

Georgia State Plan to Address Senior Hunger



**Georgia Department
of Human Services
Division Of Aging Services**

Table of Contents

Executive Summary	Page	I
Glossary		1
Brief National Overview of Senior Hunger		3
Growth of older adult population		3
Figure 1		
Impact of food insecurity on health		4
Food insecurity national demographics		6
Senior Hunger in Georgia		7
Georgia Senior Hunger Definitions		7
Georgia's Senior Populations and Food Insecurity		8
Figure 2		
Health impact of food insecurity in Georgia		10
Cost impact of food insecurity in Georgia		11
Gaining a State Wide Perspective		12
Common themes in each focus area		13
5 Impact or focus areas		15
Today's Seniors		15
Health Impact of Senior Hunger		16
Food Access		17
Food Waste and Reclamation		18
Meeting the Community's Needs		19
Recommendations		20
References		22
Appendices Table of Contents		26

Executive Summary

Food insecurity is influenced by multiple factors and impacts a person's health, well-being, and quality of life. A 2016 report places Georgia ninth in the nation for the prevalence of food insecurity among people ages 60 and older. The number of older adults in Georgia who currently face the threat of hunger is more than 300,000.

Georgia defines food insecurity as a person or household facing the threat of hunger, lacking safe and adequate food to sustain health and quality of life, and unsure of the accessibility of or the capability to obtain suitable foods in socially acceptable ways.

Good nutrition is a key factor for older adults to maintain well-being and an independent, healthy lifestyle, and in recovering from an illness or an injury. Reasonably priced, wholesome foods are not always accessible to older adults because of the lack of transportation, health problems and disabilities, and the lack of food stores within close proximity for shopping. One-third of Georgia is a food desert, which makes it problematic for older adults living in these areas to obtain fresh, nutrient-dense food.

The projected growth of older adults aged 65 and over in Georgia is expected to increase 17% by 2032. This rate of growth will push the state's older adult population to over 2 million, which will place the prevalence of food insecurity at more than 360,000 people if the state maintains its current 17.8% growth in older adults facing the threat of hunger. Food insecurity increases negative health outcomes by contributing to and exacerbating disease conditions, and increases medical costs and hospitalizations.

This issue is worthy of attention considering 80% of older adults have at least one chronic disease and 68% have at least two. A person who is not eating a balanced diet with the recommended amounts of calories, protein and essential micronutrients is at a greater risk of

malnutrition, especially if the person has a chronic disease. Adequate nutrition and physical activity are well-documented in the role of the prevention and management of chronic health conditions and malnutrition.

Five areas of impact are selected to address and remedy food insecurity issues in Georgia. These areas are: a) Today's Seniors, b) Health Impact of Senior Hunger, c) Food Access, d) Food Waste and Reclamation, and e) Meeting the Community's Needs. Changing the direction of food insecurity in Georgia requires the coordination, cooperation and communication of health care professionals, faith-based and civic groups, communities, government and other resources all working together for the common good of the state's older adult population.

Glossary

Activities of Daily Living (ADLs): Basic activities of daily living refer to those activities and behaviors that are the most fundamental self-care activities to perform and are an indication of whether the person can care for one's own physical needs. The activities and behaviors are; eating, bathing, grooming, dressing, transfer in and out of a bed/chair, and bowel/bladder continence. (Determination of Need-Revised (DON-R) Training Manual 1998 Georgia Training and Deployment)

Chronic health condition: Those conditions lasting a year or more and requiring ongoing medical attention or limiting activities of daily living. (National Blueprint: Achieving Quality Malnutrition Care for Older Adults, p. 10)

Comorbidities: The simultaneous presence of two or more chronic medical conditions or diseases that are additional to the initial diagnosis (Mosby's Medical Dictionary)

Cost-related medication nonadherence: Taking less medication than prescribed by a health care professional due to cost (Bengle, *et al*, 2010, p. 171)

Disability: A disability attributable to a mental and/or physical impairment that results in substantial functional limitation in one or more of the following areas of major life activity: self-care, receptive and expressive language, learning, mobility, self-direction, capacity for independent living, economic self-sufficiency, cognitive functioning, and emotional adjustment. (Older Americans Act, Section 102(8))

Food bank: A nonprofit, charitable organization that collects donated or surplus foodstuffs and distributes it free or at a low cost to programs or organizations that are serving people in need of assistance. (Compilation of e-dictionaries)

Food desert: a neighborhood or rural town that lacks access to fresh, healthy and reasonably priced food or in which food sources are not within a reasonable proximity to the resident's home.

Food insecurity (United States Department of Agriculture [USDA]): "Food insecurity is a household-level economic and social condition of limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways." (Economic Research Service of the USDA)

Food insecurity (Georgia's working definition): A person or household is considered food insecure when facing the threat of hunger and lacking safe and adequate food to sustain health and quality of life, and is unsure of access or the capability to obtain suitable foods in socially acceptable ways.

Hunger: "Hunger is an individual-level physiological condition that may result from food insecurity. It refers to a potential consequence of food insecurity that, because of prolonged, involuntary lack of food, results in discomfort, illness, weakness, or pain that goes beyond the usual uneasy sensation." (Economic Research Service of the USDA)

Instrumental Activities of Daily Living (IADL): The more complex activities associated with daily life, which are essential to being able to live independently in the community. The IADLs include; managing money, telephoning, preparing meals, laundry, housework, outside home,

routine health, special health and being alone. (Determination of Need-Revised (DON-R) Training Manual 1998 Georgia Training and Deployment)

Malnutrition: A state of deficit, excess, or imbalance in energy, protein or nutrients that adversely impacts an individual's own body form, function, and clinical outcomes. (National Blueprint: Achieving Quality Malnutrition Care for Older Adults)

Obesity: ≥ 30 BMI. Weight that is higher than what is considered healthy for a given height is described as overweight or obese. Body Mass Index, or BMI, is used as a screening tool for overweight or obesity. It is not an indicator of a person's overall health. (CDC.gov)

Quality of Life (QoL): The degree to which a person is able to function at a usual level of activity without -- or with minimal -- compromise of routine activities; QoL reflects overall enjoyment of life, sense of well-being, freedom from disease symptoms, comfort and ability to pursue daily activities. (McGraw-Hill Concise Dictionary of Modern Medicine, 2009)

Seniors/Older Adults: Individuals who are aged 60 years of more are considered older adults for the majority of Older American's Act programs. However, some programs begin this designation at 55 and others at 65. For the purpose of the Georgia Senior Hunger State Plan, 60 years old or older is the designation.

Undernutrition: A form of malnutrition characterized by a lack of adequate calories, protein or other nutrients needed for tissue maintenance and repair.

