



Senior Hunger: The Importance of Quality Assessment Tools in Determining Need

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Abstract

Food insecurity is not a new phenomenon experienced by seniors living in the United States. In a recent report by Feeding America, approximately 4.8 million Americans over the age of 60 are food insecure. The findings from this study call for major policy and funding implications. Through semistructured, face-to-face interviews, this study found how the assessment tools determining the relative need for these seniors underestimate the scope of their experiences relating to food insecurity. The assessment tool used by this particular program is based on federally recommended questions. These same questions are used by agencies across the nation that receive federal funding. This is problematic as this study shows that the current assessment tool does not properly capture some of the barriers many older Americans are facing in trying to obtain food.

Keywords

gerontology, food, health, nonprofits, qualitative

According to the United States Department of Agriculture (USDA), food insecurity is defined as “the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways” (United States Department of Agriculture 2012). While people across different demographic groups face food insecurity, this article focuses specifically on food insecurity among people aged 60 and older. According to a report commissioned by Feeding America, in 2008, 11.4 percent of seniors experienced some form of food insecurity (Ziliak, Gunderson, and Haist 2008). In 2011, that percentage increased to 15.2 percent (Ziliak and Gunderson 2013).

Compared with some other groups, such as households headed by a single parent, the rate of food insecurity among seniors as a group is lower. However, the number of food-insecure seniors is expected to continue to rise as the youngest persons of the Baby Boom Generation age into their retirement years. Moreover, seniors have the lowest participation rate in the Supplemental Nutrition Assistance Program (SNAP) compared with all other demographic groups (Barber 2012). SNAP participation is one of the most successful ways to reduce food insecurity (Mabli

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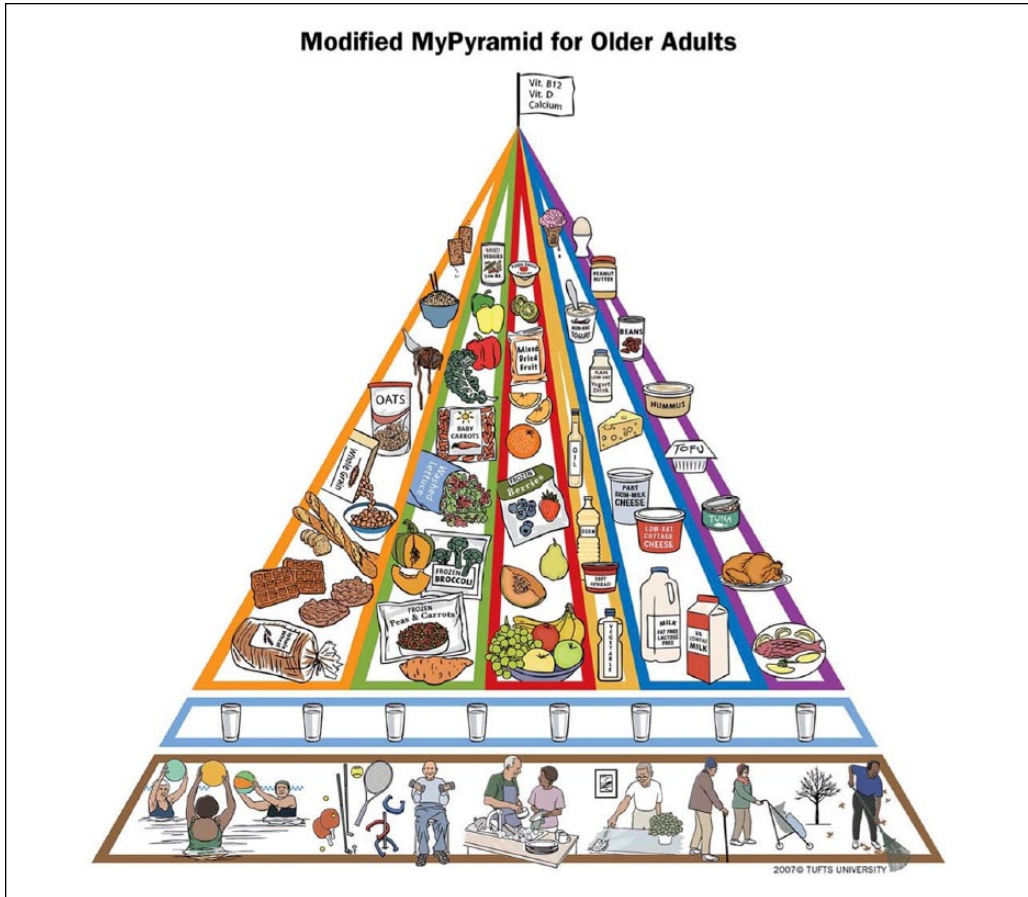


Figure 1. Food pyramid for older adults.

Source: Tufts University, ©2007, <http://www.nutrition.tufts.edu/research/modified-mypyramid-older-adults>

et al. 2013). Therefore, while seniors as a whole may be better off as compared with some other groups, the problem is worsening as more seniors are experiencing food insecurity.

