FRAC | ResearchWIRE

Welcome to the Food Research & Action Center's fall issue of ResearchWIRE. This quarterly newsletter focuses on the latest research, reports, and resources from government agencies, academic researchers, think tanks, and elsewhere at the intersection of food insecurity, poverty, the federal nutrition programs, dietary quality, and health.

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IN FOCUS

Hunger is a Health Issue for Older Adults: Food Security, Health, and the Federal Nutrition Programs

Poverty, food insecurity, and poor nutrition have harmful impacts on the health and well-being of older adults, which, in turn, can limit their ability to work (for those still capable of working), carry on daily activities, and live independently. Maintaining good health, consuming a nutritious diet, and/or managing an existing chronic disease can be especially challenging for older adults struggling with food insecurity for a variety of reasons, including limited finances and resources, the cost of healthy foods, competing priorities, functional limitations, and stress.

One essential strategy to improve food security and health is connecting vulnerable older adults to the federal nutrition programs, including the Supplemental Nutrition Assistance Program (SNAP), Congregate Nutrition Program, and Home-Delivered Nutrition Program. These profoundly important programs have well-documented benefits for older adults.

A new brief from FRAC reviews food insecurity rates and risk factors among older adults; the connections between food insecurity and health among older adults; and the effectiveness of the federal nutrition programs in alleviating food insecurity and supporting health for this population. Highlights from, and a link to, the brief are provided below.

Food Insecurity Affects Millions of Older Adults

In 2018, more than 2.9 million food-insecure households included an adult age 65 or older.[1] This represented 7.5 percent of all households with an adult that was 65 or older. Among those within that age bracket who lived alone, more than 1.3 million (or 8.9 percent) were food insecure and 512,000 (or 3.4 percent) struggled with very low food security. Although these food insecurity rates are lower than the national average for adults generally, households with older adults represent a considerable share of the food-insecure population: about 21 percent of all food-insecure households include an adult 65 or older.

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Food Insecurity Has Harmful Impacts on the Health and Well-Being of Older Adults

Older adults who are food insecure often experience negative mental and physical health conditions and outcomes, such as diabetes, fair or poor health status, depression, lower cognitive function, limitations in activities of daily living, hypertension, congestive heart failure, peripheral arterial disease, history of a heart attack, osteoporosis, gum disease, poor dietary intake, and asthma.[2,3,4,5] In addition, food insecurity significantly increases the risk for falls, which are the leading cause of fatal and nonfatal injuries for older adults.[6] According to one study, food-insecure Medicare Advantage members had a 1.69 times greater likelihood of experiencing a fall in the past year, compared to their food-secure peers.[7]

Not surprisingly, food insecurity is a strong predictor of greater health care utilization and increased health care costs across the lifespan.[8,9,10] In 2014, the direct and indirect health-related costs of hunger and food insecurity in the U.S. were estimated to be a staggering $160 billion.[11] Among older adults, those who are food insecure have more frequent hospitalizations and visits to physician offices and emergency rooms than their food-secure counterparts.[12,13] Food-insecure older adults also have higher health care costs.[14]

The Federal Nutrition Programs Alleviate Food Insecurity and Support Health for Older Adults

The U.S. Department of Agriculture (USDA) and U.S. Department of Health and Human Services (HHS) administer a number of federally funded nutrition programs that support the food and nutritional needs of low-income older adults, including the Supplemental Nutrition Assistance Program (SNAP), Congregate Nutrition Program, Home-Delivered Nutrition Program, Commodity Supplemental Food Program, Senior Farmers' Market Nutrition Program, and Child and Adult Care Food Program.*

This section focuses on the importance and effectiveness of SNAP, the Congregate Nutrition Program, and Home-Delivered Nutrition Program for the older adult population. These three programs are of particular interest given their considerable reach in communities across the nation as well as the recent surge of research examining their impacts.

