



Massachusetts Food Insecurity: *Landscape and Innovation*

Massachusetts Food Insecurity: Landscape and Innovation

This report was prepared for the Metropolitan Area Planning Council to inform the Massachusetts Food Systems Plan by students at the Friedman School of Nutrition Science and Policy at Tufts University. The student researchers and authors of this report were: Erin Foster West, Abby Harper, Samantha Kelly, Elena Martinez, Ashley McCarthy, and Nina Rogowsky.

The faculty sponsors for this project were Professor Julian Agyeman and Adjunct Professor Jennifer Obadia.

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EXECUTIVE SUMMARY

This report aims to characterize the extent and severity of food insecurity in Massachusetts in order to inform the Massachusetts Food System Plan. The USDA defines food insecurity as access at all times to enough food for an active, healthy life. The rate of household food insecurity in Massachusetts was 10.6 percent in 2013, which, while lower than the national rate of 14.3 percent, has been rising at a faster rate than the national average. Poverty is the largest contributing factor of food insecurity in the United States, yet many other factors are correlated with food security status. Other factors include race, ethnicity, age, geography, household composition, and SNAP eligibility.

Food insecurity has long-term impacts on educational achievement, workforce productivity, chronic disease risk, and mental health. For example, children's academic performance may be negatively affected by food insecurity, and food insecure adults have higher rates of absenteeism at work. Food insecurity is also correlated with higher rates of obesity, which remains one of the most prevalent health problems in the United States.

Key Findings from the Data:

- In 2012, over 700,000 people in Massachusetts were food insecure, including over 213,000 children.
- In 2012, 259,000 people in Massachusetts were food insecure but did not meet the income guidelines to qualify for the Supplemental Nutrition Assistance Program (SNAP).
- The rates of food insecurity and child food insecurity are highest in Suffolk, Hampden, and Bristol counties.
- Nationwide, food insecurity rates are higher for households with the following characteristics: children, single parent, Black or Hispanic head of household, income below 185 percent of the federal poverty line, and urban or rural location (as opposed to suburban).

Organizational Profiles:

Agencies and organizations at the local, state, and federal level are working to promote food security in Massachusetts. This report profiles six organizations doing exemplary work in this area: Community Servings, The Food Bank of Western Massachusetts, Groundwork Lawrence, Healthy City Fall River, Nuestras Raíces, and Project Bread. Each of these organizations focuses on serving vulnerable populations while addressing food insecurity and its root causes in innovative ways.

Key Recommendations:

- Target resources to the most vulnerable and underserved populations
- Partner food insecurity and health care organizations
- Support poverty reduction measures
- Expand the Healthy Incentives Pilot (HIP)
- Support the Massachusetts Food Innovation Trust Fund

INTRODUCTION

Food insecurity affects many populations across Massachusetts, leading to costly negative impacts on health and economic well-being. The demographic characteristics and geographic regions identified in this report as most vulnerable can inform a state level agenda to address food insecurity at its roots. Action is already being taken to reduce food insecurity by many dedicated organizations across Massachusetts, and this report details their best practices to help assess how these strategies can be scaled up to affect the greatest change.

This report demonstrates why food insecurity should be included as a priority in the Massachusetts Food System Plan by characterizing the extent and severity of food insecurity in Massachusetts under the current United States Department of Agriculture (USDA) definition¹. This report provides an overview of the state of food insecurity and its consequences, followed by a geographical representation of the most at-risk populations and counties. The report concludes with an overview of exemplary efforts currently underway in Massachusetts to improve food security that may serve as models for addressing food insecurity across the Commonwealth.

DETERMINANTS AND CONSEQUENCES OF FOOD INSECURITY

Of 109 countries measured on the Global Food Security Index (GFSI) in 2014, the United States ranks first overall in each of the three indicators that comprise the index: accessibility, availability, and quality and safety, yet millions of Americans still experience food insecurity on a daily basis (1). In 2013, the USDA estimated that 85.7 percent of American households were food secure, indicating that they had access at all times to enough food for an active, healthy life for all household members (2). This statistic may suggest that the United States is not in need of food security interventions. However, 14.3 percent of Americans were food insecure in 2013, which has far reaching health and economic impacts.

In 2013, 10.6 percent of the population in Massachusetts experienced food insecurity (2). Although Massachusetts has a lower food insecurity rate than the national average, food insecurity in the Commonwealth is now almost 40 percent higher than it was before the start of the 2008 recession (3).

Global and National Factors Correlated with Food Insecurity

In order to understand the possible causes of food insecurity in the Commonwealth, it is important to first consider global and national factors correlated with food insecurity and then extrapolate them to the state level. The World Food Programme (WFP) and the Food and Agriculture Organization of the United Nations (FAO) indicate that global hunger and undernourishment² have declined since 1990, while the Economist Intelligence Unit, a prominent

¹ Food security for a household means access by all members at all times to enough food for an active, healthy life. Food security includes at a minimum:

- The ready availability of nutritionally adequate and safe foods
- Assured ability to acquire acceptable foods in socially acceptable ways (that is, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies)

² The WFP and FAO use metrics called “hunger” and “prevalence of undernourishment” respectively to measure food insecurity. These institutions intend these metric titles to convey the complex interactions of variables within the measurements that assess food insecurity.

international research group, has determined that the GFSI has risen globally by 0.9 percent since 2012, meaning that populations are generally more food secure (4-6).

In a world that is progressively less hungry and more food secure, the causes attributed to food insecurity are diverse. The WFP cites six pivotal circumstances that contribute to global food insecurity, each interconnected and intensified by the other. These include a lack of investment in agriculture; climate and weather; war and displacement; unstable markets; food waste; and poverty (7, 8). However, in the United States, poverty is the primary driver of food insecurity (9, 10).

The rate of food insecurity among households living below the federal poverty line in the United States is 35.1 percent, while the rate is 4.9 percent for households that have an income 185 percent or more of the federal poverty line (10). Still, there are food secure households living below the poverty line and food insecure households living above the poverty line, indicating that poverty and food insecurity are not perfectly correlated. Therefore, looking beyond poverty status is crucial in understanding the factors that contribute to food insecurity.

Other demographic characteristics correlated with food insecurity include low education, lack of home ownership, negative income shocks, lack of access to credit, lack of access to health care coverage, race and ethnicity, single parent households, unemployment, Supplemental Nutrition Assistance Program (SNAP) participation, and poor health status (10). Each of these factors is heightened by poverty. For example, a negative income shock, possibly from a sudden job loss or loss of SNAP benefits, will affect a household in poverty more than its higher income counterpart. Households close to the poverty line will therefore have fewer resources to allocate to unplanned expenses, such as unexpected health care costs or unforeseen increases in household size, forcing tradeoffs between food and other necessities.

Consequences of Food Insecurity

While food insecurity often consists of short episodes of hunger or inadequate food intake, the consequences of food insecurity extend far beyond these immediate impacts. The health effects of food insecurity persist for years and can affect people throughout their lives. These impacts are especially visible in food insecure seniors, many of whom are more likely to have low nutrient intakes, which impacts both mental health and risk of chronic disease (11). In addition, food insecurity can affect the mental development of young children and correlates with reduced academic and employment achievement. Early incidence of food insecurity can result in lower academic performance and increased behavioral challenges (12). Many of these consequences are observed in households that experience only marginal food security (12). These observations suggest that the impacts of food insecurity might be farther reaching than current metrics indicate.

Health Impacts of Food Insecurity

Studies show that individuals facing food insecurity are at a higher risk for many chronic diseases. Food insecurity in non-elderly adults with household incomes below 200 percent of the federal poverty line is associated with higher prevalence of hypertension and diabetes (13). Food insecure individuals with chronic diseases are more likely to experience complications than food secure individuals.

The consequences of food insecurity are especially impactful for children because they are at a crucial stage of development, which can cause lifelong health consequences. Childhood malnourishment due to food insecurity compromises the immune system, leaving those affected more at risk for frequent illness (14). Studies have shown that food insecure children are more

likely to experience frequent headaches and stomachaches; higher hospitalization rates; iron deficiency anemia; higher numbers of chronic health conditions; and poor health in general. In addition, mental health disorders are more common among food insecure children, including higher rates of anxiety, depression, and suicidal symptoms in adolescents (12). Food insecurity in children is also associated with a greater risk of being overweight or obese due to the lower diet quality associated with hunger (15). Overweight and obesity rates in the United States are at an all time high and addressing food security is one means of reducing these numbers.

Seniors who experience food insecurity are also at risk for a variety of adverse health outcomes (11). Food insecure seniors are more likely to have lower nutrient intakes than other food insecure populations, and compared to younger age cohorts, they experienced more severe health outcomes as a result of food insecurity. This is of special concern because the rate of food insecurity among seniors is growing more rapidly than among any other group. Between 2001 and 2011, the rate of food insecurity amongst seniors has more than doubled in the United States (11).

Impact on Military Preparedness

Certain programs targeted at addressing food insecurity, such as the National School Lunch Program, initially began after the Second World War as widespread childhood undernourishment was leaving many children unfit for future military service (16). Currently, poor nutrition is again causing concern for national security: 27 percent of the young adult population is too heavy to serve in the military (17). As previously stated, food insecurity related obesity is a contributing factor to this statistic.

Economic Impacts of Food Insecurity

While the health consequences of food insecurity are often individually experienced, the economic impacts affect the entire society. Food insecurity contributes to a wide variety of chronic diseases that pose an immense economic burden on the healthcare system (13). Studies show strong correlations between food insecurity and cardiovascular risk factors, and correlations between food insecurity and diabetes in individuals experiencing severe food insecurity (13). In 2012, cardiovascular disease and diabetes cost the nation \$312.6 billion and \$245 billion, respectively, in health care expenditures and lost productivity (18, 19). Many of these health care expenditures are placed on the state budget. In 2012, healthcare spending accounted for nearly 41% of the Massachusetts state budget (20).

Food insecurity also has negative effects on the economy through decreased academic performance (12, 21). Poor academic achievement has a direct effect on an individual's lifetime earning potential. For example, food insecure children are less likely to graduate from high school and may have higher levels of hyperactivity, absenteeism, and tardiness, all of which are linked with an increased likelihood of school failure. High school dropouts on average earn \$260,000 less over a career than high school graduates (22).