To help alleviate food insecurity, many seniors turn to home-delivered meal programs in their community. These organizations provide meals that are federally approved and follow the guidelines of the Food Pyramid of Older Adults (see Figure 1). Because these programs receive federal funding, these programs are required to use a federal assessment tool to determine the need of seniors applying for these services. The current assessment tool is a list of 10 questions that ask about an individual's experience with food insecurity within the past 12 months. These questions are limited in that they ask about barriers to obtaining food as they relate to each individual's finances. Because there are typically waiting lists for these types of programs, the score each individual receives on these assessments is crucial, as it determines their placement on the waiting list. However, we have found that the assessment tool used to measure the experiences of food insecurity is not adequate because seniors experience food insecurity for many reasons beyond a lack of financial resources.

Background

Currently, food insecurity is mainly associated with a lack of adequate income. The prices of food had been relatively stable throughout the mid-1980s to the early 2000s, but in 2006, the

market saw a rapid increase in the costs for food, and the prices continue to rise (Wenzlau 2013). In addition, the recession caused cost of living raises to be frozen for elderly programs, such as Social Security from the years of 2009–2011 (Sedensky 2010). Social Security is essential for many seniors; without it, it is estimated that the number of seniors living in poverty would quintuple (DeNavas-Walt, Proctor, and Smith 2012). Due to the freeze on increases in social security payments, seniors have had to adjust to having their monthly income being stagnant while expenditures such as food, rent, taxes, prescribed medications, and medical expenses have risen.

National research has examined the demographics of seniors who experience food insecurity. As noted in a recent report by Feeding America and The National Foundation to End Senior Hunger (Feeding America 2013), demographics are important because service providers need to take into account who is experiencing food insecurity and make their programs accessible to these individuals. Previous research has found that race, gender, age, being a caregiver to grandchildren, and living near or below the poverty line all impact the rates of food insecurity among seniors.

Older adults who identify as black or Hispanic experience food insecurity at rates more than double the rate faced by their white counterparts in the United States (Ziliak and Gundersen 2011, 2013). Moreover, while rates of food insecurity are expected to increase among all races and ethnicities, it is projected that black and Hispanic seniors will face higher increases compared with other groups. Gender is another risk factor, as senior females are experiencing higher rates of food insecurity, as compared with older males (Ziliak and Gundersen 2008, 2009, 2011, 2013). Women are more likely to live as a widow than are men, meaning they are more likely to spend their senior years with limited financial resources.

While for women increasing age can result in a greater risk of experiencing food insecurity, overall, it is the “young old” that are most at risk (Ziliak and Gundersen 2011). The “young old,” or those between the ages of 60 to 69, have the highest rates of food insecurity among seniors (AARP Foundation 2013; Wallace, Molina, and Jhavar 2007; Ziliak and Gundersen 2011, 2013). Baby Boomers are getting older, so the “young old” population continues to grow, and, therefore, food insecurity among this population cohort is increasing. However, as seniors age, the rate of food insecurity experienced actually decreases (AbuSabha et al. 2011; Ziliak and Gundersen 2013). As people age, they are more likely to become eligible for social service programs and, most importantly, for most seniors, Social Security.

Many seniors must attempt to support themselves with very limited resources. For some seniors, those resources are further strained because they are the primary caregiver to at least one grandchild. Not surprisingly, seniors living with at least one grandchild are more likely to face higher rates of food insecurity than those who do not live with any grandchildren (Higgins and Murray 2010; Johnson et al. 2011; Ziliak and Gundersen 2008, 2009, 2013). The trend of grandparents being caregivers to their grandchildren is increasing in the United States (Higgins and Murray 2010). In a recent study, 16.8 percent of grandparents living with a grandchild in Kansas experienced food insecurity compared with the 4.8 percent of senior households that did not have a grandchild in their residence (Higgins and Murray 2010). Higgins and Murray (2010) also found that having a grandchild present in the household negatively impacted the dietary choices made by the grandparent. This is problematic because seniors are already at risk for declining health, and without the proper nutrients, that risk increases. The greatest risk factor for experiencing food insecurity is, not surprisingly, living in poverty. However, two-thirds of the United States’ senior population experienced food insecurity while living above the poverty line (Finegold et al. 2008; Ziliak and Gundersen 2013). While those living at or below the poverty line are eligible for many assistance programs, those above the poverty line often are not, although they may also be in dire need of assistance.

In addition to demographic factors, there are several other issues that contribute to the increased likelihood of seniors experiencing food insecurity. One of the most common is having

a physical disability (Ziliak and Gundersen 2013; Lee and Frongillo 2001). According to Wallace et al. (2007), California seniors (65 and older; $N = 8,600$) with physical disabilities reported higher rates of food insecurity in comparison with California seniors who do not have a physical disability. As mentioned in the research brief, it is harder for older individuals with a disability to obtain food or to cook meals because their mobility is limited. However, if seniors are food insecure, they are at a higher risk for illness, disease, and physical disability. Moreover, being food insecure for seniors impacts their ability to properly take medication for illnesses or disabilities, if necessary. Wallace et al. (2007) explain that many individuals cannot take their medications on an empty stomach. However, if seniors use their limited financial resources to buy food, they are less likely to purchase their medication due to the lack of funds. Therefore, these seniors are not able to take their medicine properly either way.

