FACTORS CONTRIBUTING TO POOR HEALTH OUTCOMES IN LOW-SES OLDER ADULTS			
Analyzing the Factors Associated with Poor Health-Outcomes in Low-Income Older Adults			
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Research Question

What factors contribute to poor health outcomes among low-socioeconomic status older adults?

Introduction

In the United States, the older population has been consistently increasing. The United States population, age 65 and over, grew five times faster than the total population over the past one hundred years (Caplan, 2023). In 2020, the older population reached 16.8% of the entire population of the United States (Caplan, 2023). The rapid growth in population is largely attributed to aging baby boomers who began turning 65 in 2011 (Caplan, 2023). Americans Because the United States aging population is vast, the population faces many diverse challenges. Socioeconomic status is a major contributor to the health and well-being of all Americans, especially those in the aging population.

Socioeconomic status is most commonly associated with income, yet the term encompasses education, financial security, and subjective perceptions of social status and class (Association, 2010). Socioeconomic status is a consistent and reliable predictor of a myriad of physical and psychological health outcomes thus older Americans with lower socioeconomic status are at a higher risk of developing chronic illnesses because of a systemic barrier. As the percentage of older Americans rises, so does the concern for their economic stability. As a large proportion of the United States population approaches retirement, there is a greater demand for Social Security, and any cuts to this program, and similar ones, will place low-income older adults at a severe disadvantage. Older adults with lower incomes are more likely to have disabilities and die younger (Mode, 2016). In a 2016 study, adults over age 50 in the lowest socioeconomic class had a 2.8 times higher mortality risk compared to those in the highest

socioeconomic class (Mode, 2016). Similarly, income inequality was statistically associated with mortality through an interaction with individual poverty status (Mode, 2016). While income inequality is a great contributor to mortality, the previously mentioned correlation is even stronger for those who experience relative deprivation, access barriers, and social isolation (Mode, 2016). Relative deprivation simply suggests that having a low-SES among people with a high-SES can actual increase stress levels and social exclusion (Mode, 2016). Lower socioeconomic status is commonly associated with higher rates of social isolation, medication misuse, food insecurity, and inaccessible neighborhoods, all which directly impact the health and well-being of older adults (Mode, 2016).

Socioeconomic status (SES) significantly influences the health outcomes and overall well-being of older adults (Liu & Wang, 2022). The stark difference in health is evident in the development of disabilities that affect the activities of daily living (Liu & Wang, 2022). Older adults with a lower income are more susceptible to health shocks like severe illnesses, chronic pain, and sensory impairments (Liu & Wang, 2022). A 2022 research study used education as an indicator for socioeconomic status; low-education older adults only had 49.76% and 63.29% the probability of good sight and hearing, respectively, and experienced overall higher rates of pain and severe illness compared to their older adults with a higher socioeconomic status (Liu & Wang, 2022). Older adults with low-socioeconomic status also are more likely to maintain or develop additional disabilities than their high-socioeconomic status counterparts (Choi, 2022). Two categories of disabilities that are more prevalent in older adults with low-socioeconomic status include Activities of Daily Living (ADLs), which include basic self-care tasks like bathing, dressing, eating, toileting, and transferring, and Instrumental Activities of Daily Living (IADLs), which include managing finances, transportation, shopping, managing medications,

and cooking (Choi, 2022). The wealth gap among older adults in the United States is the greatest contributor for poor health outcomes and loss of autonomy in older adults (Choi, 2022). In the United States, those with a higher socioeconomic status are more likely to improve and recover from illness, while those with a lower socioeconomic status either stay the same or decline (Choi, 2022). For older adults aged 55-64 years old in the lowest economic class, the average prevalence of disability increased from 35.7% to 37.9% from 2008 to 2016, while those in the highest economic class had an average prevalence of disability decrease from 5.7% to 4.5% in the same time period (Choi, 2022). In the same period, older adults aged 65-74 years old in the lowest economic class had an average disability prevalence around 35% with no change, while those in the highest economic class saw a decrease in disability prevalence from 10% to 9.4% (Choi, 2022). These specific findings illustrate the higher-income older adults in the U.S. experienced improvements in disability status over a set time period, while lower-income older adults saw either a worsening or no improvement of their condition, supporting the assertion that socioeconomic status plays a substantial role in health outcomes, specifically in the progression or improvement of disability.