Food insecure adults also have higher rates of absenteeism. Absenteeism in the workplace is estimated to cost roughly \$660 per employee per year (23). This can lead to a vicious cycle of poverty in which individuals lack access to critical resources, leading to impoverishment in subsequent generations (24).

The Center for American Progress estimates "America's Hunger Bill," the overall cost of food insecurity to society from increased health and education expenditures, lost workforce contribution, and the cost of charitable responses to hunger. In 2010, this "Hunger Bill" came to

roughly \$167.5 billion. The burden for Massachusetts in 2010 was estimated to be \$2.72 billion, which represented roughly a 37.7 percent increase since 2007 (14).

Another way of quantifying the economic burden of food insecurity is looking at the food budget shortfall, calculated by Feeding America. The food budget shortfall is a measure of the additional amount of money that food insecure individuals require to meet their food needs. The overall annual budget shortfall for Massachusetts in 2012 was \$389,637,000, an increase of 37 percent over the 2009-2011 average food budget shortfall (25).

CURRENT STATUS OF FOOD INSECURITY IN MASSACHUSETTS

This section of the report uses data from multiple sources to provide an assessment of food insecurity in the Commonwealth of Massachusetts at the state, county, and congressional district level (Appendix A). This information can be used to target policy interventions to specific geographic areas and populations that are most in need. Data on food insecurity for specific demographic characteristics of the population at the state level is limited. This report draws on the findings in the literature review to determine which populations are most vulnerable to food insecurity and presents information about where those populations are located in Massachusetts.

National Trends in Food Insecurity

In the United States, 14.3 percent of all households and 19.5 percent of households with children were food insecure for at least some time during 2013 (2). The national rates of both food insecurity and child food insecurity increased in the wake of the 2008 economic crisis. Both rates are lower in Massachusetts than the national average. Still, food insecurity is a significant problem in the Commonwealth. In 2012, over 700,000 people (11.9%) in Massachusetts were food insecure, including over 213,000 children (16.6%) (25).

The USDA measure cited above is the statistic most commonly used to describe food security. However, it is likely that this measure underestimates the actual rate of food insecurity. Other measures have estimated food insecurity in Massachusetts at 15 percent in 2012 (25.1). USDA considers households with marginal food security (one or two reported indications of limited access to food or worry regarding the household food supply) to be food secure although they do report some level of food insecurity on the survey. Additionally, the USDA survey does not fully capture their own definition of food insecurity. Components such as food for an “active, healthy lifestyle” and the “ability to acquire acceptable foods in socially acceptable ways” are not included in the survey. Some food insecure households could easily be excluded with current data collection methods.

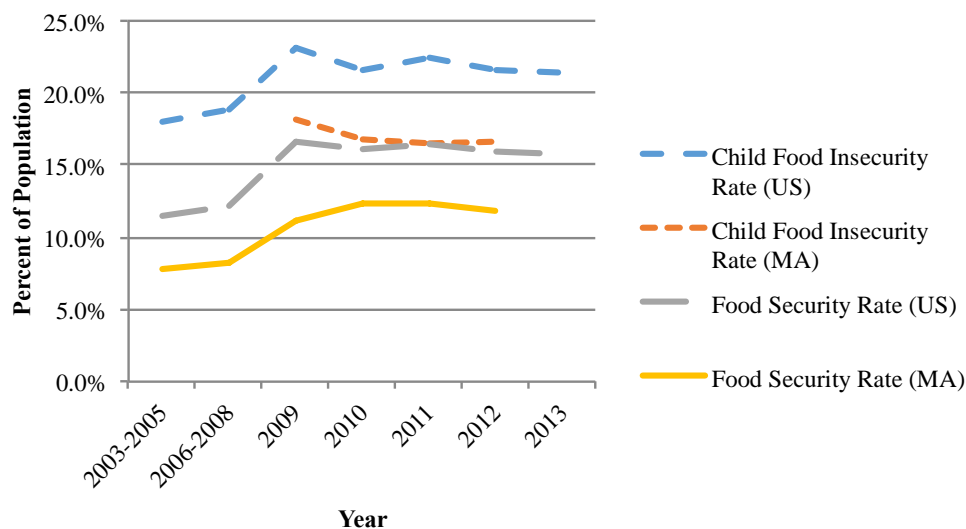
Food Insecurity in Massachusetts

Map the Meal Gap data from Feeding America was used to determine rates of food insecurity on a county level for the Commonwealth (25). Information on the dataset, additional charts by congressional district, and Massachusetts county and U.S. congressional district reference maps can be found in Appendices A through C.

The food insecurity rate and child food insecurity rate in Massachusetts vary by county. In 2012, the food insecurity rate in was 11.9 percent and the child food insecurity rate was 16.6 percent (25). The overall and child rates are highest in Suffolk, Hampden, and Bristol counties. In the same year, the congressional districts with the highest overall food insecurity rates were districts seven, one, and two and the districts with the highest child food insecurity rates were

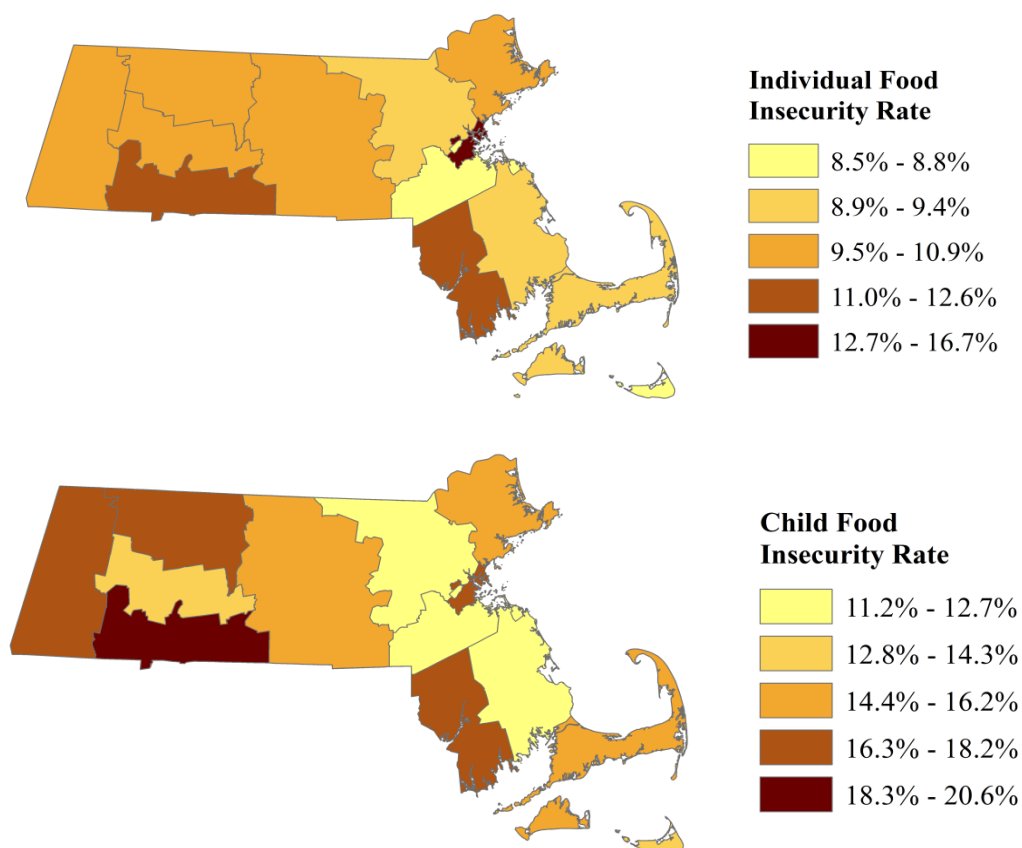
districts seven, one, and three. More information about food insecurity by congressional district can be found in Appendix B.

Figure 1. Trends in the food insecurity rate*



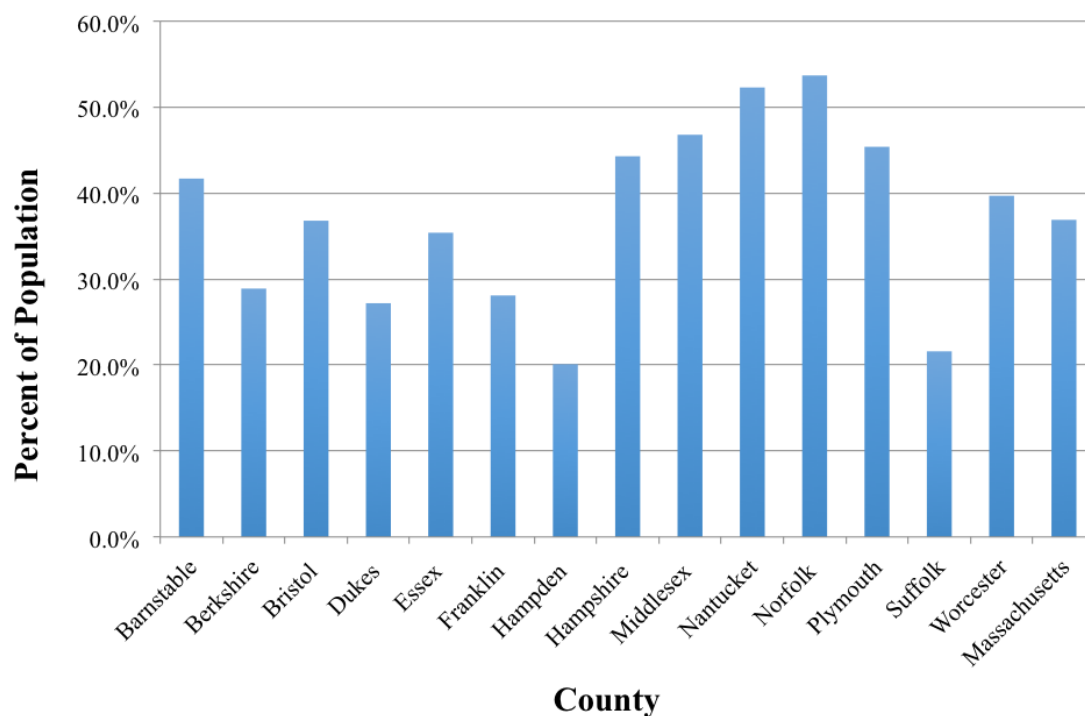
*This chart displays food insecurity rates on the individual level.