Brewer et al. (2010) found similar patterns when interviewing individuals aged 50 and older ($N = 621$) living in Georgia, when examining the food insecurity–obesity paradox. The food insecurity–obesity paradox states that food-insecure individuals develop unhealthy diets because less healthy foods are more affordable and more readily available. As a result, food-insecure people often gain weight. Brewer et al. (2010) found that individuals who were food insecure were more likely to experience health issues, specifically weight-related disability, arthritis, and joint pain. However, it is not clear what comes first—food insecurity or disability. Auslander and White (2009) believe that seniors aged 60 and older experience psychosocial effects from malnutrition that mimic that of Alzheimer’s and other illnesses. Because of these symptoms, it is believed that these seniors are often misdiagnosed with diseases and medicated when what they really need is proper nourishment. Therefore, some individuals are paying money for prescribed medications that they may not need, while still trying to afford the rest of their living expenses, including food (Jordan 2007).

Receiving benefits for food supplementation typically requires mobility, which proves to be difficult with seniors who have either a physical disability or no driver’s license (Wolfe, Frongillo, and Valois 2003). A participant of food programs not only must be present to receive the food, but he or she typically must go to a location to file paperwork to even start receiving the benefits. In addition, once participants receive food, they might have a difficult time preparing it, depending on their level of mobility.

AbuSabha et al. (2011) discuss another barrier facing the senior population: paperwork. As mentioned previously, to receive benefits, one must typically go to a distribution site or office to fill out paperwork or to register. If one has mobility issues or cannot find transportation, then the likelihood that one would be able to go to one of these site or offices is low. Furthermore, if the amount of paperwork was not an issue, the font size and amount of writing could be difficult for an individual in the older, senior population. In addition, if a senior is a member of a household and wants to receive benefits such as SNAP, then not only would a member of the household have to go to the office to fill out paperwork and answer income and resource questions, but site visits and interviews must take place before that senior receives an Electronic Benefit Transfer (EBT) card. The process alone could deter families from completing the first step for eligibility.

Jordan (2007) also argues that some programs, such as the Thrifty Food Plan (TFP) in Seattle, Washington, have requirements of participants when they are enrolled to receive benefits. This specific program not only involves a copious amount of paperwork to receive benefits, but also requires that participants spend an average of 3.5 hours per day preparing food. However, some seniors find this difficult and are unable to complete this task because even if they do not have a physical disability, they find it hard to stand for long periods of time (Jordan 2007; Wolfe et al. 2003).

In sum, seniors can possess different risk factors that increase their chances of experiencing food insecurity. However, while the previous research examines the demographic of seniors experiencing food insecurity, it does not explain specific causes of food insecurity for this

population. Rather, it presents hypothetical situations. Previous research also suggests that it is important for service providers to be aware of these issues so they can better serve clients. Nevertheless, there is no discussion regarding how the assessment tool used by agencies plays a role in determining the need of these seniors, nor how this assessment tool is potentially problematic. The current federal assessment tool focuses on just one factor: financial resources. This is an issue because the assessment tool does not take into account these different demographic risk factors and, therefore, does not adequately gauge these seniors' situations. This study addresses other risk factors not covered by the federal assessment tool to close this gap and to highlight the underestimation of need for home-delivered meal services. Furthermore, this study proposes probable solutions for agencies to be able to recognize and uncover these additional factors. Finally, this research recommends the implementation of potential programs that could be used as viable resources for seniors experiencing food insecurity.

Sample and Method

Data for this study were derived from semistructured, face-to-face interviews with people on the waiting list for a home-delivered meal program located in Orange County, Florida. Working collaboratively with the nonprofit agency administering the program, potential participants that met the study's requirements (being on the program's waiting list) were identified and asked by agency staff if they would like to participate in the interview. The agency provided us with contact information for people who met the criteria, were mentally competent to participate in an interview, and had told an agency employee that he or she was willing to participate.

The sample for this study consisted of three couples and 15 individuals for a total sample of 21 people and 18 total interviews. Participants received tote bags with food items and toiletries as an incentive for participating. In addition to demographic questions, the interview schedule included both open- and closed-ended questions regarding nutrition; how participants obtain food; which other programs, if any, the individuals are currently enrolled in; access to these programs; and barriers they may face when using food assistance programs or when generally obtaining or preparing food (see the appendix for the interview schedule).

While this study was not originally designed to be a needs assessment, we did ask the questions from the federal assessment tool per the agency's request. This allowed the agency to update the interview participants' ranking on the waiting list (something the agency does regularly). We did not plan to ask the questions from the federal assessment tool as a part of our original study design. We did so as a courtesy to the agency. However, because we did ask the questions from the federal assessment, we were able to identify discrepancies between the participants' answers to the assessment questions as compared with their answers to our interview questions. These differences became an important focus in the current project.

The interviews took place in the participants' homes and lasted an average of 57 minutes. These interviews were audio recorded and later transcribed to allow for analysis. In addition, we recorded the respondents' answers to the federal assessment tool to allow us to compare the response from each interview with the responses on the assessment tool.

The Agency

As of March 2014, the organization we worked with was providing meals to just over 1,000 seniors, while an additional 432 individuals aged 60 and older were on the program's waiting list. Approximately half of the seniors on the wait list were designated as "high priority." Some have been on the wait list for a couple of days, while others have been waiting as long as eight years. The agency conducts telephone assessments to see whether seniors are determined high priority or low priority in terms of food insecurity, using the USDA's federal food insecurity assessment

questionnaire. If an applicant scores between 3 to 5 points on this assessment, they are considered to have low food security. If an applicant scores between 6 to 13 points on this assessment, they are considered to have very low food security. Both of these groups, low food security and very low food security, are considered high priority. If the applicant is deemed high priority, a Care Manager will do a home visit to assess the client's need regarding food delivery and other services they offer.