SNAP

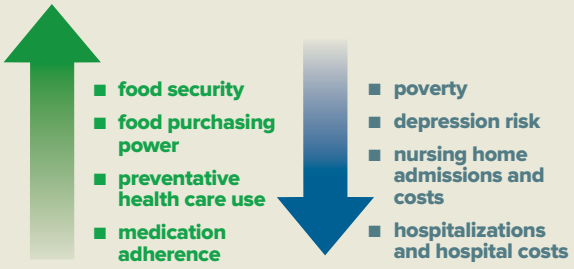
Administered by USDA, SNAP is an effective anti-poverty initiative that serves as the first line of the nation's public policy defense against hunger and undernutrition. Over 36 million people participate in SNAP in a given month.[15] On average each month, SNAP serves about 5 million households with older adults 60 years or older (or 24 percent of all SNAP households).[16]

Increasing SNAP participation among older adults is critically important given the high rates of food insecurity in this population and the well-documented effectiveness of the program. First and foremost, the monthly benefits provided by SNAP enhance the food purchasing power of eligible low-income older adults. In addition, a considerable body of evidence shows that SNAP plays a role in improving food security, economic security, health, and dietary intake throughout the lifespan.[17] The following selection of studies demonstrates the many economic and health benefits of SNAP participation for older adults.

- In analyses using nationally representative data, SNAP reduced the probability of food insecurity by 18 percent

SNAP Matters for Seniors

SNAP Has Many Economic and Health Benefits for Older Adults



SOURCE: Hunger is a Health Issue for Older Adults

*These and other programs available to older adults are summarized in FRAC's *Federal Nutrition Programs and Emergency Food Referral Chart for Older Adults*, available at www.frac.org. The chart includes program descriptions and eligibility information.

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for all-elderly households of low-income.[18] In this study, "elderly" was defined as 60 or older.

- Food-insecure older adults participating in SNAP were less likely to be depressed than nonparticipants in a study using longitudinal data.[19] The study sample included adults over the age of 54.
- In analyses using national survey data, older adults participating in SNAP were 4.8 percentage points less likely to engage in cost-related medication nonadherence than eligible nonparticipants.[20] This study sample included adults age 60 and older.
- SNAP participation was associated with reduced hospitalization and, among those who were hospitalized, less costly hospital stays in a study of older adults in Maryland dually enrolled in Medicare and Medicaid. According to the study team's estimates, "expanding SNAP access to nonparticipating dual eligible older adults in Maryland could have resulted in inpatient hospital cost savings of $19 million in 2012."[21] A companion study also found an association between SNAP participation and reduced nursing home admissions and admission costs, with estimated cost savings of $34 million in 2012 if SNAP had been provided to eligible nonparticipants.[22] Both studies involved adults 65 years of age and older.

Congregate Nutrition Program and Home-Delivered Nutrition Program

The Congregate Nutrition Program and Home-Delivered Nutrition Program are authorized by Title III-C of the Older Americans Act and administered by the Administration of Community Living's (ACL) Administration on Aging at HHS.[23] The healthy meals and nutrition services (e.g., screening for nutritional risk, nutrition education) provided by the Congregate and Home-Delivered Nutrition Programs are targeted to adults who are 60 and older and in the greatest social and economic need (e.g., low-income, minority, rural resident, limited English proficiency, high risk for institutional care). In some cases, the programs also serve caregivers, spouses, and/or persons with disabilities.

The Congregate Nutrition Program provides group meals and related nutrition services at participating sites throughout the country (e.g., recreation centers, churches, senior housing).[24] The program also fosters social engagement and offers educational and volunteer opportunities. In 2018, the program reached more than 1.5 million people and served about 71 million meals.[25]

The Home-Delivered Nutrition Program provides in-home meals and related nutrition services to those who are frail, homebound, or isolated. The in-home visits provide an important opportunity to conduct safety checks and promote social engagement among those who are homebound. In 2018, the program reached more than 861,000 people and served about 145 million meals.[26] For both programs, meals are provided at no cost, although voluntary participant contributions are accepted.