Figure 2. Food insecurity rate and child food insecurity rate in Massachusetts by county in 2012



The eligibility threshold for SNAP and other federal services in Massachusetts is 200 percent of the federal poverty line for most of the population. Across all counties, there were nearly 259,000 people who were food insecure but did not meet the income guidelines to qualify for SNAP in 2012. The number of people was highest in Middlesex, Worcester, and Norfolk counties (25).

Figure 3. Percent of population that was both food insecure and above 200% of the federal poverty line in Massachusetts in 2012



Demographic Diversity and Food Insecurity in Massachusetts

Nationwide, food insecurity rates are higher in the following demographic groups (2):

- Households with children, especially under the age of 6
- Single parent households
- Households with a Black or Hispanic head of household³
- Households with income below 185 percent of the federal poverty line
- Households in cities and rural areas (as opposed to suburban areas)

Studies suggest that veteran status (26), disability status (27), and SNAP participation (28) are also associated with food insecurity (see Table 2). No state-level analysis has yet been conducted to tie food insecurity status to demographic characteristics in Massachusetts. However, assuming Massachusetts reflects nationwide patterns, national correlations can be used to predict at-risk populations in Massachusetts.

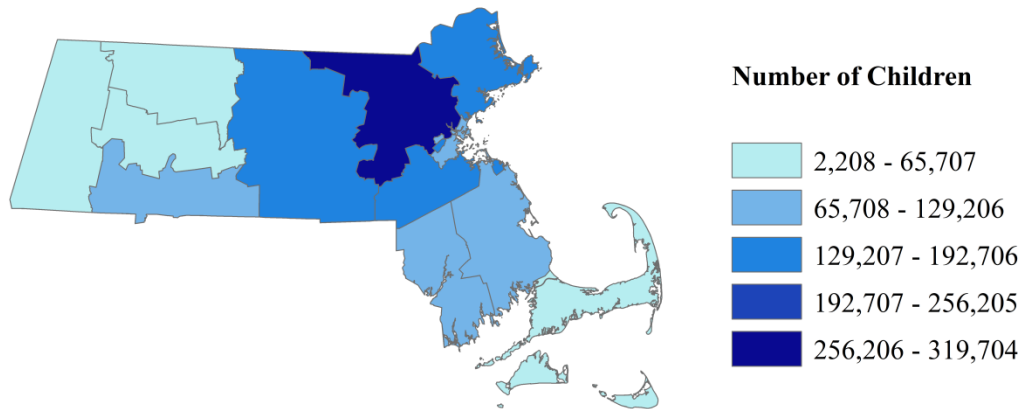
To inform the Massachusetts Food System Plan, it is important to understand where these at-risk individuals are located within the Commonwealth so resources and programs can be

³ Race and ethnicity terms used are taken from US Census Bureau American Community Survey definitions.

directed efficiently. Included below are descriptions of the distribution of selected characteristics within the Commonwealth (Table 1 and 2).

According to the USDA, households with children are more likely to be food insecure (2). Middlesex County has the largest number of children, followed by Worcester and Essex counties. Nantucket County has the fewest number of children with a population size of just over 2,000 total children. See Table 1 for more information on children in Massachusetts by county.

Figure 4. Number of children by county in Massachusetts



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Table 1: Massachusetts At-risk Populations by County

County	Food Insecurity Rate	Child Food Insecurity Rate	Number Under 185% of Poverty	Percent Under 185% of Poverty	Population Under 18	Percent Under 18	Black	Percent Black	Hispanic	Percent Hispanic
Barnstable	9%	16%	39,628	18%	37,061	17%	4,538	2%	4,779	2%
Berkshire	11%	17%	29,180	22%	25,163	19%	3,479	3%	4,524	4%
Bristol	12%	18%	144,598	26%	121,759	22%	20,034	4%	33,137	6%
Dukes	9%	15%	3,943	24%	3,150	19%	656	4%	75	1%
Essex	10%	16%	175,952	24%	171,593	23%	26,816	4%	123,280	17%
Franklin	10%	17%	19,968	28%	13,982	20%	644	1%	2,301	3%
Hampden	13%	21%	156,898	34%	109,113	24%	40,649	9%	96,925	21%
Hampshire	10%	14%	34,582	22%	26,354	17%	3,901	3%	7,589	5%
Middlesex	9%	12%	266,880	18%	319,704	21%	69,773	5%	99,041	7%
Nantucket	9%	13%	1,176	12%	2,208	22%	575	6%	958	10%
Norfolk	9%	11%	97,424	15%	151,035	23%	39,518	6%	22,270	3%
Plymouth	9%	13%	86,685	18%	118,619	24%	41,590	8%	15,898	3%
Suffolk	17%	18%	249,082	34%	127,718	18%	161,767	22%	144,470	20%
Worcester	10%	16%	193,482	24%	186,012	23%	32,407	4%	75,159	9%

Data: Demographic information from US Census American Community Survey 2013. Food insecurity data from Feeding America Map the Meal Gap 2012.

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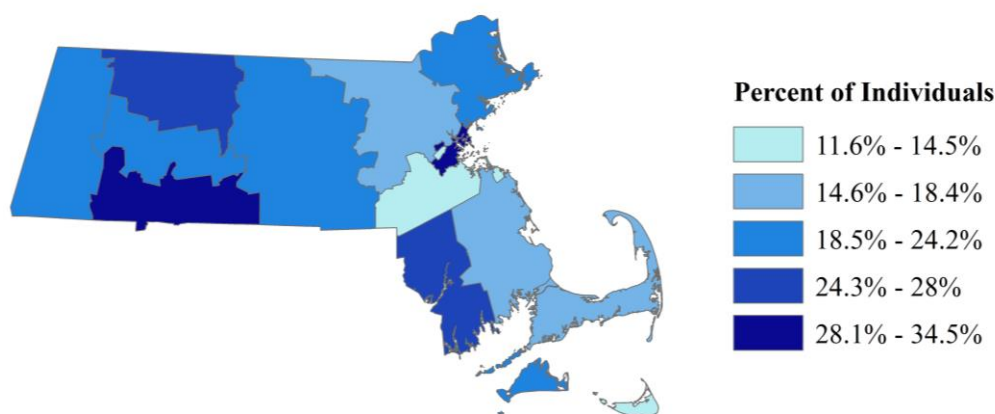
Table 2: Massachusetts Population by Select Characteristics

County	Food Insecurity Rate	Median Household Income	Number Unemployed	Unemployment Rate	Number of Foreign Born	Percent Foreign Born	Number of Veterans	Percent of Veterans	Number of Disabled Individuals	Percent Disabled	Population 65 and Over	Percent 65 and Over
Barnstable	9%	60,424	8,294	5%	13,994	7%	22,648	12%	25,976	13%	54,293	25%
Berkshire	11%	47,513	6,265	6%	6,316	5%	10,880	15%	19,182	10%	24,586	19%
Bristol	12%	55,995	30,965	7%	64,682	12%	35,363	14%	75,910	8%	78,500	14%
Dukes	9%	65,896	431	3%	1,398	8%	1,212	10%	1,706	9%	2,753	17%
Essex	10%	66,918	33,410	6%	110,346	15%	44,748	11%	83,543	8%	106,206	14%
Franklin	10%	53,298	3,233	5%	2,937	4%	6,134	14%	10,181	11%	10,997	15%
Hampden	13%	49,729	23,947	7%	41,073	9%	34,026	10%	70,230	10%	66,394	14%
Hampshire	10%	61,264	7,110	5%	12,901	8%	10,339	8%	15,597	8%	20,336	13%
Middlesex	9%	81,420	58,540	5%	285,907	19%	78,649	7%	133,447	7%	198,698	13%
Nantucket	9%	83,546	196	2%	1,459	14%	565	7%	797	7%	1,238	12%
Norfolk	9%	84,087	27,607	5%	102,245	15%	39,656	8%	63,412	8%	98,116	15%
Plymouth	9%	74,722	24,700	6%	39,641	8%	36,845	10%	53,707	10%	69,591	14%
Suffolk	17%	52,700	43,100	7%	199,646	28%	24,215	4%	84,295	4%	76,359	11%
Worcester	10%	65,968	37,717	6%	88,920	11%	55,594	9%	88,181	9%	103,012	13%

Data: Demographic information from US Census American Community Survey 2013. Food insecurity data from Feeding America Map the Meal Gap 2012.

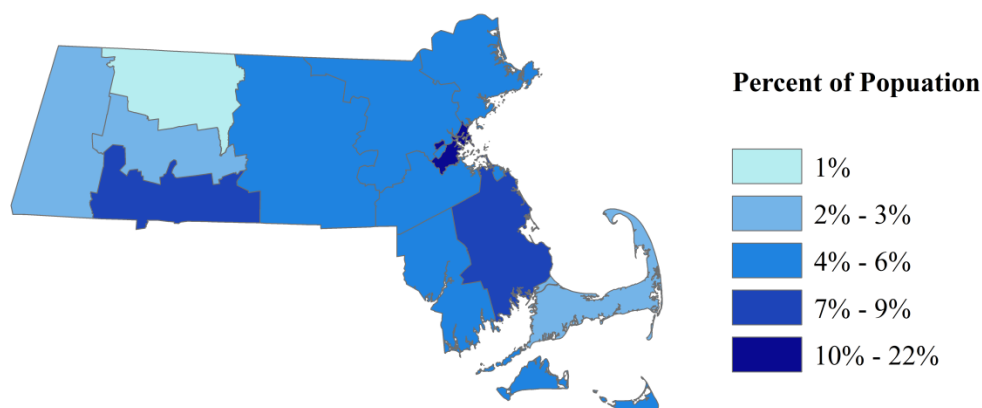
Hampden and Suffolk counties both have a high rate of individuals under 185 percent of the federal poverty line. However, western Massachusetts and Bristol County also have large concentrations of individuals under 185 percent of poverty. Although there are fewer individuals living below 185 percent of the federal poverty line in western Massachusetts, these counties do have a high proportion of their population that meets this threshold. See Table 1 for poverty and food insecurity statistics by county.

