of food insecurity compared to women (Duerr, 2007). Therefore, previous studies suggest that men may need and/or benefit more from additional food resources (Bishwajit et al., 2019; Broussard, 2012; Gyasi et al., 2020).

Food services play a crucial role in addressing the nutritional needs of middle-aged and older adults, offering a range of support including home-delivered and congregate meals, as well as ancillary services such as nutrition education and transportation (Sadarangani et al., 2020). Programs such as the Nutrition Services Program under the Older Americans Act Title III-C, alongside charitable and federal food assistance initiatives, allocate resources to states for these purposes (U.S. Department of Health and Human Services, 2017). Additionally, adults may seek aid from government-funded programs like the Supplemental Nutrition Assistance Program (U.S. Department of Agriculture, 2021a) and the Commodity Supplementary Food Program (U.S. Department of Agriculture, 2021b), while local resources such as food banks/pantries, churches, and community organizations further extend assistance opportunities. Despite the effectiveness of food assistance programs in mitigating food insecurity (An et al., 2019; Mabli & Ohls, 2015), a substantial prevalence of food insecurity persists, particularly among marginalized demographics. These disparities may be likely exacerbated by barriers (i.e., socio-economic status, lack of information/knowledge, and specific chronic conditions) that hinder equitable access to food assistance programs (Lauren et al., 2021; Wolfson & Leung, 2020). Moreover, access to food services is a significant environmental determinant that influences healthy eating behaviors among adults, yet the underlying factors (i.e., socioeconomic status and individual health status) and repercussions of access disparities remain inadequately elucidated.

Although food insecurity, particularly within the realm of chronic diseases, is

predominant and differs across certain races and ethnicities (Quiñones et al., 2019) and sex (Centers for Disease Control and Prevention, 2020b), there is a noticeable gap in the existing scientific literature regarding the chronic disease profiles of men needing and using community-based food services. Additional examinations are needed to identify the drivers of potential food insecurity and food service underutilization among eligible households within whom residents have complex health needs. Therefore, the purpose of this study was to identify factors associated with community-based food service needs and utilization among middle-aged and older non-Hispanic black and Hispanic men with chronic conditions.

Methods

Participants and Procedures

In this study, we employed a cross-sectional survey from a non-probabilistic national sample collected from a Qualtrics Online Panel. Potential participants were directed to an Internet-based survey link where they were presented with an information sheet approved by the Institutional Review Board at Texas A&M University (IRB ID: 2018-1684). The survey instrument was developed to capture insights about the health-related attitudes and behaviors of non-Hispanic black or Hispanic men, ages 40 years or older, and who self-reported having one or more chronic health conditions. More specifically, the instrument collected information about men's sociodemographic characteristics, health indicators, healthcare utilization patterns (both preventive and treatment-related), health-related behaviors, and personal perceptions. The instrument was developed by the research team, included 105 items, and drew items and scales from other established and validated sources such as the Behavioral Risk Factor Surveillance System (Centers for Disease Control and Prevention, 2020a), National Council on Aging Chronic Care Survey (Smith et al., 2013), National Study of the Chronic Disease Self-Management Program (Ory, Ahn, Jiang, Lorig, et al., 2013; Ory, Ahn, Jiang, Smith, et al., 2013), and Brazos Valley Health Status Assessment (Center for Community Health Development, 2013). On average, respondents required approximately 30 minutes to complete the instrument. Additional details about the survey and data collection methods are reported elsewhere (Kew et al., 2023; Merianos et al., 2023; Oloruntoba et al., 2024; Sherman et al., 2023; Sherman et al., 2021; Smith et al., 2022).

A total of 2,029 men who met inclusion criteria (e.g., non-Hispanic black and Hispanic, men, ages 40 years or above, and having one or more chronic conditions) completed the instrument. To facilitate comparisons between non-Hispanic black and Hispanic men, 47 cases were omitted from analyses because these men self-reported being both black and Hispanic. The resulting analytic sample for this study was 1,982 non-Hispanic black and Hispanic men ages 40 years and above who reported having one or more chronic conditions.