The primary goals of the Congregate and Home-Delivered Nutrition Programs are to reduce hunger and food insecurity, promote socialization, promote health and well-being, and delay the onset of adverse health conditions among older adults.[27] A number of studies and literature reviews conclude that the programs have achieved these goals and more,[28,29,30,31] with one study even demonstrating health care savings from increased home-delivered program participation.[32] But perhaps most notable of all these studies is the ACL-funded comprehensive evaluation of the Congregate and Home-Delivered Nutrition Programs, which found multiple positive effects on nutrition, health, and well-being as a result of program participation.[33,34]

Conclusion

Food insecurity has serious consequences for the health and well-being of older adults. Beyond the consequences for individuals and families, food insecurity also has costly implications for the health care system. Fortunately, solutions exist to tackle these challenging issues, including increased use of the federal nutrition programs. Specifically, the Supplemental Nutrition Assistance Program, Congregate Nutrition Program, and Home-Delivered Nutrition Program are all important and effective interventions for low-income older adults. Increasing access to and strengthening these programs would further their role in improving the food security, health, and well-being of older Americans.

Read *Hunger is a Health Issue for Older Adults: Food Security, Health, and the Federal Nutrition Programs*.

FRAC has numerous resources focused exclusively on older adults, including food insecurity data and maps (by state); SNAP participation data and maps (by state and county); SNAP fact sheets (by state); a primer on SNAP's importance in supporting older adults; best practices in improving SNAP access and participation; and how to identify and address food insecurity among older adults in health care settings. Learn more at www.frac.org.

Research Highlights

Supplemental Nutrition Assistance Program (SNAP)

Editor's Note: *See also the "Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)" section for a study focused on SNAP, WIC, and preterm infant growth and development.*

The effects of SNAP work requirements in reducing participation and benefits from 2013 to 2017

Expansions of SNAP work requirements resulted in rapid declines in caseloads and benefits from 2013 to 2017, according to analyses published in the *American Journal of Public Health*. Using U.S. Department of Agriculture administrative data, researchers examined how changes in the implementation of work requirements (i.e., the absence of waivers for able-bodied adults without dependents, or ABAWDs) impacted SNAP caseloads and benefits from 2013 to 2017.

In analyses that accounted for unemployment, poverty, and Medicaid expansions, SNAP work requirement expansions caused approximately 600,000 participants to lose SNAP benefits between 2013 and 2017. Additional estimates indicate that more than one-third of all ABAWDs lost SNAP benefits due to the adoption of work requirements. The work requirement expansions also resulted in a loss of about $2.5 billion in SNAP benefits in 2017. The authors write, "in light of research indicating that SNAP reduces food insecurity and is associated with improved health and lower health expenditures, our analysis suggests that work requirements could create hardships for low-income adults, including increased food insecurity and impaired health."

Daily food insufficiency and worry among economically disadvantaged families with young children

Parental food insecurity worsens over the course of the SNAP benefit month in low-income families with young children, based on research in the *Journal of Marriage and Family*. The findings add to the existing and growing body of evidence that SNAP benefits are inadequate to last the whole month. In the current study, 105 SNAP-recipient parents in North Carolina with children 5 to 6 years old completed a daily survey about food insecurity for four weeks. The survey asked the following questions: 1) At any point today, did you feel worried whether your food would run out before you get money to buy more?; 2) How much did you feel today that you could not afford to eat balanced meals?; and 3) Did you eat less today than you felt you should because there wasn't enough money to buy food? The questions were combined in a composite measure of daily food insecurity, and each question was examined separately as well.

Daily food insecurity was significantly higher for parents at the end of the SNAP benefit month than at the start of the month, with noticeable increases in frequency and severity in the third and fourth weeks of the month. The worry (questions 1 and 2) and food insufficiency (question 3) components of food insecurity also significantly increased over the course of the SNAP benefit month, particularly in week four. According to the study's authors, increasing SNAP benefit allotments could help in "reducing parents' worry about food availability and the stress component of food insecurity, as well as smooth out the instability in parents' experience of food insecurity associated with insufficient SNAP benefits."