Figure 5. Percent of individuals in Massachusetts under 185% of the federal poverty line



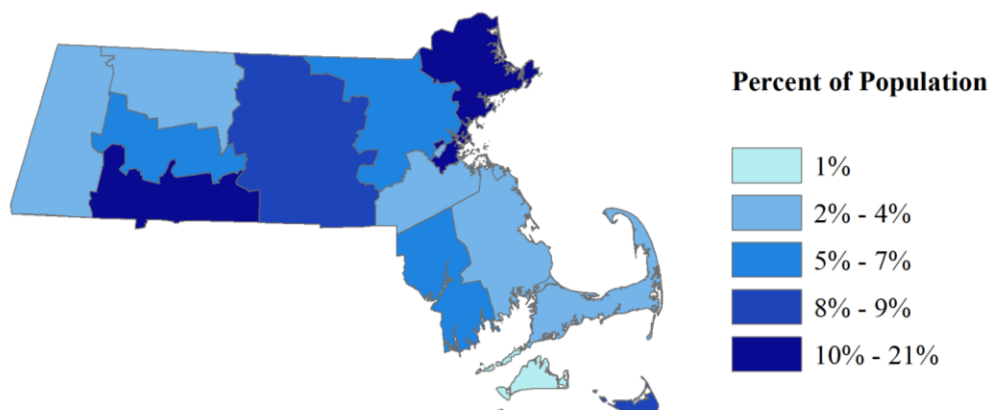
Nationally, households with a Black or African American head of household are more likely to be food insecure (1). Eastern Massachusetts has the largest concentration of individuals who identify as Black or African American. However, nearly all counties have populations that are under 10 percent Black or African American. Suffolk County is the outlier with a population of 22 percent Black and African American.

Figure 6. Percent of the total population in Massachusetts that identifies as Black or African American



Individuals of Hispanic origin are also more likely to be food insecure (2). Hispanic populations are highest in Suffolk, Essex, and Hampden counties. Central Massachusetts also has a larger population of Hispanic individuals relative to the rest of the Commonwealth. See Table 1 for more information on race and ethnicity by county.

Figure 7. Percent of the total population in Massachusetts that identifies as Hispanic



COMBATING FOOD INSECURITY IN MASSACHUSETTS

In 2010, the Massachusetts Food Policy Council was created in part “to support a strong, robust food system where local and healthy foods are accessible to all residents, and job and business opportunities abound” (29). This council brings together stakeholders from government, nonprofit, and for-profit sectors. There are many state and local organizations and initiatives striving to alleviate food insecurity in Massachusetts. These programs target everything from emergency hunger relief to the roots causes of food insecurity.

At the state level, multiple agencies provide ongoing support to people who are food insecure or at risk of becoming food insecure. These agencies include the Departments of Transitional Assistance, Public Health, and Education, and the Executive Office of Elder Affairs. These agencies administer SNAP, WIC⁴, school meal programs, and the elderly food program, respectively. Collectively, these programs serve nearly one million Massachusetts residents (30, 31, 32). These programs offer meals and financial assistance for food procurement, improving the ability of program participants to secure sufficient food for an active and healthy lifestyle.

Mass in Motion (MiM), an innovative statewide program administered by the Department of Public Health, promotes healthy communities by improving access to nutritious foods and opportunities for safe physical activity. Mass in Motion addresses policy, systems and environmental factors that contribute to food security. By working with local schools, restaurants, farmers markets, and other places where people access food, participating MiM communities help ensure the availability of healthy and affordable food options.

At the regional level, food banks are the primary entities addressing food security. The four food banks that serve different regions of Massachusetts are The Greater Boston Food Bank, the Merrimack Valley Food Bank, Worcester County Food Bank, and The Food Bank of Western Massachusetts. Each of these food banks is a clearinghouse for food donations, which

⁴ Special Supplemental Nutrition Program for Women, Infants, and Children

are then delivered to smaller local food pantries and other food access sites. They also serve as regional hubs for education, outreach, and capacity-building activities. One of the following organizational profiles describes food banks further. Regional coalitions of food systems advocates have formed in various parts of the Commonwealth, including the Pioneer Valley Planning Commission and the Southeastern Massachusetts Food Security Network. Both of these regional collaborations take a wide view of food systems that encompasses economic advancement, social justice, environmental sustainability, and public health.

At the municipal level, there are many organizations throughout the Commonwealth involved in increasing food security. The nonprofit sector supplies a broad array of innovative strategies, responding to specific local needs and capitalizing on unique local assets. Community-based approaches to food security help build social support and social capital, which are correlated with lower levels of food insecurity (33). Smaller organizations draw support from both wider networks and local communities. For example, food pantries rely on partnerships with regional food banks, but also collect food donations from within their communities, and are frequently run by volunteers.

ORGANIZATIONAL PROFILES

There are numerous organizations throughout Massachusetts that address food insecurity from a variety of perspectives. The profiles below highlight six organizations doing exemplary work to address food insecurity. These profiles aim to provide a broad view of diverse initiatives targeting both immediate impacts and root causes of food insecurity.

The organizations selected vary in their geographic locations, approaches to food insecurity, and organizational structures. General information collected was drawn from organization websites and executive plans. Additional information related to growth, challenges, and effective strategies was garnered from interviews with selected individuals within the organizations. The profiled organizations include Community Servings, The Food Bank of Western Massachusetts, Groundwork Lawrence, Healthy City Fall River, Nuestras Raíces, and Project Bread.

Community Servings

Delivering meals and hope to individuals and families facing life-threatening illnesses

Organizational Overview



Community Servings' mission is to deliver nutritionally tailored meals to individuals living with critical illness and their families. The organization was founded in 1989 to provide home-delivered meals to people living with HIV/AIDS. Since then, it has grown from a neighborhood program serving 30 individuals to a regional program serving 2,500 meals per day

to clients facing more than 35 different illnesses. They have also added new programs including nutrition education and counseling for clients and the broader community, political advocacy for “food as medicine”, food service job training, and initiatives to support local foods. Currently, Community Servings delivers meals in 18 cities and towns in eastern Massachusetts and Worcester. The organization has 45 staff members and roughly 1,500 volunteers each month. Their funding comes from grants, donations, government contracts, events, and program income.

Meal Program for the Critically Ill

The core of Community Servings' work is to deliver meals to critically ill individuals who cannot shop or cook for themselves and their dependents and caregivers. The meals are nutritionally tailored to the dietary requirements and medical needs of the client. In addition, the organization provides nutrition counseling to help clients manage their nutritional needs during illness. Currently, Community Servings is operating at full capacity serving 1,450 individuals and families and there is a waiting list. While there is no income eligibility requirement, 93% of clients live at or below the federal poverty level and 60% of clients are racial or ethnic minorities. Community Servings' work is crucial because there are insufficient funds and programs to serve this population and clients often do not qualify for government services. This program fills a gap in the food security safety net by focusing on a vulnerable, underserved population and addressing their unique food security needs.

Additional Programs

“Food as Medicine” Initiative: Community Servings advocates for the importance of nutrition services in proper care for critically ill patients and as a means to reduce healthcare costs. In partnership with other organizations, they are advocating for hospitals and insurance providers to integrate medically tailored meals into health care systems.

Food Service Job Training: Community Servings Teaching Kitchen trains individuals who face barriers to employment for jobs in the food service industry. The benefit is twofold: the trainees help prepare meals for the clients, while furthering their ability to gain employment.

Working Together to Address Food Security in Massachusetts

Community Servings is a founding member of the Association of Nutrition Services Agencies (ANSA) a national alliance of nonprofits that work on the behalf of acutely ill people. The association shares ideas and best practices and provides technical assistance to communities that want to start or expand nutrition programs for the critically ill. Community Servings also partners with many organizations in Massachusetts that assist ill and food insecure individuals and is actively engaged in advocacy and research around care for the critically ill.

The Food Bank of Western Massachusetts

Building capacity and partnerships for a hunger free Massachusetts

Organizational Overview



The mission of The Food Bank of Western Massachusetts (FBWM) is to “feed our neighbors in need and lead the community to end hunger”. Since 1982, The Food Bank has been working to distribute food and support charitable organizations that provide food to people in need. They serve agencies and people in Hampden, Hampshire, Franklin, and Berkshire counties. Their 225 member agencies include meal sites, food pantries, homeless shelters, childcare centers, and elder programs. Food is received from state and federal programs as well as corporate and individual donors. Fresh produce for member agencies is grown at local farms, and a local CSA cultivates Food Bank land in exchange for 100,000 pounds of produce annually. In addition to working with member agencies, FBWM runs a mobile food bank to allow for convenient access to customers, especially to families with children. Brown Bag is a similar program that provides healthy groceries to seniors.

Beyond Hunger Relief

While the programs mentioned above strive to alleviate the immediate impact of food insecurity, FBWM also has programs that focus on building long-term food security. One of their most effective strategies is SNAP outreach. Emergency food can only meet a person’s needs for a few days, so the Food Bank actively provides education on SNAP and assistance with applications to help people receive benefits that will increase their food security.

The Food Bank believes that everyone has the right to healthy food regardless of their circumstances. They also recognize that poverty, nutrition, and health are inextricably linked. To promote healthier eating and shopping habits, a staff dietician provides taste tests, recipes, and workshops for customers. The dietician also works with member agencies to improve the nutritional content of meals or groceries offered.

Working Together to Address Food Security in Massachusetts

The FBWM has seen major changes in their clientele since the recession began. The number of clients initially increased dramatically and has continued to rise. They have seen more working families and more people who are visiting a food pantry for the first time.

To meet the increased need, FBWM launched the Network Capacity Building program in 2011. This program strengthens partnerships, integrates services, and builds capacity among member agencies. Many agencies struggled to distribute enough food to meet the increased demand due to limited infrastructure, knowledge, or other resources. The Food Bank responded by providing trainings and assistance to help each member with their unique needs, including support for grant writing, logistics, and volunteer management. They also provide funding for refrigerators and other resources and work with agencies to provide SNAP outreach and other client services. Food distribution has increased by one million pounds per year since the program’s inception. This innovative program has become a model for other food banks around the country.