Because the aging population is increasing in quantity, chronic illnesses within the population are as well. Older adults face a unique transition in life, often experiencing health, economic, and social challenges related to increased chronic health conditions, decreased social connectedness. In 2022, most older Americans had at least one chronic condition, but many had multiple chronic conditions. In 2022, about 24% of Americans 65 and older assessed their health as either fair or pool. In this same year, about 30% of older adults were experiencing obesity (Administration for Community Living, 2023). Along with obesity, in 2022 the leading chronic conditions among adults aged 65 and older included arthritis, coronary heart disease, myocardial

infarction (heart attack), angina, cancer, COPD, diabetes, hypertension, and high cholesterol (Administration for Community Living, 2023). Low SES adults aged 65 and older who self-report feelings of loneliness are at a greater risk of functional decline and death (APA, 2010). Similarly, about one in three persons with a chronic illness and low socio-economic status is unable to afford food or prescribed medications, and sometimes both (APA, 2010). Intertwined with low socioeconomic status, malnutrition is associated with an increased likelihood of depression and metabolic syndromes (APA, 2010).

Given the increasing population of aging adults within the American population and growing demands for addressing health disparities among the group, current research does not adequately address the varying factors that are affecting low socioeconomic adults. This literature review aims to identify the factors that lead to the many negative health outcomes in older adults with low socioeconomic status and emphasize areas of focus for future public policy that can create change surrounding this issue.

Methods

A series of searches were conducted through the PubMed and AgeLine databases for articles discussing negative health outcomes among low socioeconomic status older adults. PubMed is a databased maintained by the U.S. National Library of Medicine and the National Institutes of Health. It provides access to a vast collection of biomedical and life science-based literature. Examples of literature include peer-reviewed journals, research studies, systematic reviews, and clinical trials. The PubMed database generally houses literature that is focused on topics related to medicine, healthcare, biological sciences, and public health. AgeLine is a specialized database that contains articles specifically focused on gerontology and aging. The

topics most commonly found in literature throughout the AgeLine database are elder care, social policies affecting older adults, aging-related health outcomes, and healthcare access. The question at hand, "What factors contribute to poor health outcomes among low-socioeconomic status older adults?" requires a multidisciplinary approach that incorporates policy, social, and medical-related perspectives. The utilization of these two databases will ultimately yield articles specific to the research question, which will allow for a holistic and thorough understanding of the factors influencing poor health outcomes in the aging population. The article selection process was consistent across all searches. After each search, the first 25 titles were read for their relation to the desired subject. The articles with titles of interest were evaluated based on their abstracts and further selected after reading the article in its entirety. All articles chosen in previous search(es) were excluded from consideration.

Inclusion and Exclusion Criteria

All studies selected must have been published within the past ten years (2015-2025), they must not be a literature review or systematic review, and they must be from peer-reviewed academic journals. Similarly, the free full text must be available, and they must include information about the factors of poor health outcomes in older adults. The studies selected must also be based in the United States. Given the criteria listed above, a total of 20 articles were selected and evaluated.

Database	Search Terms	Search Criter <u>i</u> a	# of	# of
			Results	Articles
				Selected
PubMed	((social determinant OR social factor OR factor) AND	Years; 2015-2025	30,472	4
	(aging OR older OR older adults OR elder*)) AND (health	No reviews or meta-analyses		
	outcome* OR outcome*))	Only studies conducted in the United		
		States		
PubMed	((social determinant OR social factor OR factor) AND	Years; 2015-2025	2,521	5
	(aging OR older OR older adults OR elder*)) AND (poor	No reviews or meta-analyses		
	health outcome* OR poor outcome*))	Only studies conducted in the United		
		States		
PubMed	((social determinant OR social factor OR factor) AND	Years; 2015-2025	304	1
	(aging OR older OR older adults OR elder*)) AND (poor	No reviews or meta-analyses		

	health outcome* OR poor outcome*) AND (insecurit* OR discrepanc* OR short*))	Only studies conducted in the United States		
AgeLine	(older adults or elderly or geriatric or geriatrics or aging or senior or seniors or older people or aged 65 or 65+) AND (factors or causes or influences or determinants) AND (poor health outcomes or reduced quality of life or ill health))	Years; 2015-2025 No reviews or meta-analyses Only studies conducted in the United States	1,812	3
AgeLine	((social determinants of health or social risk factors or social needs or health related social problems) AND (poor health outcomes or reduced quality of life or ill health))	Years; 2015-2025 No reviews or meta-analyses Only studies conducted in the United States	719	2
AgeLine	((social determinants of health or social risk factors or social needs or health related social problems) AND (poor health outcomes or reduced quality of life or ill health)	Years; 2015-2025 No reviews or meta-analyses Only studies conducted in the United States	52	5