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

WIC participation and breastfeeding after the 2009 WIC revision: a propensity score approach

In the *International Journal of Environmental Research and Public Health*, the revised WIC food packages were found to have contributed to partial reductions in breastfeeding disparities between WIC participants and nonparticipants. Researchers used national data to explore breastfeeding outcomes among WIC-eligible children before and after the revisions to the WIC food packages (2000 to 2008 versus 2009 to 2014). The study focused on two breastfeeding outcomes: ever-breastfed and breastfed at 6 months.

WIC-eligible participants born before the food package revisions were less likely to be ever-breastfed and breastfed at 6 months, compared to WIC-eligible nonparticipants. After the food package revisions, WIC-eligible participants were no longer less likely to be ever-breastfed, i.e., the disparity in being ever-breastfed was "eliminated." However, the disparity in being breastfed at 6 months persisted after the revisions. The findings support prior research on the effectiveness of the WIC food package revisions in improving nutrition outcomes, but more work is needed to further increase breastfeeding rates and reduce breastfeeding disparities for WIC participants.

Association of WIC participation and growth and development outcomes in high-risk infants

A *Clinical Pediatrics* study found that participation in WIC, alone or jointly with SNAP, was associated with favorable impacts on the growth and neurodevelopment of preterm infants. The study sample consisted of 71 low-income, predominately minority families with a preterm infant that had been discharged from a neonatal intensive care unit (NICU). While the study sample was small, this is one of the first studies to examine preterm infant outcomes among low-income, minority families participating in federal nutrition assistance programs.

Infants enrolled in WIC-only or both WIC and SNAP had significantly higher scores for weight, cognitive development, and communication/adaptive behavior, when compared to eligible infants not enrolled in WIC. Infants enrolled in both WIC and SNAP also had better scores for length compared to nonparticipants. These analyses accounted for a variety of demographic and health variables, including race/ethnicity, birth weight, and post-discharge diagnosis. According to the authors, "the findings from this study only strengthen the platform that these food assistance programs should be protected and expanded to help infants and especially preterm infants after discharge from the NICU."

School Meals

Let them eat lunch: the impact of universal free meals on student performance

In a *Journal of Policy Analysis and Management* paper, offering lunch at no cost to all students improved lunch participation and standardized test scores among poor and non-poor middle school students. This study examined the impacts of universal free meals on school lunch participation, English Language Arts (ELA) and mathematics standardized test scores, attendance, and obesity among "poor" and "non-poor" middle school students in New York City from 2010 to 2013. School breakfast was already available in New York City to all students at no cost, but during the study period, many schools extended this policy to include school lunch. Students were classified as poor and non-poor based on their eligibility for free or reduced-priced lunch.

Universal free meals were associated with significant improvements in ELA and math test scores for students, with the largest improvements among non-poor students. Universal free meals also were linked to approximately 11 percentage point and 5.4 percentage point increases in school lunch participation for non-poor and poor students, respectively. Additional analyses focused on the academic benefits of school lunch found that increases in school lunch participation

resulted in improvements in ELA and math test scores for poor and non-poor students. There was no association between universal free meals or school lunch participation and improved attendance or weight outcomes, with one notable exception: school lunch participation reduced the likelihood of being obese for non-poor students. The findings reinforce the academic benefits — for poor and non-poor students — of offering school meals at no cost to all students.

Universal access to free school meals through the community eligibility provision is associated with better attendance for low-income elementary school students in Wisconsin

Offering school meals at no cost to all students through the Community Eligibility Provision (CEP)* resulted in reductions in the risk of low attendance among elementary-aged students, according to new findings in the *Journal of the Academy of Nutrition and Dietetics*. Researchers compared the attendance records of Wisconsin elementary school students at 37 CEP schools and 108 eligible but non-CEP schools over three years (baseline and years 1 and 2 of implementation). CEP implementation did not impact attendance in the first year, but did in the second year. CEP implementation was associated with a significant 3.5 percentage point decrease, or about a 10 percent decrease, in the proportion of students with low attendance in year 2, when compared to attendance at non-CEP schools. (Low attendance refers to missing at least 5 percent of school days.) The association between CEP and attendance was primarily concentrated among students classified as economically disadvantaged, defined as having a household income below 185 percent of the federal poverty line or participating in SNAP. The study adds to the growing body of evidence that community eligibility is an effective tool for supporting academic success.

