SAN ANTONIO FOOD INSECURITY ASSESSMENT:

LAW AND POLICY REVIEW AND POLICY CHANGE FRAMEWORK 2023

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This report is part of a qualitative and quantitative food insecurity assessment being conducted for the City of San Antonio to support data-driven decisions for collective action. This tool is one example of the backbone team's commitment to equipping community and systems leaders with knowledge that informs collective action.

INTRODUCTION

Food insecurity is a complex, persistent problem faced by over 33 million individuals across the U.S. Several core components to food security include availability, affordability, and accessibility of food.[1] A variety of determinants of food insecurity exist, such as limited household or community resources; high bills, food, or housing costs; limited financial management skills; and lower levels of education.[1,2]

This report provides an overview of laws and policies directly related to food and nutrition that aim to address food insecurity, supported with a review of the existing evidence and examples of implementation. Laws and policies are discussed at multiple levels: federal, state, and local. It is important to note that other laws and policies are indirectly related to food security; these include supports for household income, financial stability, transportation, housing, and other health-related strategies[1] that are beyond the scope of this review. Barriers and facilitators to implementation are discussed. Some policies and programs have been shown to be effective in reducing food insecurity, while others have more limited research supporting their efficacy, and others still have research suggesting that they do not reduce food insecurity and may even exacerbate it.

 Strongly Evidence-Based: robust research supports efficacy in improving food security

 Moderately Evidence-Based: research supports efficacy, but evidence or the intervention itself is limited in scope in improving food security

 Limited Evidence-Based: research is limited or mixed in improving food security

 Insufficient Evidence: research is minimal or non-existent in improving food security

 Evidence of Ineffectiveness: substantial evidence exists and does not generally support effectiveness in improving food security or may worsen it

DEFINITIONS

Food security and insecurity at a household level are best described through the use of ranges at a household level. Labels of "low food security" and "very low food security" are used by the USDA to describe levels of food insecurity.

- Low food security is characterized by reduced quality, variety, or desirability without much, if any, changes in food intake.
- Very low food security includes disruption of eating patterns and a reduction in food intake.[2]

Food security is also described using ranges for "marginal food security" and "high food security".

- Marginal food security is determined through certain indications, either of anxiety regarding food sufficiency or a shortage of food available in the home; however, with marginal food security, there is little or no change in food intake.[2]
- High food security is achieved when there are no indications of issues accessing food or related to changing food intake.[2]

While household food security rates are at times aggregated to census tracts, ZIP Codes, and neighborhoods, the scale at which food security is defined remains at the household level. The use of standardized definitions, and related measurement tools, improve assessment of food insecurity on a national scale.

A NOTE ON NUTRITION SECURITY & FOOD ACCESS, ENVIRONMENTS, AND SYSTEMS

Food insecurity can bring up various other related topic areas. It is important to distinguish between them here for clarity as this review focuses on food insecurity. In food insecurity-related work, factors such as nutrition security, food access, and food environments can arise. This section discusses each of these and how they differ from food insecurity.

Nutrition security refers to "consistent and equitable access to healthy, safe, affordable foods essential to optimal health and well-being".[3] From a public health perspective, this may be a valuable addition to food security by including nutrient-dense foods and measurement of their intake. This could be used to address issues of health equity within food insecurity or food access and environments by including culturally relevant foods. However, there is no standardized measurement for nutrition security. Since wide-ranging definitions and ideologies of what defines "healthy," and safe and affordable foods have different meanings for different households, applying a standard measure to nutrition security is virtually impossible. Nutrition security is consequently difficult to meaningfully measure or assess. Additionally, conflation of this idea with food security may be counterproductive in terms of reducing food insecurity, as efforts to limit food options to those deemed "healthy" by some measure may be stigmatizing to vulnerable populations and limit their capacity to make their own food-purchasing decisions.[4]

Food environments have long been a topic of interest, and from the 1990s to early 2000s "food deserts" were a main focus of food insecurity studies in the U.S. This concept refers to geographic areas where residents tend to have limited access to healthy foods, such as through nearby supermarkets.[5] While such areas do exist in the U.S.,[6] this term has fallen out of favor as recent evidence illustrates that geography on its own is not a primary driver of healthy food purchasing or consumption patterns.[7] A related term, "food swamps," refers to geographic areas with a high proportion of foods and beverages that are considered to have low nutritional value. These terms have value in some respects: for example, food deserts have been shown to predict obesity rates,[8,9] and food swamps even more so.[8] While geographic access is an important component of food environments more broadly, there are several additional dimensions of food environments cited in the literature, including availability, affordability, acceptability, and accommodation.[10] Discussions of food environment may include topics related to consumer choice, culturally affirming foods, food quality, food system sustainability, food sovereignty, and more. Food security and insecurity, again, are centered on either a sufficient or insufficient intake of food. Food environment is not likely a main driver of food insecurity, as evidence shows that physical distance does not determine individuals' food retailers of choice to the extent that socioeconomic factors and car ownership do.[7,11,12] For these reasons, food deserts and food swamps are not a focus of this review.

Food environments can similarly refer to broad ideas about the health or quality of foods in a particular space, ranging in size from a small store to an entire nation. Food systems also exist at different scales, from local to global, and can encompass activities related to producing, processing, distributing, and consuming food.[13] Definitions of these terms, and the drivers that affect them, change depending on the particular scale and location at hand.

While nutrition security, food access, food environments, and the food system at large may all be important considerations for public health and other sectors, the scope of this paper focuses on food insecurity. Policies and programs discussed may allude to or strongly emphasize impacts on these topics, but for the purposes of this paper, they will be evaluated based on their effectiveness in reducing food insecurity.

OVERVIEW

At some point over the course of 2021, 10.2% (13.5 million) of U.S. households were food insecure. This included 6.4% (8.4 million) with low food security, while the remaining 3.8% (5.1 million) had very low food security.[14]

While food insecurity can affect anyone, it has disproportionately burdened certain groups. In 2021, 12.5% of households with children were food insecure at some time, and this disparity was even more pronounced among those headed by a single man (16.2%) or single woman (24.3%).14 Households with a Hispanic (16.2%) or non-Hispanic Black (19.8%) reference person (i.e., adult owner or renter of the housing unit) were also afflicted with food insecurity more often than the national average.[14] Estimates of food insecurity among American Indian and Alaska Natives in the U.S. are wide-ranging but consistently high.[15] Studies from the past 15 years that analyze the nationally representative Current Population Survey data have published household prevalence estimates from 16% to 26%.[15-17]

To a lesser extent, the same was true for households consisting of a man (12.3%) or woman (13.2%) living alone.[14] Intuitively, income was one of the factors most associated with food insecurity: 26.5% of households with income below 185% of the Federal poverty line experienced food insecurity in 2021.[14]

In Texas, the prevalence of both very low food security (5.0%) and food insecurity overall (13.7%) were significantly higher than the national averages (4.0% and 10.4%, respectively) from 2019-2021.[18] At the household level in 2021, the Southern U.S. had higher rates of food insecurity (11.4%) and very low food security (4.3%) than the national averages (10.2% and 3.8%, respectively) and averages for all other U.S. regions (Northeast, Midwest, and West).[18]

FEDERAL LAWS AND POLICIES

Several longstanding federal policies and their related programs address food insecurity at a national level. Those discussed in this section are well-established and researched, having strong evidence of reducing food insecurity among participants. Effective federal policies and programs in improving food security rates largely focus on providing direct financial assistance or food assistance through meals and snacks.

SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM

The Supplemental Nutrition Assistance Program (SNAP) is the largest federal food assistance program in the United States. Its origins go back to 1939, when the Food Stamp Program was formed out of a surplus of certain foods and high unemployment rates, with legislation evolving throughout the years to establish it as a permanent program.[19] By 1964, the Food Stamp Act was passed, formally bringing the program under governmental regulation for the purpose of promoting health and improving the nutrition of low-income households while also strengthening the agricultural economy by marketing and distributing surplus food commodities.[19] Throughout the 1970s and onward, several amendments and acts were passed to further establish and adjust eligibility standards and program regulations. Participation grew from 4 million people in the first few years of the Food Stamp Program to 41.2 million people enrolled in SNAP in 2022.[20]

It is important to note that SNAP is designed to supplement other income to be used for household food costs; SNAP benefits are not intended to cover all food-related expenses. However, increases in duration of SNAP participation have been shown to decrease participants' chances of experiencing low or very low food security.[21] SNAP benefits may reduce the likelihood that a household is food insecure by approximately 31% and households that have very low food security by roughly 20%.[22] These impacts make SNAP legislation and resulting programming an effective way to address food insecurity.[19]

Estimates show that each SNAP dollar can generate $1.79 in economic activity, so it is to the benefit of local communities to invest in reducing the SNAP gap.[23] That said, this statistic may be misleading in the sense that an individual who loses a SNAP dollar due to increased income will not necessarily generate $1.79 less in economic activity. It can be difficult to assess the economic value of a program, and to compare that value with the wide range of expected outcomes from investing the same money elsewhere. That said, it is difficult to assess the value of any such returns in comparison to other economic spending or program investments and can incorrectly imply that reducing SNAP utilization could have negative effects on the local economy. For example, the inverse is not necessarily true: reducing SNAP usage would not necessarily decrease economic activity. If more SNAP-eligible individuals became ineligible for SNAP through increasing household income, more economic activity would be generated accordingly as well.

