

Food Insecurity Among Children in Massachusetts

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In the wake of the economic crisis in 2008, the number of Americans experiencing food insecurity—defined as limited access to sufficient nutritious food necessary to lead an active and healthy life—rose to 50.1 million in 2011, 16.6 million of whom are children [13].

The U.S. Department of Agriculture (USDA) and the Census Bureau differentiate levels of food security with very low food security—the most severe food-insecure condition measured by the USDA—characterized by family members who report repeated episodes of both inadequate dietary quality and quantity of food [40]. Although Massachusetts falls below the national average for household food insecurity, almost 12% of its households in 2011 dealt with food insecurity and 4.5% with very low food security [13].

Nationwide, households with children experience higher rates of food insecurity than the national average, with rates as high as 22% (more than 1 in 5) for households with children under six. Also at increased risk are households headed by a single parent (36.8% for women and 24.9% for men), and of Hispanic and black families (26.2% and 25.1%, respectively) [13].

Of food insecure families with children, 85% have a working adult in the home and 70% have a full-time worker [40], underlining the impact of low wages on a family's ability to feed its members adequately.

Food insecurity threatens health, cognition, and emotional regulation at any age. However, it particularly jeopardizes the health and development of children, who may experience concurrent and persistent impairments, depending on the chronicity and developmental timing of food insecurity. Food insecurity thus poses a serious risk to the growth, health, cognitive, and behavioral potential of America's and the Commonwealth's poor and near-poor children [16].

Paradoxically, food insecurity can be associated with obesity. Insufficient financial resources and the pernicious effects of advertising encourage families to purchase cheap but filling foods which are nutrient-poor but energy-dense, contributing not only to children's iron deficiency and decreased bone density, but also to obesity.

Food insecurity also has serious and increasing economic costs to the country. In 2005, scholars estimated that the total cost burden of hunger in the U.S.—considering factors such as impaired educational outcomes, costs associated with mental and physical illnesses linked to inadequate nutrition, and charity required to help families get through another day—is a minimum of \$90 billion annually [8]. That number has since risen to \$167.5 billion nationally, and in 2010, it was \$2.72 billion in Massachusetts for health, educational, and emergency intervention [46].

CHILD FOOD INSECURITY IN MASSACHUSETTS

Scope of the Problem

While the USDA provides food security statistics based on Census data, Feeding America, a national hunger-relief organization, utilizes a different methodology through indicators such as poverty, unemployment, and median income, and provides statistics on children living in food-insecure families at the state and county level.

According to Feeding America, the Massachusetts state average for child food insecurity in 2010 was 16.8%, higher than the USDA estimate. The highest rates in 2010 were Hampden County (21.6%), Bristol County (18.6%), and Suffolk County (17.6%) [24]. Only two counties in Massachusetts — Dukes and Norfolk — experienced rates lower than 12%.

Project Bread, a statewide anti-hunger organization, reported that the food insecurity rate in Massachusetts has grown more than 43% since the start of the recession in 2008 [45]. The increase in food insecurity is connected to the Commonwealth's widening wage gap, one of the widest in the nation. High average incomes mask the poverty and food insecurity issues faced by low-income communities in places such as Springfield, Lowell, Lawrence, Fall River, Brockton, New Bedford, Worcester, selected neighborhoods of Boston and rural areas [45].

Figure 1 demonstrates the dramatically increased rates of household and child food insecurity starting in the recession years. These figures are for Boston-area families with young children using the emergency department at Boston Medical Center.

