

Community Responses to Food Insecurity and Hunger

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I. Introduction

Although a wealthy nation, a large segment of U.S. population, including children, does not reap the vast benefits of its riches. In 2011, over 46 million people, 15% of the U.S. population, had incomes below the poverty line, as well as nearly 22% of American children.¹ Another 60 million people live in "near poverty," with incomes between 100 and 200 percent of the poverty line. Together, the poor and near poor make up more than a third of the U.S. population. These rates are extremely high, especially when compared to other wealthy countries around the world. According to a 2013 UNICEF report, among 29 countries that have comparable data, the United States has the second highest percentage of children living under the relative poverty line (defined as 50 percent of each country's median income), and the second largest "child poverty gap" (the distance between the poverty line and the median incomes of those below the line).² The prevalence of food insecurity and very low food insecurity are equally disturbing, and have risen to almost 15% and 5.7% of households, respectively, up from almost 12% and 4.1% when the original Food Insecurity and Hunger Module was fielded by the Census Bureau in 1995.³⁻⁵

These rates are shocking, especially given the large attention paid to hunger, particularly child hunger, by federal and state governments, charitable organizations, corporations, and community organizations. There are 14 federal food assistance programs in the U.S., and 25% of Americans utilized at least one of these programs in 2010.^{6,7} In 2010, the Feeding America network of food banks reported distributing food to 37 million Americans.⁸ But clearly these efforts are not adequate for preventing and eradicating hunger and food insecurity.

This paper contributes to discussions of effective responses to hunger and food insecurity in the U.S. as well as identifying future research and data needs and gaps. I was asked to address the following questions: *How are communities responding to hunger? What kinds of community-based responses (including emergency food systems, community gardens, farmer's markets and other retailers, and organizing efforts) are most effective? What kinds of research could shed light on this?* Thus, here I provide an overview and review of research on community responses to hunger and food insecurity, gaps in knowledge and data, suggestions for future research, as well as a framework for evaluating programs as to their effectiveness for reducing food insecurity.

The vast array of programs that blanket the U.S. means that this paper cannot be an exhaustive summary of community responses to food insecurity and hunger. In addition, extricating community responses from government programs is challenging, as most of the initiatives that will be included in this paper receive at least some federal funding.⁹ For the purposes of this paper, "community responses" are defined those that have been initiated at a local level and are at least partially funded by non-federal/non-state sources. I have selected programs that have received the most prominent interest or the most research attention. Categories of programs include: 1) Emergency Food System; 2) Retail Initiatives: Supermarkets, farmers markets and corner stores; 3) Farm-to-school and school gardens; 4) Urban agriculture and community gardens; and 5) Organizing efforts, such as higher wage campaigns.

II. Framework for Discussion

Evaluating effectiveness of programs entails having a goal or goals in mind, and definitions of success. This section describes my framework used to evaluate community programs that address food insecurity and hunger.

Adults matter. Although I was asked to address responses to child hunger, this paper does not focus exclusively on programs that serve children. Children live within families, and face potential harm by living in food insecure families, even if they themselves are “eating enough”. The physical sensation of hunger is only one of a myriad of possible negative outcomes of food insecurity for both adults and children, including diminished nutritional quality of diet, distorted eating practices, distorted household dynamics, depression and anxiety, and a sense of deprivation, alienation and loss of dignity.^{10, 11} Children who live in households where an adult is experiencing any of these stressors are at risk of poor developmental outcomes. Parents’ stress and depression are among the strongest predictors of poor child development and psychological outcomes.¹¹ We will not succeed at realizing child physical and mental health (presumably main goals of addressing child hunger) if children are fed and not their care-givers.

Diet quality is a component of food security. Many of the community-driven responses to hunger are programs designed to improve nutritional quality rather than quantity of food. These are included as well. Chronic diseases such as cardiovascular disease, cancer and diabetes are among the leading causes of death among adults, and hundreds of studies have demonstrated that diet is one of the major modifiable risk factors for these conditions.^{12, 13,14-22} Food security has many definitions, but is defined by the USDA as having “access at all times to enough food for an active, healthy life for all household members.”⁵ This definition and others encompass access to enough quantity and also emphasizes quality of food. Regular access to poor quality food that results in illness does not provide food security. Food insecurity due to resource constraints is distinguished from the large majority of Americans who do have economic access, yet do not eat a healthy diet, i.e., do not follow the Dietary Guidelines for Americans or other healthy eating guides.

Justice or rights-based model. This paper builds upon the work of generations of citizens, advocates, civil rights organizers, and researchers who define the problem of hunger from the perspective of justice, also called a rights-based approach, rather than a charity or needs-based model. What is the difference and why is this important? A justice approach involves government and society creating environments and conditions that enable people to provide adequate and regular nutrition for themselves. Rather than focusing on individuals and their problems, it recognizes that social and economic structures can lead to severe inequality in the economic status of families. Further, as Chilton and Rose have explained, it “focuses attention on who and what might be accountable for these continued disparities” and works to minimize those inequalities.^{23-25(ref24: p.1206)} It is not based solely on benevolence or charity but is, rather, “the duty and obligation of a country to its people.”^{23(p. 1207)} A right to food also provides a structure for legal recourse if those enabling structures are not met. In contrast, a charity model provides food to people who need it through donations from those more fortunate, regardless of the structures that created the situation.

The right to freedom from hunger arises from Article 25 of the Universal Declaration of Human Rights, which describes the right to a minimum standard of living – “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to

security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”^{26,27} Rights are not natural in the sense that humans have inherent rights as individuals, but they are instead socially negotiated and necessitate enforcement by societal institutions. Basic rights specify the basic minimum we believe no one should fall below.²⁸ It can be argued that economic security or subsistence rights are no less basic or genuine than the civil and political rights the U.S. Constitution currently recognizes.^{28,29} Yet, although we have ratified the International Covenant of Civil and Political Rights and the Convention on Elimination of Discrimination Based on Race and Ethnicity, the U.S. is one of only a few countries who have not ratified food as a basic human right.

Many believe that adopting a right to food necessitates the U.S. government providing food to all citizens, but this is not true. In a rights-based model, the distribution of free food is only necessary when within the just enabling political and economic environments, people are unable to provide for themselves. One could imagine that this would occur in a natural disaster, but can also include small children, disabled persons and infirm elderly. Other than these situations or others like them, as Anderson has stated, the duty of the government would be “to ensure that everyone had reasonable opportunities to provide healthy food for themselves and their families.”²⁴ The focus on self-reliance, usually assumed to mean providing for oneself and family through self-generated economic means, parallels the 1996 World Food Summit proposed new definition of food security – “Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”³⁰

Community food security. The justice model has been adopted by the community food security movement, a loose network of activists and organizations, formerly united through the non-profit organization, the Community Food Security Coalition. Members of this movement, which has existed since the mid-1990’s, have defined community food security as “a situation in which all community residents have access to a safe, culturally acceptable, and nutritionally adequate diet through a sustainable food system that maximizes self-reliance and social justice.”³¹ Among the coalition’s many successes include successful securing of federal funds for the USDA Community Food Projects Competitive Grants Program which have been available to non-profit organizations since 1996.