Though SNAP is a federal program formed from federal policy, several best practices have been identified for state and local governments and organizations to support increased SNAP utilization through application assistance. The "SNAP gap" refers to the difference between those who are enrolled in SNAP and those who are SNAP eligible but not enrolled.[23] In 2019, estimates show that 75% of all SNAP-eligible individuals in Texas participated in SNAP, meaning that 1 in 4 individuals who were eligible did not participate.[24] In comparison to other states the same year, Texas tied for 40th in percentage of SNAP-eligible participation rates.[24] The application process can serve as a barrier to individuals for various reasons; direct support through education, pre-screening for eligibility, application assistance, and outreach are tangible ways to reduce the SNAP gap on a local level, and all activities can prioritize those most affected by food insecurity in the local environment.[25]

NATIONAL SCHOOL LUNCH PROGRAM & SCHOOL BREAKFAST PROGRAM

The National School Lunch Program (NSLP) and School Breakfast Program (SBP) are national programs established and enhanced through federal policies to provide meals to children, primarily those from low-income households. Established in 1946 through the Richard B. Russell National School Lunch Act, over 30 million children now participate in the NSLP, which provides low-cost, reduced-cost, and free meals in public and private schools as well as residential child care facilities.[26] Administered at the federal and state levels, the program is operated at the local level by participating institutions, where schools receive reimbursement based

on meals served that meet nutrition standards.[26] Similar to the NSLP, the SBP is administered at the federal and state level and operated at the local level to provide breakfast in schools and residential care facilities. Meals must meet federal nutrition standards and are offered at free and reduced prices, and schools are reimbursed for meals served. The SBP began as a pilot in 1966, and in 1975 it became a permanent program, though participation has been lower than with the NSLP;[27] in 2019 approximately 15 million children participated.[28]

In 2010, the Healthy, Hunger-Free Kids Act provided updates to the nutrition requirements for both the NSLP and SBP.[29] The Act also increased the ability of school districts to provide universal free meals. During the COVID-19 pandemic, federal waivers were provided so all students could receive meals at no cost until June 2022; since then, seven states have opted to offer universal school meals permanently, meaning all students can receive school meals at no cost regardless of household income.[30]

Both programs have implications for food insecure households. Through free and reduced cost meal options, financial resources may be made available for other purchases. In nationally representative studies, NSLP participation or availability was associated with significantly lower food insecurity rates in households with children, while the SBP has a significant impact on marginal food security but not food insecurity.[31,32] Some estimates for the NSLP show a 2.3 to 9.0 percentage point reduction in food insecurity prevalence, though after taking into account possible reporting errors, estimates range from 3.2 to 15.8 percentage point decreases.[33]

Universal school meals with lunch are positively associated with food security, while universal breakfast results are mixed, though additional research is needed.[34] Local efforts to increase school meal availability and participation, particularly in the NSLP, may be a useful strategy to improve food security in households with children, along with policy advocacy at the state and federal level to increase universal school meals.

SPECIAL SUPPLEMENTAL NUTRITION PROGRAM FOR WOMEN, INFANTS, AND CHILDREN

Commonly known as WIC, the Special Supplemental Nutrition Program for Women, Infants, and Children is a federally-funded program administered at the state and local level that serves 53% of all infants born in the U.S.[38] WIC served 6.28 million individuals in 2020, far fewer than SNAP, NSLP, and SBP.[39] Participants include pregnant and postpartum women and their infants and children up to age 5.[40] Established as a permanent program in 1975 after a two-year pilot,[41] program benefits include supplemental foods, nutrition education, and breastfeeding support.[16]

Similar to SNAP participation, increased duration of prenatal WIC participation is associated with a lower likelihood of experiencing food insecurity postpartum among individuals with hunger.[42] This effect exists for children as well; children in food insecure households experience a reduced likelihood of food insecurity as their duration of WIC participation increases.[43] WIC participation may reduce child food insecurity prevalence by at least 20% and perhaps as much as 49% in infants under one year and 31% in children age one to four.[44] Various models estimate the prevalence of very low food security may be reduced by 40-79% in infants and 29-71% in children.[25] WIC provides infant formula to participating families, and the evidence suggests WIC is most beneficial in reducing food insecurity for infants under one year.

Children aging out of WIC may experience a coverage gap between five years of age and the point at which they enter school and access other food assistance programs like the NSLP.[23] Some models suggest child food insecurity would reduce by 14.9% if WIC coverage extended until children enrolled in kindergarten.[45] With extended coverage, food insecurity prevalence in households with income under 130% of the federal poverty line may decrease by 24% and by 9.6% in households at 185% of the federal poverty line.[45]

Similar to the SNAP gap, a gap exists between those who

are eligible for WIC and those who are actually enrolled in WIC. In 2020, approximately 12.51 million individuals were eligible for WIC, and slightly over half participated.[39] There are a few primary reasons for this, including misunderstandings about eligibility requirements, time required for appointments along with the inability to schedule appointments or submit documentation online, and challenges associated with finding WIC-authorized foods while shopping.[46] Attending required nutrition counseling and classes can be burdensome, requiring time and transportation to attend. Conducting additional research on improving enrollment and retention, leveraging technology to improve participants' experience, and improving the WIC shopping experience are strategies to increase WIC participation.[47,48] Efforts to support these improvements and experiences at the local level may be beneficial in increasing WIC participation, though the small scale of this program makes it less impactful on food insecurity than other larger programs.

CHILD AND ADULT CARE FOOD PROGRAM

The Child and Adult Care Food Program (CACFP) provides meal and snack reimbursements for children and adults at participating day care centers, child care centers, and day care homes, as well as afterschool care programs and emergency shelters. Beginning as a three-year pilot program in 1968, the CACFP was extended and made permanent through legislative updates in 1975, after which it has undergone several policy changes.[49] While a significantly smaller program than those previously mentioned, over 4.2 million children and almost 140,000 adults receive CACFP meals each day.[50] The CACFP is associated with food security,[51] but program utilization is decreasing due to administrative burdens and paperwork required on behalf of the care provider, training and staffing required, strict nutrition requirements, and insufficient reimbursement rates, among other challenges.[50] Meanwhile, program facilitators include support through outreach, technical assistance, and education on nutrition standards; policy changes to design more efficient administrative systems and change eligibility requirements may increase participation in the CACFP.[52]

FOOD DISTRIBUTION PROGRAM IN INDIAN RESERVATIONS

Income-eligible households on Indian reservations as well as American Indian households near reservations and in Oklahoma can receive USDA foods through the Food Distribution Program in Indian Reservations (FDPIR). The program serves as an alternative to SNAP due to a lack of SNAP offices and SNAP-authorized stores, and households are not allowed to participated in both FDPIR and SNAP in the same month.[53] As of 2019, the FDPIR was appropriated $153 million; over 67% of funds went to food purchasing and the rest towards administrative costs.[53] The FDPIR is an extremely small program in Texas; in 2021, just 29 individuals participated in the state, while 47,983 total individuals participated throughout the U.S.[54]

FEDERAL RESOURCES FOR VARIED FOOD SYSTEM INTERVENTIONS

There are federal funding sources to address food access and food systems. The effectiveness of these resources in addressing food insecurity can vary greatly depending on how they are used. These include the Healthy Food Financing Initiative (HFFI), which provides financial and technical assistance to improve food access in rural and urban communities[55] and the Community Food Projects Competitive Grant Program (CFPCGP), which aims to improve local food systems. Neither program specifically addresses food insecurity.

HFFI was established through the 2014 Farm Bill and in 2023, up to $30 million is available to local, state, and regional public-private partnerships for capacity building and/or credit enhancement activities through the Partnerships Program.[56] Additional programs focus on technical assistance[57] and grants[58] for food retail projects. HFFI programs have provided support to hundreds of projects, leveraging over $320 million and $1 billion in financing. The CFPCGP includes a training and technical assistance grant, planning projects grant, and community food projects grant, and prioritizes low-income individuals in vulnerable populations.[59] Since activities and outcomes can vary greatly based on the projects funded, standardized evaluations of all HFFI- or CFPCGP-funded projects are not possible, though metrics for meaningful and measurable outcomes for evaluation have been researched.[60]

While HFFI and CFPCGP do not provide support to individuals or households and do not directly impact on food insecurity, they serve as federally-funded mechanisms for local governments to address food insecurity issues through tailored interventions in their communities. El Paso County, Texas was the first to implement a county-level HFFI in the U.S. and relies on collaboration from several key partners in the community.[61] Interventions involving SNAP and WIC outreach and enrollment in grocery stores were assessed; these and other interventions were then included in El Paso County's HFFI policy by requiring local grantees to implement the interventions.[62]

STATE AND LOCAL LAWS AND POLICIES

This section provides an overview of various laws and policies, along with related programs, related to food and nutrition at the state or local level that are often included in discussions related to food insecurity. States often serve as administrators for federal, food-related programs like SNAP or WIC, while the involvement of local governments and other local entities in food insecurity policies and programs is common. Opportunities for partnerships between local and state levels exist, especially in relation to how federal programs are administered and operated. Topics explored include nutrition incentives, urban agriculture, healthy food retail, and charitable food systems. With the exception of charitable food systems, the evidence does not show association between these policies and programs and reductions in food insecurity. These programs should not be utilized with the intention of addressing food insecurity, though they may offer other benefits that serve local interests and should be considered accordingly.