Brief National Overview of Senior Hunger

Growth of older adult population and most common health conditions

It is well-documented that the U.S. population is aging in greater numbers than ever before in history. By the year 2030, the number of adults age 65 and older is expected to reach 74 million (Avalere & Defeat Malnutrition, 2017). (See Appendix I)

The older adult population is projected to reach 82.3 million (21.7% of the total population) by the year 2040 (Administration for Community Living [ACL], 2016, p. 6). (See Appendix II)

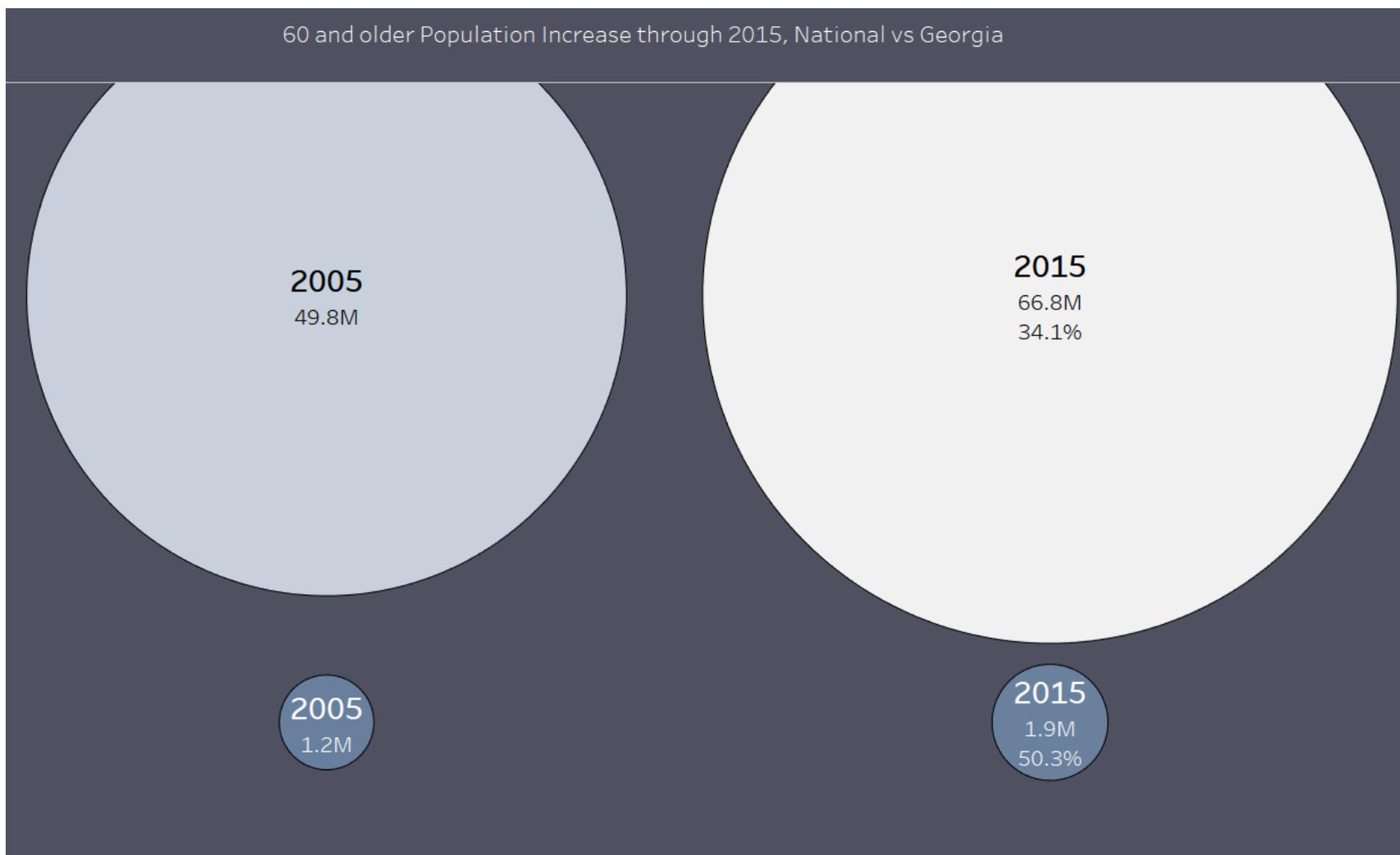
The report compiled by ACL, "A Profile of Older Americans: 2016," provides the following data regarding the growth of the older adult population in the United States:

- About 1 in 7 -- or 14.9% -- of Americans are age 60 or older.
- Between 2005 and 2015, this population increased 34% -- from 49.8 million to 66.8 million. It is projected to be 98 million by 2060. (See Figure 1)
- The number of Americans age 45 to 64 who will reach 65 over the next two decades increased by 14.9% between 2005 and 2015.
- Adults reaching age 65 have an average life expectancy of an additional 19.4 years (20.6 years for women and 18 years for men.)

This change in demographics is noteworthy, considering that most older adults have at least one chronic health problem, and many have multiple health conditions. The 2016 Profile shows that seniors spend a larger proportion (12.9%) of their total expenditures on personal health care compared with other age groups. A compilation of data and reports indicate the health problems frequently increased when coupled with food insecurity in the older adult population are:

- Depression (233%)
- Diabetes (22%)
- Hypertension (Men 72%, Women 80%)
- Any cancer (32%),

Figure 1



Profile of Older Americans: 2016, Administration on Community Living (ACL) (See Appendix 2)

- Diagnosed arthritis (53%)
- All types of heart disease (35%)
- Limitations in activities of daily living (32%)
- Asthma (2%),
- Poor gum health (68%)
- Malnutrition (46%)

(ACL, 2016; Centers for Disease Control and Prevention [CDC], 2016; Kaiser et al., 2010; Ziliak & Gundersen, 2014)

The prevalence of food insecurity exacerbates these health problems. Food insecurity has been linked to inadequate nutrition and worsening of disease. Seniors with low intake of calories, protein and essential micronutrients are at a greater risk for an increase in osteoporosis, infections, an undesirable weight, restricted physical activity, cognitive impairment and malnutrition. The lack of adequate nutrition negatively affects diseases that can be effectively managed with diet and medication, and it may lead to unforeseen health crises. Heart disease, high blood pressure and diabetes are examples of conditions that can be managed with balanced diet and appropriate medication.

Food insecurity often leads to undesirable behaviors such as medication nonadherence, which in turn may lead to early hospital readmission and extended hospital stays. Food insecurity potentially has greater consequences for older adults when health status and disease are considered. Authorities on healthy lifestyle choices recognize and support the role that nutrition and physical activity play in the management and prevention of chronic health conditions and malnutrition.