Community eligibility and other provisions for universal free meals at school: impact on student breakfast and lunch participation in California public schools

School breakfast and lunch participation significantly increased in California public schools that adopted provisions to offer meals at no cost to all students, as reported by a study in *Translational Behavioral Medicine*. The study examined school meal participation rates after implementing provisions to offer meals at no cost to all students (also known as universal free meals) among schools eligible for CEP. On average, school breakfast participation increased 3.48 percentage points and school lunch participation increased 5.79 percentage points the year after implementing a universal free meal provision. These increases were based on analyses that accounted for school-

*Under the Community Eligibility Provision created by the Healthy, Hunger-Free Kids Act of 2010, high-poverty schools and school districts can offer school meals at no charge to all students.

level demographics. Conversely, when schools stopped using a universal free meal provision, school meal participation significantly dropped. Among CEP-eligible schools, those that were elementary schools, larger, rural, or had predominantly Latino students were more likely to adopt a universal free meal provision. Community eligibility and other provisions that offer meals at no cost to all students are important strategies to increase access to school meals in high-poverty schools.

Health and Special Populations

Effect of the Affordable Care Act's Medicaid expansions on food security, 2010–2016

Medicaid expansion under the Affordable Care Act (ACA) was associated with a significant reduction in the prevalence of very low food security, based on research published in the *American Journal of Public Health*. Using data from the Current Population Survey, the study examined trends in very low food security among low-income, nonelderly adults without children in states that did and did not expand Medicaid in 2014 under ACA. In nonexpansion states, rates of very low food security increased from 17.4 percent before ACA (2010 to 2013) to 17.5 percent after ACA (2015 to 2016). In expansion states, rates of very low food security decreased from 17.6 percent before ACA to 15.9 percent after ACA. When accounting for demographic and other relevant factors (e.g., SNAP participation, unemployment), Medicaid expansion under ACA was associated with a significant 2.2 percentage point decrease in the prevalence of very low food security, or a 12.5 percent relative reduction for those in expansion states compared to nonexpansion states. These findings suggest that providing free or low-cost health insurance coverage may ease the financial burdens of low-income households, thereby improving their food security.

State-level and county-level estimates of health care costs associated with food insecurity

Analyses in *Preventing Chronic Disease* found an association between food insecurity and health care costs, with considerable variation based on locality. Researchers estimated the state- and county-level annual health care expenditures associated with food insecurity using national data and accounting for local variation in health care prices and intensity of health care use. Nationally, annual health care costs were $1,834 higher for adults living in food-insecure households compared to adults living in food-secure households (a statistically significant finding), and $80 higher for children living in food-insecure households compared to children living in food-secure households (not a statistically significant finding).

Based on these estimates, food insecurity contributed to $52.9 billion in excess health care costs for the nation in 2016. Considerable variation was observed in costs for states and counties, which the authors attributed to the variation in food insecurity prevalence by state and county. Not adjusted for population size, California had the highest annual health care costs associated with food insecurity at $7.2 billion, while North Dakota had the lowest costs at $57.6 million. Mississippi, Texas, Louisiana, Florida,

and Oklahoma had the highest per capita health care costs associated with food insecurity. An appendix to the article includes the county-level estimates of health care costs associated with food insecurity for 2012–2013. The authors concluded state and local efforts to reduce food insecurity (e.g., maximizing participation in SNAP) may help contain the health care costs associated with food insecurity.

Food insecurity and chronic disease in US young adults: Findings from the National Longitudinal Study of Adolescent to Adult Health and Food insecurity is associated with poorer mental health and sleep outcomes in young adults

Food insecurity was associated with poor health, chronic disease, mental health problems, and poor sleep outcomes for young adults, based on two companion studies published in the *Journal of General Internal Medicine* and *Journal of Adolescent Health***.** Using a national sample of 14,786 young adults 24–32 years old, researchers examined the relationship between food insecurity and chronic disease in the first study, and the relationship between food insecurity and mental health and sleep outcomes in the second study.