CHARITABLE FOOD SYSTEMS

This section provides an overview of policies and related programs focused on the charitable food system by way of food recovery through gleaning and food waste reduction efforts as well as food banks and pantries. Many policies that address these issues exist at the state level, focusing primarily on reducing liabilities and costs related to food donation and waste, while programs operate at various scales on a local level. A guiding document in the area of food waste and recovery, the Environmental Protection Agency's Food Recovery Hierarchy outlines actions to prevent or divert food waste.[67]

State-level liability protections for food recovery varies, and the Bill Emerson Good Samaritan Food Donation Act of 1996 ("Good Samaritan Act") sought to address inconsistencies and reduce donor liability as, generally, states hold whoever distributes food liable in cases of foodborne illness.[68] Based on Center for Disease Control estimates, foodborne illnesses affect 48 million people and cause hospitalizations of 128,000 individuals every year,[69] which can be extremely costly for food retailers. The Bill Emerson Act thus serves to provide legal protections to food donors in an effort to encourage food donations for distribution. Other state laws have opened avenues for organic waste recycling, food donations of excess food purchased with State funds, and food retailers and restaurants to reduce food waste in Illinois,[70] as well as promote food waste reduction at the individual and organizational levels through education and technical assistance in Tennessee.[71,72] Food waste reduction policies are similar to food recovery and gleaning in that edible food edible can be redirected for human consumption, though costs associated with excess waste are at times stronger drivers than improved food access or food security in crafting and passing such legislation. Passed in 2016, however, California's Senate Bill 1383 requires a 75% reduction in organic waste disposal, including food waste, in state landfills and aims to recover at least 20% of disposed but edible food fit for human consumption by 2025.[73]

Food Banks and Pantries

The Feeding America Network, comprised of over 200 food banks and 60,000 food pantries and meal programs,[74] estimated that in 2022 roughly 49 million individuals (or 1 in 6 people across the U.S.) received charitable food assistance,[75] comparable in scale to SNAP in terms of participation. From mobile and drive-thru pantries, summer meal and backpack programs, programs for seniors and schools, and assistance with SNAP applications, Feeding America is the largest program addressing hunger in the U.S. While volunteers, financial support, and in-kind donations are valuable assets to the charitable food system, the network and its partners also rescue food through collaborations with food manufacturers, retailers, and farmers to procure and distribute food.

The San Antonio Food Bank (SAFB) provides food for over 100,000 individuals each week across 29 counties.[76] While over 91.5 million pounds of food were handled by the SAFB in the past year, with food distributions taking place on-site as well as through partners and mobile pantries, it also assisted individuals in filing over 29,100 applications for SNAP and other federal benefits.[76] Though direct food assistance is a primary goal of the SAFB and the charitable food system at large, many food banks offer other types of assistance and education.

The charitable food system has long been considered a 'safety net' for hungry households but has morphed into a more permanent response to food insecurity[77] as individuals use food banks on varying time scales, ranging from short-term or 'transitional' to medium-term or 'episodic' to long-term or 'chronic' usage lasting years, with different life situations affecting each usage type.[78] For those who use it, the charitable food system comprises a large portion of food sources; among food bank and pantry users, 28% of their food comes from charitable food assistance programs, 52% from supermarkets, and 15% from small or medium stores.[79]

Many individuals who utilize charitable food assistance also participate in SNAP; over half of individuals who use both forms of assistance use SNAP benefits within the first 10 days after SNAP benefits are distributed and most use charitable food assistance 11 or more days after SNAP benefits distribution.[79] As SNAP is designed to be a financial supplement for food, using food banks and food pantries in tandem can serve as an additional component to addressing food insecurity. For food insecure households that do not participate in SNAP, regardless of eligibility, food banks and pantries can help alleviate household food needs.

Although food is available at no cost, some studies show that relatively few food insecure households use food banks.[80] Barriers to food bank utilization include a lack of knowledge and access to food banks. Of note, households with less vehicle access are more likely to use charitable food assistance.[79] Resistance to using food banks, such as considering them as a last resort or not feeling like a food insecure household needs assistance via a food bank, is common. Food insecure households use various other methods to minimize the effects of food insecurity: compromising on food purchases and quality,[81,82] housing quality,[83] delaying rent payments or other bill payments,[82,84] and selling possessions[82] are several identified ways that households cope with food insecurity.

Summer Food Service Program

The Summer Food Service Program (SFSP) is administered by states, who are reimbursed with federal funds for meals and snacks served at no cost to children 18 years old and younger at participating sites in low-income areas. The program began through a pilot in 1968, eventually being established as a standalone program, growing throughout the 1970s, and being adapted through various legislation since then.[35] In 2018, 145.8 million meals were served through the SFSP with expenditures of $482.7 million.[36] In July 2020, 5.7 million children received meals through the SFSP each day.[37]

The Emergency Food Assistance Program

The Emergency Food Assistance Program (TEFAP) provides no cost food assistance to low-income individuals, distributing food grown in the U.S. via state agencies, often food banks or other nonprofit organizations. The role and impact that food banks have on food insecurity is discussed later, though it is useful to identify TEFAP's significant support to the charitable food system from the federal level. The program was authorized in 1981 in large part to reduce Federal inventories of food, which were then depleted by the late 1980s, though the Hunger Prevention Act of 1988 authorized funds to extend the TEFAP to include surplus foods as well as purchased foods.[63] As of 2020, over $397 million were appropriated for food purchases and administrative support of the program.[63] In 2021, up to $1 billion was invested in TEFAP to increase support for emergency food assistance, in part through the American Rescue Plan,[64] with Texas' TEFAP food costs totaling $118 million the same year.[65] Texas received nearly $18.78 million in administrative funds, 100% of which were passed through to emergency feeding organizations in 2022.[66]

Gleaning

At the state level, food recovery policies include those that allow for field gleaning, the "collection of crops from farmers' fields that have already been harvested or fields where it is not economically profitable to harvest".[85] Over 10 billion pounds of food are estimated to be left in fields and not harvested; this includes 40% of peach crops in New Jersey, 41% of tomato crops in Florida, and 56% of lettuce crops in Arizona,[86] which, if redistributed equitably could produce significant impacts for local communities experiencing food insecurity.

Florida has passed laws to protect farmers who allow gleaning in their fields from liability as well as protections for gleaners and food donors when donating foods.[87] Policies provide tax incentives and liability protections for farmers who participate in field gleaning.[87] The Florida Department of Agriculture and Consumer Services operates the Florida Food Recovery Program, which works to recover food to supplement federal food assistance programs.[88] Nine states provide tax credits to farmers for excess produce donations, though this incentive is insufficient in compensating for labor and other costs.[164]

Policies and programs that support gleaning, however, are more commonly found at the local level and often operate as community-led approaches to addressing food waste, recovery, and access. Local governments, like that of Salt Lake City, have established and funded food recovery efforts. Salt Lake City's FruitShare program, in which residents have registered over 3,700 fruit trees[89] for harvesting that have provided over 100,000 pounds of produce.[90] Produce is distributed to food pantries, free farm stands, local businesses, and a community-supported agriculture program.[168] Other gleaning programs are founded and operated by nonprofits like the Portland Fruit Tree Project, which facilitates fruit tree harvests fruit volunteer support and community activation.[91] The Arkansas Gleaning and Gardening Project has gleaned, grown, and distributed over 13 million pounds of produce since forming in 2008[92] and has gleaned more than any other gleaner organization according to the Association of Gleaning Organization's 2020 Gleaning Census.[86] Gleaning has potential for addressing food insecurity, though existing research on gleaning effects is limited.

Food Rescue

Similar to gleaning, food rescue or food recovery is "the practice of redirecting edible food that would otherwise go to waste from food businesses, such as retailers, produce distributers, and large dining facilities, and distributing it to local charity meal sites"[93]. As the issue of food insecurity

has shifted focus from hunger and shortages of food at a household level to the broader, systemic inequities in food distribution and access that cause food insecurity, food rescue offers a unique response to reallocating food where it is most needed. Though food rescue can be one impactful solution, it is important to acknowledge that addressing root causes would be more effective in reducing food insecurity. Estimates show that diverting just 15% of edible food waste to food rescue could meet 35% of food needs for each individual living with food insecurity in the U.S.[94] Food distributers and manufacturers, given the conditions and scale at which they operate, provide unique opportunities for food rescue partnerships, which are typically operated by non-profits. Such programs are protected by the Good Samaritan Act.

The Arizona Food Bank Network manages the No Borders No Limits Produce Program, which coordinated the rescue and distribution of over 38.6 million pounds of food in a single year through partnership with the Nogales produce terminal, where roughly six billion pounds of produce enter the U.S. from Mexico annually.[96] Similarly, the Borderlands Produce Rescue has diverted 750 million pounds of produce over 28 years of operation.[97] Although major produce terminals exist along the Texas-Mexico border, no comparable programs appear to exist in Texas. The Borderlands Produce Rescue, also based in Nogales, similarly rescues produce from distributers for redistribution throughout Arizona and over 20 other states.[98]

City Harvest, based in New York City, has addressed food insecurity through food rescue efforts since the early 1980s, rescuing and redistributing over 1 billion pounds of produce while also operating free, fresh produce mobile markets and a healthy retail program.[99] Second Servings, a Houston non-profit founded in 2015, has rescued over 10 million pounds of food with a value of approximately $70 million for distribution through dozens of other local nonprofits.[93] Second Servings also developed a PopUp Grocery Store program to provide a no-cost grocery shopping experience to residents of low-income housing, addressing both economic and geographic barriers to food access.[93]

Community-level collaborations, including cross-sector partnerships, are necessary for food rescue initiatives to be successful. The time and resources costs to begin food rescue efforts, and the ongoing costs to maintain such programs, are not insignificant, though the little available research indicates a positive return on investment from food rescue.[174] Weight of food rescued is the most common metric in assessing food rescues, though reported weights may or may not include non-edible packaging or components.[174] More research is needed to identify food rescue outcomes related to food insecurity, how much and what quality of food is redistributed to and consumed by food insecure households, and how much is lost to deterioration.