[Impact of food insecurity on individual health and health care system](#)

Prior to 1995, the terms hunger, poverty and unemployment were used interchangeably in public policy and public health discussions even though they addressed different problems. The Task Force on Food Assistance appointed in 1983 by President Ronald Reagan concluded that hunger referred to the physiological condition and was separate and distinct from food insecurity. The current standardized measure of food insecurity was developed in 1995 and is

used in official publications and most other research on this topic. The Economic Research Service (ERS) of the U.S. Department of Agriculture (USDA) defines hunger and food insecurity as follows:

Hunger is an individual-level physiological condition that may result from food insecurity. It refers to a potential consequence of food insecurity that, because of prolonged, involuntary lack of food, results in discomfort, illness, weakness or pain that goes beyond the usual uneasy sensation. (ERS USDA)

Food insecurity is a household-level economic and social condition of limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways. (ERS USDA)

The number of seniors experiencing food insecurity in 2016 exceeded 15%, more than 10 million people. This was 600,000 more people than in 2013, according to the June 2016 annual report, "Hunger in America in the Senior Population," prepared for NFESH (Ziliak & Gundersen, 2016). (See Appendix IV)

Households with limited resources and food insecurity are forced to choose between the basic necessities of food, housing, medical care and medications. Routine visits to the doctor may be postponed until the individual is in a health crisis, and must therefore be seen in acute care or the emergency room, or potentially is admitted to the hospital. Cost-related medication nonadherence behaviors, such as skipping or reducing doses, delaying medication refills or avoiding filling new prescriptions, can lead to a health crisis for an individual and the exacerbation of disease. These situations result in detrimental health consequences and an increase in health care costs, which place an increased burden on the health care system. The costs associated with food insecurity warrant examination considering three-fourths of people

age 65 or older have a chronic health condition (Avalere & Defeat Malnutrition Today, 2017).

(See Appendix I, p.10)

Food Insecurity National Demographics

Research has identified multiple risk factors associated with senior food insecurity. These include: race, ethnicity, employment status, age, gender, metropolitan versus non-metropolitan, income, having a disability, and marital status. Older adults who live alone are at a greater risk for food insecurity. Reports indicate that at least 1.2 million seniors in the U.S live alone. The possibility of an older adult being food insecure increases when the person lives in a rural area. A grandchild living in the household with an older adult increases food insecurity to more than twice that of a household without a grandchild, because the grandchild is given priority for having food. Ziliak and Gundersen's 2014 report revealed that food insecurity among people between ages 60 and 64 are approximately 50% higher than those over age 80. Seniors living in the South and the Southwest are consistently at greater risk for food insecurity. Food insecurity is shown to be 8.3% when at least one member of the household is age 65. Racial or ethnic minorities, people with a high school education or less, households with lower incomes and people with a disability are most likely at risk to be food insecure. However, Ziliak and Gundersen's 2016 report reveals that food insecurity also occurs in households with incomes above the poverty line and is present in all races.

Senior Hunger in Georgia

The 2017 Ziliak and Gundersen report “The State of Senior Hunger in America 2015” places Georgia as tenth in the nation for the prevalence of a threat of hunger in older adults. This report compares aspects of hunger and food insecurity across the nation. It has been produced annually in partnership with the National Foundation to End Senior Hunger since 2008. (See Appendix IV, p. 6) Georgia considers food insecurity a priority for current and future public health at large, program developers, health care professionals and policy makers. The state recognizes the consequences of food insecurity and is developing a state plan to end senior hunger in Georgia. At the initiation of this project Georgia was ranked ninth in the nation (Ziliak and Gunderson 2016)

Georgia Senior Hunger Initiative Definitions: Food Insecurity and Seniors

The USDA food insecurity definition is just one of many in use by various agencies and organizations. Here is how the Georgia Senior Hunger initiative defines food insecurity:

A person or household is considered food insecure when facing the threat of hunger and lacking safe and adequate food to sustain health and quality of life, and is unsure of access or the capability to obtain suitable foods in socially acceptable ways.

NFESH annual reports characterize food insecurity into the following categories:

- Fully food secure
- Threat of hunger
- Risk of hunger
- Facing hunger

The category of food insecurity in a household is determined by the number of affirmative responses to questions on the Core Food Insecurity Module (CFSM). (See Appendix IV, p. 3)

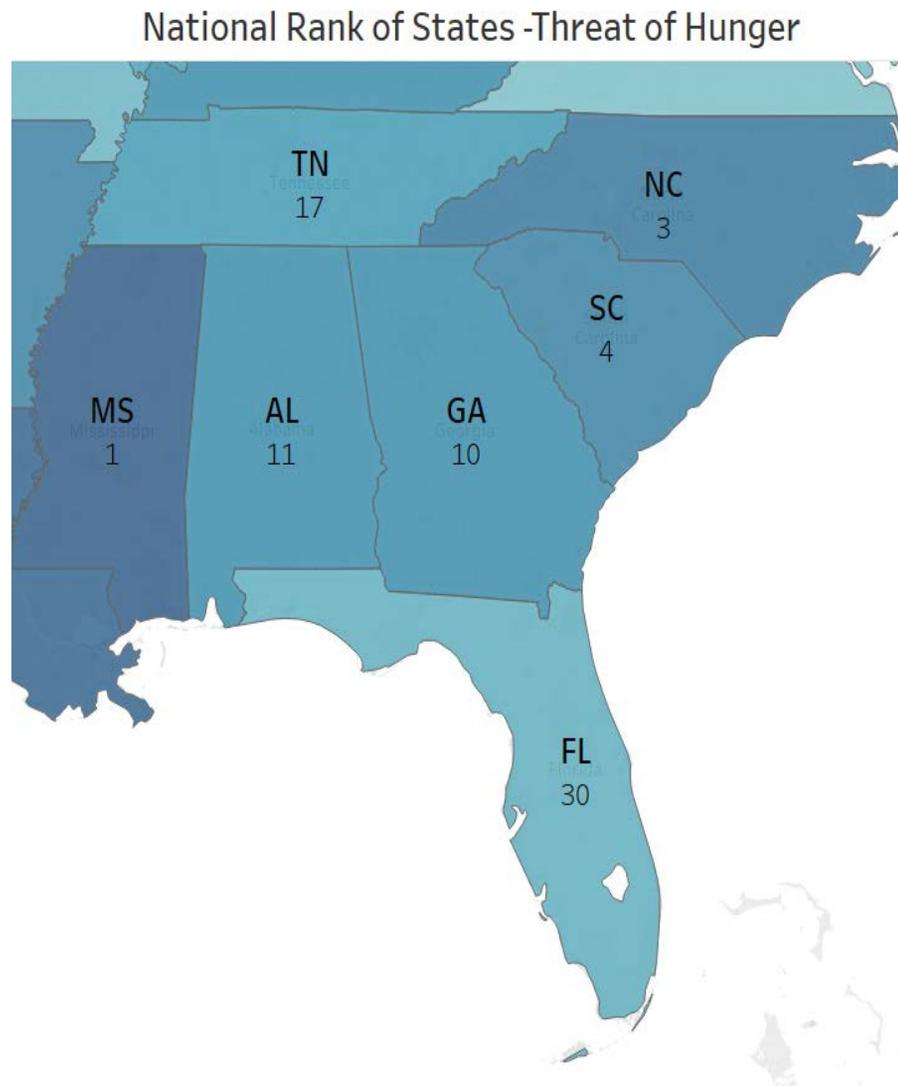
The CFSM is considered the standard tool for measuring household food insecurity rates. Georgia utilizes the CFSM 6-item battery of questions. (See Appendix V). For example, a person who answers yes to one or more questions on the CFSM is in the marginally food insecure category of facing the threat of hunger. Georgia defines the terms “senior” and “older adult” as age 60 and over and uses the threat of hunger throughout the proposed Georgia Senior Hunger plan to designate a person food insecure.