Aside from relationships with their member agencies, other community partnerships have been critical to their work. FBWM has an extremely large and diverse service area and community partners provide insight into each distinctive community.

Groundwork Lawrence

Improving access to healthy food through environmental and social change

Organizational Overview



Groundwork Lawrence, established in 1999, is committed to “changing places and changing lives” through environmental improvements, fresh food access programs, youth education, and employment initiatives. Groundwork Lawrence engages all of greater Lawrence – residents, youth, nonprofits, city governments, and businesses – in creating the building blocks of a healthy community. Their 17-member staff works with dozens of youth and community members each year.

Engaging Youth and Community in Food System Change

Groundwork Lawrence promotes access to healthy, fresh food through farmers markets, CSAs, community and schoolyard gardens, and backyard container gardens. Their three farmers markets in Lawrence, Mass., accept EBT/SNAP and Senior Farmers Market Coupons and serve as community gathering places. At the markets, their Matching Dollars program provides dollar-for-dollar matching on the first \$10 of SNAP benefits a person spends. They partner with Farmer Dave to operate a community-supported agriculture (CSA) program. In addition, their Share-a-Share program compiles donations from full-price CSA members and other donors to offer subsidized CSA shares and farmers market coupons.

“Environmental conditions are inextricably linked to the economic and social health of a neighborhood.”

Groundwork Lawrence also engages the young people of greater Lawrence. Through their Green Team, they employ dozens of high school students each year in paid, part-time jobs where they grow and sell fresh vegetables, steward urban spaces, serve at farms and hunger relief organizations, and promote healthy eating, physical activity, and environmental awareness in their community. Groundwork Lawrence also partners with local elementary and middle schools to support schoolyard gardens and help to implement educational programming to encourage children to eat healthily and stay active.

Working Together to Address Food Security in Massachusetts

In the city of Lawrence, there are 140 bodegas and just one grocery store. Many people operate on limited budgets and limited access to a vehicle. Some of Groundwork Lawrence’s largest challenges are in getting healthy, affordable food to convenient outlets and making people aware of where to get healthy food and how to use government assistance to purchase this food. In other words, they strive to “make it easy for folks to make the healthy choice.”

Groundwork Lawrence partners with a variety of other stakeholders in Massachusetts to address these challenges. First, Groundwork Lawrence is part of the Groundwork USA network. Originally created to address the environmental concerns surrounding brownfields, the core of the Groundwork model is meeting the needs of the local community, so many Groundwork organizations now focus strongly on fresh food access. Groundwork Lawrence shares ideas and solutions with other organizations such as Nuestras Raíces, Growing Gardens, and The Food Project. They also participate in formal partnerships such as the Massachusetts Urban Parks Advocates and partner with government agencies such as the Massachusetts Department of Transitional Assistance.

Healthy City Fall River

Acting on a shared vision for a healthier community

Organizational Overview



Healthy City Fall River is an initiative of Partners for a Healthier Community and the City of Fall River that works to improve and sustain the health and quality of life of the people of Fall River.

On February 27th, 2003, the city's 200th birthday, the Mayor's Office and Partners for a Healthier Community convened over 100 community leaders in a visioning session. Over the course of the following year, these groups held 30 visioning sessions and engaged over 1,000 community members, leading to the identification of five

Action Priorities and the formulation of a five-year Action Plan to address them. The first Action Plan was launched in August 2004 and projects were undertaken to address the priority issues. In lieu of a single mission statement, Healthy City Fall River conducts a new community needs assessment every five years to establish the next set of Action Priorities to make Fall River a healthier place to live. In 2013, Healthy City Fall River was recognized for its outstanding work by being awarded the Robert Wood Johnson Foundation Roadmaps to Health Prize.

"There isn't one sentence you can use to address all the issues that contribute to food insecurity."

Working Together to Address Food Security in Massachusetts

Healthy City Fall River facilitates partnerships among many organizations, the city, and the community in order to meet the community's needs. Through these partnerships, Fall River is able to leverage its assets and work more efficiently to meet the diverse needs of its constituents.

Summer Meals for School Children

About 70 percent of children in Fall River schools qualify for free lunch at school, leaving them potentially food insecure during the summer months. Fall River's summer lunch program serves children in city parks. In 2014, over 25,000 lunches were served in 18 different locations.

Farmers Markets at Southcoast Hospitals

In order to increase access to fresh fruits and vegetables, Southcoast Hospitals Group hosts public farmers markets in three local hospitals in and around Fall River. Leftover produce is purchased by the hospital and distributed to local food pantries.

Fall River Fitness Challenge

Since 2007, the Great Fall River Fitness Challenge has helped thousands of participants achieve weight-loss, diet, and other health goals through individual or team participation in the annual Fitness Challenge. The Challenge begins with a health fair to screen for potential health issues and it awards prizes for meeting goals. Participants gain access to free and low-cost fitness classes and cooking and nutrition classes help empower participants to sustain their good health beyond the challenge.

Nuestras Raíces

A model for community led “Agri-Cultural” development

Organizational Overview



Nuestras Raíces, or “Our Roots,” is a grassroots nonprofit started by Puerto Rican migrant farmers aiming to create change in their community through their shared agricultural expertise. Based in Holyoke, Nuestras Raíces aims to “create healthy environments, celebrate agri-culture, harness our collective energy, and advance our vision of a just and sustainable future.” Though Holyoke is externally recognized as a place of extreme poverty, high unemployment, and gang violence, Nuestras Raíces has created a community model that focuses on assets and mobilizes residents to see themselves as actors and change makers in their community.

La Finca (The Farm)

Nuestras Raíces aims to promote increased health and emotional well being of residents through the cultivation of culturally appropriate and locally grown food within the Holyoke community, adapting to the cultural customs of its Puerto Rican population base. Initiatives include beginning farmer training, a network of ten community gardens, and a youth apprenticeship program. Their innovative programming focuses on meeting people where they are and encourages the cultivation of produce that is culturally relevant to those that grow it. Farmers from the program in turn aid in alleviating community wide food security through local produce sales. La Finca also serves as an incubator for other small businesses, promoting economic development through agriculture.

“We define food security as reliable, affordable access to quality, healthy foods in our communities...It means more than just the ability to get to the grocery store, it means the availability to find what you want to buy at that grocery store at a price point you can afford”

Working Together to Address Food Security in Massachusetts

One of the biggest challenges Nuestras Raíces faces is their limited ability to scale up production. They place an emphasis on preparing for America as it will look 50 years from now, and believe that national agriculture will need to adapt to the culinary customs of a larger immigrant population.

Their success comes in part due to close partnerships with local government and the Massachusetts Department of Agricultural Resources. In addition, several institutional partnerships have expanded their efforts. In addition to a learning exchange with the Central American incubator program at the University of Connecticut, their collaboration with the University of Massachusetts is especially critical. UMass is engaged in the development of crop cultivars, developing stable parent seed stocks of traditional Puerto Rican crops. This partnership is critical in scaling up production and creating reliable seed for culturally relevant crops not typically encountered in standard grocery stores.

Project Bread

A model for anti-hunger advocacy

Organizational Overview



Established in 1969, Project Bread is most well known for the Walk for Hunger, but has since developed numerous other initiatives to create a comprehensive approach to reducing hunger statewide. Project Bread is the only statewide anti-hunger organization in Massachusetts, and operates in a wide range of locations based on need. The organization raises money and invests in community-based programs, educates to remove stigma associated with hunger, empowers stakeholders to collaborate to build solutions together, and advocates for anti-hunger policies that

build participation in intervention programs.

Project Bread's Work

Initiatives include multi-million dollar investments in community-based programs, the FoodSource Hotline, the annual Walk for Hunger, enrolling low-income children in federal nutrition programs, an annual status report on hunger in Massachusetts, nutrition education, and political advocacy. They bring a “fresh approach to ending hunger” through multi-sector partnerships with three distinct goals:

- Promote sustainable and reliable access to healthy food for all
- Invest in the strength and resiliency of local communities
- Collaborate with others in building a robust regional food system

Working Together to Address Food Security in Massachusetts

Project Bread's public policy agenda is committed to building support behind programs that provide healthy food to low-income people in a consistent, non-stigmatizing way. They believe that the best way to increase food security is to build support for statewide participation in federal nutrition programs such as WIC, SNAP, the Summer Food Service Program, and the National School Lunch Program. To achieve these goals, they work collaboratively with state agencies such as the Department of Transitional Assistance, which administers SNAP, and the Department of Elementary and Secondary Education, which implements school and summer meal programs. They have also developed relationships with state representatives and senators to aid in implementation of their goals.

“Food security is having sustainable, reliable access to nutritious food. The opposite of hungry isn't simply full – it's *healthy*.”

Recent Policy Victories

Project Bread recently achieved substantial increases in two fiscal year 2015 budget line items: an additional \$200,000 for the School Breakfast Program (7053-1925), and \$125,000 for the Massachusetts Farm to School Project (2511-0100). Project Bread also supported a pilot program advocated by Rep. Kolcotsky that is detailed in line item 7004-0101; it provides nutritious meals for homeless families placed in hotels and motels

Organizational Profile Discussion: Crosscutting Themes and Challenges

The six organizations profiled view food security not as simply having an adequate amount of food, but rather having nutritious food. Furthermore, food must be culturally appropriate, and, in the case of the medically tailored meals delivered by Community Servings, able to meet specific health needs. All of the organizations share a focus on increasing access to fresh fruits and vegetables. Some grow them directly, such as Nuestras Raíces and Groundwork Lawrence, while others offer nutrition education to help people integrate healthy foods into their diets, like The Food Bank of Western Massachusetts and Healthy City Fall River.

Another key theme is building community capacity. All of the organizations profiled rely upon networks of community partners that facilitate sharing of information and resources in order to broaden the reach and impact of programs. Connecting individuals with resources in their communities is also a significant part of building community capacity. Healthy City Fall River has seen immense success with their annual Fitness Challenge, which connects participants with community organizations and resources to help them achieve their health and fitness goals. Community resilience and collaboration form the core of Project Bread's mission to make healthy food available to all. Groundwork Lawrence focuses on youth engagement to build capacity for future generations.