The goals of the Community Food Projects Competitive Grants Program are: “to meet the food needs of low-income people; to increase the self-reliance of communities in meeting their own food needs; and to promote comprehensive responses to local food, farm and nutrition issues.”³² Many projects funded through the USDA Community Food Security Competitive Grants Program demonstrate the potential of community programs to build healthy communities by improving access to food, creating better policies, stimulating the economy and encompassing preservation of the environment. Since 1996, a total of \$73.5 million have been allocated to over 400 projects. In 2007, the Community Food Security Coalition adopted “Whole Measures” -- six goals of community food security, and indicators of success for those measures have been subsequently used to evaluate the USDA Community Food Project Grants program. Whole Measures include: 1) Justice and Fairness, 2) Strong Communities, 3) Vibrant Farms and Gardens, 4) Healthy People, 5) Sustainable Ecosystems and 6) Thriving Local Economies.³³ These measures understate an evolution to a whole systems approach to community food security, and common goals of social justice, ecological sustainability, healthy people, energetic communities, and democratic participation.

Types of programs funded by the Community Food Projects Competitive Grants Program include creating farmers' markets, building school and community gardens, healthy corner store projects, and instituting food policy councils – the types of programs which will be reviewed here. According to the latest evaluation report, between 2005 and 2011, almost 3 million people received food through a project funded by the program, 80 farmers' markets were started generating more than \$1.3 million in sales, 2,700 jobs were created, and 4,000 micro-enterprise businesses were supported.^{34, 35}

Other successes of the community food security movement are the propagation of food policy councils, and development of community food planning processes.^{36, 37} Food policy councils bring together stakeholders, such as farmers, anti-hunger activists, chefs, non-profit organizations, educators, and concerned citizens to dialogue and enable communities to promote sustainable improvements to local and state food policies, programs, and systems, including food security programs. While some have been commissioned by state or local governments, others have taken shape through grassroots efforts.³⁸ Many food policy councils have undertaken community food assessments to guide and evaluate their work.³⁷ There are almost 200 food policy councils throughout the U.S. and many have been funded through the USDA grants program.³⁸ Although food policy councils have been active for over 30 years, the structures and practices that govern them are evolving, as well as the approaches to developing new policies and programs.^{39, 40}

III. Review and recommendations for specific community food security programs

1. Emergency Food Assistance Network

A discussion of community responses to hunger cannot neglect the dedication and caring provided to individuals and families through the thousands of local institutions that make up the emergency food assistance network. The U.S. has a long tradition of providing food to individuals and families in need, but the modern day iteration of this system began in the late 1960's and 1970's. Typically, food is provided through food pantries, which provide food for families to take home, or soup kitchens and shelters, which serve hot meals. In the 1980's, food rescue or food recovery organizations were introduced to recover edible, but not able to be sold, food from food stores, markets, and restaurants. This network has been traditionally called *emergency* food assistance because it was designed to provide short-term food assistance due to emergencies or abrupt changes in financial status, but in reality, it is often utilized in on chronic basis over many months or years.⁴¹⁻⁴³ While most of the funding for the network comes from citizen and corporate donations, it is also funded federally. In 2012, over \$500 million in funding and surplus food was distributed to food pantries through the USDA program, The Emergency Food Assistance Program (TEFAP), making up about 20% of the food in the network.^{44, 45} Most food donations come from the food industry.⁴⁶

The major growth of the private food assistance network that occurred during the early 1980's was due to the then economic recession and increasing food donations by companies. However, Duponte and Bade argue that the growth of the emergency food assistance network was also by design.⁴¹ Major cuts to the food stamp program in the early 1980's as well as the elimination of the purchase requirement of the food stamp program in 1977 resulted in families decreasing spending on food from their overall budgets and running short. Instead of improving the food stamp program, the Omnibus Budget Reconciliation Act of 1982 included legislation

that authorized the distribution of federally-owned surplus commodities to soup kitchens and other groups that provided free food to indigent people.⁴¹

Hence, the current policy milieu encourages and supports the distribution of free food through private charity. The emergency food assistance network can be a much needed support or even the only support available to food insecure families. Generally, SNAP benefits last only three weeks out of the month.^{47(p.61)} In addition, 45% of food bank clients have incomes above the eligibility criteria for SNAP, and 29% are not eligible for any federal food assistance programs.^{48,49} Unless funded through TEFAP, organizations are allowed to set their own eligibility restrictions, and they are often less stringent than for federal programs. In the case of soup kitchens, there are usually no restrictions on recipients.

The emergency food assistance network enables citizens, faith-based organizations, and corporations to participate in ending hunger and prevents food waste. The largest organization that supports local providers is Feeding America. The network of 200 Feeding America food banks supports 33,500 food pantries, 4,500 soup kitchens, and 3,600 emergency shelters, many of which are primarily staffed by volunteers.⁵⁰ According to Feeding America's latest report, more than 5.7 million different people per week were served by the Feeding America network in 2010.⁵⁰ Seventy-one percent of clients in the Feeding America network have income below the poverty line, 75% of clients are food insecure, and only 41% of clients participate in SNAP.⁵⁰ Almost 30% of Hispanic children, 38% of African American children, and 11% of white children received food from the Feeding America network in 2010.⁵¹

Questions have been asked, however, as to how much this 30-year shift toward distributing food through private assistance to make up for holes in the federal safety net increases U.S. food security.⁵²⁻⁵⁴ Arguably the primary criticism is that food in the emergency food assistance network is insufficient to meet the goal of regular access to nutritious food necessary to fulfill the obligations of food security. Benefits are variably distributed and depend on the location, safety, and effectiveness of local charitable organizations and resources.^{41, 55-57} Clients often lack choice of food items and pantry hours of operation, particularly from smaller pantries, and benefits provided to clients are usually only enough for a family for 3 days, only a small percentage of the food available to households from SNAP and WIC.^{56, 58} Providers sometimes have to turn away clients; in the last Feeding America study, 26.6% of the pantries, 9.9% of the kitchens, and 43.3% of the shelters responded that they had turned away clients during the past year because of lack of food or other reasons.⁸ Hamelin et al. found that emergency food assistance providers' perceptions of their client's needs did not match the needs of food insecure households.⁵⁹ In addition, although many if not most charitable organizations take steps to minimize the embarrassment associated with receiving "a handout," there is still shame involved. Participants in a recent qualitative study with SNAP recipients by Edin et al.,