Measures

Dependent Variable

The dependent variable for this study pertained to the use of community-based food services. We asked men, "In the past 12 months, did any of your household members need food, meal, and nutrition services (such as Meals-On-Wheels)." Response choices included, "did not need this service," "needed this service, but did not use it," and "needed this service, and used it." The resulting three-category variable was used in bivariate and multivariate analyses (i.e., the referent group

was men who reported their household did not need food service).

Number of Chronic Conditions

Participants were presented with a list of 19 chronic conditions. We asked them to endorse those in which a healthcare professional told them they had. The chronic conditions included: (1) asthma/emphysema/chronic breathing or lung problem; (2) arthritis/rheumatic disease; (3) cancer or cancer survivor; (4) chronic pain; (5) depression or anxiety; (6) diabetes; (7) heart disease; (8) high cholesterol; (9) hypertension; (10) kidney disease; (11) memory problem; (12) obesity; (13) osteoporosis; (14) obstructive sleep apnea; (15) schizophrenia or other psychotic disorder; (16) stroke; (17) thyroid problem; (18) urinary incontinence; and (19) another chronic condition not listed. Endorsed responses were summed to create a count variable ranging from 1 to 19 (i.e., all participants must have self-identified as having one or more of these chronic conditions to be included in the study).

Sociodemographics

Participant characteristics included in the current study were age, race/ethnicity (i.e., non-Hispanic black, Hispanic), marital status (i.e., married/partnered, never married/divorced/separated/widowed), and educational attainment (i.e., high school graduate or less, some college/2-year degree, and 4-year degree or more). Participants were also asked to report the number of persons living in their household (including themselves) and their annual household income level (in mostly $10,000 increments).

Data Analysis

We analyzed data using SPSS 28.0 software (SPSS Inc., Chicago, IL). We employed descriptive statistics to summarize sample characteristics, which were compared across dependent variable categories. Mean differences for continuous variables were compared using one-way ANOVA, and chi-square tests were used to identify proportional differences in distribution for categorical variables. Three multinomial logistic regression models were fitted to identify factors associated with men's households that "needed food services but did not use them" and "needed and used food services," respectively (i.e., the referent group was men whose household did not need food service). One model examined these relationships for all men in the sample, then separate models were fitted to examine these relationships for non-Hispanic black men and Hispanic men independently. Odds ratios (OR) with corresponding 95% confidence intervals (CIs) are reported. A statistical significance of $p < .05$ was used for all analyses.

Results

As seen in Table 1, the average age of participants was 56.6 years (±10.0). About 58% of participants were non-Hispanic Blacks and 41.8% were Hispanic. Most participants were married/partnered (52.1%). Approximately 20% of participants had a high school education or less, 42.6% had some college education or a 2-year degree, and 37.0% had a 4-year college degree or more education. On average, participants self-reported 4.0 (±3.0) chronic conditions, with the most frequently reported conditions being high blood pressure (55.9%), high cholesterol (45.5%), diabetes (38.1%), and chronic pain (36.8%). On average, participants reported a household size of 2.6 (±1.6) individuals, including themselves, and an average household income of $60,500 (±34,000). About 83% of participants reported their household did not need food services in the past year, 10.7% needed food services but did

not use them, and 6.0% needed food services and used them.

When comparing sample characteristics by food service need and use, on average, men who needed (regardless of use) food services in the past year were significantly younger compared to the men who did not need food services, respectively ($p < .001$). On average, men who needed (regardless of use) food services had more self-reported chronic conditions ($p < .001$) and lower annual household incomes ($p < .001$), respectively. When compared to men who did not need food services in the past year, on average, men who needed and used food services resided with more people in their households ($p = .009$).