AND (low-income or poverty or low socioeconomic		
status)		

Results

Food Insecurity

Food insecurity is a significant health concern for older adults, disproportionately affecting individuals who have live alone, have a fixed income, or have chronic health conditions (Leung & Wolfson, 2021). These individuals are often unable to access or afford sufficient, nutritious food which ultimately places them at greater risk for greater health complications (Leung & Wolfson, 2021). Current research has established a direct link between food insecurity and poor health outcomes in older adults, especially those with low socioeconomic status (Tucher et al., 2021). In a 2021 study, researchers found that 30% of food-insecure older adults had incomes at or below 100% of the Federal Poverty Line (FPL), compared to only 15.6% of food-secure individuals (Tucher et al., 2021). Similarly, 32.7% of food-insecure individuals fell into the 100%-200% FPL range, while only 20% of food-secure individuals fell into the same bracket (Tucher et al., 2021). Among older adults with a higher-SES, only 10% of food-insecure individuals had incomes at 500% of the FPL while 26% were food-secure (Tucher et al., 2021). Among those with low-SES, the common reported health outcomes included: diabetes, hypertension, congestive heart failure, high blood pressure, high cholesterol, and gum disease in higher rates than the reported health outcomes of high-SES individuals (Tucher et al., 2021). These findings establish the trend that older adults with lower incomes are more likely to experience food insecurity and the chronic conditions that are most commonly associated.

Beyond individual chronic conditions, food insecurity significantly increase the likelihood of experiencing multiple comorbidities and physical limitations in their daily lives. Various factors, such as lack of transportation and food deserts can further limit access to

nutritious and affordable foods (Pooler et al., 2019). Transportation is a critical barrier for older adults, especially those of low-SES and who live in a food desert (Pooler et al., 2019). Older adults living in a food desert are more likely to be of low-SES and tend to rely on convenience stores and fast-food establishments due to their accessibility and cost (Pooler et al., 2019). Consequently, low-socioeconomic status older adults struggling with food insecurity are at an increased risk of fatal coronary heart disease, which is ultimately influenced by comorbidities like obesity, hypertension, and diabetes (Safford et al., 2021). Food insecurity also heavily impacts the mental and emotional health and well-being of older adults living with low socioeconomic status. Older adults who experience chronic food shortages often report increased levels of anxiety, depression, and reduced overall well-being compared to older adults with a higher-SES (Safford et al., 2021).

Isolation

Approximately 25% of older adults experience isolation, which is strongly associated with an increased risk of cognitive decline and dementia while those with low-SES were three times as likely to experience social isolation compared to high-SES older adults (Mosen et al., 2022). The risk of isolation is heightened among older adults who either live alone or in institutional settings, specifically when they have limited social interaction. In assisted living and nursing home settings specifically, isolation is not just a social issue, yet it is a structural consequence of how this type of care is organized (Zimmerman et al., 2016). The differentiation between assisted living and nursing home care is enough to stigmatize residents and exclude a certain group (Zimmerman et al., 2016). Isolation in these settings, however, will be greater in

those utilized by older adults with a lower income due to the lack of resources that would be dedicated to an inclusive environment (Zimmerman et al., 2016). A reduction in participation in community activities, like religious services, further exacerbates social isolation and its negative effects on mental and social well-being, a fact most commonly observed in lower income older adults as compared to higher income older adults (Cudjoe et al., 2020). A 2020 study found that 24% of community-dwelling older adults are social isolated and the most common risk factors for these individuals include: having a lower income and lower educational attainment, living alone, being unmarried, and having fewer close relationships (Cudjoe et al., 2020). Most residents who feel isolated will resort to staying in their rooms and prefer to sit by themselves rather than attend the few group events, like sharing meals. This ultimately reduces physical activity that in turn creates mobility issues (Cudjoe et al., 2020). For older adults who are not community-dwelling, neighborhood disadvantage also increases the prevalence of social isolation as high-poverty areas may have fewer active community organizations or religious institutions that are easily accessible (Cudjoe et al., 2020) An overall sense of isolation in this group eliminates autonomy and increases the risk of depression (Zimmerman et al., 2016).

Older adults who live alone with no caregivers are more likely to have their needs go unmet, including assistance with bathing, meal preparation, changing clothes, and general mobility. This lack of support can significantly impact the social and mental health of older adults (Beach et al., 2020). Early signs of cognitive decline are easily missed when there is an absence of caregivers or regular social contact (Beach et al., 2020). Furthermore, isolated older adults are at a greater risk of medication misuse, which can include missing doses or taking incorrect prescriptions (Badawoud et al., 2024). Older adults with a low-income will try to ration their prescription medications by taking less than prescribed when they have no regular social

interaction (Badawoud et al., 2024). The action of taking medication is, in general, difficult for older adults who may already be experiencing cognitive decline (Beach et al., 2020).