Georgia’s Senior Population and Food Insecurity

Georgia currently ranks fourth in growth rate of older adults age 65 and older when comparing the state’s population in 2010 with 2015 based on the Census Bureau American Community Survey data. Utilizing the same data source, the projected growth of the same demographic group is 17% by 2032 and 18.9% by 2050. The 2009 Ziliak and Gundersen report that examined hunger in rural and urban areas on behalf of the Meals on Wheels Association of America Foundation (MOWAAF), revealed Georgia as one of the top five Southern states with the highest average rates of food insecurity over a six-year data collection time-period (2001 to 2007). (See Appendix VI, p. 21) (See Figure 2)

When compared nationally with other states in 2015, Georgia’s 65-and-older population ranked 14th (9.7%) in poverty, 17th (36.5%) in 65-and-older individuals with at least one disability, and sixth (7%) for 60-and-older grandparents living with grandchildren.

Three risk factors for food insecurity are: low income, disability, and grandchildren living in the household. Combining two or more of these risk factors within a single household has a



Ziliak, J.P., Gundersen, C. (2017). The state of senior hunger in America 2015: An annual report. Report submitted to the National Foundation to End Senior Hunger. Lexington, KY: UK Center for Poverty Research, University of Kentucky.

multiplier effect, increasing a person's risk for being food insecure. According to the 2015 American Community Survey (ACS) Census data, 11.3% (191,610) of 60-and-older adults in Georgia live in poverty. Overall, 33% (559,561) of Georgia's 60-and-older population have at least one disability. Seniors who are living below the poverty line and are responsible for grandchildren is 23.7%. Of this population, 34% of grandparents 60 and older have a disability. Disabilities add a special constraint to the ability to gain access to and prepare food.

Social isolation is also recognized as a factor that increases the risk of food insecurity. The 2015 ACS Census data for Georgia indicates that 300,000 adults age 65 and older live alone, more than a quarter of that population. (See Appendix VII). The same report revealed that more than 15.7% (186,900) live in rural areas. In 2017, the percentages of people living below the federal poverty level ranges from 12.3% to 30.3%. The percentage of people living at 100% to 200% of the poverty level were 27.8% and 48.1%, respectively. (See Appendix VII)

The Georgia maps indicate people living in poverty are primarily in the rural areas and not in major cities.

Isolation affects the ability to obtain food, as the area may not have available transportation or an easily accessible grocery store with reasonably priced, wholesome foods. Neighbors or family members may not live close by to assist with food shopping or meal preparation for an older adult who is not well or has a disability and is unable to cook. A person is less likely to prepare food and eat alone if another person who lived in the household has died or no longer lives there. Ziliak and Gundersen's 2008 report reveals that social isolation created by the loss of access to emotional and financial support due to changes in life events increases the "likelihood of being at-risk of hunger that is of comparable magnitude to living in poverty" (p. 41). (See Appendix VIII)

Health Impact of Food Insecurity in Georgia

Food insecurity influences a person's well-being and health care from multiple perspectives. Older adults in food insecure households often use medication nonadherence as a coping strategy. Bengle, *et al.* (2010) conducted a statewide study of low-income food insecure individuals who reported cost-related medication nonadherence, and found that the percentage of adherence range between 42.9% for those with drug coverage insurance and 52.6% among those without coverage. A significant number had a previous diagnosis of diabetes and coronary heart disease. Food insecurity exacerbates these chronic conditions, for which expensive prescriptions and dietary treatments are required.

A balanced, nutritious diet, appropriate exercise, a suitable medication regimen and good medical care affect heart disease and diabetes, both of which are leading causes of death in Georgia. Frequently, obtaining foods that provide the required nutrients is problematic for food-insecure households due to lack of accessibility to grocers and/or reasonably priced wholesome foods. The available low-cost food choices are commonly limited to high-calorie, low-nutrient dense foods. The prolonged intake of high-calorie, nutritionally inadequate foods leads to weight gain and establishes an undesirable food intake pattern. A nutritionally inadequate diet may leave a person without enough energy to exercise or complete routine daily tasks. A consistent lack of exercise combined with steady weight gain can lead to obesity, which is frequently seen in low-income populations. Multiple adverse health conditions such as diabetes, arthritis, hypertension, heart and cardiovascular diseases and physical disabilities are prevalent in persons who are obese. It is important to recognize that obesity does not equate to nutritional adequacy or the overconsumption of food.

The combination of disease and food insecurity can increase the risk of or add to the already existing condition of malnutrition that is frequently seen in the older adult population. Diseases can cause lack of absorption, a decrease in appetite, and a decline in the ability to obtain and prepare food for oneself. Medications can have side effects such as nausea,

vomiting and altered taste sensation so a person loses the desire to eat. A person who is malnourished does not have the proper nutrients required to maintain health, to heal from an injury or to recover from an illness. Malnutrition increases the chance of infections, worsening diseases and disability. It also increases the possibility of an emergency room visit or hospitalization.

Cost Impact of Food Insecurity in Georgia

A study conducted by Goates, Braunschweig and Arensberg (2016) estimated Georgia's direct medical cost of disease-associated malnutrition for 65-and-older adults at \$125,373,000. Protein/calorie malnutrition increases the cost of a hospital stay by approximately \$25,200, based on 2016 prices. A malnourished older adult who is admitted to the hospital has a four- to six-day longer length of stay, more comorbidities, a 50% higher readmission rate, and five times the likelihood of death compared with hospital stays of adults without malnutrition.