Table 2 reports findings from the multinomial logistic regression model examining factors associated with the need and use of food services among all participants. The reference group for these comparisons were men who reported their households did not need food services. Compared to the reference group, each additional year of age decreased the odds of needing but not using food services (β = -0.039, OR = 0.962, CI = 0.946 – 0.978, $p < .001$) and needing and using food services (β = -0.036, OR = 0.965, CI = 0.945 – 0.986, $p < .05$) in the past year, respectively. Each additional chronic condition increased the odds of needing but not using food services (β = 0.096, OR = 1.101, CI = 1.056 – 1.148, $p < .001$) and needing and using food services (β = 0.091, OR = 1.095, CI = 1.036 – 1.156, $p < .001$) in the past year, respectively. Each additional person residing in the household increased the odds of needing but not using food services (β = 0.101, OR = 1.107, CI = 1.018 – 1.203, $p < .05$) and needing and using food services (β = 0.137, OR = 1.147, CI = 1.041 – 1.265, $p < .01$) in the past year, respectively. Compared to the reference group, each additional income level decreased the odds of needing but not using food services (β = -0.138, OR = 0.871, CI = 0.822 – 0.924, $p < .001$) and needing and using food services (β = -0.205, OR = 0.814, CI = 0.753 – 0.881, $p < .001$) in the past year, respectively.

Table 3 reports findings from the multinomial logistic regression model examining factors associated with the need and use of food services among only non-Hispanic black men. The reference group for these comparisons were men who reported their households did not need food services. Compared to the reference group, each additional year of age decreased the odds of needing but not using food services in the past year (β = -0.022, OR = 0.978, CI = 0.958 – 0.999, $p < .05$). Being unmarried/not partnered decreased the odds of needing but not using food services in the past year (β = -0.633, OR = 0.531, CI = 0.330 – 0.855, $p < .01$). Each additional chronic condition increased the odds of needing but not using food services (β = 0.114, OR = 1.121, CI = 1.063 – 1.183, $p < .001$) and needing and using food services (β = 0.085, OR = 1.089, CI = 1.012 – 1.172, $p < .01$) in the past year, respectively. Each additional person residing in the household increased the odds of needing and not using food services in the past year (β = 0.124, OR = 1.132, CI = 1.021 – 1.256, $p < .05$). Compared to the reference group, each additional income level decreased the odds of needing and not using food services (β = -0.113, OR = 0.893, CI = 0.826 – 0.965, $p < .01$) and needing and using food services (β = -0.192, OR = 0.825, CI = 0.742 – 0.918, $p < .001$) in the past year, respectively.

Table 4 reports findings from the multinomial logistic regression model examining factors associated with the need and use of food services among only Hispanic men. The reference group for these comparisons were men who reported their households did not need food services. Compared to the reference group, each