Loneliness is a major aspect of the lives of many older adults with low income.

Loneliness is associated with a 40% increased risk of developing dementia over a ten-year period (Sutin et al., 2020). Loneliness is a significant, modifiable risk factor for dementia, yet low-income seniors experience the interconnectedness of financial hardship and limited social opportunities, that only exacerbate feelings of loneliness (Sutin et al., 2020).

Financial Barriers

Low-socioeconomic older adults are more likely to become homebound, a status that has been connected to increased morbidity and mortality. Ultimately, financial limitations can restrict one's ability to engage in social activities or access essential community resources through the state of being homebound (Ornstein et al., 2020). Homebound older adults, especially low-SES older adults, are usually limited in their access to transportation and access to resources. Low-SES older adults who reside in disadvantaged neighborhoods are more likely to become high-cost utilizers of healthcare services. Financial constraints limit older low-SES adults' access to healthcare and ultimately result delayed treatment that may in turn, require more in-depth and costly treatment (Andreyeva et al., 2023).

In states where Medicaid has not been expanded, financial burdens significantly impact low-SES older adults. The lack of Medicaid expansion in ten states has led to limited coverage and decreased access to both preventative care and essential medical treatments (Tipirneni et al., 2021). Financial constraints are also closely linked to lower education levels, which can ultimately impair health literacy and hinder informed decision-making regarding one's health.

Financial strain can also cause chronic stress that can lead to mental health deterioration. Older adults with limited financial means may struggle to afford prescribed medications and recommended supplements, which leads to non-adherence and worsening health (Shea et al., 2016).

Medicare beneficiaries who receive home health services who are dual-enrollees and reside in low-income neighborhoods are at a higher risk of adverse clinical outcomes, however, those who are facing extreme financial hardship are less likely to utilize home healthcare services (Lu et al., 2022). These individuals also experience higher rates of 30-day hospital readmissions, emergency department visits, and extended inpatient stays. It is important to note that many low-SES older adults receive care from lower-rate healthcare facilities due to either service area limitations or financial concerns (Joynt Maddox et al., 2018). Similarly, Medicaid waiver programs that were originally designed to assist low-SES older adults often reject applications or disregard claims_(Lichtenberg et al., 2024). This leaves many individuals without necessary support and care. Older adults who are ineligible for waiver services face a higher mortality risk, whereas those receiving full waiver benefits experience improved longevity and overall well-being (Weaver & Roberto, 2019). Despite older adults using local emergency departments as their main form of healthcare, experiencing financial hardship makes them less likely to even call emergency services (Lu et al., 2022).

Older adults with low-income often have less choices and are more likely to live in conditions where lack of privacy or individualized care are more pronounced, which can ultimately worsen both psychological and physical health outcomes (Zimmerman et al., 2016). Adults living on a fixed income do not have the same access to quality healthcare services as their high-income counterparts or even those who are eligible for Medicare (Zimmerman et al.,

2016). Quality of care in long-term care facilities is intertwined with cost; older adults who would rely on long-term care may not be able to afford the level of care they would need, like bathing, changing, and feeding. The type of facility that an adult with a low-income may access might have poorly designed dining areas, shared rooms that lack privacy, and rigid routines that compound the experience of overall disempowerment. When a person under this level of care feels disempowered, their health suffers. The financial aspect of affording long-term care may ultimately deter a person from seeking care at all, leading to definite poor outcomes (Zimmerman et al., 2016).

Social risk factors, like low income, educational attainment, living alone, and neighborhood poverty directly impact the accessibility of adequate medical treatment (Johnston, 2020). Older adults with a low-SES are less likely to have access to medical specialists than older adults with a higher-SES (Johnston, 2020). Specifically, Medicare beneficiaries with an income less than \$25,000 were 39% less likely to visit a specialist annually compared to those with higher incomes (Johnston, 2020). High-SES older adults not only have more financial resources, but more healthcare choices. Compared to older adults with low-SES, those with high-SES can afford out-of-pocket costs for specialists, live in areas with a more robust healthcare infrastructure, and have stronger social support systems to facilitate care (Johnston, 2020).