Recognizing the rise in costs when a malnourished older adult is admitted to the hospital, the Centers for Medicare and Medicaid Services have proposed to adapt the 2017 recommendations of the Malnutrition Quality Improvement Initiative (mqii.today) into a future Hospital Inpatient Quality Reporting Program. "A Profile of Older Americans: 2016" showed Medicare as the primary method of payment for health-care-related expenditures for adults 65 and older. (See Appendix II, p. 13)

Older adults with chronic diseases and/or malnourishment use Medicare more than people who are healthy. Recent research strongly suggests that "up to one out of every two older Americans is at risk for malnutrition" (See Appendix I, p. 11). Addressing the risk factors that perpetuate food insecurity, a decreased quality of life, malnutrition and escalating health care costs within the state's communities, and improving the programs and policies that influence these risk factors, are necessary measures to bring an end to the detrimental conditions that an estimated 307,983 older adults living in Georgia are facing.

Gaining a Statewide Perspective

To ensure that this plan reflects Georgia both regionally and as a unified state, four groups of stakeholders participated in collecting data. Those groups are: the Senior Hunger Summit Planning Committee, the Senior Hunger Fighter Workgroups, the participants in 12 regional listening sessions and conference attendees at two statewide aging conferences.

The Senior Hunger Summit Planning Committee initiated the work. The committee represented multiple areas of the state and different aspects of the provision of nutrition services. The group included meal service providers, food banks, directors of Area Agencies on Aging, advocates, county-based agencies, and staff from the Department of Human Services Division of Aging Services (DHS DAS). This group reviewed the state and national research and decided upon the five primary focus areas:

- Access to food
- Impact of senior hunger on health
- Food waste and reclamation
- Today's seniors
- Meeting the needs of the community

The group also worked to develop the senior hunger summit agenda and ensure that outreach was as broad as possible.

During the first Georgia Senior Hunger Summit, the Senior Hunger Fighter Workgroups convened as the final session facilitated discussion groups, and the information was recorded and disseminated to the group. Meetings and conference calls were held for each of the five workgroups reviewing and developing the information. A final conference call was held to distill the initial information into some actionable recommendations. (See Appendix IX)

Following the Senior Hunger Summit in 2016, 12 listening sessions were conducted across the aging network planning and service areas through a partnership with the North Highland consulting group and the Georgia Area Agencies on Aging (AAAs). (See Appendices X, XI, XII). Each AAA publicized and hosted the event. Copies of the five topic areas were provided to the attendees ahead of time. The North Highland consultants conducted the listening sessions using multiple methods to capture the information (computer recording of the conversations, Post-it note collections from the participants and follow-up survey).

The final outreach and data collection was held at two statewide aging conferences -- the Aging and Disability Resource Connection (ADRC) Healthy Communities Summit 2017, and the Georgia Gerontology Society Annual Conference 2017. During these two sessions, the five focus areas were presented along with emerging themes from the listening sessions. The session attendees were then able to add their comments, concerns and ideas to the information collected. (See Appendices XIII, XIV)

Common Themes in Each Focus Area

<u>Food Access</u>	
<u>Transportation</u>	Door-through-door service is needed for more frail seniors.
	Transportation availability is lacking in urban and rural areas.
	Communication between resources needs improvement.
Food Deserts	
	Some rural counties are lacking grocery stores.
	Distance to grocery stores for seniors without cars is too great.
	Alternatives such as general/convenience markets with healthy options need to be explored.
	Food delivery services are an option.

	Farmers markets and other agricultural options to meet needs.
--	---

<u>Today's Seniors</u>	
	We need to have an understanding of who is considered a senior for various programs and what generational differences exist.
	Many seniors care for grandchildren and may defer to their nutritional needs first.
	Services tend to be offered during week days. Today's seniors need more options.

<u>Food Waste and Reclamations</u>	
	Clear and consistent policy is needed.
	Stronger outreach for food collection agencies is needed.
	Enhancing partnerships may allow for greater reach.

<u>Meeting the Needs of the Community</u>	
	Better communication of available services needed to prevent duplication.
	Better communication and partnership with the faith-based community is needed.
	Partnerships with schools could be helpful.

Five Impact or Focus Areas

Five areas of focus were selected by the Senior Hunger Summit Planning Committee. These areas were selected after review of the national hunger reports with the purpose of creating actionable items for Georgia. They are: Today's Seniors, Impact of Senior Hunger on Health, Food Access, Food Waste and Reclamations, and Meeting the Needs of the Community.

Today's Seniors

One significant challenge that communities, agencies and program administrators working with the older adult population face are the differences in needs/requirements and likes/dislikes among various generations. The young-old (ages 60 to 69) and middle-old (70-79) may have different dietary and health needs than the oldest-old, (80 and older). Advances in health care are allowing people to live longer but not always independently. Even though some of the oldest-old are very active and healthy, many others are dependent on someone for transportation, meal preparation and more. The young-old also may be taking care of an aging parent while continuing to work and run a household.

Rural areas are experiencing a migration of youth away from small towns to larger cities. This creates a shortage of people in rural areas and small towns to take care of and help older adults who are dependent on assistance. Food stores may be in near proximity, but an older adult may not be physically able to grocery shop or to prepare meals if groceries are available.

Georgia's growing cultural diversity also affects food security. Older adults who come from other countries and cultures may not be familiar with available local foods and may not know how to prepare them, creating a situation of food insecurity for them. Food stores catering to a specific culture may not be in the area. Communication can be limited if there is not a common language between older adults and the people helping them. Agencies or

organizations distributing food to those in need may not be able to accommodate the culturally diverse needs of the older population.

There are vast differences in interest and skill level in technology among older adults. The younger-old are more likely to have the interest and the skills to utilize computers to order food items online, whereas the oldest-old may not.

Health Impact of Senior Hunger

It is well-documented that nutrition affects a person's health. Heart disease, diabetes and kidney disease are influenced by diet. The only choices a food-insecure person may have available are high-salt, high-fat, high-sugar, low-nutrient dense foods if resources for fruits, vegetables, and quality protein are limited or not accessible in the area. Special dietary requirements are usually recommended by a health care professional as one component of treating the patient. Frequently, the professional does not consider whether the special dietary requirements are within the patient's finances or whether the special items are available where the patient buys food. The professional may not be aware of community resources to recommend to the older adult when assistance is needed in acquiring the proper food.

Disease conditions become more complex when an individual is obese. Georgia ranks 19th in the nation for prevalence of obesity. A food-insecure older adult might be limited to high-calorie, nutrient-deficient foods, which can contribute to obesity. Obesity can lead to arthritis and other joint problems which affects the ability to perform IADLs, such as grocery shopping and food preparation.