Barriers to food rescue include logistical and administrative challenges related to sorting, schedules, and delivery; limited funds and space for food rescue and storage; collaborations between donor and recipient organizations; and challenges related to staffing, turnover, and training.[86] It is likely that the level of success and scale of food rescue is dependent on the ability to address logistical challenges, adequate funding and resources, and the strength of existing partnerships.

NUTRITION INCENTIVES

Nutrition incentives refer to economic incentives to increase purchasing of particular foods, typically fruit and vegetables. While they may be beneficial in incentivizing purchasing and consumption of fruit and vegetables from a public health perspective, they do not directly address rates of food insecurity.

The United States Department of Agriculture (USDA) National Institute of Food and Agriculture has funded nutrition incentive programs for nearly a decade, and through legislation including the 2018 Farm Bill has committed $350 million to nutrition incentives including the Gus Schumacher Nutrition Incentive Program (GusNIP).100 GusNIP provides grant funding through three programs to improve nutrition security across the U.S. The program addresses all four approaches set by the USDA to address nutrition security: meaningful support, healthy food, collaborative action, and equitable systems.[101] Federal funding is awarded to state and local entities to implement programs.

Produce Prescriptions

GusNIP also provides funding through the Produce Prescription Program to increase fruit and vegetable procurement and consumption as well as reduce healthcare utilization and food insecurity.[102] Non-profits and government agencies are eligible to apply for both the Nutrition Incentive Program and Produce Prescription Program.

Through produce prescription programs, healthcare providers are able to write prescriptions for patients to receive produce for free or at reduced prices.[103] Produce Prescription Programs (PPR) typically distribute produce prescriptions that can be redeemed for fruit and vegetables (including canned and frozen), fresh produce only, or produce grown in the state or region.[104] In addition to produce incentives, many PPR programs also offer nutrition education. While PPRs can improve economic access to food, they inherently include a number of barriers such as the ability to visit a doctor who participates in such a program and the transportation required to redeem a prescription at a participating location, and do not directly impact food insecurity rates.

Produce prescription programs operate across the U.S., mostly at county and municipal levels operated by local governments or nonprofits. The Frontier Veggie Rx program operates in several counties in Oregon. The program prescribes fresh fruit and vegetables (or frozen, if fresh produce is not available) to eligible participants through the use of vouchers that can be redeemed at participating stores or farmers' markets.[105] At a larger scale, the Washington State Department of Health has operated the Washington State Fruit and Vegetable Prescription Program since 2015, providing vouchers to people who are food insecure and have or are at risk of a chronic health condition.[106] Evaluation shows the program improved produce affordability among low-income participants with over $150,000 in prescriptions being used for produce purchases for a redemption rate of 54.4% throughout the study's time frame.[107]

Double Up Food Bucks

USDA grants also include the Nutrition Incentive Program, which aims to increase fruit and vegetable purchases through financial incentives at point of sale with individuals who participate in SNAP.[108] This can include Double Up Food Bucks (DUFB) programs, many of which operate at farmers markets, which aim to increase fruit and vegetable intake among program participants.[61] The Fair Food Network has leveraged over $134.8 million in SNAP benefits since 2009 through the DUFB program, where participants receive a 1:1 match per dollar spent on fruit and vegetables at participating stores or farmers markets.[109] DUFB operates in 30 states, including Texas, with partners in Austin, Houston, Fort Worth, and Lubbock. The DUFB impact is three-fold: SNAP participants' dollars stretch further for fresh food purchases, farmers benefit from incentives for fruit and vegetables grown within the state, and local economies receive a boost by keeping dollars in the local community.[110] Other research shows participants report increases in their ability to afford fruit and vegetables as well as produce purchases through DUFB participation.[111] This trend was also observed in daily fruit and vegetable intake, with individuals who had participated for more months consuming more servings per day.[104,112] As these outcomes relate to purchasing behaviors and fruit and vegetable consumption, they do not directly relate to food insecurity.

URBAN AGRICULTURE

An array of policies supporting urban agriculture exist at the local level, with a range of programs and practices arising alongside. This section explores several topic areas within urban agriculture policy and the related programs they permit or create. Urban agriculture includes wide-ranging types of food production in urban environments and can include a variety of production methods.[113] It is important to note, though, that the U.S. food supply provides more than enough food per person per day;[114] a lack of food production is not a key driver of food insecurity in the U.S. and these activities do not improve food insecurity rates. Urban agriculture may even increase food insecurity outcomes by utilizing land that may be better used for other purposes.[115]

Urban agriculture is growing in popularity in major cities, however. In 2012, Philadelphia adapted their zoning code land use categories to include urban agriculture uses, including community gardens, market or community-supported farms, horticulture nurseries and greenhouses, and animal husbandry.[116] Farm Philly, a program that supports urban agriculture on Parks and Recreation property, formed in 2014 and now includes 60 farm projects. It was not until 2023, however, that the city's Parks and Recreation Department released their Urban Agriculture Plan, which will serve as the city's policy road map for the next 10 years. The plan, grounded in community organizing, was written in partnership with community organizations and growers, and addresses a wide range of topics within urban agriculture: foraging, animal keeping, herbs and medicinal plants, seed-keeping, farmers markets, compost, food, and more.[117] Plan goals center on land security and access, food production, distribution, consumption, food waste reduction, and the roles that urban agriculture can have in peoples' lives.[117] Also in 2023, through an extensive community engagement and planning process, the City of Dallas adopted a Comprehensive Urban Agriculture Plan with goals related to food security, local food access, climate mitigation and adaptation, and economic development. Its recommendations include reducing regulatory barriers to permitting and zoning for urban agriculture, supporting land access, providing urban agriculture education and resources, facilitating collaboration among urban agriculture partners, and building local market opportunities.[118] Each recommendation includes models from other cities.

Municipal Land Use and Zoning Regulations for Food Production

Policies related to municipal land use and zoning that allow for or promote food production have grown in popularity and take various forms, from large-scale land banks to urban farms to small-scale community garden on vacant or blighted lots. Cities such as Philadelphia,[116] Boston,[119] and Detroit[120] are utilizing zoning code revisions to reduce barriers to urban agriculture.

For example, Boston adopted Article 89 in 2013, which promotes and facilitates the development of urban agriculture by allowing urban farming outright in specific zoning. Small and medium urban farms (up to one acre) are allowed on residential, commercial, industrial, and institutional zoning districts, while farms larger than one acre are typically allowed with conditional use.[119] Small roof-level farms are allowed on residential, commercial, industrial, and institutional zoned lots, and roof-level farms of any size are allowed in large-scale commercial, industrial, and institutional zoning. The policy also allows for hydroponics and aquaculture/aquaponics farms at certain sizes and within specific zones. Additionally, Article 89 permits farmers markets and farms stands anywhere where retail use is permitted in underlying zoning.[121] Also in 2013, Detroit passed an urban agriculture ordinance permitting farm stand sales on urban garden or farm properties, farmers markets on certain zonings, and outlined permitted uses and structures on urban farms and gardens. The city continues to support urban agriculture and gardening, and provides online access to a map of public properties available for purchase for land-based projects.[120] There are now over 1,400 gardens and farms in Detroit.[122] In one assessment, it was estimated that 31% of vegetables and 17% of fresh fruit consumed each year in Detroit could be produced in the city, and with food storage and season extension capabilities, locally grown produce could meet 76% of vegetable and 42% of fruit consumption.[123] While either scenario would mark significant increases in fruit and vegetable production, this would not necessarily create any direct impact on food insecurity.

A land bank "is a governmental entity that takes title to a tax-delinquent property, secures the property (perhaps demolishing the structures on it), and identifies the best long-term use for the land".[124] Land bank entities can maintain title of acquired properties or transfer properties back to private ownership. While many land banks prioritize housing rehabilitation or development, many allow for community development including urban agriculture, community gardens, and green space or open land space. Such land banks exist across the U.S., including in Cleveland, Philadelphia, Birmingham, Columbus, Louisville, and Detroit.

Land bank legislation primarily exists at the state level, where state-enabling legislation can grant authority to cities or counties to form land banks. Seventeen states have this type of enabling legislation;[125] without it, local governments may be prevented by state laws from addressing issues related to vacant lots and tax-foreclosed properties.[126] Texas does not have state-enabling legislation for land banks. Some land banks, including those in Birmingham,[127] Cleveland,[128,129] Columbus,[130,131] Detroit,[132,133,134] and Louisville,[135] have policies that allow residents to utilize vacant or blighted lots through low-cost, multi-year leases or purchase them outright, often encouraging or requiring food production on such lots.