All six organizations effectively address the immediate needs of those facing food insecurity while striving to make changes to the underlying systems that perpetuate the problem. The Food Bank of Western Massachusetts articulates its two-pronged mission as both feeding neighbors in need and ending hunger altogether. While it continually distributes food to partners throughout its region, it also engages in outreach and capacity building to strengthen regional food security. Project Bread raises funds to support emergency food access while raising awareness of the factors driving food insecurity in Massachusetts.

In addition to similar successes and approaches, many of the organizations profiled face similar challenges. Most of the challenges arise from limited organizational capacity and the need to serve an increased number of food insecure individuals. Other challenges include the difficulties of working with a diverse and high-need population and the stigma associated with seeking food assistance.

The biggest challenge identified by the organizations profiled is a lack of funding. Organizational capacity also poses challenges. Lack of coolers and freezers has limited the amount of food, especially fresh produce, that food pantries can distribute. Limited land availability for Nuestras Raíces has impacted their capacity to meet the demand for culturally appropriate foods. Additionally, donors and foundations are hesitant to provide funding for staff and administrative needs, preferring instead to pay for operational needs like food costs. However, many programs, such as the educational programming offered by Groundwork Lawrence, are very staff intensive. Thus, funding for staff members is critical to providing services to their clients.

A large demand for services has further constrained the provision of adequate services. Since the 2008 recession, organizations have seen an increase in the food insecure population that has yet to subside. The Food Bank of Western Massachusetts has seen major increases in the number of working people seeking emergency food, as well as an increase in first-time clients. Poor economic conditions in Puerto Rico have led to an influx of immigrants to Holyoke, increasing the demand for Nuestras Raíces' services.

All of these organizations recognize the challenges of working with diverse, underserved populations with varied needs and diets. Community Servings has found that, for their critically

ill clients, it is difficult to acquire medically appropriate foods, and additional resources are lacking to help these individuals provide food and necessities for their families. Healthy City Fall River works with a large homeless population that faces a myriad of issues. Many of these individuals have no access to food preparation or washing facilities and food and nutrition are not priorities. Finally, seeking food assistance remains stigmatized in the eyes of many people and Project Bread sees this as a barrier to individuals seeking out food assistance.

RECOMMENDATIONS

From the information, data, and organizational profiles presented in this report, there are many opportunities for the Commonwealth to address not only the current state of food security, but also its root causes. The recommendations below draw on information from the authors' analysis and from key informant interviews with the six organizations profiled in this report.

Target Resources to the Most Vulnerable and Underserved Populations

Target resources that alleviate food insecurity to areas with high concentrations of vulnerable and underserved populations. Though there is no comprehensive state-level data to correlate population characteristics with risk of food insecurity, this report uses national correlations to determine vulnerable populations and identify where the largest concentrations of those people are in Massachusetts. While all food insecure people should be assisted, these areas should be a high priority for funding and programs (see Table 3). Additionally, state-level data should be collected to better understand the relationship between food insecurity and demographic and geographic characteristics.

In addition to the vulnerable populations listed in Table 3, the Commonwealth should focus on other food insecure individuals who have unique needs or are underserved by food insecurity programs. These populations include seniors and veterans, as well as people who are disabled, critically ill, ineligible for federal assistance programs, or live in rural areas. The policies and programs used to address food insecurity should be tailored to the specific needs of the individuals served. Tailored programs will more effectively alleviate food insecurity than standardized solutions.

Table 3: Counties with the Largest Concentration of Selected Populations At-risk for Food Insecurity

Food insecurity rate	Suffolk, Hampden, Bristol
Number of food insecure individuals	Middlesex, Suffolk, Worcester
Child food insecurity rate	Hampden, Bristol, Suffolk
Number of food insecure children	Middlesex, Worcester, Essex
Percent Black or African American	Suffolk, Hampden, Plymouth
Number of Black or African American individuals	Suffolk, Middlesex, Plymouth
Percent Hispanic	Hampden, Suffolk, Essex
Number of Hispanic individuals	Suffolk, Essex, Hampden
Percent of individuals under 185% FPL	Suffolk, Hampden, Franklin
Number of individuals under 185% FPL	Middlesex, Suffolk, Worcester

Data: Demographic data from US Census American Community Survey 2013. Food insecurity data from Feeding America Map the Meal Gap 2012.

Partner Food Insecurity and Healthcare Organizations

Due to the negative health impacts and cost to the healthcare system, food security must be viewed within the broader context of healthcare. The Commonwealth should promote and facilitate partnerships between food insecurity and healthcare organizations and ensure that hospital community benefit dollars are meeting the needs of food insecure individuals. Section 9007 of the Affordable Care Act (ACA) provides a funding mechanism to facilitate these relationships. Specifically, non-profit hospitals must provide ‘community benefits’ to justify their tax-exempt status. The community benefit is a financial investment in the community based on a community-wide needs assessment. With fewer uninsured patients than prior to the enactment of the ACA, these hospitals have more resources that can be invested in the community for an identified need such as preventing and alleviating food insecurity. Hospitals have already used these funds to support development of healthy food retail stores in food deserts, subsidize farmers market participation, and facilitate food rescue for distribution at food pantries.

Additionally, hospitals can assist in identification of food insecure individuals through routine screenings and effectively connect these patients with resources. Massachusetts General Hospital is already conducting food insecurity screenings for seniors and youth and connecting food insecure individuals to community resources. Stronger partnerships with food insecurity organizations can ensure that hospitals are connecting individuals with the best available resources and community benefit dollars are meeting the needs of the community.

Support Poverty Reduction Measures

Poverty is the largest contributing factor to food insecurity in the United States. Thus, reduction of food insecurity in Massachusetts must be seen as part of a larger effort to reduce poverty. Poverty reduction measures such as job creation, low-income housing, affordable childcare, affordable healthcare, and investment in small businesses would also help to improve food security. A number of effective poverty reduction measures are already in place, such as the plan to increase minimum wage to \$11.00 per hour by 2017 and the success of the 2014 ballot question to mandate paid sick time for employees. Additionally, Massachusetts should aim to increase participation in existing anti-poverty efforts and to promote both increased and more stable funding for the organizations engaged in poverty reduction work, such as Action for Boston Community Development (ABCD) and Horizons for Homeless Children.

Expand the Healthy Incentives Pilot Program

The Healthy Incentives Pilot (HIP) Program, piloted in Hampden County in 2011, provided SNAP participants with a 30-cent incentive for every dollar of SNAP benefits spent on fruits and vegetables at participating retailers (34). Results from the pilot show that HIP participants consumed about 26 percent more fruits and vegetables per day than nonparticipants. In contrast to programs that incentivize direct purchasing from farmers, HIP dollars could be used where individuals already shopped – superstores, grocery stores, and convenience stores. Though the program has expired and not yet been initiated in any other counties in Massachusetts, it is a model for food security that emphasizes flexibility to participants’ needs and customs by working within their current environments. This program should be expanded to other counties in Massachusetts to incentivize healthy food purchasing and allow greater accessibility to fruits and vegetables for SNAP participants.

Support the Massachusetts Food Innovation Trust Fund

Advocate for funding the Massachusetts Food Innovation Trust Fund (FITF), both in the Environmental Bond Bill and in the fiscal year 2016 budget. Similar to the FreshWorks Fund in California and the Pennsylvania Fresh Food Financing Initiative, the FITF is a flexible financing program that supports food retail development in low-income areas through loans and grants. Government seed money attracts public and private investor capital that builds a fund worth several times its starting value. The FITF supports traditional grocery store access and non-traditional, innovative food enterprises, including community kitchens, community supported agriculture, farmers markets, and urban farms (35). Food retail development increases food security and enhances the statewide food economy through improved healthy food access and job creation, making the business of food access more lucrative and therefore more sustainable (36).

CONCLUSION

Although the rate of food insecurity in Massachusetts is below the national average, the Commonwealth still has a large number of food insecure individuals and children. In 2012, 11.9 percent of individuals in the Commonwealth were food insecure and 16.6 percent of children lived in food insecure households. The individual and child food insecurity rates are highest in Suffolk, Hampden, and Bristol counties.

Certain populations have a higher risk of food insecurity, including households with children, people who identify as Black or Hispanic, and households with income below 185 percent of the federal poverty line. Food insecurity rates are also higher in urban and rural areas than in suburban areas. When allocating resources to address food insecurity, these vulnerable populations should be prioritized.

Many organizations in Massachusetts are working to promote food security. This report profiles six organizations that are doing exemplary work in this area: Community Servings, The Food Bank of Western Massachusetts, Groundwork Lawrence, Healthy City Fall River, Nuestras Raíces, and Project Bread. These programs can serve as models as efforts to reduce food insecurity in Massachusetts are strengthened and expanded.

To enhance the work these organizations are doing, the authors suggest that the following actions be considered:

- Target resources to the most vulnerable and underserved populations
- Partner food insecurity and healthcare organizations
- Support poverty reduction measures
- Expand the Healthy Incentives Pilot (HIP)
- Support the Massachusetts Food Innovation Trust Fund

The consequences of food insecurity extend far beyond a basic lack of food. The health and economic impacts both for individuals and society as a whole make addressing food insecurity a critically important issue to include in the Massachusetts Food Systems Plan.

APPENDICES

Appendix A: Datasets

The Map the Meal Gap data is compiled by Feeding America. It contains data from the years 2009 through 2012, aggregated by county and congressional district. The dataset includes the rate of food insecurity, the number of food insecure people, the rate of child food insecurity, the number of food insecure children, the rate of food insecurity among people above 200% of the federal poverty level, the average meal cost, and food budget shortfalls.

The Current Population Survey Food Security Supplement (CPS-FSS) is compiled by the US Census Bureau. It contains survey responses from the Current Population Survey for 605,372 individuals surveyed nationwide between 2010 and 2013. The dataset was used to inform the “Household Food Security in the United States in 2013” report released by the USDA and also informed this report.

The 2013 American Community Survey is compiled from the US Census Bureau. It is an ongoing survey conducted annually. Data presented in this report represent five-year averages of Census Bureau data to show general demographic trends.