Older adults who are food insecure are not eating sufficient amounts of calories, protein and micronutrients, which can contribute to frailty. Calcium, magnesium, vitamin D and iron are micronutrients required to maintain muscle strength and bone integrity. Muscle weakness, osteoporosis and weight loss are often found in frail individuals. This, in turn, can lead to the inability to perform IADLs, an increase in falls, disability, the worsening of diseases and

hospitalizations. Frailty and the risk of falling are concerns for older adults. Falls are the leading cause of injury-related emergency room visits, hospitalizations and deaths for Georgians 65 and older. Falls affect quality of life and are costly in terms of well-being, cost and time spent recuperating.

Older adults who are food insecure are 60% more likely to experience depression. Worry, anxiety and stress associated with threat of hunger and lack of suitable foods to sustain health have negative outcomes on well-being, quality of life and mental health for older adults. Seniors who are food insecure self-reported poor or fair health when compared to food-secure seniors. Fruits and vegetables are commonly lacking in food-insecure households. Fruits and vegetables contain the micronutrients vitamin C, vitamin B, iron and a form of vitamin A. These nutrients are known to be effective against depression and to enhance overall well-being.

Food Access

The availability of local food sources strongly impacts food insecurity. Neighborhoods and rural areas with limited access to food make it difficult for older adults to obtain nutritionally rich foods for a healthy diet. Areas that are void of food sources within a reasonable distance to an individual's home are called food deserts. Georgia food deserts occur both in urban and rural settings. A food desert is defined as a neighborhood or rural town that lacks access to fresh, healthy and reasonably priced food, and food sources are not within a reasonable proximity to the resident's home. Georgia considers a half-mile as reasonable proximity. One-third of Georgia is considered food desert.

For older adults, transportation can be a significant barrier to food access. Even when food resources such as congregate meal sites, community gardens, food banks or farmers' markets are in their area, older adults may not be able to drive, and public transportation is often not available in rural or less-populous areas. In a low-income neighborhood or for an older adult who is frail or has a disability, public transportation may be available but not manageable. The

cost of a private taxi service or ownership of a vehicle may be prohibitive when there are financial constraints in the household. Many communities do not have services that provide transportation at a reduced cost for older adults.

Many seniors are eligible for the Supplemental Nutrition Assistance Program (SNAP) benefits but do not sign up because the enrollment process for the program can be confusing or difficult to an older adult. Enrollment is available online, but that is not a viable option if the older adult does not have internet access, does not own a computer, or does not have computer skills. Many older adults do not apply for SNAP benefits even if they are eligible because they view them as degrading and a form of dependency.

Food Waste and Reclamation

Food is wasted daily in communities. For example, grocery stores that have strict “sell by” dates throw food away, as do restaurants that have unserved leftovers. Crops are plowed under and left to rot in the fields by farmers who have more than they can sell or personally use. Local schools discard opened cases of canned goods rather than donating the items to food-insecure households. Each of these sources could provide food to people in need. Unfortunately, businesses and organizations do not have a clear understanding of the laws addressing the donation of food, so they hesitate to do so out of concern for liability.

Federal laws exist to encourage and support the donation of unused food that is kept at proper temperatures and is safe to consume. The Bill Emerson Good Samaritan Food Donation Act provides liability protection to donors of food and grocery products to qualified nonprofit organizations. The Internal Revenue Code 170(e)3 provides tax deductions to businesses that donate wholesome food to qualified nonprofit organizations serving the poor and needy. Gleaning programs can be implemented to collect fresh foods from farms, gardens, and farmer’s markets. The food is then distributed to food-insecure households.

Communities may have farmers or businesses willing to donate food, but the appropriate transportation may not be available. Certain food items must to be transported under refrigeration to keep them safe for consumption. An appropriate vehicle may be available during “off hours,” but the farmer or business may not be aware of the availability.

It is important for individuals, organizations and community groups to work together to support efforts in eliminating senior hunger. Collaboration is also critical to avoid duplication of services to food-insecure households while other people in need of food are overlooked.

Meeting the Community's Needs

Addressing food insecurity is a community affair. Communication and coordination among businesses with food to donate, agencies distributing food, transportation businesses and officials, health care professionals, public safety officials, policy makers and the faith-based community are key in assuring a healthy, food-secure future for older adults. Different types of community organizations may be addressing the same issue while unaware of each other's programs. Faith-based groups, civic groups, colleges, universities, neighborhoods and local government all have resources that may overlap while some areas go unserved. Improved communication and partnerships may be in order to share resources and identify service gaps.

Recommendations

- **Develop Regional Coalitions** in 12 regions of the state to bring together the aging network with for-profit, nonprofit, faith-based, civic, health care and other organizations, older adults and their caregivers. These coalitions would address a number of concern areas found during the data collection phase and would track the number of deliverables each year, including but not limited to:
 - Reduction of duplication of services
 - Conducting community needs assessments
 - Shared knowledge of regional and local issues
 - Shared knowledge of regional and local resources
 - Locally designed interventions such as community gardens, pantry programs and volunteer transportation services
 - Hold a minimum of four meetings each year
 - Annual report
 - Daylong pre-conference intensive at the ADRC Healthy Communities Summit

- **Establish DHS DAS Senior Hunger Position** to perform the following duties at a minimum:
 - Coordinate the 12 regional coalitions
 - Coordinate a Policy Review Council
 - Develop and disseminate nutrition education and other education resources
 - Develop toolkits for statewide use
 - Assistive Technology to help with food needs
 - Outreach to community programs
 - FAQs and “How to talk” about the issue
 - Coordinate with Universities and other partners for data analysis and other hunger prevention projects
 - Coordinate waste prevention initiatives and ongoing best practice sharing
 - Coordinate the Senior Hunger Track at the Healthy Communities Summit
 - Manage implementation of the State Plan for Senior Hunger

- **Establish Policy Review Council** to review policy that impacts a variety of aspects of senior hunger, from food reclamation to information sharing. This recommendation addresses the following concern areas; better communication across programs, consistent policy development to support state plan initiatives, adaptation as needed in a changing environment. This council would include state departments and divisions such as DHS DAS and the departments of Public Health, Community Health and Agriculture
 - Meet quarterly to review issues that arise in regional coalition meetings
 - Review current and proposed policy to suggest changes to allow great efficiency in food processes
 - Share enrollment in state programs to alleviate some of the paperwork for older adults across SNAP, Public Housing, Senior Community Programs, etc.

- **Coordinate Data Collection and Analysis** to measure the success of the state plan on senior hunger across organizations
 - Health Care Utilization Data
 - The Food Security Survey (expand to other agencies using the six-question survey for consistency)
 - Total number of food-insecure seniors current vs. projected
 - Rural vs. urban needs and resources
 - Return on investment for health impact
 - Ensuring service delivery to those in the greatest need
 - Others...