Community Gardens, Urban Farms, and Food Forests

Community gardens and urban farms are common examples of urban agriculture. While all forms of urban agriculture are intended to produce food, they vary greatly in scale and production outputs. Community gardens and urban farms do not have a measurable impact on food insecurity, though they may be pursued for other reasons. Converting underutilized land to urban farms could result in significant, intensive food production while food forests may increase access to green space, provide urban cooling effects, and carbon sequestration along with less intensive food production than urban farms.[136]

Food forests are defined as "a self-sustaining, no-till system of perennial crops inter-planted in layers to mimic a mature ecosystem" for multiple purposes including food production, habitat for wildlife and pollinator species, and water conservation.[136] Research on urban food forests is lacking, though the idea and implementation of food forests has grown in popularity in recent years. Community orchards have been planted and maintained through partnerships between residents and local government or nonprofits in cities including Chicago,[137] Baltimore,[138] Seattle,[139] and Boston.[140] Philadelphia includes food forests in their Urban Agriculture Plan, identifying public land, the edges of City-owned forests, and school yards as spaces to plant fruit and nut-bearing trees.[116] Atlanta's Urban Food Forest at Browns Mill is the city's first food forest, while their Grow-A-Lot program provides 5-year renewable licenses to city property for urban agriculture purposes, including food forests.[141] While there is no evidence to suggest food forests reduce food insecurity, they have the potential to offer a variety of other benefits. In addition to local food production, food

forests may increase access to green spaces and support climate mitigation.[142]

HEALTHY FOOD RETAIL

Policies and programs that address healthy food retail vary greatly, and though food retailers are important parts of a food environment, they are not directly associated with food insecurity. Key priority areas for healthy food retail research include marketing environment, strategies, and targets; consumer shopping behavior; and emerging food retailers, such as dollar stores.[143] Supporting healthy food purchases through incentives and leveraging SNAP benefits, along with limiting unhealthy food establishments through zoning policy can also be explored,[143] and attention will be given to these particular strategies in other sections.

Retail food environments are largely influenced by large food and beverage manufacturers who purchase product placements in checkout aisles and endcaps at the end of aisles.[144] Unhealthy items are often displayed throughout a retail location; sugar-sweetened beverages can be located in 30 places in a single grocery store on average, but fresh produce is typically found only within a single section.[145] In 2020, Berkeley, CA approved the first Healthy Checkout Ordinance in the U.S., which applies to large retail stores of 2,500 square feet or more. Per the policy, soda, candy, beverages with added sugar or artificial sweetener, and food with more than 5 grams of added sugar and 200 milligrams of sodium per serving are not permitted in checkout aisles.[146] The policy, which affected roughly 25 stores in Berkeley, went into effect in 2021 with enforcement starting in 2022.[147] The Berkeley policy has not yet been evaluated, but a national study found that 36% of survey respondents purchased food or beverages from the checkout aisle the last time they went grocery shopping; low-income, Black, Hispanic, and American Indian/Alaska Native consumers were more likely to purchase items from the checkout aisle, as well as individuals with a pre-diabetes or type 2 diabetes diagnosis.[148] Given the high frequency of such purchases, policy designed to improve food environments in the checkout aisle have potential to improve nutrition and health equity.

As such, cities implement a range of healthy food retail projects. New Orleans's Fresh Food Retailers Initiative aims to increase fresh food access by providing financial assistance to retailers through forgivable or low-interest loans.[149] New York City's Food Retail Expansion to Support Health (FRESH) program provides tax incentives for supermarkets or developers of supermarket retail space that sell healthy foods.[150] The Los Angeles Food Policy Council supports Farm Fresh LA in increasing access to and incentivizing purchases of local produce in corner stores, as well as the Healthy Neighborhood Market Network, which also increases healthy food options with markets and other small food retailers.[151]

Staple Food Ordinance and Minimum Stocking Requirements

Minneapolis became the first U.S. city to pass a Staple Food Ordinance (SFO) in 2008, which was subsequently amended in 2014 and 2018 to be more comprehensive and align staple food requirements with cultural food preferences.[152] Initial requirements aligned with WIC standards, and early compliance rates were 28%.[153] The ordinance now requires licensed grocery stores, including corner stores, dollar stores, and gas stations, to sell six categories of food, including fruits and vegetables, whole grains, and legumes.[154] In 2018, 92% of stores met over half of the ordinance's requirements, with a 74% compliance rate in the fruit and vegetable category, though 38% of stores meet all requirements.[153] Other cities have not appeared to adopt staple food ordinances, though it is important to note that retailers who want to be authorized to accept SNAP benefits must meet federal staple food stocking requirements.[155] Baltimore has explored potential impacts of adopting an SFO through a system dynamics model simulation, assessing variances between minimum stock requirements and enforcement levels, and could be used to inform policymakers in developing an SFO.[156] Studies on the SFO often focus on store offerings,

consumer purchases, and compliance more than food insecurity.

Farmers Markets, Mobile Markets, and Farm Stands

Farmers markets and farm stands are typically location-dependent places where fresh produce and other food products are sold. Distinct from farmers markets, mobile markets are location independent and sell food often from vans, trucks, or trailers or through pop-up set-ups in various locations, hence "mobile". Because of their mobility, mobile markets can be scheduled at senior centers, schools, hospitals, and health centers, among other locations.

Many markets and farm stands are operated by non-profits, including Houston's Urban Harvest[157] and Farmshare Austin's[158] mobile markets, though they may operate in collaboration with local governments. Farm stands similarly are often operated by non-profits, though local government can enact policies that allow for their existence or expansion. A 2021 farm stand ordinance, for example, now permits urban farms in Atlanta to sell directly to consumers.[159] These programs typically aim to increase food access, often geographically, for consumers. Some markets incorporate nutrition incentives or accept SNAP or WIC benefits, while others cater to higher-income audiences. Schedules, small varieties of food options, and costs can serve as barriers to a larger consumer base. There can be significant variety between markets and farm stands, as well as variability within a single market or farm stand due to seasonality.

Overall, farmers markets, mobile markets, and farm stands do not directly affect food insecurity, but may be pursued for other public health reasons. An agent-based modelling study in Austin predicted that it would take 85-100% discounts on vegetable prices to have meaningful impacts on vegetable consumption, while economic access improvements combined with geographic access improvements could produce similar effects.[160] Discounts in price at supermarkets and small grocery stores were also modeled to increase vegetable servings consumed, though improvements to geographic access alone was not found to be effective for increasing vegetable consumption.[160] Vegetable consumption is important for the nutritional health of a whole population, but food insecurity interventions should target food insecure households.

Convenience and Corner Stores

Policies and programs designed to improve food environments in convenience or corner stores are growing, and they are often more prevalent in low-income communities that have more limited access to healthy food and poorer health outcomes. Implementation varies greatly, though in-store signage and health communication, subsidies to reduce produce costs, and in-kind resources like shelving, point of sales systems, or refrigeration units are common components from program to program. While cities and states are investing in these initiatives, some of the most well-known corner store interventions are operated by non-profits. The variations in programs and supporting policies to manage and operate corner store interventions make it challenging to compare outcomes, in addition to implementation challenges related to sourcing, pricing, and stocking, particularly of fresh produce options that are typically not available in convenience stores, along with competition with grocery stores in price, quality, and selection.[161] Increasing numbers of participating stores is often a key indicator of success in such programs, more so than servings of healthy foods purchased or consumed; tracking of produce or other healthy item sales is often manual or anecdotal.[162-164]

Well-known as a leader in the health corner store space, The Food Trust first developed its Healthy Corner Store Initiative in 2004 in partnership with the Philadelphia Department of Health and has grown to over 600 participating stores.[165] As a Healthy Corner Store, a participating store introduces at least four healthy products, displays marketing materials, participates in training on selling healthy products, receives equipment to store and display healthy options, and, upon completion of these steps, receives a Healthy Corner Store Certification.[166] A two-year randomized control trial of a healthy corner store intervention developed by The Food Trust found no significant changes in the energy content of food purchases made by students.[167]

A study of Austin's Fresh for Less initiative used agent-based modelling to simulate policy changes to neighborhood food environments, including improvements to geographic and/or economic access to healthy foods through corner stores. At the time of the study, Fresh for Less focused on improving fresh produce access through farm stands, mobile markets, and healthy corner stores.[168] This type of modelling is underused in public health but is effective in assessing policy and environmental changes on individual behaviors. The model did not test for food insecurity measures but rather vegetable consumption if geographic access to healthy corner stores were increased in low-income neighborhoods, if financial discounts ranging from 0 to

100% were applied to vegetables in healthy corner stores in increments of 10%, and if both geographic and economic access factors were combined (with a 50% discount on vegetable prices).[160] There were no significant effects on vegetable servings consumed with any of the simulations for improved geographic access, economic access, or both in corner stores. The City of Austin and Fresh for Less partners de-scaled the healthy corner store strategy to focus on more effective strategies.