Table 1

Sample characteristics by food service need and use

		Total (*n* = 1,982)	Not Need (*n* = 1,653)	Needed but Not Used (*n* = 211)	Needed and Used (*n* = 118)	
		% or M ± SD	**% or M ± SD**	**% or M ± SD**	**% or M ± SD**	***p*-value**
Age		56.6 ± 10.0	57.3 ± 10.1	53.1 ± 8.7	53.4 ± 9.8	< .001
Race and Ethnicity	Non-Hispanic black	58.2	57.8	61.1	58.5	.953
	Hispanic	41.8	42.2	38.9	41.5	
Education	≤ High school	20.4	18.5	28.9	31.4	.568
	Some college/2yr degree	42.6	42.8	42.7	40.6	
	≥ 4yr degree	37.0	38.7	28.4	28.0	
Partner Status	Married/Partnered	52.1	54.3	37.4	47.5	.094
	Never married/Divorced/Separated/Widowed	47.9	45.7	62.6	52.5	
Number of Chronic Conditions		4.0 ± 3.0	3.8 ± 2.9	4.9 ± 3.5	4.8 ± 3.1	< .001
	Asthma/Emphysema/Chronic Breathing or Lung Problem	18.9	14.6	3.1	1.2	< .001
	Arthritis/Rheumatic Disease	30.1	28.7	4.0	2.1	.012
	Cancer or Cancer Survivor	14.2	11.8	1.4	1.1	.447
	Chronic Pain	36.8	29.2	4.7	2.9	<.001
	Depression or Anxiety	31.7	23.7	5.0	3.0	<.001
	Diabetes	38.1	31.1	4.7	2.3	.156
	Heart Disease	13.0	10.2	1.7	1.1	.049
	High Cholesterol	45.5	37.8	4.8	2.8	.903
	Hypertension (High Blood Pressure)	55.9	46.8	6.1	3.0	.394
	Kidney Disease	8.0	6.0	1.2	0.8	.008
	Memory Problem (e.g., dementia, Alzheimer's disease)	5.9	4.3	1.1	0.5	.006
	Obesity	23.4	19.1	2.3	2.0	.018
	Osteoporosis (Low Bone Density)	6.6	5.1	1.2	0.4	.029
	Obstructive Sleep Apnea (snoring or trouble breathing when sleeping)	22.5	18.2	2.5	1.9	.053
	Schizophrenia or Other Psychotic Disorder	6.6	4.5	1.5	0.6	< .001
	Stroke	6.8	4.9	1.3	0.6	< .001
	Thyroid Problem (e.g., Hyperthyroidism, Hypothyroidism)	9.0	7.3	1.4	0.4	.073
	Urinary Incontinence	9.8	7.6	1.4	0.8	.089
	Other Chronic Condition	17.0	13.3	2.5	1.2	.019
Number People in Household (including self)		2.6 ± 1.6	2.6 ± 1.5	2.7 ± 2.4	3.0 ± 1.6	.009
Annual Household Income (~$10,000 increments)		6.1 ± 3.4	6.3 ± 3.4	4.7 ± 3.2	4.5 ± 3.0	< .001

Note.

M: Mean; SD: Standard Deviation

Table 2

Factors associated with the need and use of food service: All participants

Variable		Needed but not used (n = 211)			Needed and used (n = 118)		
		β	S.E.	OR (95% CI)	β	S.E.	OR (95% CI)
Age		-0.039	0.008	0.962*** (0.946-0.978)	-0.036	0.011	0.965* (0.945-0.986)
Race and Ethnicity	Non-Hispanic black	Ref		Ref	Ref		Ref
	Hispanic	-0.049	0.158	0.952 (0.699-1.298)	-0.006	0.202	0.994 (0.669-1.477)
Education	≤ High school	Ref			Ref		
	Some college/2yr degree	-0.126	0.221	0.882 (0.572-1.359)	-0.107	0.281	0.898 (0.518-1.558)
	≥ 4yr degree	-0.232	0.187	0.793 (0.550-1.144)	-0.304	0.237	0.738 (0.464-1.175)
Partner Status	Married/Partnered	Ref		Ref	Ref		Ref
	Not Married or Partnered	-0.332	0.178	0.717 (0.506-1.017)	0.185	0.222	1.203 (0.778-1.859)
Number of Chronic Conditions		0.096	0.021	1.101*** (1.056-1.148)	0.091	0.028	1.095*** (1.036-1.156)
Number of People in Household (including self)		0.101	0.043	1.107* (1.018-1.203)	0.137	0.049	1.146** (1.042-1.262)
Annual Household Income		-0.138	0.030	0.871*** (0.822-0.924)	-0.205	0.040	0.814*** (0.753-0.881)

Note.