The federal assessment tool includes the following questions:

Question 1: "We worried whether our food would run out before we got money to buy more." Was that often, sometimes, or never true for you in the last 12 months?

Question 2: "The food that we bought just didn't last and we didn't have money to get more." Was that often, sometimes, or never true for you in the last 12 months?

Question 3: "We couldn't afford to eat balanced meals." Was that often, sometimes, or never true for you in the last 12 months?

Question 4: In the last 12 months, did you or other adults in the household ever cut the size of your meals or skip meals because there wasn't enough money for food? (Yes/No)

Question 5: (If yes to Question 4) How often did this happen—almost every month, some months but not every month, or in only one or two months?

Question 6: In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food? (Yes/No)

Question 7: In the last 12 months, were you ever hungry, but didn't eat, because there wasn't enough money for food? (Yes/No)

Question 8: In the last 12 months, did you lose weight because there wasn't enough money for food? (Yes/No)

Question 9: In the last 12 months, did you or other adults in your household ever not eat for a whole day because there wasn't enough money for food? (Yes/No)

Question 10: (If yes to Question 9) How often did this happen—almost every month, some months but not every month, or in only one or two months?

Data Analysis

The demographic data were entered into SPSS to generate frequencies. Next, we created an Excel spreadsheet where we recorded the responses to the federal assessment tool. To analyze the qualitative data from the semistructured interviews, each interview transcript was coded for barriers to acquiring food. After the first round of coding, our codes were compared with the responses on the federal assessment tool. Specifically, we reviewed all of the codes to determine the barriers that seniors are facing, both financial and otherwise. We organized our findings based on the 10 questions on the assessment tool.

Findings

Three heterosexual couples participated in this study. The average age of the participants who were in couples was 80 years old, with a range of 75 to 82 years old. All of the couples self-identified as white, non-Hispanic. The couples had average monthly household incomes of \$1,576. The wait time for these couples was between 6 months and 2 years 9 months, with an average waiting time of 1 year 4 months (see Table 1).

For individuals, the average age of the participants was 76 years old, with a range of 62 to 93 years old. Forty-seven percent of the individuals were female, and 53 percent were male. Fifty-three percent of individuals self-identified as white, non-Hispanic, and 47 percent of individuals self-identified as black, non-Hispanic. The average monthly income for individuals was \$1,146.33

Table I. Demographics of Participants.

Couples	
Average age	80
Gender	
Male	50%
Female	50%
Race	
White	100%
Hispanic	0%
Average monthly income	\$1,576
Average time spent on waiting list	1 year 4 months
Individuals	
Average age	76
Gender	
Male	53.3%
Female	46.7%
Race	
White	53.3%
Black	46.7%
Hispanic	0%
Average monthly income	\$1,146
Average time spent on waiting list	1 year

(range = \$659 to \$2,200). The time spent on the waiting list for the individuals ranged from two months to two years three months, with an average waiting time of one year. The substantive findings of the present study are presented below. To highlight the inadequacies of the federal assessment tool in determining food insecurity, our results are discussed in relation to the federal assessment items.

Running Out of Food (Questions 1–2)

While the seniors stated that finances do contribute to their food insecurity, many seniors explained that a lack of transportation or health and mobility issues also play a role in being food insecure, which is not considered as a cause of food insecurity in the first question. While some of these seniors use food pantries as a way to supplement the food that they purchase, others do not use any type of meal service because they are unaware of the location of these types of food services in the area. This leaves grocery stores as the only viable resource for these seniors to use to obtain food, and therefore spend money. While these seniors use strategies to try and save money when purchasing food, all of the seniors interviewed feel that they do not get enough food when going to the grocery store. For those seniors who were part of a couple, sometimes they have to stretch the food that they do have at the end of the month while they wait for their next checks to come in. Also worrying about having enough food, almost all of the individuals relied on social support to either bring them food or to take them to the grocery store or food pantries and, therefore, would not worry about money but rather if the people who helped them were available so that they would not run out of food.

The individuals did talk about financial issues, but even when they had money or food stamps to use, they mainly had issues getting to the store or to the food pantries to obtain the food. For example, Anna¹ had a knee replacement that has her homebound for months. She used to take the local bus to the grocery store to get groceries. Even though she has food stamps to use and money

to purchase food, she cannot physically get to the store and does not have social support available to bring food to her for two months at the time of the interview. Likewise, the couples also mentioned that transportation is an issue for them due to health issues. Even though all of the couples own a car, they also all have issues in using their cars to go to the grocery stores and therefore are worried about getting to the store before their food runs out. Due to mobility issues, two couples have difficulty driving their cars. The third couple, Janet and George, said that they cannot drive at all due to their deteriorated vision so their daughter drives her father to the store because he is more mobile than his wife. Therefore, even if these seniors do have money to purchase food, it is getting to the food that remains one of their biggest challenges.

The role of transportation and mobility issues is also found in examining problems of food expiration. While Question 2 of the assessment questionnaire addresses the problem of running out of food leading to having to purchase larger quantities of food with limited funds, the seniors faced more than just financial issues when trying to obtain more food. Seniors mentioned that they purposefully shop for foods that have a long shelf life because they do not want their food to spoil quickly, and these foods are typically easy to prepare. Others also mentioned that they freeze a lot of their food to make it last longer. While a few seniors use food pantries to supplement the amount of food they purchase at the grocery store, they explained that some of the food is already expired or is very close to its expiration date. In addition, the participants explained how these foods are not nutritionally adequate or beneficial for their diets and overall health. Tom said, "We might be getting nutrition, but not the right nutrition, you know? I mean calories, just calories, no nutrition." Food purchases and strategies based on supplementing existing food supply based on ensuring the availability of food at home over longer periods of time were not necessarily made due to financial reasons but because some seniors have a difficult time trying to get to the grocery store. Once again, transportation and mobility play a role in the decisions these seniors are forced to make.