"almost uniformly view[ed] this strategy as a last resort. One common complaint is that the food is often past its expiration date and quickly spoils, becoming unusable. Another is that the type of items provided are sometimes not what a respondent is used to cooking with, or what the children are willing to consume. The most common reason respondents avoid food pantries is that they feel others are more in need, and they should leave the resources available at food pantries to those who have nothing to eat. This sentiment, while charitable, seems to also reflect the high degree of stigma respondents feel when they approach a food pantry for assistance" (p.32).⁶⁰

Fundamentally, the EFS is an alternative food system entirely separate from traditional means of acquiring food and it is not hard to imagine how that would create stigma.^{61, 62} As Nichols-Casebolt and Morris state, there is concern that “voluntary food assistance works to “reaffirm class-based stereotypes” in which the poor, many of whom are minority women and their children, are viewed as needing assistance because of personal defects or temporary misfortunes that warrant only an emergency response from society”^{63(p.19)}

Finally, several authors have discussed how the EFS diverts attention of advocates and citizens away from championing policy implementation that would address fundamental causes of poverty, such as low wages. The large influx of donations of food and cash assistance from major U.S. corporations promotes the corporations image but may lead private charitable organizations to limit their criticism of the nutritional quality of the food being donated or the companies’ labor practices, and undermine their ability to support economic policies that could address food insecurity and hunger systemically.^{54, 64} Essentially, the question is -- does the emergency food system improve household food security status? This is extremely difficult to answer, although some would argue that anyone receiving emergency food is not food secure. USDA defines food insecurity as the “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways”. Is receiving food from a food pantry or soup kitchen “socially acceptable”? It is also a difficult question to answer for SNAP; using the 1996, 2001, and 2004 Survey of Income and Program Participation (SIPP) panels, Ratcliffe and McKernan conclude that SNAP reduces the likelihood of being food insecure by 30% and of being very food insecure by 20%.⁶⁵ No such analysis has been conducted for EMS clients. However, a few studies have compared receipt of SNAP with use of food pantries and concluded that compared to other forms of food assistance, SNAP has a greater impact as to whether a household obtains at least the Thrifty Food Plan; acquiring food from a food pantry was not associated with attaining the Thrifty Food Plan.^{66, 67} As stated previously, 75% of Feeding America clients are food insecure, compared to approximately 50% of SNAP recipients.^{50, 65} But SNAP and receipt of food from the EFS are not mutually exclusive; among clients currently receiving SNAP benefits, 58% percent are recurrent or frequent users of food pantries.⁴³ A recent report from Feeding America stated that food insecure households are more likely to have recurrent clients, those that have used a pantry every month within the past year, than other types of households.⁶⁸

All this is informative, but perhaps the real question is: Is distributing donated food the best way to address the chronic and regular food insecurity that families are facing?^{24, 53, 54, 69} At the end of her book, *Sweet Charity*, Poppendiek articulates four ways that people who work within the emergency food system can address root causes of food insecurity: minimize damage, maximize potential, transform relations, and envision alternatives.⁵² More than a few individuals and organization have taken this challenge to heart, and are working to re-envision emergency assistance and create important new programming.⁷⁰ Some examples include encouraging clients to be on boards of food banks to set programming and rights-based policies, offering “choice” pantries where clients can self-select foods from among those available, and coordinating services with mental health providers. Here I highlight a select few.

Improving participation in federal programs. According to Feeding America’s latest report, only 41% of Feeding America clients receive SNAP benefits even though 88% are potentially eligible based on their income.⁵⁰ This gap has been noted by other researchers, who recommend training for pantry workers and volunteers and stronger connections to state assistance programs.⁷¹⁻⁷³ One major issue is eligible families “churning” on and off SNAP

because of re-certification issues, and being left without benefits for short windows, usually under 90 days.⁷⁴ Presentation to a food pantry is an ideal moment to assist participants in enrolling or re-enrolling in federal programs. Feeding America has recognized this deficiency, and distributes grants for SNAP outreach program development.⁵⁰ In 2010, grants were given to 46 food banks. As of 2010, 72% of the Feeding America food bank network had implemented a SNAP outreach strategy, and 50 percent of the network was involved in direct application assistance.⁵⁰

Nutrition standards and procurement of healthier/fresh foods. One of the major growth areas within the emergency food network is the procurement of fresh food. Low-income emergency food clients generally have poorer overall diets than the general U.S. population.⁷⁵⁻⁷⁷ In addition to the higher cost per calorie of healthy food, these poorer diets could also be due to the mix of food offered through food pantries.^{78, 79,80,81, 82}

The healthfulness of food available in pantries can vary considerably. A number of studies have documented that the food packages distributed at pantries do not reach daily recommendations or nutrient requirements for vitamins A, C and calcium, and that fresh fruits and vegetables, lean meats, eggs and healthier dairy and cereal options are more difficult to procure.⁸³⁻⁸⁸ Barriers to providing healthier foods include fewer donations, as well as lack of refrigerator and freezer storage space and transportation options for fresh produce.^{76, 89}

Although studies of pantry client preferences are limited, several studies have demonstrated that clients prefer healthier foods such as meats, fruits and vegetables over soda, candy, and snack foods.^{77, 90-92} In response, and also due to concerns about obesogenic environments, organizations and food banks have focused on procuring fresh and healthy foods.⁹² For example, the National Produce Program of Feeding America (previously known as the Fresh Foods Initiative), was developed to increase the network's capacity to handle fresh foods to assist with acquisition and transport of fresh produce. Organizations such as the national web-based organization, Ample Harvest, and the Food Trust in Philadelphia are working to increase fresh produce offerings to food pantry clients.^{77, 83}

Food banks are also developing nutrition standards and policies. In 2004, the Food Bank of Central New York adopted a “No Soda and No Candy” Donation Policy that banned all soda and candy donation, the first of its kind in the U.S.⁹³ In addition, the food bank focused attention on the procurement and distribution of healthier foods such as fruits and vegetables. A 2003-2007 evaluation of the program reported mixed results. While soda and candy donations decreased to essentially zero after three years, donations of other sweetened beverages increased. During the same period, vegetable donations decreased slightly and fruit donations did not improve.⁷⁷

Two recent studies have documented an increase in such policies throughout the emergency food network. In a qualitative study of directors, CEO's and staff from 20 diverse Feeding America food banks, Handforth et al. found that six of the food banks had adopted a nutrition policy to eliminate specific unhealthy products from their distribution system, and four more were in the planning stage.⁷⁶ In addition, five food banks had a nutrition profiling system that ranked or scored the healthfulness of distributed foods. In a national study that invited all Feeding America food bank directors to participate (69% response rate), “over half of all respondents... said they had a policy or guidelines to increase healthful foods (e.g.- fresh,canned or frozen fruits and vegetables, whole grains, dried beans, and low-fat dairy), and nearly one-third said they had a policy to reduce unhealthful foods (e.g.- sugar sweetened beverages, savory snacks such as chips and crackers, sweet snacks and desserts, and packaged processed meals

such as Hamburger Helper).”^{92(p.13)} However, most food banks stated that they had been unable to fully implement these policies or guidelines.