Reference group: did not need food service; S.E.: Standard Error; OR: Odds Ratio; CI: Confidence Interval; ***p < .001, **p < .01, *p < .05

Table 3

Factors associated with the need and use of food service: Non-Hispanic black men

Variable		Needed but not used (n = 129)			Needed and used (n = 69)		
		β	S.E.	OR (95% CI)	β	S.E.	OR (95% CI)
Age		-0.022	0.011	0.978* (0.958-0.999)	-0.025	0.014	0.975 (0.949-1.003)
Education	≤ High school	Ref		Ref	Ref		Ref
	Some college/2yr degree	-0.257	0.231	0.773 (0.491-1.217)	-0.188	0.304	0.828 (0.457-1.503)
	≥ 4yr degree	-0.304	0.289	0.738 (0.418-1.301)	-0.064	0.374	0.938 (0.451-1.951)
Partner Status	Married/Partnered	Ref		Ref	Ref		Ref
	Not Married/Partnered	-0.633	0.243	0.531** (0.330-0.855)	0.157	0.296	1.170 (0.655-2.092)
Number of Chronic Conditions		0.114	0.027	1.121*** (1.063-1.183)	0.085	0.037	1.089* (1.012-1.172)
Number of People in Household (including self)		0.124	0.053	1.132* (1.021-1.256)	0.112	0.068	1.119 (0.979-1.279)
Annual Household Income		-0.113	0.040	0.893** (0.826-0.965)	-0.192	0.054	0.825*** (0.742-0.918)

Note.

Reference group: did not need food service; S.E.: Standard Error; OR: Odds Ratio; CI: Confidence Interval; ***p < .001, **p < .01, *p < .05

Table 4

Factors associated with the need and use of food service: Hispanic men

Variable		Needed but not used (n = 82)			Needed and used (n = 49)		
		β	S.E.	OR (95% CI)	β	S.E.	OR (95% CI)
Age		-0.064	0.014	0.938*** (0.913-0.964)	-0.051	0.017	0.951** (0.919-0.983)
Education	≤ High school	Ref		Ref	Ref		Ref
	Some college/2yr degree	-0.246	0.322	0.782 (0.416-1.471)	-0.531	0.385	0.588 (0.276-1.251)
	≥ 4yr degree	0.093	0.352	1.097 (0.550-2.190)	-0.180	0.427	0.835 (0.362-1.927)
Partner Status	Married/Partnered	Ref		Ref	Ref		Ref
	Not Married/Partnered	0.070	0.274	1.073 (0.627-1.835)	0.265	0.342	1.304 (0.667-2.548)
Number of Chronic Conditions		0.064	0.037	1.066 (0.993-1.145)	0.097	0.043	1.102* (1.013-1.200)
Number of People in Household (including self)		0.068	0.075	1.070 (0.924-1.240)	0.172	0.074	1.188* (1.027-1.373)
Annual Household Income		-0.169	0.045	0.844*** (0.773-0.923)	-0.220	0.060	0.802*** (0.713-0.902)

Note.

Reference group: did not need food service; S.E.: Standard Error; OR: Odds Ratio; CI: Confidence Interval; *** $p < .001$, ** $p < .01$, * $p < .05$

additional year of age decreased the odds of needing and not using food services (β = -0.064, OR = 0.938, CI = 0.913 – 0.964, $p < .05$) and needing and using food services (β = -0.051, OR = 0.951, CI = 0.919 – 0.983, $p < .01$) in the past year, respectively. Each additional chronic condition increased the odds of needing and using food services in the past year (β = 0.097, OR = 1.102, CI = 1.013 – 1.200, $p < .05$). Each additional person residing in the household increased the odds of needing and using food services in the past year (β = 0.172, OR = 1.188, CI = 1.027 – 1.373, $p < .05$). Compared to the reference group, each additional income level decreased the odds of needing and not using food services (β = -0.169, OR = 0.844, CI = 0.773 – 0.923, $p < .001$) and needing and using food services (β = -0.220, OR = 0.802, CI = 0.713 – 0.902, $p < .001$) in the past year, respectively.

Discussion

This study aimed to identify factors associated with the need for community-based food services, and the use of such services, among middle-aged and older non-Hispanic black and Hispanic men with chronic conditions. About 17% of men in this study reported their household needed food services in the past year, yet only 6% used food services. Consistently, men of younger ages, with more chronic conditions, who lived with more people in their household, and with lower household incomes were more likely to need food services, regardless of whether they used the service. However, unique drivers of food service need and use were identified when subsets of non-Hispanic black and Hispanic men were examined separately. This study contributes to reporting differences in factors that underutilize food services in middle-aged and older non-Hispanic black and Hispanic men, respectively.