Nutrition (Question 3)

The assessment's third question addresses an individual's nutrition and intake of "balanced meals" related to his or her finances. The definition of what is considered a "balanced meal" did not translate when discovering what types of food couples consume. Yet there is no question in the assessment tools asking seniors what foods they specifically eat. Therefore, the answer is self-reported based on what participants believe are balanced meals. Actual food consumption is not accounted for. When asked whether they feel that they eat nutritious, balanced meals, a majority of seniors said that they sometimes do, while only a few seniors said they never do or that they often do.² Because the assessment tools do not ask seniors what types of foods they consume, they were asked during the interview what foods do they eat of a typical day. This led us to find some discrepancies with the individuals' answers to the assessment tool question and the actual foods they eat.

For example, Marcy believed that she always eats balanced, nutritious meals; however, her typical day of meals is oatmeal for breakfast, toast for lunch, and a baked potato for dinner. Sometimes, she will have a can of vegetables or pick from a ham that has been in her freezer since Christmas. She also claims that she eats these foods every day because it is what she can afford, and therefore, she has no variety in her diet. Robert discussed similar issues as he explained his typical day of meals: a smoothie made with fruit, milk, and oatmeal for breakfast; something that he can have leftovers for the whole week for lunch; and cheese and crackers for dinner. As much as Robert said that he would like variety because he does not enjoy eating the same foods every day, he explained that he does not have a choice. Robert went on to say,

I'm in a stage where I'm cornered. By cornered I mean I have no choice. It's just where I am and I do what I do because I have no better choice. I think this country has forgotten the elders. We gave so

much because there was a time I was very productive, and I didn't have to depend on anyone for anything. I didn't think I would get to that stage, but it happened to me to the point where I need help, and help is not available. I don't think it's right, I don't think it's fair, and I'm pretty sure I'm not the only one under these circumstances. This is not right.

Rose and John believed that they always eat nutritious, balanced meals; however, they mainly eat beans and peas, or something out of a can. They did mention that they like pork and chicken, but did not say how often they are able to have these foods. Moreover, they can only use a microwave to prepare food. Sherri and Tom said that they sometimes eat nutritious, balanced meals; they both try to eat food such as chicken, tuna fish, turkey, and salmon, but mainly they find themselves eating pizza. Janet and George have a similar outlook on their food as Sherri and Tom; they believe sometimes that they eat nutritious, balanced meals, but they are not necessarily getting the nutrition that they need. More specifically, in Janet's and George's situation, they eat foods that they are not supposed to eat because of health reasons, but do so because that is what they can afford and are able to fix for themselves. George said:

We have pancakes, French toast, and stuff that aren't good for us because we have sugar diabetes. But if we don't want to starve we have to eat something. We have had a lot of fried potatoes and gravy and biscuits. And we are supposed to stay away from that stuff, too. I try to get things that I can fix for all of us. Things that are easy to fix. I used to buy a lot of frozen dinners. All you have to do is put them in the microwave. We're not supposed to eat those, but they are quick and easy to fix. So I try to get things that are easy to fix and as much as a variety as they can have. I try to get some fruit—the wife likes pears, but we don't get that as often as we should. Fruit and veggies we get are grapes, pears, and bananas. That's it. For veggies—lettuce, tomatoes, and onions to go in a tossed salad. And we would buy other fruits and veggies, but we do not have the money for them because they are more expensive.

Adeline also spoke about how there were foods that she wishes she could have but cannot afford, such as lamb. Adeline spends her days eating cereal, mashed potatoes and gravy, and chicken if she is lucky. When asked whether she eats these foods because of choice, how much they cost, or because of access, she said, "To live—just to live." Barbara is similar, in that she is supposed to watch her salt and sugar intake, but can only afford certain foods, so she eats food that she is technically not supposed to have just so she can survive.

While money is an issue in purchasing food that they would rather eat, finding foods that are easy to prepare is important to these seniors and can lead to a poor diet. One of these individuals, Barbara, uses a walker, so it is hard for her to move around and reach for pots and pans. Therefore, she heats up microwaveable meals instead of cooking. Darla, who suffered from a stroke nine years ago, cannot move the left side of her upper body. This makes it difficult for her to cook meals on the stove, which is why she mainly eats microwavable dinners. However, these microwavable dinners are not made at the same standards as the ones given to seniors in a home-delivered meals program; typical microwavable meals are high in sodium and do not serve a sufficient serving size of vegetables to be compliant with standards of the Modified MyPyramid for Older Adults (see Figure 1). Thus, Question 3 is an inadequate assessment of food security. It does not assess seniors' understanding of "balanced meals." Further, the measure excludes mobility, which is an important correlate of food access.