Appendix B: Additional Food Insecurity Data

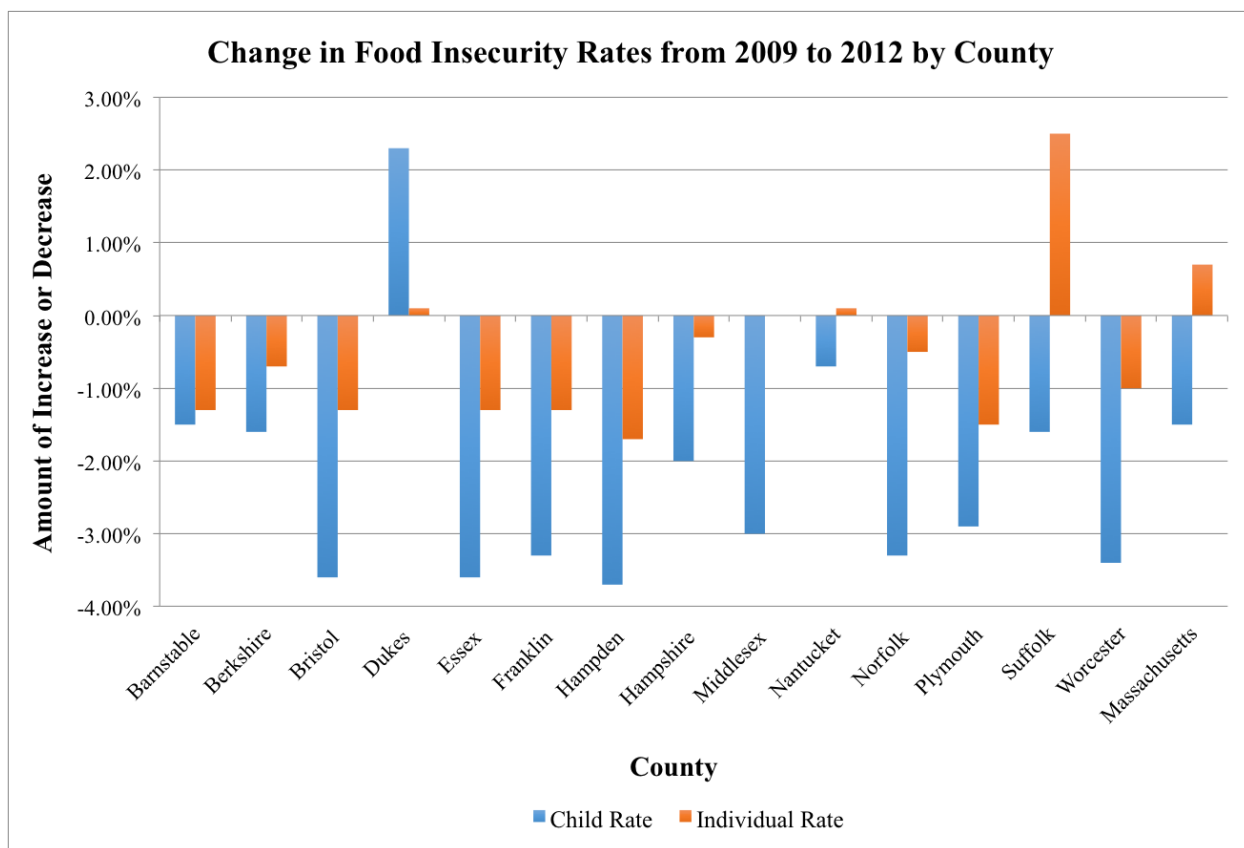
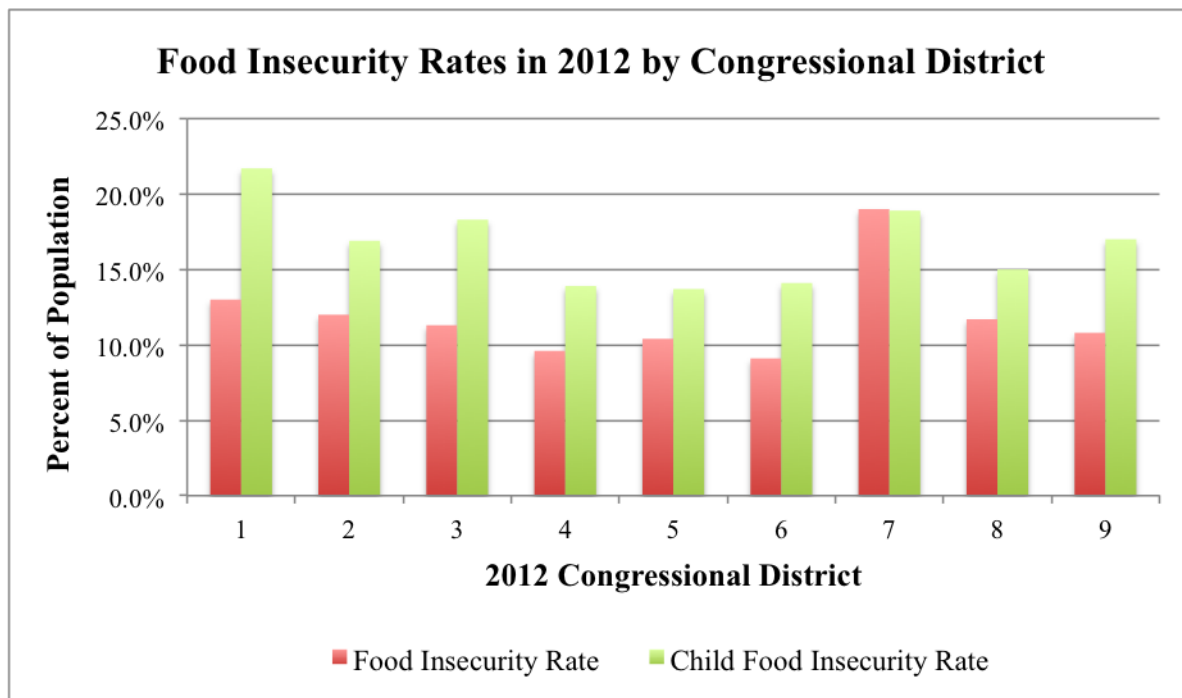


Figure 8. Individual Food Insecurity Rate by U.S. Congressional District in 2012

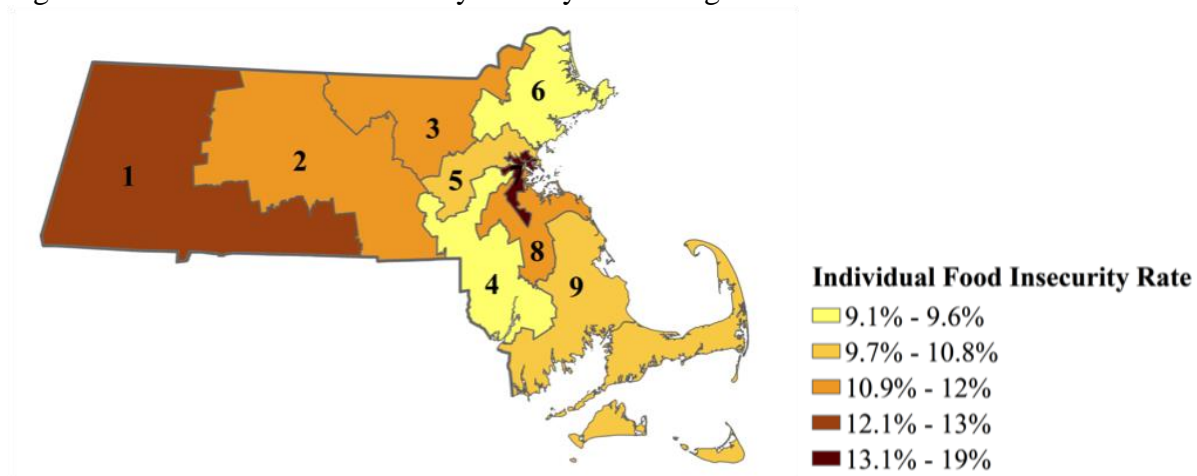
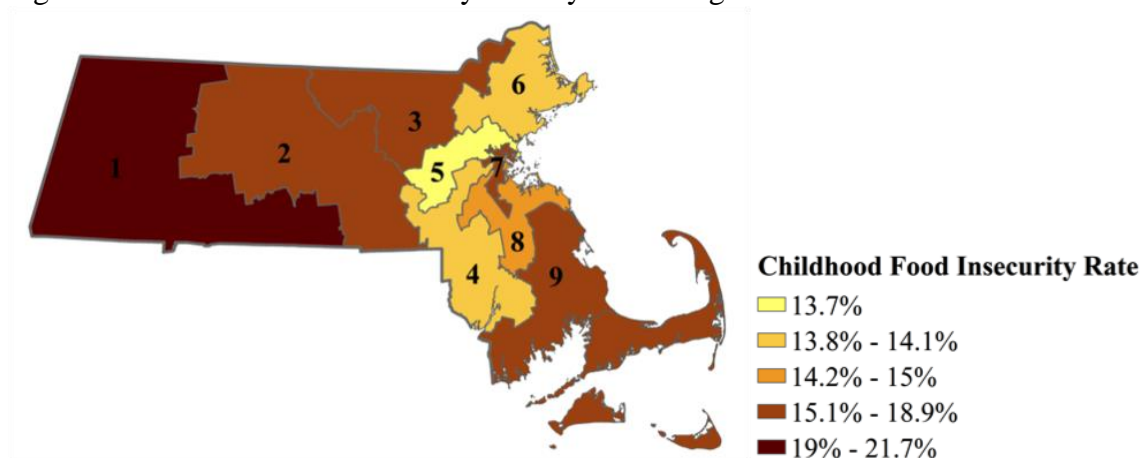