This study found that the likelihood of utilizing community-based food services diminished with age, particularly among those reporting a need for such services. This finding was also reported in a study by Berkowitz and colleagues; a substantial portion of older adults experiencing food insecurity and eligible for government-funded food services did not enroll in these food service programs (Berkowitz et al., 2021). Another study examined how participants' past involvement with community-based food services affected their current access and use of these public 'safety net' resources (Bruce et al., 2017). Lack of knowledge about available food service programs and difficulties in finding accurate information about food services offered eligibility criteria, operational hours, and locations were the main challenges reported (Bruce et al., 2017). Despite being potentially more food insecure while aging, the physical aging process (along with potential mobility/vision impairments, having fixed incomes, and not having transportation) may influence older men's ability to access food services that they may need or are eligible for. These potential challenges highlight the need for home-delivered meals, shelf-stable meals, and other services such as SNAP among men experiencing food insecurity.

The current study found that the need for food services by non-Hispanic black and Hispanic men increased proportionally with the number of people living in the households. Larger households may face economic constraints or limited resources, making it more practical to use food services rather than buy and prepare meals from scratch (Eshetu & Guye, 2021). There is a direct correlation between household size and food insecurity within certain communities due to a reduction in both food availability and per capita food intake within sizable, resource-limited households (Asenso-Okyere et al.,

2013; Sani & Kemaw, 2019). Additionally, among non-Hispanic black men, being single decreased the odds of needing and not using food services; however, only for Hispanic men, having more people in the household increased the odds of using food services. Research indicates that Hispanic cultures often prioritize family and community (Pharr et al., 2014). Particularly within large Hispanic households, adherence to traditional dining culture is common, although households with multiple caregivers may opt for food services to streamline meal preparation and save time (Ayala et al., 2008). Moreover, the Hispanic community exhibits robust social networks and support structures (Murillo et al., 2020), which can facilitate access to food services through community centers, churches, or local organizations. By leveraging community resources, large households can effectively address their food needs with the support of the collective (Escaron et al., 2013).

In regard to socioeconomic status, men residing in lower-income households were more inclined to report both the need and utilization of food services. In the United States, eligibility for food services typically necessitates that household income falls at or below 185% of the federal poverty guidelines, or that the household is already receiving other qualifying state or federal assistance (Aussenberg & Falk, 2019). It is pertinent to note that the current sample exhibited a higher socioeconomic status; therefore, it is likely that many men did not meet the criteria for these services. Nevertheless, men ages 60 and older are more likely to meet the eligibility criteria for certain services. However, older men in this study reported less need for, or utilization of, food services may indicate factors such as awareness of available resources, perceptions of need, and knowledge about eligibility criteria (Vaudin et al., 2023), all of which hold significant implications for intervention strategies. Therefore, it may be needed to implement educational initiatives designed to enhance awareness and understanding of available support resources, individual perceptions regarding necessity, and the criteria determining eligibility for food services, particularly targeting older adult populations.

Among middle-aged and older non-Hispanic black men, those with more chronic conditions tended to need food services more but did not use them. The finding is consistent with another study that showed that, compared to their white counterparts, the non-Hispanic black population with chronic conditions was at a higher risk of having poor eating habits (Kibe & Bazargan, 2022). Conversely, inadequate nutrition, including limited food service use, has been associated with the rise of chronic diseases (Haslam et al., 2022). A 2017 report from the United States Department of Agriculture (USDA) (U.S. Department of Agriculture, 2019) found that low food security was associated with an increased risk of the following 10 chronic conditions: asthma, arthritis, cancer, chronic obstructive pulmonary disease, coronary heart disease, diabetes, hepatitis, hypertension, kidney disease, and stroke (Gregory & Coleman-Jensen, 2017). Given this association, it is important to intervene to improve food service access for middle-aged and older non-Hispanic black men living with chronic conditions.