Eating Patterns (Questions 4–10)

These are questions addressing the eating patterns and weight issues of individuals, but again only as they relate to finances. While some seniors stated that they skipped meals either a few times a week or a few times a month, a majority of seniors said that they do not skip meals. These

seniors said that they eat something to “fill the emptiness” or eat less to make their food go farther, and therefore, are still not getting three square meals a day. In essence, these respondents are considering snacks of often questionable nutritional value as meals and then report that they have not been forced to skip meals. None of the couples have ever gone hungry for the whole day because there was not some sort of food to eat, but some seniors said that they have lost weight. Some of the seniors did report weight loss from their current diets. However, in skipping meals or eating less, money was not the only reason for this occurrence. The factors of transportation and mobility also impacted how and when these seniors could obtain food, and what foods these seniors purchased.

Conclusion, Limitations, and Implications

The demand for home-delivered meals surpasses the supply. Currently, the largest generation in American history, the Baby Boomers, is aging. Due to medical advancements, researchers have found that people in America are living longer than ever before, including seniors (Stewart, Cutler, and Rosen 2013). Because of the “Graying of America” and the longer life expectancy of current seniors, the need for home-delivered meals will continue to increase. Both medical advancements and proper nutrition also allow these seniors to live more independent lives, which decreases the number of seniors in need of assisted living resources. Because of such need for the program, agencies should look into and address the other barriers to food security for seniors that do not relate to income. The only way to do this is to reconstruct the questions they ask seniors to determine their need for the program in relation to lack of transportation and physical mobility, which were other significant barriers found in this study.

There are many issues that arise relating to the assessment tools used to determine the needs of seniors. The first issue is that the responses are all self-reported. This is problematic because there are discrepancies between what the seniors’ self-reported regarding nutrition and their actual food consumption. An additional tactic that agencies could employ is to provide some amount of education about nutritional intake and balanced meals to increase the accuracy of responses for related questions on the federal assessment. A lack of nutrition puts seniors at higher risk for “cardiac problems, infections, deep venous thrombosis and pressure ulcers, perioperative mortality and multiorgan failure” (Brownie 2006: p. 110-111). Previous studies have revealed that older seniors living alone often eat less and are at higher risk for poor nutritional health (Darnton-Hill 1992; Mion, McDowell, and Heaney 1994; Ramic et al. 2011). In 2007, Tufts University researchers modified the USDA’s Food Guide Pyramid for Older Adults to match the new food pyramid, known as MyPyramid. Under this food guide, it is recommended that older adults should consume fewer calories but the same or more nutrients (i.e., fortified grains, whole wheat bread, bright-colored vegetables, and deep-colored fruit) to fulfill their unique dietary needs” (Lichtenstein et al. 2008). According to Millward (2008: p. 1188), “The key to health and active longevity may be sufficient appropriate exercise and healthy eating to ensure adequate intakes of protein and most other key nutrients to maintain muscle and bone strength and mobility.” It would benefit these seniors to receive home-delivered meals because the foods included in these meals are approved by the Food and Drug Administration (FDA) and follow nutritional guidelines specific to aging seniors. In fact, one of the participants, Coretta, started receiving the home-delivered meals the week I interviewed her. She said, “The meals are definitely more nutritious and easier to prepare than stuff I could make.” Also, while the agency gave us the names and contact information to seniors who were willing to participate, they also made sure that they gave us potential participants that they knew would understand our questions. Self-reporting bias also lends itself as an issue if the seniors are not capable of understanding the questions being asked, and, therefore, may not report the severity of their situation.

Similarly imperative, the federal assessment questions themselves have been constructed in a way that have led to such discrepancies. All of the questions ask about food insecurity solely in relation to income. From this study, we know that finances are not the only reason why these seniors are food insecure. When running out of food, the participants explained that it is the lack of transportation and the lack of mobility that hinders them from obtaining more food. Without gaining this information from seniors, the problems they face are underestimated, and they are not placed properly on the waiting list or in these programs at all. In addition, it is significant to mention that the issue of food insecurity experienced by individuals and couples is similar. According to a research report by Ziliak and Gundersen (2013), marriage protects seniors from becoming food insecure. Overall, married seniors are 20 percent less likely to be at risk for hunger than their single counterparts, given the higher income distributions among couples (Ziliak and Gundersen 2013). Popular wisdom suggests that couples make more money than individuals, and as a result are “better off” in a food-insecure situation than individuals. The sample data confirm otherwise. Couples’ experiences are very similar to individuals who are food insecure. Therefore, some questions should be added to the questionnaire strictly for couples so that their situation can be accurately measured as well.

Also problematic, all programs that are federally funded to assist seniors in their food insecurity use the questionnaire as a part of their assessment tools. Therefore, we are not just talking about the questionnaire being a poor assessment for the 23 people in this study but potentially for tens of thousands of seniors just like them also experiencing food insecurity. And while this study is limited to a small sample, having a waiting list for this program suggests that there is a clear need for home-delivered meal programs. The bottom line is that these questions clearly do not get to the issue that they seek to understand. If these questions do not change to address the other issues that relate to an individual’s food insecurity that have been found in this study, then agencies and the nation as a whole will never be able to fully grasp the needs of the senior population and how to accommodate this population, which has been predicted to increase over the next 50 years.

Two of the main limitations in our study are the sample size and the restricted location of the interviews. While we only conducted 18 interviews with a total of 21 people, we do believe this sample to be sufficient for this particular project. There is no consensus as to what constitutes an ideal sample size, and there are many considerations that must be accounted for (see Baker and Edwards 2012 for an overview). Our sample is appropriate because our population was homogeneous in terms of age, location, and income level. In addition, we reached saturation in terms of identifying barriers to accessing food after the 14th interview. We conducted four additional interviews to confirm the saturation.