Similarly, the overall stress associated with financial hardship contributes to weathering, which is the accelerated physiological aging due to chronic social and economic adversity (Samuel, 2021). The process of weathering leads to earlier onset of health issues like stroke, heart attack, and high blood pressure and increased mortality risk (Samuel, 2021).

Discussion

Assessing the factors that impact the health and well-being of low-socioeconomic status older adults remains an urgent concern in the United States. There have been several programs and initiatives across the United States to properly address the factors previously identified, that affect the lives of older adults living with low socioeconomic status. All of these factors, however, are intertwined, thus there is a need for a myriad of interventions in order to adequately serve this population.

Food Insecurity Interventions

In regard to food insecurity, great strides have been made regarding public policy that focuses on access to nutritious and affordable foods. The Supplemental Nutrition Assistance Program is a highly effective program and is proving to be vital to the United States' health and well-being. SNAP's entitlement funding structure allows the program to provide benefits to anyone who meets the eligibility criteria. Older low-income adults would greatly benefit from proper use of this program; yet more effective information distribution is necessary. Many older adults report to be unsure of how they are supposed to apply for and/or utilize SNAP benefits (Keith-Jennings et al., 2019). While the SNAP program is typically only discussed regarding the topic of food insecurity, it also is highly correlated with reductions in impatient hospitalizations, emergency department visits, long-term care admissions, and overall healthcare expenditures (Berkowitz et al., 2021). SNAP participation has been found to adequately address food insecurity, but it also contributes to significant healthcare cost savings and improved health outcomes for low-income older adults (Berkowitz et al., 2021). The main issue with SNAP is that not all low-income older adults know how to apply and access the benefits provided. Many older

adults face challenges like limited mobility, fixed incomes, and difficulties navigating the application process which may prohibit them from ever accessing this essential support.

Effective SNAP education and expansion has occurred in different regions of the United States, but all older adults would greatly benefit from these changes. The state of California expanded SNAP eligibility to Supplemental Security Income (SSI) beneficiaries in 2019, and with this there was an improved access to nutritious foods, financial relief, and reduced effort in food acquisition among participants in a study (Savin et al., 2021). Participants reported that receiving SNAP benefits enabled them to purchase healthier foods, like fresh produce and prepared meals which enhanced their diet quality (Savin et al., 2021). Additionally, the funds from SNAP helped ease the financial strain that the participants were facing which allowed them to properly take their medications and pay rent as needed (Savin et al., 2021).

A common program that has been both researched and implemented in various parts of the United States is *Meals on Wheels (MoW)*. *MoW* programs play a crucial role in addressing food insecurity among low-income older adults by not only providing nutritious meals but also offering social interaction and support that contribute to overall well-being. MoW services help older individuals who may have a low-income or who face hardship when accessing or preparing food (Dickinson & Wills, 2022). MoW programs can be expanded based on the region and resources available to the community. Based on the needs of a community, a MoW program can tailor implementation in both urban and rural areas. Urban areas might leverage existing transportation networks and volunteer organizations while rural regions could partner with churches and senior centers to overcome logistical barriers. Successful MoW programs have existed in all types of communities and the most effective ones ensure that community engagement is the focus. MoW programs allows communities to help the aging population

combat hunger while also promoting independence and social connection (Dickinson & Wills, 2022).

Isolation Interventions

Social isolation among older adults, especially those living alone or in low-income communities, is a significant public health issue. The adverse health effects associated with prolonged isolation, like higher rates of depression, cognitive decline and mortality, emphasize the importance of having effective interventions in place. A 2021 study established that participants in a peer-matching program experienced decreased depression and loneliness and had fewer barriers to social engagement (Kotwal et al., 2021). Over a two-year period, participants experienced an average decrease of 0.8 points on the 3-item UCLA Loneliness Scale, which indicates a significant reduction in feelings of loneliness among participants (Kotwal et al., 2021). The proportion of participants screening positive for depression dropped 38% at baseline to 16% following the intervention, indicating s significant improvement in overall mental health (Kotwal et al., 2021). Similarly, community activities that occur for all older adults in a particular neighborhood can positively impact their mental and emotional health by reducing isolation. It is proven that older adults who participate in volunteering are less likely to experience severe depressive symptoms and stress signals, regardless of their socioeconomic status (S. Park, 2017). Older adults who participate in regular social activities are more likely to feel in control of their personal and environmental characteristics (S. Park, 2017).