Supermarkets and Large Grocery Stores

Most food purchases take place at supermarkets or super stores, including over 77% of SNAP redemptions during Fiscal Year 2022.[169] However, investing in the development of supermarkets is not an effective response to food insecurity. In a dissection of the now-dated "food desert" concept, a 2016 policy paper reviews several studies of dietary intake following the introduction of supermarkets to food-insecure areas.[7] Their findings intimated that food insecurities in low-income Black communities were not the result of a dearth of food retailers. The review included a study of outcomes from a supermarket subsidized by New York City's aforementioned FRESH program that was introduced to the Bronx, which specifically found "no appreciable differences in availability of healthful or unhealthful foods at home, or in children's dietary intake as a result of the supermarket" despite inconsistent changes over the study period.[170] The authors of the policy paper concluded that "a causal link between access to full-service supermarkets and dietary health is yet to be established".[7]

Taxation and Zoning of Unhealthy Foods and Beverages

While strategies to improve food insecurity often focus on increasing geographic or economic access to food, some policies address the quality or types of food available in what locations and at what cost. Such policies exist in the form of sugar-sweetened beverage (SSB) taxes or zoning to reduce or prevent fast-food establishment development. As such, they are designed to influence nutrition choices through decreases in economic and geographic access. By increasing taxes on SSBs or unhealthy foods, these policies directly increase food costs, potentially increasing food insecurity. Such policies will not decrease food insecurity rates.

Household food insecurity is associated with SSB consumption, and children age 2-12 in low-income households consume SSBs, like soda and sports drinks, nearly 42 times per month on average.[171] Of WIC-enrolled families, both mothers and infants with food insecurity were more likely to consume SSBs, 2.4 times more and 2 times more respectively, as compared with families without food insecurity.[172] Higher SSB intake is associated with food insecurity among elementary school-aged children.[173] SSB taxes tend to be passed from distributers through to consumers at high rates; pass-through rates of between 43% and 104% of SSB taxes have been observed in multiple settings and studies.[174] This is accompanied by reductions in sales volume in cities with an SSB tax, such as Philadelphia and Berkeley, CA, along with persistent declines in SSB consumption self-reports, though data on health outcomes is limited.[172,175] The handful of U.S. cities with SSB taxes generate over $133 million in additional revenue, with different approaches to allocating funds: for example, Seattle subsidizes produce purchases while also providing nutrition programming or other services, depending on community preferences.[172,176] While associations between food insecurity and SSB consumption exist, SSB taxes do not directly cause changes in food insecurity status, but could act as a funding mechanism for programs or practices put in place by food security-related policies.

Zoning regulations to reduce or prevent the development of fast-food establishments are additional policy options to alter neighborhood food environments, either on a city-wide scale, within smaller planning areas, or in the area immediately surrounding schools. These regulations may be developed to improve food environments or for preservation purposes to ensure walkability, local charm, or other unique characteristics of a given area. Such ordinances, similar to SSB taxes, do not have a direct effect on food security status.

SUMMARY OF THE EVIDENCE

SNAP is the single largest food assistance program in the U.S., serving 41.2 million people in 2022.[20] SNAP funds tend to generate economic activity substantially exceeding the sum of the invested SNAP dollars,[23] and states and localities stand to benefit both economically and in terms of the food security of their residents from maximizing SNAP participation among those who are eligible. Texas ranks poorly in its percentage of SNAP-eligible population that participate in the program relative to other states,[24] and improvements in this area can be facilitated by local governments.[25]

Federal child and school food programs, namely the NSLP, SBP and SFSP, provide free or reduced-cost meals to children, primarily those with low-income families.[26] The largest of these, the NSLP, has been shown to be associated with significantly lower rates of food insecurity, while the SBP is associated with lower rates of marginal food security.[31,32] Among its participants, WIC is very effective in reducing food insecurity in children and especially in infants,[25] but it is much smaller in scope than SNAP. Time and transportation burdens that come with attending required nutrition counseling and classes are likely to contribute to the low participation rates among those who are eligible. Though smaller still and suffering from decreasing utilization due to administrative requirements for providers,[48] the CACFP is also associated with food security.[49] For low-income households on Indian reservations, American Indian households near reservations, and those in Oklahoma, the FDPIR serves as a system of food distribution. Participation in SNAP and the FDPIR are mutually exclusive, and the latter has extremely marginal utilization in Texas. Federal funding is available to improve food systems and access in local communities, such as through the HFFI and CFPCGP, though efficacy in combatting food insecurity is dependent on the local intervention that is funded. El Paso County was the first in the U.S. to implement a county-level HFFI,[61] and its interventions included SNAP and WIC outreach and enrollment.[62] Other funding to support food banks and other charitable food assistance providers, through TEFAP, is more likely to reduce food insecurity as charitable food assistance has high efficacy in improving food security among participants.

Nutrition incentives, such as through PPRs[100] and DUFB,[177] use financial incentives to increase fresh fruit and vegetable purchasing and consumption among their participants, which do not address rates of food insecurity. There are several reasons that urban agriculture, which encompasses a wide variety of food production methods in urban environments, does not generally improve food security. Food insecurity in the U.S. is a function of access rather than production, as the U.S. food supply is more than sufficient in volume to provide for its population.[112] Urban agriculture occupies land that may be better used for other purposes that do improve food security outcomes, such as affordable housing, which may even indirectly lead to the worsening of food insecurity in vulnerable populations.[115]

Many localities have enacted policies and programs aimed at improving the healthfulness of foods sold at retailers, but there is not convincing evidence that these interventions tend to improve dietary or food purchasing patterns for the populations they serve—much less food security. Similarly, existing evidence does not generally reflect that building new supermarkets or large grocery stores improves these outcomes.[7,170] Additionally, socioeconomic factors and car ownership are more predictive than physical distance of individuals' food retailers of choice,[7,11,12] reflecting essential context that may be lost in discussions of food deserts and their relation to food insecurity.

Charitable food systems, especially food banks and pantries, are essential resources for their users: 28% of the food supply among food bank and pantry users comes from charitable food systems.[76] SAFB in particular feeds over 100,000 individuals weekly across 29 counties, and additionally assisted in the filing of over 29,100 applications for SNAP and other federal benefits.[76] Even among food insecure households, just over one-fifth use food banks, and those that do have lower incomes on average than food insecure households that don't use food banks.

FRAMEWORK TO ADDRESS FOOD INSECURITY DISPARITIES

Food insecurity is a pressing issue that affects communities across the United States, but it is particularly acute among three vulnerable groups: formerly incarcerated people, individuals with disabilities, and single adults aged 18-59. These groups face unique challenges and systemic barriers that often result in higher rates of food insecurity.

For formerly incarcerated people, finding stable employment with a criminal record can be exceptionally challenging. Additionally, limited job opportunities and lower income levels can result in financial instability, making it difficult to afford sufficient food. Many formerly incarcerated individuals struggle to secure stable housing, which can disrupt their ability to prepare meals and store food. Homelessness or unstable housing situations are common among this group.

People with disabilities also experience higher rates of food insecurity due to a combination of physical, financial, and systemic factors. Individuals with disabilities often face discrimination in the job market, leading to higher rates of unemployment or underemployment. Limited income can severely constrain their ability to purchase enough food. Many individuals with disabilities have significant medical expenses that can consume a significant portion of their income, leaving them with fewer resources to allocate toward food. Physical disabilities can limit access to transportation and the ability to travel to grocery stores or food distribution sites, particularly in areas with inadequate public transportation.

Finally, single adults aged 18-59 also grapple with food insecurity at disproportionately high rates. Single adults may lack the social and financial support systems that families and households can provide. They may have fewer people to share the economic burden of food expenses. Single adults are more likely to have irregular income streams, including temporary or part-time employment, making it challenging to budget for consistent and nutritious meals. Single adults often bear the full cost of housing, utilities, and other expenses without the benefit of shared costs that come with living in larger households.

Based on the literature, there are several key strategies to improve food insecurity rates. These include improvements to SNAP participation rates, the charitable food system,

and housing stability. These strategies would all increase food security, though equitable implementation centered on groups who are most affected by food insecurity will make such interventions more effective. In addition, a combination of some or all of these strategies would likely have the greatest impact on rates of food insecurity.

STRATEGY 1: IMPROVE SNAP PARTICIPATION RATES

One of the most effective ways to reduce food insecurity rates is through increased SNAP participation. Various strategies to increase SNAP participation rates should be prioritized accordingly in any effort to improve food security measures.

On a macro policy level, increasing the net income threshold for eligibility is one way to increase SNAP participation rates. Currently, eligibility is based on a maximum monthly income according to family size. Households that have a higher income are ineligible, though may still experience food insecurity. Raising the net income threshold would thus increase the number of food insecure households that are SNAP eligible. This could be achieved through changes at the federal level that would affect all states, or through policy change that allow states to determine their own net income thresholds.

Some states, including Texas, use vehicle asset tests as part of SNAP eligibility determinations. Texas House Bill 1287, effective September 1, 2023, increased the vehicle asset value limits, stating that primary vehicles up to a value of $22,500 cannot be considered as part of household resources to determine SNAP benefits in Texas, and up to $8,700 for any additional vehicles.[178] Additional increases, or removing the value caps of vehicle assets altogether, would increase the number of households that are eligible for SNAP in Texas.

Modifying the recertification process for SNAP to be more seamless could also improve participation rates while improving program administration. SNAP recertification is known to be a challenging process that can serve as a barrier for households to continue participating in SNAP, especially among those who receive the smallest benefit amounts, given the time and administrative efforts required.