Another potential limitation is that all of our participants came from one county in Florida. Therefore, the barriers we found to be salient among our interview participants may not be as common among other seniors around the nation. Nevertheless, whether or not these barriers are as common as they were in our sample, the assessment tool still should include these barriers instead of just focusing on financial resources to determine the needs of seniors.

Findings from the research were delivered to the agency that coordinated the local home-delivered meals program by giving the agency a formal presentation and a written report. Since then, they have addressed the issue of the discrepancies we found between our questions and the assessment tool. While asking the federal assessment questions is mandatory, this agency now asks more questions about the types of food these individuals consume instead of if they eat nutritious, balanced meals. They have also changed the verbiage of some questions to address the other causes of food insecurity among seniors (transportation and mobility). More specifically, they took out the words “because of income” and have asked seniors specifically whether they have transportation or mobility issues. Because the findings from this study suggest that individuals’ cause of food insecurity cannot be denoted by one check box, the agency has begun to

note if these individuals have more than one cause to their food insecurity. However, this is only a small step in properly accessing senior food insecurity; the USDA should opt to change the way their measurement questions are constructed to include issues of transportation and mobility and health issues. Also, the government could fund and implement new programs for seniors to counteract the barriers faced by seniors in regard to transportation and mobility/health issues. These programs could include frequent buses to take seniors to grocery stores, volunteer shoppers to get food for seniors who find it physically difficult to obtain food, or a class to show seniors how to make physically manageable, healthy meals in their own homes.

Appendix: Interview Schedule

Information from agency

Participant's Gender: Male Female
 Participant's age: _____
 Participant's race: White Black Asian Other
 Are you Hispanic? No Yes
 How long the individual has been on the waiting list for: _____ in months
 Average monthly income: _____

Questions

1. Do you live alone? No Yes

If not, who? _____

Do they help with getting food or with cooking? Does anyone?

2. What other meal services do you use? (if any; and I will explain what these are)

___ Food pantries ___ Food stamps ___ Do not use any
 ___ Soup kitchens ___ Other feeding programs? (list)

3. If you do not use any other programs, why is that? Transportation? Mobility? Paperwork?
4. How often do you skip meals because you do not have enough food?

___ Nearly every day ___ About once a week ___ Other (list)
 ___ A few times a week ___ A few times a month

5. How do you get the food you have?
6. Are finances the main reason why you are unable to have enough food? If not, list other causes.
7. Do you feel that you get enough food from all of your food resources? (The ones I have mentioned above if they do use any.)
8. If there is anything that your food resources could do in order to serve you better, what would it be? (This question is asked if they do use any other food resources.)
9. Do you have any social support, such as family members who assist you in obtaining food? Are they reliable?
10. Are there any obstacles you face when trying to get food or when you try to use food programs? (I will elaborate when asking this question depending on participant.)
11. Do you have any trouble preparing meals?

12. Tell me a little about the foods you eat. Describe to me the meals you have on a typical day.
13. Do you eat these foods because of choice, how much they cost, or because of access to these foods?

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1. All names are pseudonyms to protect participants' privacy.
2. The three answer choices were as follows: often, sometimes, or never.

References

- AARP Foundation. 2013. "Learn About Hunger." Retrieved July 2, 2013 (<http://www.aarp.org/aarp-foundation/our-work/hunger/learn-about-hunger/>).
- AbuSabha, Rayane, Gene Shackman, Barbara Bonk, and Steven J. Samuels. 2011. "Food Security and Senior Participation in the Commodity Supplemental Food Program." *Journal of Hunger & Environmental Nutrition* 6(1):1–9.
- Auslander, Judith and Diana White. "The Psycho-social Aspect of Malnutrition and Seniors." Retrieved July 17, 2013 (<http://oregonhunger.org/files/Psyco%20Social%20paper.pdf>).
- Baker, Sarah Elsie and Rosalind Edwards. 2012. *How Many Qualitative Interviews Is Enough? Expert Voices and Early Career Reflections on Sampling and Cases in Qualitative Research*. Southampton, England: ESRC National Centre for Research Methods, University of Southampton.
- Barber, Lura. 2012. "SNAPS and Older Adults." National Council on Aging. Retrieved on August 21, 2014 (http://www.nasud.org/documentation/I_R/call_notes/4-5-12%20SNAP%20Presentation%20-%20NCOA.pdf).
- Brewer, Dawn, Christina S. Catlett, Katie N. Porter, Jung Sun Lee, Dorothy B. Hausman, Sudha Reddy, and Mary Ann Johnson. 2010. "Physical Limitations Contribute to Food Insecurity and The Food Insecurity-Obesity Paradox in Older Adults at Senior Centers in Georgia." *Journal of Nutrition for the Elderly* 29(2):150–69.
- Brownie, Sonya. 2006. "Why Are Elderly Individuals at Risk of Nutritional Deficiency?" *International Journal of Nursing Practice* 12:110–18.
- Darnton-Hill, Ian. 1992. "Psychosocial Aspects of Nutrition and Aging." *Nutrition Reviews* 50:476–79.
- DeNavas-Walt, Carmen, Bernadette D. Proctor, and Jessica C. Smith. 2012. "Income, Poverty, and Health Insurance Coverage in the United States: 2011." Current Population Reports: Issued September 2012, U.S. Department of Commerce, Washington, DC.
- Feeding America. 2013. "Senior Hunger." Retrieved July 1, 2013 (<http://feedingamerica.org/hunger-in-america/hunger-facts/senior-hunger.aspx>).
- Finegold, Kenneth, Fredrica D. Kramer, Brendan Saloner, and Joanna Parnes. 2008. "The Role of the Commodity Supplemental Food Program (CSFP) in Nutritional Assistance to Mothers, Infants, Children, and Seniors." Report No. CCR-48, The Urban Institute, U.S. Department of Agriculture Economic Research Service, Washington, DC.
- Higgins, Mary Meck and Bethany J. Murray. 2010. "Nutrition-related Practices and Attitudes of Kansas Skipped-Generation(s) Caregivers and Their Grandchildren." *Nutrients* 2:1188–211.
- Johnson, Mary Ann, Johanna T. Dwyer, Gordon L. Jensen, Joshua W. Miller, John R. Speakman, Pamela Starke-Reed, and Elena Volpi. 2011. "Challenges and New Opportunities for Clinical Nutrition Interventions in the Aged." *Journal of Nutrition* 141(3):535–41.