Nutrition education. The dietary patterns of most Americans are poor (for example, only 14% of American adults and 9.5% of adolescents consume the recommended amount of fruits and vegetables), and all income levels could benefit from nutrition and cooking education.⁹⁴ Providers of emergency food are “the newest frontier for nutrition education,” and increasing numbers of emergency food providers throughout the country, such as the California Association of Food Banks, have made nutrition education a priority. Small studies of nutrition education and/or cooking programs at food distribution sites have been conducted, although without comparison groups. In general, participants responded positively to the programs, were more likely to feel confident preparing food on their own, and showed increased nutrition awareness and knowledge, self-efficacy and self-confidence.^{95, 96} More recently, Flynn et al found that a six-week cooking program at a food pantry significantly increased fruit and vegetable variety and consumption and reduced food insecurity scores of food pantry clients.⁹⁷

The largest nutrition education program to address food insecurity is Cooking Matters, one component of Share Our Strength’s No Kid Hungry campaign. Cooking Matters offers six-week Cooking Matters courses for adults, children, families, teens or childcare professionals, one hour Shopping Matters tours, and provides educational tools. Most of their participants participate in at least one federal food assistance program, and classes are only available to low-income families.⁹⁸ The Cooking Matters curricula focuses on teaching skills necessary to shop on a budget, plan meals, and prepare healthy meals and snacks. In 2011 alone, with the help of over 2,100 volunteers, over 89,000 people participated in Cooking Matters programming throughout 40 states.⁹⁸ Although there was also no control group for their evaluation, their latest report showcased large dietary improvements over the six week program in adults and children for fruits, vegetables, and whole grains, improved confidence in preparing healthy foods and a general shift towards healthier food behaviors.⁹⁸

Job training. Job training programs recognize and seek to address challenges many emergency food clients face finding sustainable employment that pays a living wage. While emergency food clients could benefit from all types of job training, food banks generally focus on food-related career training. Programs like the DC Central Kitchen’s Culinary Job Training Program, San Antonio Food Bank Community Kitchen, Maryland Food Bank’s FoodWorks program, and the New Hampshire Food Bank *Recipe for Success* Culinary Job Training program offer certificate training in cooking techniques and methods, proper use of commercial kitchen equipment, job readiness and job placement assistance. These programs can have high success rates; for example, 87% of the 80 graduates from DC Central Kitchen’s Culinary Job Training Program in 2011 were placed in jobs with an 85% job retention rate after 6 months of employment.⁹⁹ Despite general wide recognition of the success of such programs in the press, there have been few peer-reviewed evaluations of such job training programs, and these have been descriptive, not outcome evaluations.^{73, 100, 101}

Comprehensive Food Centers. Putting it all together, comprehensive food centers take a holistic approach to achieving access to healthy food, merging efforts to establish food security and equality in one organization.⁷⁰ Capitalizing on collaboration, food centers act as community hubs that “integrate antipoverty efforts, ecological sustainability, food, wellness and community building throughout all aspects of the food system.”^{102(p. 249)} Some examples of current food center pioneers include The Stop Community Food Centre (CFC) in Toronto, Freshplace in Hartford, Connecticut, and People’s Grocery in Oakland, California. For example, the Freshplace

program offers fresh food at a client choice pantry, individualized member management to identify food security and self-sufficiency goals and monitor progress, and access to resources to facilitate goals, such as cooking classes, access to computers to facilitate job searches, consultations and nutrition education with dietitians, a referral system for assistance programs such as SNAP and energy programs.¹⁰³ A randomized controlled study of over 200 Freshplace program participants found that over a 3-month period, Freshplace participants had significantly greater improvements in food security scores and fruit and vegetable intake when compared to a comparison group having access only to the Food Pantry.¹⁰³

2. Retail Initiatives: Supermarkets, farmers markets and corner stores

The next community-driven responses to food insecurity address poor access to quality and nutritious food by residents of low-income geographical areas, both urban and rural. Numerous studies have documented economic and racial disparities in food access. While results of studies are not entirely consistent -- in general, people who live in areas with larger percentages of low-income, African American and Hispanic residents have lower access to supermarkets, transportation to supermarkets, and greater access to convenience stores and fast food restaurants than people who live in areas with predominantly higher income, white residents.^{104-108 108-124} Smaller corner and convenience stores tend to have limited availability of fruits and vegetables and other healthy foods, lower quality fresh produce and higher prices for food in general and healthier foods in particular.¹⁰⁸⁻¹²⁵ Williams and Hubbard offer that “economic, cultural, political, social [and I would add - historical] – spin together in distinctive ways to create particular forms of exclusion for certain groups in certain places”.¹⁰⁹

I found only two studies that have assessed the relationship between food insecurity and store proximity and they were not consistent. Bartfeld et al found that factors such as proximity to supermarkets and grocery stores as well as lack of access to transportation (public and private) increased the risk of household food insecurity.¹¹⁰ However, Kirkpatrick and Tarasuk found that in Canada, food insecurity was not mitigated by proximity to food retail or community food programs; indeed, high food insecurity was observed in areas with good geographic food access.¹¹¹