Group fitness is linked to direct decreases in social isolation and indirect decreases in loneliness (Brady et al., 2020). A 2020 study on group fitness programs established that participants reported a 26% decrease in social isolation and a 20% reduction in overall feelings

of loneliness (Brady et al., 2020). Many communities are working to develop a policy to increase the availability of groups for the elderly (Brady et al., 2020). In order for this intervention to serve the low-income older population, proper financial assistance or no cost opportunities would allow those who need social interaction to receive it. This intervention would serve multiple purposes. While it increases social interaction, it also would allow older adults to have an increase in physical activity which would greatly improve their overall health.

Financial Interventions

Furthermore, older adults who live alone due to financial constraints would greatly benefit from Medication Management Capacity (MMC) training and education. Particularly among older adults, there are various factors that can influence ones' ability to manage medications wishing to live independently would greatly benefit from MMC in order to avoid poor health outcomes associated with medication misuse. (Badawoud et al., 2024). There are many MMC strategies that are currently being studied to measure their effectiveness (Baby et al., 2024). Each of these strategies focuses on a specific barrier (physical, cognitive, sensory, motivational, and environmental) in order to find an effective way for older adults to live alone in a safe manner (Baby et al., 2024).

Limitations

The limitations of this literature review most notably involve the scope of the review. The use of only twenty articles limits the amount of factors that could have been assessed in regard to the health outcomes of older adults in the United States who are low-SES. Similarly, many of the studies may have sample sizes that are too small or lack diversity, meaning that the implications of those studies may not be generalizable to a broader population. It is also notable that some

research studies focus on older adults in assisted living facilities, and others focus on older adults living independently, so the data from the studies may contradict one another on certain issues like social isolation. The lack of diversity in regard to race and ethnicity also greatly limit the generalizability of the conclusions.

Conclusion

The findings of this literature review highlight the profound impact that food security, social isolation, and financial barriers have on the health outcomes of low-SES older adults. These challenges are interrelated and not only exacerbate chronic conditions but also create substantial barriers to overall well-being. Addressing the disparities faced by low-SES older adults requires a holistic approach that includes community-based resources and policy interventions.

This research is particularly important because the population at hand is continuously increasing, which indicates that the disparities will also widen. By understanding the various factors that contribute to poor health outcomes in low-SES older adults, changemakers can develop practical interventions or adopt those that have seen success thus far. Strategies such as expanding food assistance programs, increasing funding for social engagement initiatives, and enhancing health literacy can substantially mitigate the issues faced by low-SES older adults.

Further research should explore the effectiveness of existing interventions that aim to address the disparities faced by this disadvantaged group in order to ensure that the goals can be sustained in varying community sizes and types. Ensuring that low-SES older adults receive adequate support is a public health necessity. Effectively addressing the systemic barriers that affect older adults will allow them to live healthier lives.

References

Administration for Community Living. (2023). 2023 Profile of Older Americans. U.S.

Department of Health and Human Services.

APA. (2010). Fact Sheet: Age and Socioeconomic Status.

- Andreyeva, E., Chi, W., Zhang, Y., Kaushal, R., & Haynes, K. (2023). Social determinants of health and high-cost utilization among commercially insured population. *Am J Manag Care*, 29(7), e199-e207. https://doi.org/10.37765/ajmc.2023.89399
- https://www.apa.org/pi/ses/resources/publications/age#:~:text=SES%20is%20a%20key%
 20factor%20in%20determining%20the,adults%2C%20are%20factors%20that%20can%2
 0affect%20financial%20standing
- Association, A. P. (2010). Fact Sheet: Age and Socioeconomic Status. *American Psychological Association*.
 - https://www.apa.org/pi/ses/resources/publications/age#:~:text=SES%20is%20a%20key% 20factor%20in%20determining%20the,adults%2C%20are%20factors%20that%20can%2 0affect%20financial%20standing.
- Baby, B., McKinnon, A., Patterson, K., Patel, H., Sharma, R., Carter, C., Griffin, R., Burns, C., Chang, F., Guilcher, S. J., Lee, L., Fadaleh, S. A., & Patel, T. (2024). Tools to measure barriers to medication management capacity in older adults: a scoping review. *BMC Geriatr*, 24(1), 285. https://doi.org/10.1186/s12877-024-04893-7
- Badawoud, A. M., Salgado, T. M., Lu, J., Peron, E. P., Parsons, P., & Slattum, P. W. (2024).