Eleven percent of the young adults were food insecure. Food insecurity significantly increased the likelihood of poor health, diabetes, hypertension, being "very overweight," and obstructive airway disease among young adults. Food insecurity also increased the likelihood of being diagnosed with depression, being diagnosed with an anxiety or panic disorder, suicidal ideation, and having trouble falling and staying asleep. Given the negative impacts of food insecurity on health and well-being for this population, the studies' teams recommend screening young adults for food insecurity in health care settings.

Food insecurity among formerly incarcerated adults

According to research published in *Criminal Justice and Behavior,* a history of incarceration increases the risk of food insecurity. The study team used data from the National Longitudinal Study of Adolescent to Adult Health to explore the relationship between food insecurity and prior incarceration. The latter was based on self-reports of having ever spent time in jail, prison, a juvenile detention center, or other correctional facility. Prior incarceration was significantly associated with food insecurity, even after accounting for a variety of demographic, economic, and health factors (e.g., SNAP participation, depression, physical disability). Additional analyses revealed that this association was partially explained by household income, depressive symptoms, marital status, and perceived social isolation. The study contributes to the limited body of research currently available on food insecurity among people with a history of incarceration. In addition, the authors identify a number of policy implications of their findings, including expanding labor market opportunities and access to public assistance programs for formerly incarcerated individuals to reduce their risk of food insecurity.

From Children's HealthWatch

New Evidence Demonstrates SNAP Improves Family Food Security, Young Children's Health, and Health Care Access

FRAC wishes to thank Stephanie Ettinger de Cuba, MPH, Executive Director; and Richard Sheward, MPP, Director of Innovative Partnerships at Children's HealthWatch, headquartered at Boston Medical Center, for contributing this column to ResearchWIRE.

The Supplemental Nutrition Assistance Program (SNAP) is the largest child nutrition program in the U.S. — almost half of all participants are children.[35] Prior research has shown that SNAP participation is associated with decreased household and child food insecurity, improved birth outcomes, and reduced risk of anemia, obesity, and poor health.[36,37,38,39] New research from Children's HealthWatch in the *American Journal of Preventive Medicine*, "**SNAP, Young Children's Health, and Family Food Security and Healthcare Access**," demonstrates that SNAP participation among families with young children is strongly associated with improvements in family food security, young children's health, and health care access.

The study analyzed 2006 to 2016 survey data from 28,782 families with children under 3 years old and living in five cities, comparing low-income families with young children who did or did not participate in SNAP. Those who did not participate were low-income and most likely eligible for SNAP as evidenced by their participation in at least one other means-tested program, such as the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), housing subsidies, or the Low Income Home Energy Assistance Program (LIHEAP). The Consumer Price Index for food was included as a covariate to account for geographic variations in food costs and changing food prices over time.

The study found that, compared to young children whose families did not participate in SNAP, young children whose families participated in SNAP were 8 percent less likely to be only in fair or poor child health, 18 percent less likely to be at risk of developmental delays, 9 percent less likely to be at risk of underweight (a sign of undernutrition), and 3 percent less likely to be at risk of obesity. Families participating in SNAP also were 28 percent less likely to be household food insecure, 33 percent less likely to be child food insecure, and 27 percent less likely to report health cost sacrifices. In this study, health cost sacrifices were defined as when families paid for necessary medical care, but subsequently experienced extreme difficulty paying for other basic needs, such as housing, food, or utilities.

This new research reinforces the critical role of SNAP in protecting the health of young children and helping their families afford food, health care, and other basic needs. Nevertheless, SNAP participation did not fully eliminate food insecurity, even when taking food prices over time into account, pointing to the inadequacy of the SNAP benefit amount. Increasing the adequacy of SNAP benefits and facilitating access to benefits could further decrease food insecurity and improve health outcomes.[40,41,42] As Children's HealthWatch, FRAC, and others have argued, the research shows that the SNAP calculation of the monthly benefit should be based on the Low Cost Food Plan instead of the Thrifty Food Plan. This would increase purchasing power, bring the calculation in line with current dietary guidelines, and contribute to better health outcomes for SNAP participants.

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