Placing supermarkets in “food deserts.” In response to access issues, cities throughout the U.S. have worked to place supermarkets in underserved areas. Many of these projects have been funded by public-private partnership financing initiatives, recently expanded through the DHHS Healthy Food Financing Initiative as part of Michelle Obama’s *Let’s Move* program.^{112,113} As one example, between 2004-2010, the Pennsylvania Fresh Food Financing Initiative (FFFI), a partnership between the Commonwealth of Pennsylvania, The Reinvestment Fund (TRF), the Food Trust, and the Urban Affairs Coalition (UAC), financed over 104 healthy food projects to build grocery stores, at a cost of over \$120 million.^{112, 114-116} These types of initiatives have been found to generate tax revenue, create jobs, improve wages, increase housing values, and can potentially anchor other stores’ economic activity.^{112, 114, 117} The most promising among these outcomes for food security include job creation and wage improvements. There have not been studies specifically assessing food security status in relation to store placement, but three studies published have evaluated the impact of store placement on diet. Two studies found no effect of the new store on fruit and vegetable consumption.^{118, 119, 120} However, Wrigley and Margetts found that while store placement had no significant dietary impact for the overall sample, placing a store significantly improved the diets of people with the poorest initial diet quality and consumers who switched to the new store from limited-range or budget stores significantly

increased their fruit and vegetable consumption.¹²¹ These studies also found inconsistent percentages of people switched to the new stores rather than continuing to shop at their traditional store.^{109, 118-122} Cummins et al. and Williams and Hubbard emphasize the need to focus on the social exclusion and the experience of shopping in order to fully understand shopping behavior.^{122,109}

Farmers' markets. Placing new farmers' markets or farm stands in underserved areas has been repeatedly shown to significantly increase fruit and/or vegetable intake among residents.¹²³⁻¹²⁵ Payet et al also found that consumers increase their fruit and vegetable consumption once they begin to shop at existing farmers' markets, and Park et al found that the presence of farmers' markets is associated with increased fruit and vegetable intake.^{126,127} One study has found that farmers' markets had an impact on the overall cost of groceries in the neighborhood -- while supermarket prices had gone up over a three year period, the cost of buying a healthy food basket in a neighborhood (identified as a "food desert") that had introduced a farmers' market decreased almost 12% in three years, while the average price of buying the equivalent healthy food basket in the city increased by 9.12% after controlling for inflation.¹²⁸ The authors note that this may be attributed to price reductions often offered at farmers' markets. In addition to farmers' markets, the establishment of mobile vendors of fresh produce is another potential strategy, but there has been very little evaluation.¹²⁹

Purchasing at farmers' markets for low-income consumers can be greatly facilitated by allowing SNAP and WIC redemption. Between 2006 and 2010, there was a 49% increase in redemption at farmers' markets; however, SNAP redemption at farmers' markets was still only 0.01% of all SNAP redemptions in 2010.¹³⁰ Fewer than half of states allow farmers' markets to accept WIC benefits, and WIC redemption rates at farmers' markets are small and decreasing (Andy Fisher, personal communication).

Supporting coupon incentive programs through SNAP or WIC at farmers' markets is another promising way to increase food access for low-income populations. These coupons increase benefits available to participants by either providing a coupon or increasing purchasing power by a multiplier effect, such as "Double Up Food Bucks" available in Michigan. When offered, coupons generally have a high redemption rate and increase the purchase and consumption of fruits and vegetables.^{131, 132, 133, 134, 135}

Improving choices and promotion of healthy foods at corner stores. Increasing availability and promotion of healthy options in existing smaller stores is another way to encourage consumers to purchase healthier items and increases sales.¹³⁶⁻¹³⁹ Corner store conversions along with point of purchase and other nutrition education have been shown to improve intake and purchasing of healthy foods for both adults and children.^{136, 137, 140 139}

One example of such initiatives is Philadelphia's Healthy Corner Store Initiative, a collaboration supported by The Food Trust and the Philadelphia Department of Public Health's Get Healthy Philly Initiative.¹⁴¹ Since its start in 2010, over 600 corner stores in low-income areas in Philadelphia have agreed to participate in the Philadelphia Healthy Corner Store Network. Participating stores introduce new healthy products, are provided marketing materials to promote healthy foods in stores and equipment such as freezers, and can participate in business training.¹⁴¹ While an outcome evaluation is not yet available, process evaluation demonstrated that stores introduced on average 36 new products, 80% of stores participated in at least one training session, and 100 corner stores received equipment conversions to help expand their inventories.¹⁴¹ In addition, 18 suppliers in Philadelphia were identified as suppliers of fresh produce or other healthy options, a national wholesale supplier agreed to carry and provide

marketing identification for new healthy products, and a local youth urban gardening program helped provide their local corner stores with fresh produce.¹⁴¹

Use of discounts or coupons and nutrition education. In-store coupon programs and nutrition education have had mixed effects on encouraging diet behavior change, most likely due to variable project designs, and dependence on feasibility, applicability and proper implementation. In some cases, the use of discounts or coupons has been found to increase the purchase of fruits and vegetables or other target healthier foods; however, other studies show no impact.^{142, 143} Similarly, while some studies demonstrate no effect of nutrition education or labeling on food purchases in adults, others show varied levels (ranging from limited to significant) of behavior change behavior change or increase in sales of targeted foods.^{141,140, 144-154 139, 155}

4. Farm-to-school and school gardens

The importance of the federal school lunch, breakfast and summer programs for reducing child hunger cannot be overstated. Many schools have gone further with local programming to improve children's diet quality. Two such programs include farm-to-school and school gardens. Both programs vary widely depending on the location. However, farm-to-school programs generally connect local farmers and other food producers and processors with school cafeterias, favoring serving locally-grown or locally-produced food. These programs also usually have education and outreach components to connect students to food production activities through visits by farmers and chefs, field trips to farms, nutrition and cooking education, and school gardens. Participation in farm-to-school programs is growing throughout the country. For example, in Michigan, Colasanti et al found that participation in farm-to-school in 2009 was more than 3 times higher (over 41%) than in 2004.¹⁵⁶

Farm-to-school programs are generally not considered food security programs and then have not been evaluated as to their impact on food security. Instead, most studies have attempted to assess effects on diet quality. Farm-to-school programs often offer a greater variety of fruits and vegetables than traditional lunch programs and increase fruit and vegetable selection at lunch.¹⁵⁷ However, studies have not yet documented an increase in fruit and vegetable intake, although increased intake is a likely outcome given proper conditions; increasing fruit and vegetable variety at lunch has been shown to increase consumption.¹⁵⁸

One link from farm-to-school to child food security may be directed through higher quality food enticing more families and children to participate in the school lunch program. Greater participation by eligible families could increase cafeteria revenue and decrease child food insecurity. A number of studies have found a farm-to-school program to increase school lunch participation, generally thought to be because of the introduction of a salad bar in the cafeteria.¹⁵⁹

School gardens may be associated with farm-to-school programs or stand-alone, and range from students growing food in pots in their classrooms to serious production of food through farms and gardens on school campuses. School gardens are often connected to science and nutrition education. Nutrition education intervention programs that provide hands-on, multidisciplinary activities, such as gardening, can be more effective at promoting behavior change.¹⁶⁰ Multiple studies have demonstrated that children who participate in school garden programs increase their knowledge about fruits and vegetables, and are more likely to try, prefer, and eat fruits and vegetables.^{161, 162,163-167} There are qualities of gardening that are unique educational experiences; the act of growing food with adults has been shown to increase

understanding of food systems, improve intergenerational relationships, character development and community engagement, enhance life experiences, and generate feelings of enjoyment and wonder.^{168,169, 170}