Finally, discouraging efforts to restrict food and beverages eligible for purchase with SNAP benefits may also increase SNAP utilization. With growing concerns about nutrition security, additional rules to restrict food and beverages eligible for purchase with SNAP have been proposed, similar to purchasing restrictions imposed by WIC. This could lead to declines in SNAP participation rates, which could then increase food insecurity rates. Limiting individuals' food choice reduces autonomy and dignity in food purchasing. Although such proposals may be encouraged from a public health nutrition standpoint, the ambiguity about what nutrition security is, who defines it, and how it would be applied in the context of low-income households participating in SNAP, present significant concerns.

The San Antonio Food Insecurity Workgroup can play a pivotal role in increasing SNAP utilization rates. First, the Workgroup can collectively advocate for policy changes that eliminate barriers to SNAP access. The Workgroup can also develop and implement tailored outreach strategies to reach specific populations. Additionally, the Workgroup can facilitate hands-on assistance with the SNAP application process. Establishing partnerships with local reentry programs and disability advocacy organizations, for example, could ensure that individuals leaving correctional facilities or receiving disability services are well-informed about their SNAP eligibility and have easy access to the application process. One method of outreach could involve facilitating peer support programs, which involve recruiting and training formerly incarcerated individuals, people with disabilities, or single adults who have successfully navigated the SNAP system to serve as mentors. These mentors can provide emotional support and practical advice throughout the application process.

STRATEGY 2: IMPROVE CHARITABLE FOOD ASSISTANCE

Charitable food assistance is crucial for both food insecure households that participate in SNAP and those that do not. Food insecure households that are ineligible for SNAP, in particular, may benefit greatly from the charitable food system including food banks and food pantries. Households with undocumented individuals may also rely heavily on the charitable food system. Reducing food distribution access barriers could improve charitable food utilization, and continued efforts to improve dignified access to and availability of free food suitable for individuals across the life span, will improve food security. Improvements to the logistics of charitable food access, such as expanding hours of operation and ensuring geographic access or efficient public transportation options to food banks or pantries, could improve access.

Reducing resistance to charitable food assistance through improved participant experience would also likely improve charitable food utilization. Food banks and pantries often pre-pack bags or boxes of food for distribution. This ensures efficiency but removes the option for individuals to make choices about what food they can or want to eat, whether due to medical reasons or general food preferences. Redesigning food bank and pantry usage to allow for food choice among clients can add dignity to and enhanc¬¬e the participant experience.[179] For example, some food pantry interventions physically redesign spaces to allow for food choice and create a more appealing environment with stocking appearing much like a grocery store.[179] Removing any other requirements or barriers, whether explicit or implicit to a food bank or pantry, could also improve charitable food assistance access and utilization.

The San Antonio Food Insecurity Workgroup can play a pivotal role in enhancing charitable food assistance within San Antonio. First, the Workgroup can serve as a hub for coordinating resources within the community. By bringing together local food banks, pantries, soup kitchens, and nonprofit organizations, the Workgroup can ensure that resources are distributed more effectively. This means reducing duplication of efforts and directing assistance to underserved areas. The Workgroup can also develop outreach programs to inform residents about available charitable food assistance services. This includes

creating multilingual materials and leveraging various communication channels, such as social media, local news outlets, and community events.

Since charitable organizations often face capacity constraints, the Workgroup can offer training and technical assistance to these organizations, helping them operate more efficiently and effectively. This includes volunteer management and logistics optimization. The Workgroup can also collaborate with local businesses, restaurants, and grocery stores to establish food recovery programs. These programs can redirect surplus food to charitable organizations instead of being wasted. Finally, the Workgroup can advocate for policy changes at the local, state, and federal levels that support food assistance programs. This includes advocating for increased funding, reducing regulatory barriers, and addressing systemic issues contributing to food insecurity. Through the collective efforts of this Workgroup, San Antonio can take significant steps towards reducing food insecurity through charitable food assistance.

STRATEGY 3: IMPROVE HOUSING STABILITY

Though seemingly unrelated, housing insecurity increases the likelihood of household food insecurity and vice versa. Housing instability can be defined as "overcrowding (two or more people per bedroom and/or temporarily doubling up with another household because of financial difficulties) and/or moving more than once in the past year."[180] though other definitions may include challenges in paying rent or a mortgage, being evicted, or spending over 50% of household income on housing expenses.[181] Borrowing money to pay bills, moving in with others even temporarily due to financial concerns, or staying in a shelter, car, or other place not intended for regular housing can also indicate housing instability.[182] Just as food insecurity is more common among low-income households, it is also low-income households who experience higher housing expenses as a proportion of their income.

Among low-income households with children, over half may spend over 50% of income on housing costs, which is defined as severe rent burden.[183] Thus, the relatively high cost of housing can further exacerbate food insecurity through material hardship and competing needs. While 9% of individuals with secure housing are food insecure, food insecurity rates increase to 12% among families with household crowding and 16% of families who moved twice or more in the previous year; both of these factors, crowding and multiple moves, are associated with food insecurity.[184] Households that receive housing assistance, compared with households on waitlists for housing subsidies, have lower odds of experiencing food insecurity.[180]

Several affordable housing programs providing services to over 4.5 million households are managed by the U.S. Department of Housing and Urban Development (HUD); these include Public Housing, Multifamily Housing, and the Housing Choice Voucher program.[183] Among households that receive federal housing assistance, food insecurity rates are significantly higher than the national average, and these rates vary between HUD programs. Over 42% of recipients of the Housing Choice Voucher reported experiencing food insecurity in 2011-2012, while just over 36% and 29% of Public Housing and Multifamily Housing reporting the same, respectively.[183]

Low-income households face significant challenges in obtaining affordable housing and sufficient amounts of food. However, policies rarely aim to address both food insecurity and housing instability, instead existing in isolation. While policy that addresses housing instability would likely improve food insecurity rates, the integration of housing instability- and food insecurity-related policies, programs, and services may have positive effects on alleviating both forms of material and economic hardship. This could be accomplished through new policies to address both types of hardship, or through automatic

eligibility or enrollment in existing programs based on SNAP or affordable housing participation.

The San Antonio Food Insecurity Workgroup can play a role in enhancing housing stability, which in turn can significantly reduce food insecurity. First, the Workgroup can collaborate with local government agencies, housing authorities, and non-profit organizations to develop and promote affordable housing options. This includes advocating for affordable housing policies and initiatives to increase the availability of low-income housing units within the city. Since housing instability and food insecurity are often linked to financial difficulties, the Workgroup can also support financial counseling initiatives to help individuals and families manage their finances, budget effectively, and avoid eviction due to financial crises. This support can prevent homelessness and the associated food insecurity that often follows.

Many individuals facing housing instability, furthermore, are unaware of their rights as tenants. The Workgroup can support efforts to educate renters about their legal rights, protections against eviction, and how to address housing-related issues effectively.

By addressing housing stability through these and other initiatives, the San Antonio Food Insecurity Workgroup can make substantial strides in reducing food insecurity. When individuals and families have secure and stable housing, they are better positioned to allocate their resources toward nutritious food and other essential needs. This, in turn, fosters healthier and more resilient communities.

WORKSHOPS AND STRATEGIC PLANNING SESSIONS BASED ON PROPOSED FRAMEWORK TO ADDRESS FOOD INSECURITY DISPARITIES

Working with the San Antonio Food Insecurity Workgroup, The University of Texas Health Science Center (UTHealth) at Houston School of Public Health hosted two workshops and strategic planning sessions to discuss proposed policy change frameworks to reduce food insecurity disparities. These workshops were hosted in-person and virtually, with a combined attendance of 105 members. They included a "mini policy hackathon" as well as pre- and post-tests, the results of which are summarized here.

MINI POLICY HACKATHON RESULTS

Members of the in-person workshop were asked to craft and vote on policy statements related to the food insecurity interventions that UTHealth researchers identified as effective. These can be adapted and refined in later workgroup meetings. The top statements from each intervention are as follows:

Support Charitable Food Systems

"We recommend that the San Antonio Food Insecurity Workgroup identify lawmakers and committee members with a history of changing food policy and direct them to create sustained, evidence-based programs and policies that change social determinants of health (ex. Like the CA bill to encourage food donations, or fund programs that build community capacity to provide charity from within)."

Improve Housing Stability

"We recommend that the SAFI workgroup pursue development of a "one-stop" housing assistance hub to support residents in application assistance, case management, direct referrals, and education with a targeted outreach approach with cross-sector partnerships."