 Medication self-management capacity among older adults living in low-income housing communities. *J Am Pharm Assoc* (2003), 64(1), 88-95.

 https://doi.org/10.1016/j.japh.2023.10.026

- Beach, S. R., Schulz, R., Friedman, E. M., Rodakowski, J., Martsolf, R. G., & James, A. E. (2020). Adverse Consequences of Unmet Needs for Care in High-Need/High-Cost Older Adults. *J Gerontol B Psychol Sci Soc Sci*, 75(2), 459-470. https://doi.org/10.1093/geronb/gby021
- Berkowitz SA, Seligman HK, Rigdon J, Meigs JB, Basu S. Supplemental Nutrition Assistance
 Program (SNAP) Participation and Health Care Expenditures Among Low-Income
 Adults. *JAMA Intern Med.* 2017;177(11):1642–1649.
 doi:10.1001/jamainternmed.2017.4841
- Brady, S., D'Ambrosio, L. A., Felts, A., Rula, E. Y., Kell, K. P., & Coughlin, J. F. (2020).
 Reducing Isolation and Loneliness Through Membership in a Fitness Program for Older
 Adults: Implications for Health. *J Appl Gerontol*, 39(3), 301-310.
 https://doi.org/10.1177/0733464818807820
- Caplan, Z. (2023). 2020 Census: 1 in 6 People in the United States were 65 and Over. United States Census Bureau. https://www.census.gov/library/stories/2023/05/2020-census-united-states-older-population-grew.html
- Choi, H., Schoeni, R., Steptoe, A., Cho, T., Langa, K. (2022). Differential Trends in Disability Among Rich and Poor Adults in the United States and England From 2002 to 2016 *The Journals of Gerontology*, 77, S189-S198.
 https://doi.org/https://doi.org/10.1093/geronb/gbac029
- Cudjoe, T. K. M., Roth, D. L., Szanton, S. L., Wolff, J. L., Boyd, C. M., & Thorpe, R. J. (2020).

 The Epidemiology of Social Isolation: National Health and Aging Trends Study. *J Gerontol B Psychol Sci Soc Sci*, 75(1), 107-113. https://doi.org/10.1093/geronb/gby037

- Dickinson, A., & Wills, W. (2022). Meals on wheels services and the food security of older people. *Health & social care in the community*, *30*(6), e6699–e6707. https://doi.org/10.1111/hsc.14092
- Johnston, K. J., Mittler, J., & Hockenberry, J. M. (2020). Patient social risk factors and continuity of care for Medicare beneficiaries. *Health Services Research*, 55(3):445-456. https://doi.org/10.1111/1475-6773.13272
- Joynt Maddox, K. E., Chen, L. M., Zuckerman, R., & Epstein, A. M. (2018). Association

 Between Race, Neighborhood, and Medicaid Enrollment and Outcomes in Medicare

 Home Health Care. *J Am Geriatr Soc*, 66(2), 239-246. https://doi.org/10.1111/jgs.15082
- Keith-Jennings, B., Llobrera, J., & Dean, S. (2019). Links of the Supplemental Nutrition

 Assistance Program With Food Insecurity, Poverty, and Health: Evidence and Potential.

 Am J Public Health, 109(12), 1636-1640. https://doi.org/10.2105/AJPH.2019.305325
- Kotwal, A. A., Fuller, S. M., Myers, J. J., Hill, D., Tha, S. H., Smith, A. K., & C, M. P. (2021). A peer intervention reduces loneliness and improves social well-being in low-income older adults: A mixed-methods study. *J Am Geriatr Soc*, 69(12), 3365-3376. https://doi.org/10.1111/jgs.17450
- Leung, C. W., & Wolfson, J. A. (2021). Food Insecurity Among Older Adults: 10-Year National Trends and Associations with Diet Quality. *J Am Geriatr Soc*, 69(4), 964-971. https://doi.org/10.1111/jgs.16971
- Lichtenberg, P. A., Rorai, V., & Flores, E. V. (2024). A person-centered approach to financial capacity: early memory loss, financial management and decision-making. *Aging Ment Health*, 28(10), 1383-1389. https://doi.org/10.1080/13607863.2024.2338199

- Liu, H., & Wang, M. (2022). Socioeconomic status and ADL disability of the older adults:

 Cumulative health effects, social outcomes and impact mechanisms. *PLoS One*, *17*(2), e0262808. https://doi.org/10.1371/journal.pone.0262808
- Lu, K., Xiong, X., Horras, A., Jiang, B., & Li, M. (2022). Impact of financial barriers on health status, healthcare utilisation and economic burden among individuals with cognitive impairment: a national cross-sectional survey. *BMJ Open*, *12*(5), e056466.

 https://doi.org/10.1136/bmjopen-2021-056466
- Mode, N. A., Evans, M.K., & Zonderman, A.B. . (2016). Race, neighborhood economic status, income inequality and mortality. *PLoS One*, *11*(5). https://doi.org/10.1371/journal.pone.0154535
- Mosen, D. M., Banegas, M. P., Keast, E. M., & Ertz-Berger, B. L. (2022). The Association