5. Urban agriculture and community gardens

One increasingly popular strategy to sustain food security is to support low-income families in growing their own food in home or community gardens, or generating income through small-scale food production. The use of gardens as a food security program builds upon one of America's most popular activities. A 2005 survey conducted by the US National Gardening Association found that 83% of U.S. households were involved in one or more indoor or outdoor lawn and garden activities.¹⁷¹ Among a sample of non-gardeners surveyed in Denver, 88% wanted community gardens in their neighborhoods, and 65% were interested in learning more about gardening. (Jill Litt, Denver School of Public Health, personal communication)

Community gardens capitalize on the availability of assets in many struggling cities, such as vacant land and creativity. Detroit, MI has been conservatively estimated to be 11% vacant parcels (7.6 square miles), with tremendous potential for food production.¹⁷² One estimate found that a high productivity techniques and investment in infrastructure for postharvest management could result in production of 76% of vegetables and 41% of fruit necessary for Detroit residents to meet health recommendations on less than half of the available land (roughly 1,800 acres), leading many residents to embrace the idea of food sovereignty.¹⁷² Another study found that a shift to local food production would provide 4,700 jobs & \$20 mill in tax base for Detroit.¹⁷³ Gardening does not need to be limited to vacant space. Kremer et al. have estimated that 8%, over 7600 acres, of Philadelphia's residential neighborhoods are grass or bare soil suitable for gardening.¹⁷⁴

Gardens are also low cost for families, with a high rate of return. One Rutgers University study showed that the average New Jersey community garden plot (about 700 square feet) produced vegetables worth approximately \$500 during an average growing season, while the average cost of inputs was only \$25.¹⁷⁵ Other estimates have also shown a high yield-on-investment for community gardens, for example a 1 to 6 ratio of dollars invested to value of produce grown, yielding \$500 - \$2000 worth of produce per family per year.¹⁷⁶ A weighing study conducted by the Detroit Garden Resource Program Collaborative, a network of over 1400 home, school and community gardens, found that gardeners who weighed the produce they grew produced on average 241 pounds of produce per family worth approximately \$920 (Janell O'Keefe, Keep Growing Detroit, personal communication). Potential revenues for urban agriculture -- small-scale farms within city limits -- have been estimated to be up to \$90,000 gross per acre.¹⁷⁷ Throughout the country, market cooperatives, such as Grown in Detroit, are forming that enable urban growers to sell at farmers' markets and other retail and wholesale outlets with few start-up costs, increasing household income.

Notably, Supplemental Nutrition Assistance Program (SNAP, formerly called the Food Stamp Program) benefits can be used to purchase seeds and plant starts; thus these inputs for gardening are accessible to the 46 million SNAP-recipients nationwide.¹⁷⁸ For many people, including SNAP recipients, supports such as those provided by community gardening organizations and fellow gardeners (e.g., classes, assistance with water, shared learning about growing and cooking) are needed to turn their interest in growing plants into food production. Access to season extension techniques such as hoop houses and row covers are also valuable.

A community garden is more than a place to grow food. Community gardens can bring about health behavior changes through multiple processes, such as access to healthy food, safe

places for physical activity, social support, emotional attachment, connection with nature, and self-efficacy, and in turn affect multiple health outcomes such as diet, activity, and social capital.¹⁷⁹ Several studies have demonstrated that community gardeners (and their household members) eat more vegetables than non-gardeners and the more vegetables gardeners grow, the more they eat although these are cross-sectional studies, not evaluating interventions.^{169, 170, 180}

Only one study has looked at food insecurity before and after initial participation in a community garden, although the sample size was very small and there was no control group.¹⁸¹ They found that “Sometimes” and “Frequently” worrying in the past month that food would run out significantly decreased among gardeners from 31% to 3; the frequency of skipping meals due to lack of money was not statistically significantly different before and after the gardening season for either adults or children.

9. Organizing efforts

Up until now, this paper has reviewed community efforts in the food sector traditionally thought of as addressing food insecurity. We turn now to community organizing efforts taking place throughout the country to address one fundamental cause of food insecurity – low wages. It cannot be denied that low-wage U.S. jobs are not paying enough for families to feed themselves. The latest food insecurity and hunger survey documented that 70.1% of food insecure households have at least one employed adult, and in 46.9% of households, an adult is working full time.^{5, 182} 10.5 million workers earn wages that at full-time put them below the poverty line.¹⁸³ The minimum wage, at \$7.25 an hour, earns a worker 40 percent less in inflation-adjusted terms than in 1968. In a study at a large Iowa food pantry between 2004 and 2006, Berner et al. found that clients who work were more likely to make frequent visits to the food pantry, as opposed to sporadic visits, than those who did not.¹⁸⁴ From a rights-based perspective, we have not created enabling environments if millions of families with children are working full time and still cannot afford enough food for a healthy life.^{5, 182}

On November 29, 2012, hundreds of New York City fast food workers walked off the job, organized by the Fast Food Forward, a movement of NYC fast food workers to raise wages and gain rights at work.¹⁸⁵ Inspired by the 2012 Walmart Black Friday nationwide strike that took place throughout the country, these days of action were followed by 2013 walkouts in Chicago, St. Louis and Detroit. The Bureau of Labor Statistics lists “Combined Food Service and Preparation Workers, Including Fast Food” as among the lowest-paid job category in the U.S.¹⁸⁶ Restaurant servers are three times more likely to earn wages below the poverty line, and are twice as likely to use food stamps as the rest of the U.S. workforce.¹⁸⁷

These actions are just the latest in a long history of U.S. workers’ struggle for fair wages, a struggle that most Americans these days support. A March 2013 Gallup poll found that 71% of U.S. adults age 18 or older support President’s Obama proposal to raise the federal minimum wage from \$7.25 to \$9 an hour.¹⁸⁸ The minimum wage in the U.S. is low compared to other countries, emphasizing our income inequality.¹⁸⁹ Of the 13 million workers that would be affected by the minimum wage increase from \$7.25 to \$9.00 per hour proposed by President Obama, only 16% are teenagers, 83% are working 20+ hours per week, and 54% have family incomes below \$40,000.¹⁹⁰ The president’s proposal would raise annual income by \$3,500 for a full-time minimum-wage worker. On May 10, 2013, the U.S. Senate and House of Representatives re-introduced the Fair Minimum Wage Act of 2012 (sponsored by Senators Harkin and Miller) that would raise the federal minimum wage to \$9.80 by 2014.