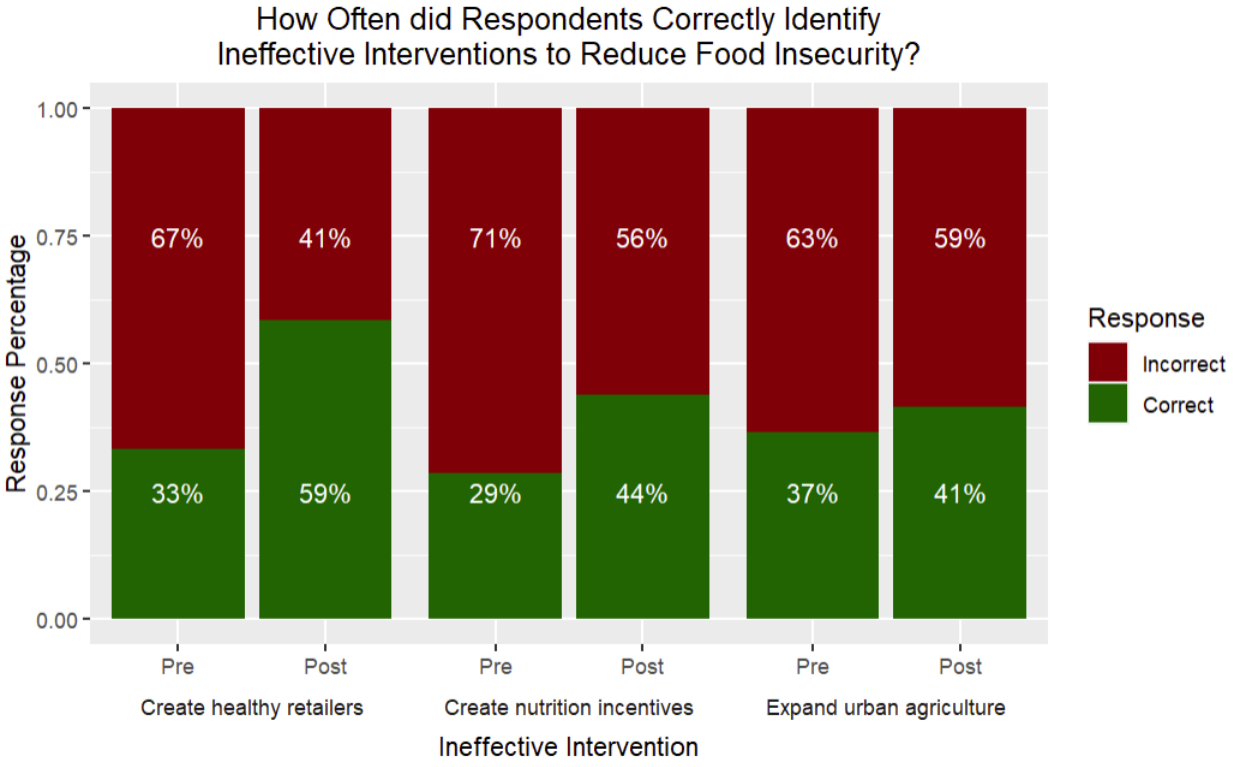
Increase SNAP Participation

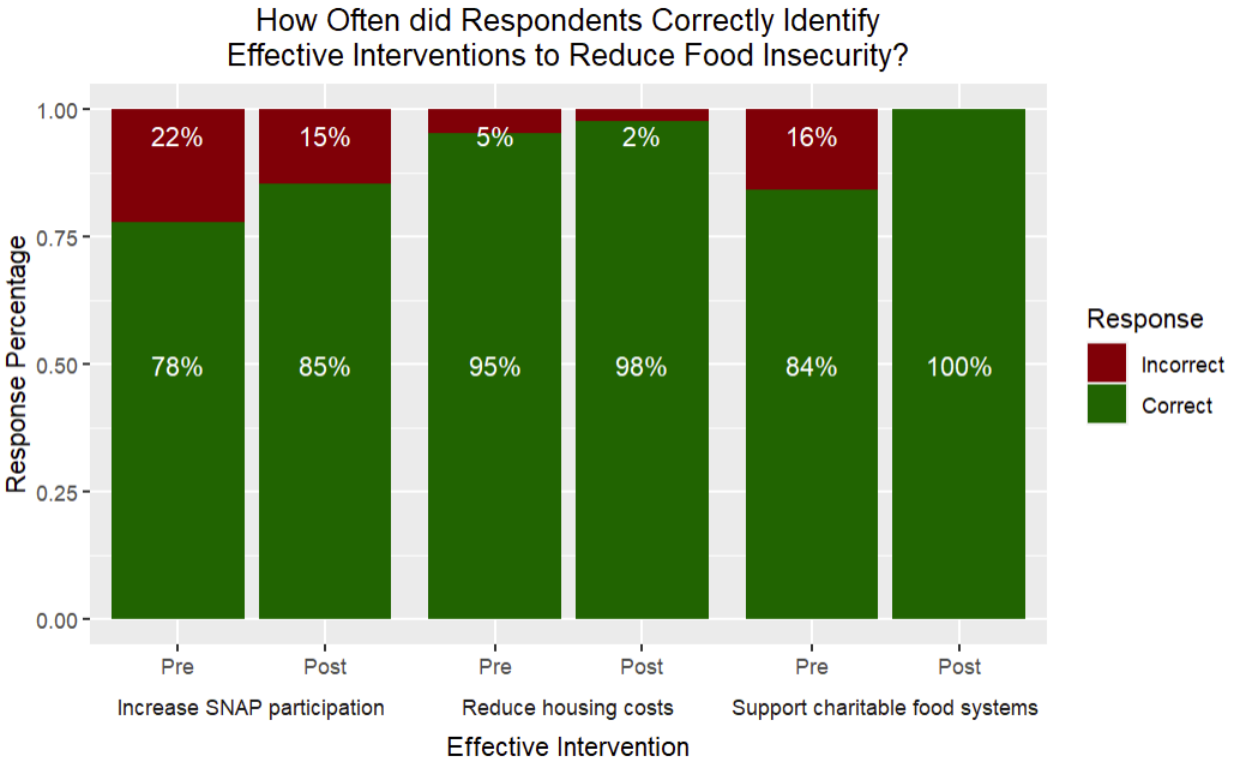
"We recommend the San Antonio Food Insecurity Workgroup collectively advocate to reduce eligibility criteria to increase participation, to reduce barriers (stigma), and bring awareness to food insecurity."

Most Common Words Mentioned During Virtual Workshop

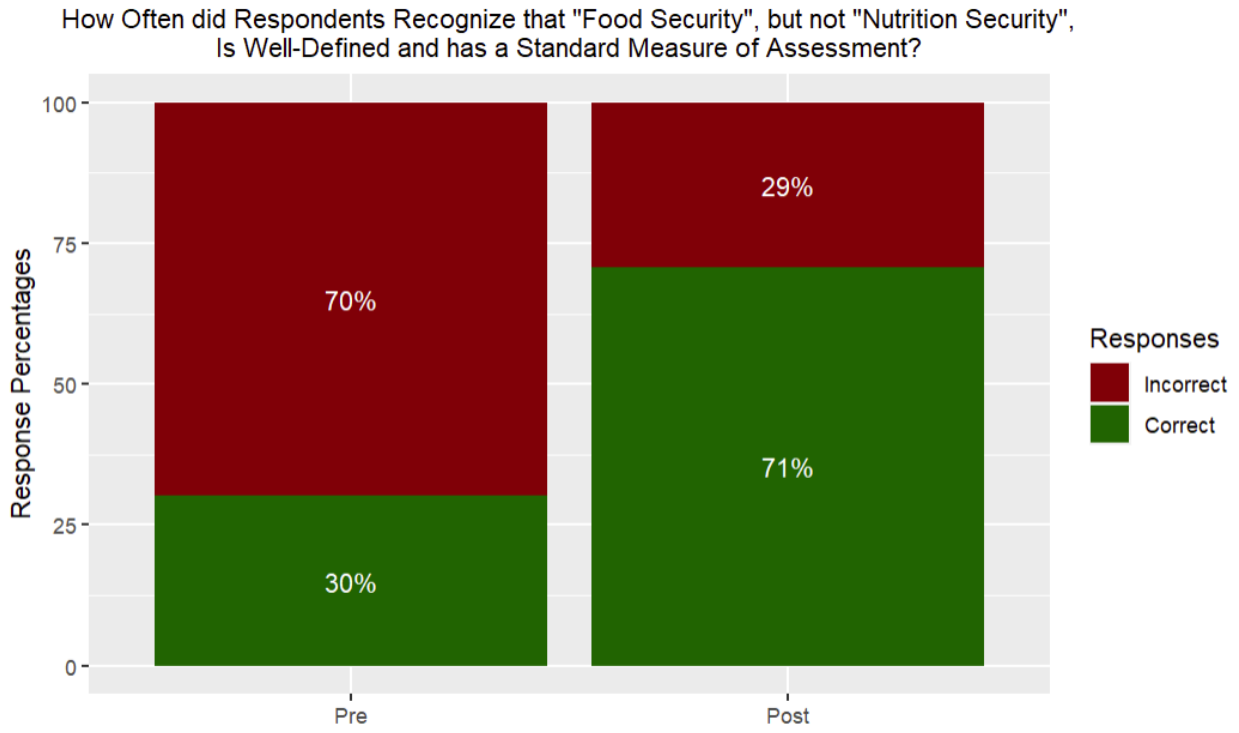
PRE- AND POST-TEST RESULTS

From a list of interventions to specifically reduce food insecurity, workgroup members were asked to identify each as either "effective" or "not effective" based on existing research. This list included three effective strategies and three ineffective strategies. In the pre-test, workgroup members largely classified the effective interventions as such, but also tended to misclassify the ineffective interventions as effective. In the post-test, correct identification of the effective interventions increased.





The term “food security” is well-defined and has a standard measure of assessment, while “nutrition security” does not. Given the choice between these two options, as well as “both” or “neither”, 3 in 10 workshop members recognized that these conditions applied only to food security in the pre-test. In the post-test, this had reversed, with just over 7 in 10 correctly identifying that only food security has these qualities.



FOR QUESTIONS OR COMMENTS ABOUT THE SAN ANTONIO FOOD INSECURITY NEEDS ASSESSMENT LAW AND POLICY REVIEW, PLEASE CONTACT THE FOLLOWING:

healthequitynetwork@sanantonio.gov

UTHealth Houston
School of Public Health

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