The current study has many strengths including recruiting a sample of racially/ethnically diverse men with chronic conditions nationwide, who have been historically underrepresented in health research (Bonevski et al., 2014). However, limitations should be noted. First, while we recruited participants throughout the U.S. using an internet-based approach, the resulting sample was not representative and may not be generalizable to all U.S. non-Hispanic black and Hispanic adult men ages

40 years and older with one or more chronic conditions. Second, recruiting male participants using a Qualtrics Panel may have introduced bias in that all participants needed access to the internet and be able to read English to participate in the current study. Third, this study employed a cross-sectional design, which simultaneously measures all study variables at a single point in time, thereby limiting the feasibility of identifying causal relationships. Fourth, this study was unique because it focused on the health of non-Hispanic black and Hispanic men, but we were unable to assess racial and/or ethnic subgroups within these participants (e.g., mixed race) or compare their responses to men of other races and ethnicities (e.g., Caucasian, Asian). Fifth, the dependent variable pertaining to the need for, and use of community-based food services may not have been fully understood by men who were unaware of such social services (or may have felt stigma or embarrassment reporting the need for such services) (Stroebele & De Castro, 2004). Therefore, it is possible that men underreported their need for these services. Further, we were unable to confirm that men who reported needing services were in fact eligible to receive such services, which may have contributed to the low food service utilization rate reported in this study. Finally, while the need for food services may be indicative of food insecurity, this study did not include a direct measure of food insecurity and did not incorporate key Social Determinants of Health variables, such as transportation challenges, economic tradeoffs (e.g., medical debt), and disability status.

Despite these possible shortcomings, the current study examined the factors that influence the need for and use of community-based food services among middle-aged and older non-Hispanic black and Hispanic men with chronic diseases. The findings suggest significant associations between the use of these services and sociodemographic factors including age, household size, annual income, and the number of chronic conditions. These results underscore the interplay between socioeconomic determinants and food insecurity in these populations and the need to design interventions tailored to address these unique needs. Such interventions could help enhance food access and use and help improve overall health outcomes for middle-aged and older non-Hispanic black and Hispanic men with chronic conditions.

Implications for Health Behavior Research

This study offers valuable insights about the nuanced factors influencing the utilization of community-based food services among middle-aged and older non-Hispanic black and Hispanic men with chronic conditions. These insights can help health behavior researchers to design targeted interventions aimed at enhancing awareness, addressing misconceptions, and improving access to essential food services among at-risk populations. Also, while larger households may benefit from streamlined meal preparation through food services, cultural values, and social networks significantly influence utilization patterns among non-Hispanic black and Hispanic communities. Practitioners and policymakers can leverage community resources and cultural norms to enhance engagement with food services, thereby fostering more effective support systems for at-risk populations.

Future research endeavors should prioritize collaborative efforts that address the multifaceted challenges of food insecurity and access to essential services among at-risk populations. By fostering interdisciplinary collaborations and engaging stakeholders from diverse sectors, health behavior scientists can drive evidence-based policy

advocacy and community-level interventions aimed at advancing health equity and social justice. Additionally, future studies should incorporate comprehensive measures of food insecurity to provide a more nuanced understanding of its prevalence and impact within marginalized communities.

Ethics Approval

The protocol for this study was approved by the Institutional Review Board at Texas A&M University (IRB ID: 2018-1684).

Conflict of Interest

The authors declare no potential conflicts of interest.

Discussion Questions

- How can interventions be tailored to address the unique barriers and facilitators influencing the utilization of community-based food services among middle-aged and older non-Hispanic black and Hispanic men with chronic conditions, considering factors such as age, household size, income level, and cultural norms?
- What strategies can be implemented to enhance awareness and understanding of available support resources, individual perceptions regarding necessity, and eligibility criteria for food services among older adult populations, particularly targeting non-Hispanic black and Hispanic men who may face additional challenges related to socioeconomic status and cultural factors?

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