- **Develop and Provide Education and Training for Agencies, Stakeholders and Individuals across a variety of topics**
 - WebEx trainings and discussions held regularly
 - Regular nutrition education meetings to develop and disseminate senior appropriate nutrition education
 - Healthy Communities Summit Pre-Conference Intensive and Senior Hunger Track
 - Meeting in Macon at the DHS training center to keep conversations moving and idea-sharing open annually
 - Host workshops
 - Review state statistics
 - Review state and federal policies
 - Develop understanding of the current issue and programs in need of expansion

- **Continue and Expand the What a Waste Program with the National Foundation to End Senior Hunger.** This recommendation addresses the food waste and reclamation focus area and allows better use of the resources already available.

- **Provide Entrepreneurial Mini-Grants** to support creative initiatives that alleviate the issues of senior hunger, food deserts and isolation. These would be small grants designed to stimulate local problem solving at the local level
 - Food Mobile Ideas
 - Others...

References

Administration for Community Living (ACL) (n.d.). Profile of older americans: 2016. Retrieved July 6, 2017, from <https://www.acl.gov/aging-and-disability-in-america/data-and-research/profile-older-americans>

American Community Survey (2015). U.S. Census Bureau American Fact Finder. ACS 2011-2015 5-year data table. Accessed on July 25, 2017, from [www.census.gov/ programs-surveys/acs/](http://www.census.gov/programs-surveys/acs/)

Annual Health Status Measures (AHSM) (2015). Retrieved from <https://oasis.state.ga.us/oasisFiles/AHSM%202015-v16.2.pdf>

Avalere & Defeat Malnutrition Today (2017). The malnutrition quality collaborative. National blueprint: achieving quality malnutrition care for older adults. Washington, DC. Retrieved May 23, 2017, from www.defeatmalnutrition.today

Bandeem-Roche, K., Seplaki, C. L., Huang, J., Buta, B., Kalyani, R. R., Varadhan, R., ... Kasper, J. D. (2015). Frailty in Older Adults: A Nationally Representative Profile in the United States. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, *70*(11), 1427–1434. <https://doi.org/10.1093/gerona/glv133>

Bengle, R., Sinnott, S., Johnson, T., C., Johnson, M.A., Brown, A., & Lee, J.S. (2010). Food insecurity is associated with cost-related medication non-adherence in community-dwelling, low-income older adults in georgia. *Journal of Nutrition For the Elderly*, *29*(2), 170–191. <https://doi.org/10.1080/01639361003772400>

Bhargava, V., Lee, J. S., Jain, R., Johnson, M. A., & Brown, A. (2012). Food insecurity is negatively associated with home health and out-of-pocket expenditures in older adults. *Journal of Nutrition*, *142*(10), 1888–1895. <https://doi.org/10.3945/jn.112.163220>

Brewer, D. P., Catlett, C. S., Porter, K. N., Lee, J. S., Hausman, D. B., Reddy, S., & Johnson, M. A. (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), 150–169. <https://doi.org/10.1080/01639361003772343>

Centers for Disease Control and Prevention (2016). Oral health for older Americans. Retrieved August 24, 2017 from https://www.cdc.gov/oralhealth/basics/adult-oral-health/adult_older.htm

Centers for Disease Control and Prevention (2017). National center for injury prevention and control web-based injury statistics query and reporting system (WISQARS). Atlanta, GA. Retrieved August 11, 2017, from <https://www.cdc.gov/injury/wisqars/index/html>

Correia, M.I.T.D. & Waitzberg, D.L. (2003). The impact of malnutrition on morbidity, mortality, length of hospital stay and costs evaluated through a multivariate model analysis. *Clinical Nutrition*, *22*(3), 235-239. doi: 10.1016/S0261-5614(02)00215-7

Drewnowski, A., & Evans, W. J. (2001). Nutrition, physical activity, and quality of life in older adults summary. *The Journals of Gerontology Series A: Biological Sciences and Medical*

Sciences, 56(suppl 2), 89–94.

Economic Research Service (2016). Definitions of Food Security. Retrieved on July 6, 2017 from www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security/

Feeding America and National Foundation to End Senior Hunger (NFESH) (2014). Spotlight on senior health adverse health outcomes of food insecure older americans.

Fingar, K.R., Weiss, A.J, Barrett, M.L., Elixhauser, A., Steiner, C.A., Guenter, P., & Brown, M.H. (2016). All-cause readmissions following hospital stays for patients with malnutrition, 2013. Statistical brief #218. Healthcare Cost and Utilization Project. Retrieved from www.hcup-us.ahrq.gov/reports/statbriefs/sb218-malnutrition-readmissions-2013.jsp

Fried, L. P., Tangen, C. M., Walston, J., Newman, A. B., Hirsch, C., Gottdiener, J., ... others. (2001). Frailty in older adults: evidence for a phenotype. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, 56(3), M146–M157.

Goates, S., Du, K., Braunschweig, C. A., & Arensberg, M. B. (2016). Economic burden of disease-associated malnutrition at the state level. *PLoS ONE*, 11(9), 1–15. <https://doi.org/10.1371/journal.pone.0161833>

Grandparents2Teal.pdf. (n.d.). Retrieved on July 20, 2017 from https://dhs.georgia.gov/sites/dhs.georgia.gov/files/related_files/site_page/Grandparents2Teal.pdf

Hickson, M. (2006). Malnutrition and ageing. *Postgraduate Medical Journal; London*, 82(963), 2. <https://doi.org/http://dx.doi.org.ezproxy.gsu.edu/10.1136/pgmj.2005.037564>

Kaiser, M. J., Bauer, J. M., R amsch, C., Uter, W., Guigoz, Y., Cederholm, T., ... for the Mini Nutritional Assessment International Group. (2010). Frequency of Malnutrition in Older Adults: A Multinational Perspective Using the Mini Nutritional Assessment. *Journal of the American Geriatrics Society*, 58(9), 1734–1738. <https://doi.org/10.1111/j.1532-5415.2010.03016.x>

Malnutrition Quality Improvement Initiative (MQii) (2017). Retrieved from <http://mqii.defeatmalnutrition.today/> on August 8, 2017

Montero-Odasso, M., Muir, S. W., Hall, M., Doherty, T. J., Kloseck, M., Beauchet, O., & Speechley, M. (2011). Gait variability is associated with frailty in community-dwelling older adults. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, 66(5), 568–576.

National Council on Aging, Chronic disease management (2017). Retrieved August 11, 2017, from <https://www.ncoa.org/healthy-aging/chronic-disease/>.

Norwood, J. L., & Wunderlich, G. S. (2006). *Food insecurity and hunger in the United States : an assessment of the measure*. Washington, D.C. : National Academies Press, c2006.