In 2004, Dube and Jacobs conducted an economic analysis of the costs to the state of California due to Wal-Mart's low-wage labor practices.¹⁹¹ They found that because Wal-Mart workers receive lower wages than other retail workers and are less likely to have health benefits, other major retailers lowered wages and benefits in the state, citing their concerns about competition from Wal-Mart. They also found that many Wal-Mart workers rely on public safety net programs, such as food stamps, state-sponsored health insurance, and subsidized housing, and estimated those costs to California taxpayers at \$86 million annually (\$32 million in health related expenses and \$54 million in other assistance). Walmart has been extensively contrasted to another successful retailer, Costco, who has made a commitment to living wages by setting their lowest wage at \$11.62 per hour.¹⁹²

The largest economic fear of raising the minimum wage seems to be that increasing the minimum wage will decrease employment. But as University of California - Berkeley economics professor, Christina Romer, former chairperson of President Obama's Council of Economic Advisers, points out, "there's been a tremendous amount of research on this topic, and the bulk of the empirical analysis finds that the overall adverse employment effects are small"¹⁹³ (p.2) ¹⁹⁴ Several factors likely explain this. According to Schmitt, "the cost shock of the minimum wage is small relative to most firms' overall costs", reductions in labor turnover can offset increased costs in labor, and employers can also compensate in ways that do not reduce employment.¹⁹⁴ (p.22)

Some organizers believe \$9 per hour is too low as this wage will still put a family of 3 below the poverty line.¹⁹⁵ Participants in the recent fast food walk-outs in New York City and Chicago are demanding \$15 per hour. Organizers call these wages "living wages", the minimum income necessary for a worker to meet basic needs or a minimum standard of living. Online calculators have been developed to determine living wages in various locations, for example, <http://livingwage.mit.edu>. Living wage campaigns were first seen in the U.S. in 1990.¹⁹⁶ Organizers have succeeded in passing living wage ordinances in more than 80 counties and cities in the U.S.¹⁹⁷ These ordinances generally cover city contractors only, not all workers, and for this reason, studies have found that they directly affect only a small percentage of the population.^{198,}
¹⁹⁹

As with the previous sections, the question we are addressing here is - Do these campaigns "work", i.e. reduce food insecurity? While there are several studies looking at the effects of the minimum wage on poverty, I could only find two published studies that looked at food insecurity as a material hardship, and findings were mixed. Rogers assessed two increases in the minimum wage and found that even after controlling for the link between the 1990s economic expansion and food security, the October 1996 and September 1997 increases in the federal minimum wage raised food security and reduced hunger, particularly in low-income households where householders had completed no more than a high school degree or were a single parent.²⁰⁰ Sabia and Nielson analyzed data from the 1996, 2001 and 2004 panels of the SIPP, and found no effect of federal and state minimum wage increases on food security; however, they detected a significant decrease in the use of food stamps among the less educated portion of the sample.²⁰¹ The full trade-offs families face when rising wages reduce benefits need to be explored.

IV. Summary and Research Recommendations

To summarize, strategies used by U.S. communities to address hunger and food insecurity include: 1) distributing free food to families and individuals who need it, 2) making

sure healthy food is available for purchase nearby at an affordable cost, 3) making healthy food cheaper with coupons or other SNAP/WIC incentives, 4) supporting self-production of healthy food, 5) small business development, job creation, and training in the food, agriculture and other sectors, 6) nutrition education, and 7) organizing for wage increases and other economic supports. This section summarizes gaps and offers suggestions for future research.

When developing recommendations, it is important to emphasize that community responses are not a substitute for government approaches. The previous 30+ years have seen a shift in support away from federal responses toward local, charitable programs. This approach has exacerbated rather than alleviated food insecurity and enhanced disparities in resources by region. Community programs can work in concert with federal economic policies and federal food security programs, which are and should be primary responses. As Blank affirms, “maintaining a high employment economy, with jobs that are readily available to less-skilled workers, continues to be the most important anti-poverty policy for this country.”²⁰²(page 2) It will not be possible for the severely high level of U.S. food insecurity to be addressed by individualized community, localized projects, especially if limited to charity food distribution. Strategies and ideas developed by communities can be incubators for success. Federal support is needed for communities to assist in the development and evaluation of innovative programs that can be “scaled-up” to the state or federal level.

Overarching Gaps/Research and Data Recommendations

1. Include household food security status as an outcome in evaluations. As can be seen from this review, food insecurity is not often included as an outcome measure in community food programs. Thus, an overarching recommendation is to encourage the use of the food insecurity measures when evaluating community food security programs. It is important to emphasize, however, that hypotheses that certain programs will improve food security need to be grounded in theory and observation. Including other measures of economic security would also be beneficial, such local and regional economic development.

2. The food insecurity measure does not adequately capture contributions from poor diet quality. One issue that needs further exploration is the food insecurity measure itself. Community food programs that address diet quality as one aspect of food security may be limited in their ability to capture improvement by existing measures. Although diet quality is explicitly mentioned in the definition of food security, the 18-item measure is focused on capturing quantity of food deprivation due to lack of economic resources, not poor diet quality due to lack of economic resources. The only question that addresses diet quality is “(I/we) couldn’t afford to eat balanced meals.” The increased understanding of the contribution of poor diet quality to chronic disease underscores the continued importance of ensuring that all Americans can afford a healthy diet.^{203,15}

3. Measure self-reliance and long-term (sustainable) food security. Most of the community food programs reviewed here do not emphasize strategies to improve self-reliance, such as through improved income or wages. Exceptions are job training which can lead to jobs at higher wages, food production which can supplement household food budgets or income through sales, and organizing campaigns which can lead to categorical improvements for all citizens in a region. Within a rights-based framework, programs should be evaluated on their potential for family economic improvement and self-reliance.^{204, 205}

4. Qualitative, participatory, and valid methods. Policies and programs are determined by the interaction between ideology, interests, and information, and these interactions take place

within a structure of power – who has it, and who does not.²⁰⁶ Voices and opinions of low-income Americans are often absent from current political debates, boards of charitable food assistance programs, decisions about implementation of programs, and hunger conferences, exacerbating our current poverty crisis. These voices are also often absent from our research. Qualitative research that exposes people's actual experiences and tells stories is one method with which to elicit these voices. Another is participatory research, in which citizens and representatives from community-based and other organizations participate as equal partners in the research process, including question formation, data collection, interpretation and disseminations.²⁰⁷ Building the relationships and trust that are necessary to conduct participatory research can take longer, but results are enhanced, contextualized, and can generate insights and solutions that may be missed through conventional research. Participatory methods do not replace the necessity for valid experimental designs, but can enhance known valid methodology. Rigorous evaluation methods are also necessary, when possible, including randomized groups, control groups, and validated measures of diet and food insecurity.