- Jordan, Jamillah. 2007. "Grocery Gap Project: Race, Hunger, and Food Access." Congressional Hunger Center. Retrieved July 3, 2013 (<http://www.hungercenter.org/publications/the-grocery-gap-project-race-hunger-and-food-access/>).
- Lee, Jung Sun and Edward A. Frongillo, Jr. 2001. "Factors Associated with Food Insecurity among U.S. Elderly Persons: Importance of Functional Impairments." *Journal of Gerontology* 56B:594–99.
- Lichtenstein, Alice H., Helen Rasmussen, Winifred W. Yu, Susanna R. Epstein, and Robert M. Russell. 2008. "Modified MyPyramid for Older Adults." *Journal of Nutrition* 138:78–82.
- Mabli, James, Jim Ohls, Lisa Dragoset, Laura Castner, and Betsy Santos. 2013. "Measuring the Effect of Supplemental Nutrition Assistance Program (SNAP) Participation on Food Security." Prepared by Mathematica Policy Research for the U.S. Department of Agriculture, Food and Nutrition Service. Retrieved November 11, 2014 (www.fns.usda.gov/research-and-analysis).
- Millward, D. Joe. 2008. "Sufficient Protein for Our Elders?" *American Journal of Clinical Nutrition* 88:1187–88.
- Mion, L. C., J. A. McDowell, and L. K. Heaney. 1994. "Nutritional Assessment of the Elderly in the Ambulatory Care Setting." *Nurse Practitioner Forum* 5:46–51.
- Ramic, Enisa, Nurka Pranjic, Olivera Batic-Mujanovic, Enisa Karic, Esad Alibasic, and Alma Alic. 2011. "The Effect of Loneliness on Malnutrition in Elderly Population." *Medical Archives* 65:92–95.
- Sedensky, Matt. 2010. "Seniors Brace for Social Security Freeze." Retrieved July 19, 2013 (http://www.huffingtonpost.com/2010/10/11/seniors-brace-for-social-security-freeze_n_758887.html).
- Stewart, Susan T., David M. Cutler, and Allison B. Rosen. 2013. "US Trends in Quality-Adjusted Life Expectancy from 1987 to 2008: Combining National Surveys to More Broadly Track the Health of the Nation." *American Journal of Public Health* 103:78–87.
- United States Department of Agriculture. 2012. "Food Security in the U.S." Retrieved November 11, 2014 (<http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us.aspx>).
- Wallace, Steven P., Cricel Molina, and Mona Jhavar. 2007. "Falls, Disability and Food Insecurity Present Challenges to Healthy Aging." UCLA Center for Health Policy Research Brief. n.d. (<http://escholarship.org/uc/item/3r91r5vb>).
- Wenzlau, Sophie. 2013. "Global Food Prices Continue to Rise." Retrieved July 9, 2013 (<http://www.world-watch.org/global-food-prices-continue-rise-0>).
- Wolfe, Wendy S., Edward A. Frongillo, and Pascale Valois. 2003. "Understanding the Experience of Food Insecurity by Elders Suggests Ways to Improve Its Measurement." *Journal of Nutrition* 133:2762–69.
- Ziliak, James P. and Craig C. Gundersen. 2008. "Senior Hunger in the United States: Differences across States and Rural and Urban Areas." University of Kentucky Center for Poverty Research Special Reports. Retrieved July 8, 2013 (<http://www.nfesh.org/wp-content/uploads/2013/03/Senior+Hunger+in+the+United+States+2009.pdf>).
- Ziliak, James P. and Craig C. Gundersen. 2013. "Spotlight on Food Insecurity among Senior Americans: 2011." National Foundation to End Senior Hunger (NFESH) Report (<http://www.nfesh.org/wp-content/uploads/2013/03/Spotlight-on-Food-Insecurity-among-Senior-Americans-2011.pdf>).
- Ziliak, James P., Craig C. Gundersen, and Margaret Haist. 2008. "The Causes, Consequences, and Future of Senior Hunger in America." University of Kentucky Center for Poverty Research Special Reports. Retrieved July 8, 2013 (<http://www.nfesh.org/wp-content/uploads/2013/03/Causes+Consequences+and+Future+of+Senior+Hunger+2008.pdf>).

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