 Between Social Isolation and Memory Loss Among Older Adults. *J Am Board Fam Med*,

 35(6), 1168-1173. https://doi.org/10.3122/jabfm.2022.210497R2
- Ornstein, K. A., Garrido, M. M., Bollens-Lund, E., Reckrey, J. M., Husain, M., Ferreira, K. B., Liu, S. H., Ankuda, C. K., Kelley, A. S., & Siu, A. L. (2020). The Association Between Income and Incident Homebound Status Among Older Medicare Beneficiaries. *J Am Geriatr Soc*, 68(11), 2594-2601. https://doi.org/10.1111/jgs.16715
- Pooler, J. A., Hartline-Grafton, H., DeBor, M., Sudore, R. L., & Seligman, H. K. (2019). Food Insecurity: A Key Social Determinant of Health for Older Adults. *J Am Geriatr Soc*, 67(3), 421-424. https://doi.org/10.1111/jgs.15736
- S. Park, B. K., & J. Cho. (2017). Formal Volunteering among Vulnerable Older Adults from an Environmental Perspective: Does Senior Housing Matter?; Sojung Park, B. *Journal of*

Housing For the Elderly, 31(4).

https://doi.org/https://doi.org/10.1080/02763893.2017.1335668

- Safford, M. M., Reshetnyak, E., Sterling, M. R., Richman, J. S., Muntner, P. M., Durant, R. W., Booth, J., & Pinheiro, L. C. (2021). Number of Social Determinants of Health and Fatal and Nonfatal Incident Coronary Heart Disease in the REGARDS Study. *Circulation*, 143(3), 244-253. https://doi.org/10.1161/CIRCULATIONAHA.120.048026
- Samuel, L., Wright, R., Granboom, M., Taylor, J., Hupp, C., Lvigne, L., & Szanton, S. . (2021).

 Community-dwelling older adults who are low-income and disabled weathering financial challenges. *Geriatic Nursing*, 42(4), 901-907.

 https://doi.org/https://doi.org/10.1016/j.gerinurse.2021.04.025
- Savin, K., Morales, A., Levi, R., Alvarez, D., & Seligman, H. (2021). "Now I Feel a Little Bit More Secure": The Impact of SNAP Enrollment on Older Adult SSI Recipients. *Nutrients*, *13*(12), 4362. https://doi.org/10.3390/nu13124362
- Shea, S., Lima, J., Diez-Roux, A., Jorgensen, N. W., & McClelland, R. L. (2016). Socioeconomic Status and Poor Health Outcome at 10 Years of Follow-Up in the Multi-Ethnic Study of Atherosclerosis. *PLoS One*, *11*(11), e0165651.

 https://doi.org/10.1371/journal.pone.0165651
- Sutin, A. R., Stephan, Y., Luchetti, M., & Terracciano, A. (2020). Loneliness and Risk of Dementia. *J Gerontol B Psychol Sci Soc Sci*, 75(7), 1414-1422. https://doi.org/10.1093/geronb/gby112
- Tipirneni, R., Levy, H. G., Langa, K. M., McCammon, R. J., Zivin, K., Luster, J., Karmakar, M., & Ayanian, J. Z. (2021). Changes in Health Care Access and Utilization for Low-SES

- Adults Aged 51-64 Years After Medicaid Expansion. *J Gerontol B Psychol Sci Soc Sci*, 76(6), 1218-1230. https://doi.org/10.1093/geronb/gbaa123
- Tucher, E. L., Keeney, T., Cohen, A. J., & Thomas, K. S. (2021). Conceptualizing Food Insecurity Among Older Adults: Development of a Summary Indicator in the National Health and Aging Trends Study. *J Gerontol B Psychol Sci Soc Sci*, 76(10), 2063-2072. https://doi.org/10.1093/geronb/gbaa147
- Weaver, R. H., & Roberto, K. A. (2019). Effects of Long-term Services and Supports on Survival of Poor, Highly Vulnerable Older Adults. *Gerontologist*, *59*(5), 936-946. https://doi.org/10.1093/geront/gny040
- Zimmerman, S., Dobbs, D., Roth, E. G., Goldman, S., Peeples, A. D., & Wallace, B. (2016).

 Promoting and Protecting Against Stigma in Assisted Living and Nursing Homes.

 Gerontologist, 56(3), 535-547. https://doi.org/10.1093/geront/gnu058