Figure 9: Childhood Food Insecurity Rate by U.S. Congressional District in 2012



Appendix C: Reference Maps

Figure 10: Massachusetts Counties

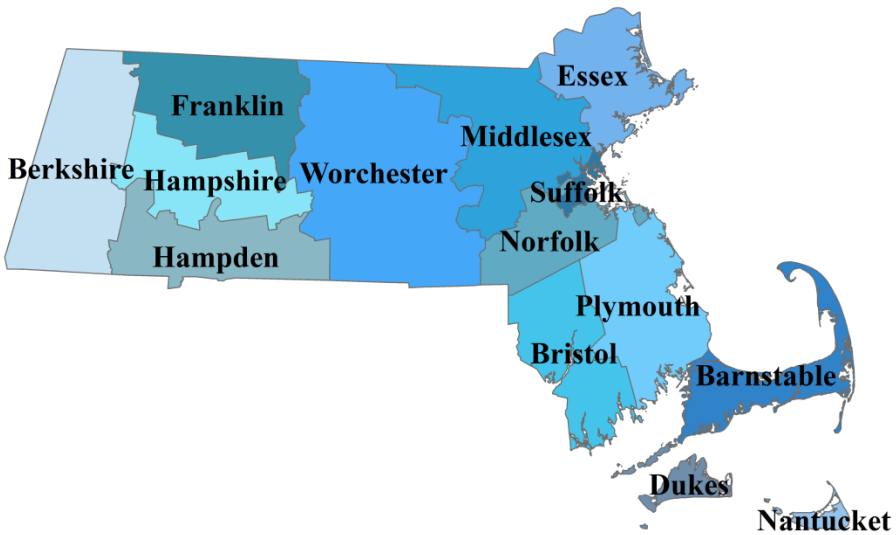
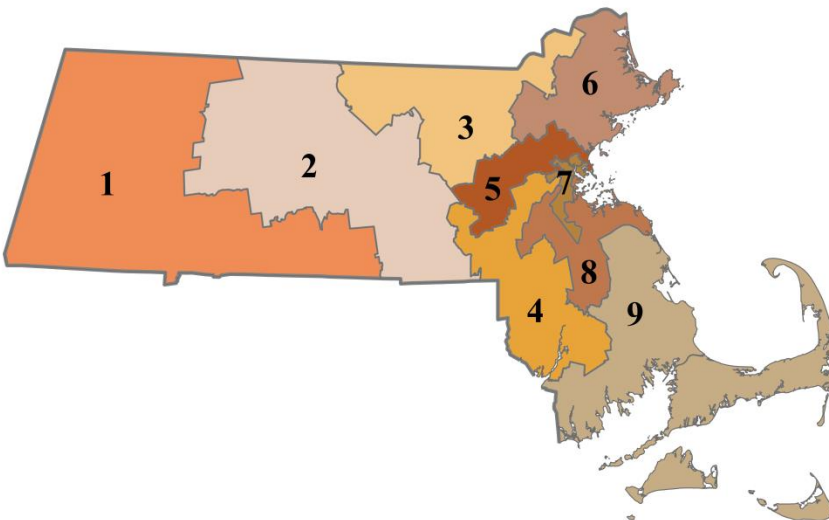


Figure 11: US Congressional Districts in Massachusetts (113th)



WORKS CITED

1. Economist Intelligence Unit. (2014) Global Food Security Index: Rankings and Trends. Retrieved from <http://foodsecurityindex.eiu.com/Index>
2. Coleman-Jensen, A., Christian, G., & Singh, A. (2014, September). Household Food Security in the United States in 2013, ERR-173. U.S. Department of Agriculture, Economic Research Service. Retrieved from <http://www.ers.usda.gov/publications/err-economic-research-report/err173.aspx>
3. 2013 Status Report on Hunger in Massachusetts, Project Bread, 2013.
4. State of Food Insecurity 2014, Food and Agriculture Organization of the United Nations, 2014.
5. Economist Intelligence Unit. (2014) Global Food Security Index, October 2014. [Data excel file]. Retrieved from <http://foodsecurityindex.eiu.com/Index>
6. World Food Programme. (2014, January). Retrieved from <http://www.wfp.org/hunger/causes>
7. Ecker, O. & Breisinger, C. (2012). The Food Security System: A New Conceptual Framework.
8. International Food Policy Research Institute, Discussion Paper 01166. Retrieved from <http://www.ifpri.org/sites/default/files/publications/ifpridp01166.pdf>
9. Wight, V., Thampi, K. & Briggs, J. (2010, August 1). Who Are America's Poor Children? Examining Food Insecurity Among Children in the United States, National Center for Children in Poverty.
10. Bartfeld, J. & Wang, L. (2006, August 1). Local-Level Predictors of Household Food Insecurity. Institute for Research on Poverty.
11. Feeding America. (2013). Spotlight on Senior Hunger: Executive Summary. Feeding America and National Foundation to End Senior Hunger. Retrieved from <http://www.nfesh.org/wp-content/uploads/2013/05/Senior-Hunger-Research.pdf>
12. Nord, M. (2009). Food Insecurity in Households with Children: Prevalence, Severity, and Household Characteristics. Economic Information Bulletin Number 56. US Department of Agriculture
13. Seligman, H. K., Laraia, B. A. & Kushel, M. B. (2010). Food Insecurity Is Associated with Chronic Disease among Low-Income NHANES Participants. *Journal of Nutrition*, 140(2), 304–310.
14. Shepard, D. S., Setren, E. & Cooper, D. (2011, October). Hunger in America: Suffering We All Pay For. Center for American Progress. Retrieved from http://cdn.americanprogress.org/wp-content/uploads/issues/2011/10/pdf/hunger_paper.pdf
15. Child Trends Data Bank. (2014, July). Food Insecurity: Indicators on Children and Youth. Retrieved from http://www.childtrends.org/wp-content/uploads/2012/10/117_Food_Insecurity.pdf
16. Wilde, P. (2013). Food Policy in the United States: An Introduction. Earthscan Food and Agriculture.
17. Mission: Readiness. (2010). Too Fat to Fight. Retrieved from: http://cdn.missionreadiness.org/MR_Too_Fat_to_Fight-1.pdf
18. Centers for Disease Control and Prevention. (2014). Heart Disease. Retrieved from <http://www.cdc.gov/heartdisease/faqs.htm>
19. American Diabetes Association. (2013). Economic Costs of Diabetes in the U.S. in 2012. Retrieved from <http://care.diabetesjournals.org/content/36/4/1033.full>

20. Patrick, D. L. & Murray, T. P. (2014). Issues in Brief - Addressing Health Care Costs. Retrieved from http://www.mass.gov/bb/h1/fy13h1/exec_13/hbudbrief4.htm
21. The Impact of Food Insecurity on the Development of Young Low-Income Black and Latino Children. (2006). Joint Center for Political and Economic Studies. Retrieved from http://www.childrenshealthwatch.org/upload/resource/children_of_color_5_06.pdf
22. Hickson, M., Cuba, S. E. de, Weiss, I., Donofrio, G. & Cook, J. (n.d.). Feeding Our Human Capital: Food Insecurity and Tomorrow's Workforce. Part II of II. Children's HealthWatch. Retrieved from http://www.promedica.org/workfiles/patient_resources/promedica/Childrens%20HealthWatch-2.pdf
23. Costly Problem of Unscheduled Absenteeism Continues to Perplex Employers. (2005). Retrieved November 19, 2014, from <http://hr.cch.com/press/releases/absenteeism/>
24. MacDonald, R., Webster, C. & Garthwaite, K. (2010). The low-pay, no-pay cycle: Understanding recurrent poverty. York: Joseph Rowntree Foundation.
25. Gundersen, C., Engelhard, E., Satoh, A. & E. Waxman. Map the Meal Gap 2014: Food Insecurity Estimates at the County Level. Feeding America, 2014.
- 25.1 Food Research and Action Center. (2013). Food Hardship in America 2012, Data for the Nation, States, 100 MSAs, and Every Congressional District. Available at http://frac.org/pdf/food_hardship_2012.pdf
26. Widome, R., Jensen, A., Bangerter, A. & Fu, S. S. (2014). Food insecurity among veterans of the US wars in Iraq and Afghanistan. *Public Health Nutrition*, 1-6.
27. Huang, J., Guo, B. & Kim, Y. (2010). Food insecurity and disability: Do economic resources matter? *Social Science Research*, 39(1), 111-124.
28. Mabli, J., Ohls, J., Dragoset, L., Castner, L. & Santos, B. (2013, August). Measuring the effect of Supplemental Nutrition Assistance Program (SNAP) participation on food security. US Department of Agriculture, Food and Nutrition Service. Retrieved from <http://www.fns.usda.gov/sites/default/files/Measuring2013.pdf>.
29. Massachusetts Food Policy Council (FPC). (2012, August). Retrieved from <http://www.mass.gov/eea/agencies/agr/boards-commissions/food-policy-council.html>
30. USDA Food and Nutrition Service. (2014, November 7). National School Lunch Program: Total Participation (Data as of November 7, 2014). Retrieved from <http://www.fns.usda.gov/sites/default/files/pd/01slfypart.pdf>
31. USDA Food and Nutrition Service. (2014, November 7). Supplemental Nutrition Assistance Program: Number of Persons Participating (Data as of November 7, 2014). Retrieved from <http://www.fns.usda.gov/sites/default/files/pd/29SNAPcurrPP.pdf>
32. USDA Food and Nutrition Service. (2014, November 7). WIC Program: Total Participation (Data as of November 7, 2014). Retrieved from <http://www.fns.usda.gov/sites/default/files/pd/27wilatest.pdf>
33. Chhabra, S., Falciglia, G. A., & Lee, S.-Y. (2014). Social Capital, Social Support, and Food Insecurity in Food Pantry Users. *Ecology of Food and Nutrition*, 53(6), 678–692. doi:10.1080/03670244.2014.933737
34. Bartlett, S., Klerman, J., Olsho, L., Logan, C., Blocklin, M., Beauregard, M., Enver, A., Wilde, P., Owens, C. (2014). Evaluation of the Healthy Incentives Pilot (HIP). Food and Nutrition Service, Office of Policy Support. Retrieved from <http://www.fns.usda.gov/sites/default/files/HIP-Final.pdf>

35. Line item 2500-7023 An Act providing for the preservation and improvement of land, parks, and clean energy in the Commonwealth, H. 3332, 188th General Court of Massachusetts. (2013) Retrieved from Massachusetts Legislature Database.

36. Manon, M., & Tucker, J. (2012). Stimulating Grocery Development in Massachusetts. Massachusetts Grocery Access Task Force.