Retrieved from <http://ezproxy.gsu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=cat05756a&AN=gsu.9915100423402952&site=eds-live&scope=site>

- Payne, M. E., Steck, S. E., George, R. R., & Steffens, D. C. (2012). Fruit, Vegetable, and Antioxidant Intakes Are Lower in Older Adults with Depression. *Journal of the Academy of Nutrition and Dietetics*, 112(12), 2022–2027. <https://doi.org/10.1016/j.jand.2012.08.026>
- Russell, J. C., Flood, V. M., Yeatman, H., Wang, J. J., & Mitchell, P. (2016). Food insecurity and poor diet quality are associated with reduced quality of life in older adults. *Nutrition & Dietetics*, 73(1), 50–58. <https://doi.org/10.1111/1747-0080.12263>
- Sattler, E.L.P. & Lee, J.S. (2013). Persistent food insecurity is associated with higher levels of cost-related medication nonadherence in low-income older adults. *Journal of Nutrition in Gerontology and Geriatrics*, 32 (1), 41-58. <https://doi.10.1080/21551197.2012.722888>
- Scheir, L.M. (2005). What is the hunger-obesity paradox?. *Journal of the American Dietetic Association*, 105 (6), 883-4, 886. <https://doi.10.1016/j.jada.2005.04.013>
- Seligman, H. K., Laraia, B. A., & Kushel, M. B. (2010). Food Insecurity Is associated with chronic disease among low-income nhanes participants. *Journal of Nutrition*, 140(2), 304–310. <https://doi.org/10.3945/jn.109.112573>
- Stuff, J. E., Casey, P. H., Szeto, K. L., Gossett, J. M., Robbins, J. M., Simpson, P. M., ... Bogle, M. L. (2004). Household food insecurity is associated with adult health status. *The Journal of Nutrition*, 134(9), 2330–2335.
- Taylor, C. L., Thomas, P. R., Aloia, J. F., Millard, P. S., & Rosen, C. J. (2015). Questions About Vitamin D for Primary Care Practice: Input From an NIH Conference. *The American Journal of Medicine*, 128(11), 1167–1170. <https://doi.org/10.1016/j.amjmed.2015.05.025>
- Thomas, K.S., Dosa, D. (2015). More than a meal, a pilot research study. Research project sponsored by Meals on Wheels America.
- Vozoris, N. T., & Tarasuk, V. S. (2003). Household food insufficiency is associated with poorer health. *The Journal of Nutrition*, 133(1), 120–126.
- Weiss A.J., Fingar, K.R., Barrett, M.L., Elixhauser, A., Steiner, C.A., Guenter, P., Brown, M.H. (2016). Characteristics of hospital stays involving malnutrition, 2013. Statistical brief #210. Healthcare Cost and Utilization Project. Retrieved from <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb210-Malnutrition-hospital-stays-2013.pdf>
- Wilkinson, Rachel; Arensberg, Mary E.; Hickson, Mary; Dwyer, Johanna T. (2017). Frailty prevention and treatment: Why registered dietitian nutritionists need to take charge. *Journal of the Academy of Nutrition & Dietetics*, 117(7), p1001-1009. DOI: 10.1016/j.jand.2016.06.367.
- Wójciak, R. W., Mojs, E., Staniek, H., Marcinek, K., Król, E., Suliburska, J., & Krejpcio, Z. (2016). Depression in seniors vs. their nutritional status and nutritional knowledge. *Journal of Medical Science*, 85(2), 83–88. <https://doi.org/10.20883/jms.2016.103>
- Ziliak, J. P., Gundersen, C., & Haist, M. (2008). The causes, consequences, and future of senior hunger in America. *Lexington, KY: UK Center for Poverty Research, University of Kentucky*, 71. Report submitted to Meals on Wheels Association of America Foundation.

Ziliak, J.P., Gundersen, C. (2009). The causes, consequences, and future of senior hunger in america. Report submitted to the National Foundation to End Senior Hunger. *Lexington, KY: UK Center for Poverty Research, University of Kentucky.*

Ziliak, J.P., Gundersen, C. (2014). The health consequences of senior hunger in the united states: Evidence from the 1999-2010 NHANES. Report submitted to the National Foundation to End Senior Hunger. *Lexington, KY: UK Center for Poverty Research, University of Kentucky.*

Ziliak, J.P., Gundersen, C. (2016). The state of senior hunger in America 2014: An annual report. Report submitted to the National Foundation to End Senior Hunger. *Lexington, KY: UK Center for Poverty Research, University of Kentucky.*

Ziliak, J.P., Gundersen, C. (2017). The state of senior hunger in America 2015: An annual report. Report submitted to the National Foundation to End Senior Hunger. *Lexington, KY: UK Center for Poverty Research, University of Kentucky.*

Appendices Table of Contents

- I. Avalere & Defeat Malnutrition, March 2017; National Blueprint: Achieving Quality Malnutrition Care for Older Adults
- II. Profile of Older Americans: 2016, Administration on Community Living (ACL)
- III. February 2014, Ziliak & Gundersen; The Health Consequences of Senior Hunger in the United States: Evidence from the 1999-2010 NHANES – Report submitted to The National Foundation to End Senior Hunger (NFESH)
- IV. June 2016, Ziliak & Gunderson; The State of Hunger in America 2014: An Annual Report – Report submitted to The National Foundation to End Senior Hunger (NFESH) and August 2017, Ziliak & Gunderson; The State of Senior Hunger in America 2015: An annual report. Report submitted to the National Foundation to End Senior Hunger. *Lexington, KY: UK Center for Poverty Research, University of Kentucky.*
- V. Core Food Security Module (CFSM) 6-item battery of questions

Research article supporting validity of CFSM:
Persistent Food Insecurity Is Associated With Higher Levels of Cost-Related Medication Nonadherence in Low-Income Older Adults
Elisabeth Lilian Pia Sattler, BS Pharm & Jung Sun Lee, PhD, RD
Journal of Nutrition in Gerontology and Geriatrics, 32:41-58, 2013
- VI. September 2009, Ziliak & Gundersen; Senior Hunger in the United States, Differences Across States and Rural and Urban Areas – Report submitted to Meals On Wheels Association of America Foundation (MOWAAF)
- VII. Georgia maps indicating poverty levels
- VIII. 2008, Ziliak, Gunderson, & Haist; The Causes, Consequences, and Future of Senior Hunger in America – Report submitted to Meals On Wheels Association of America Foundation (MOWAAF)
- IX. Senior Hunger Fighter Workgroups Transcripts
- X. Session Summaries of North Highland Consulting Group and Georgia Area Agencies on Aging (AAA) Transcripts
- XI. Area Agencies on Aging – Map of regions
- XII. Map of Georgia Counties
- XIII. ADRD Healthy Communities Summit Summaries
- XIV. Georgia Gerontology Society Annual Conference Summaries