5. Integration. Thus far, many community food security projects have not demonstrated much integration with food assistance programs such as SNAP and WIC. Some exceptions include farm-to-school programs and farmers' market coupons programs, but these efforts have thus far been relatively small scale. In order to have a significant impact, community food security project and efforts to localize the food system need direct outreach activities to low-income families and to provide low barriers to participation. These could occur through SNAP or WIC offices, emergency food providers, health centers and supermarkets in low-income neighborhoods, and other centers designed to support low-income populations. These integrated efforts could develop infrastructure that supports urban agriculture and gardening, culturally competent nutrition education, food hubs, farmers' markets, organizing activities, and improving access to healthy food through supermarkets and corners stores. Several cities and communities have begun this integration process, such as Portland and Philadelphia. Evaluation of such comprehensive approaches is needed.

6. "Scaling up" community programs. Community food security programs are often developed and successful at the local level. To be meaningful contributions to U.S. food security, programs need to be disseminated regionally or nationally. Research to identify models for community program dissemination should be encouraged and more investment is needed in determining how successful community-based programs can be introduced nationally.

Community Program Research and Data Recommendations

1. Emergency Food System. Facilitating federal program enrollment assistance for eligible clients, nutrition and cooking education, nutrition standards, job training, and comprehensive food centers are emerging as examples of approaches within the emergency food system that embrace food as a basic right, and have potential to decrease food insecurity. Further studies of the barriers providers face in developing these innovative strategies, methods to overcome these barriers, and the impact they have on adult and child diet quality and household food security are needed. Nutrition standards provide an exceptional opportunity for emergency food providers to engage donors and donor organizations in discussions about: why clients face barriers to healthy food, examples of systems and partnerships that can address these fundamental causes, and stipulations from companies making donations, for example, a commitment to paying employees a living wage and providing benefits.⁶⁴ TEFAP also provides an opportunity to tie food security outcomes to food donations; accountability measures could be

developed and stipulations can be placed on food banks that receive TEFAP to document improvements in food security outcomes of clients.

2. Retail Initiatives. Improving access to healthy food is a necessary step for food insecure families to improve their diets. Further research is needed as to which environmental improvements facilitate diet changes and steps that are needed to support environmental changes. There is good evidence that the introduction of farmers' markets and farmers market coupons increase fruit and vegetables intake, and future research should focus on expansion and dissemination of these programs. Current efforts in this direction include the recent \$4 million allocation by the USDA to increase SNAP redemption at farmers' markets by helping markets purchase equipment for wireless point-of-sale transactions, enabling qualified retailers to accept SNAP payments.²⁰⁸ In California, the CalFresh program allows SNAP participants to use their EBT cards, and the non-profit organization Alchemist Community Development Corporation offers Market Matching, giving \$5 for every \$10 spent at farmers' markets.²⁰⁹ These advances are promising, but more resources and technology are needed to strengthen farmers' market programs; only about two-one-hundredths of a percent of the CalFresh budget goes to farmers' markets and this percentage likely reflects allocations elsewhere in the country.²⁰⁹ Qualitative and outcome research on policy and program changes needed to expand farm-to-consumer sales by SNAP/WIC recipients, including barriers, opportunities, marketing (such as through SNAP-Ed) would assist the propagation of these programs throughout the country. USDA should simplify the multiple programs that interface with farmers markets including developing technology that enables mobile vendors such as farmers to utilize the same EBT system for SNAP, WIC, and coupon programs; evaluation of these types of improvements on food security is needed.

In contrast to farmers' markets, the small literature on supermarket placement has shown mixed effects on fruit and vegetable intake. It may be that the complexities involved make it too hard to detect an impact, or that research methods used to date have been inadequate. As Wrigley and Margetts demonstrated, large aggregate samples can mask results for important sub populations such as at-risk consumers and consumers shopping at low-range poorer quality stores. It may also be that additional social support is needed to ensure that new store placement has the desired impact on food insecurity and diet quality, as well as support in the form of coupons for healthy food, point of purchase promotions, and nutrition education. Future research designs should take these factors into account.

3. Farm-to-school and school gardens. Among the farm-to-school and school garden studies mentioned above, only a few have been conducted with rigorous methods, and none have been conducted with food security of the families of children who participate as an outcome. This is because in addition to enhancing regional economies through greater procurement from local farmers, the primary food security benefit of farm to school and school garden programs is to improve the availability of fruits and vegetables, and children's preferences toward and consumption of them. It is unlikely that studies of farm-to-school and school gardens including food security as an outcome will find an effect without more comprehensive programming.

4. Urban agriculture and community gardens. Gardening and urban agriculture promote self-reliance for lower-income households to increase their food income and supply of fresh food. Doing so, however, requires interest and skills, time within busy schedules, spaces to grow food, and resources such as water. These, as well as structural barriers, have kept the movement small thus far, although it is growing. There are several areas of research that could build on urban agriculture's potential. Research on urban agriculture and community gardening is

increasing, but applying rigorous methods is needed. For example, a randomized trial of community gardening effects on diet and food security would elucidate whether gardeners eat more fruits and vegetables because of prior preferences or due to the garden, as well as effects on food security. Continued qualitative research exploring the mechanisms for how gardening improves diet and health is also needed. The propagation of urban agriculture often requires zoning changes and recognition of urban agriculture as a viable and worthwhile end use. Research on the food security impacts of these types of planning changes would be helpful. Finally, development of small scale farming in an urban setting requires economic supports to be viable. Research identifying best practices, successful local and national models, season extension methods, and creative financing and infrastructures such as grower and processor cooperatives, and food hubs can help propagate farms and enable small farmers, including urban farmers, to capture larger percentages of profits.

5. Organizing efforts. This paper reviewed minimum and living wage campaigns, one type of organizing effort being undertaken currently to improve worker's livelihoods and economic and food security. There is a tremendous opportunity to study this campaign and others like it "in action;" whether or not fast food workers' strikes will be effective in increasing wages at individual restaurants or industry-wide remains to be seen. We cannot forget that citizen actions are an important method for marginalized populations to increase their power of representation within a democracy. Traditionally, food security research has investigated normative supports, but these traditional methods have thus far not assisted in improving high rates of food insecurity in the U.S. over the past 20 years and beyond. Studies on whether and how methods of citizen movements assist in achieving food security would greatly add to our understanding of how to solve childhood food insecurity in the U.S.

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