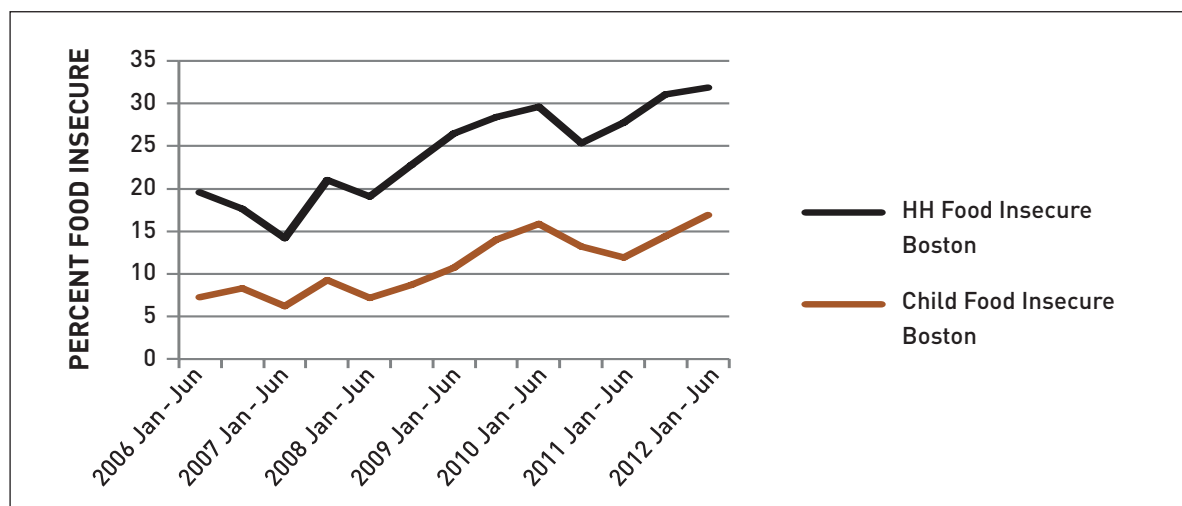


Figure 1: Food insecurity increased dramatically from 2006-2012 among Boston-area families with young children

Source: Children's HealthWatch, 2006-2012

Impacts of Food Insecurity on the Health of Children

There are special concerns about the effects of food insecurity and nutrition on the health of both the mother and the child, from conception through the prenatal period and during the interval before and between pregnancies [34]. The mother's nutritional status before she conceives, as well as her experience of food insecurity and poor nutrition during pregnancy, is linked to a host of perinatal problems and complications.

Of particular concern is the risk of food-insecure mothers entering pregnancy with insufficient iron stores and low-folate diets, which are linked to complications such as preterm births, fetal growth retardation, and birth defects. These risks are especially critical for black, Latina, and single mothers whose children are at heightened risk of adverse outcomes [10, 18, 25, 34, 41, 42].

Deprivation in early life also has dramatic impacts on health. Particularly vulnerable are infants and toddlers because they are undergoing rapid growth of body and brain, when deprivation can shape future trajectories of health, and cognitive, motor, social, and emotional development [16].

Our work in Children’s HealthWatch focuses on the youngest children, from birth to age four, in five states, including Massachusetts. We found that in comparison to food-secure children, food-insecure children have 90% greater odds of having their health reported as fair or poor and 31% greater odds of having been hospitalized since birth [17].

A study in Worcester is particularly relevant for the consequences of this problem within Massachusetts. In this study, moderate hunger significantly predicted poor health in preschool-aged children, while more severe hunger significantly predicted chronic illness, anxiety, and depression among both preschool-aged and school-aged children [49].

Also at heightened risk are children of recent immigrants. Although 93% of children of immigrants are U.S. citizens and therefore eligible for federal assistance, these programs often do not reach them. Reasons for this include confusion about eligibility in mixed status families, fear of the impact on future ability to adjust the family’s immigration status, and other barriers like parents’ limited English proficiency.

Thus, children of immigrants participate in child nutrition programs at much lower rates than children of U.S.-born parents, increasing their chances of food insecurity [9]. In fact, studies show that although immigrant mothers are more likely to be married, breastfeed their children, and have fewer low birth-weight babies than U.S.-born mothers, children of immigrant mothers are at increased risk of household food insecurity and consequent poor health [7, 12, 30, 31, 32].

Many studies examine associations between household food insecurity (or food insufficiency, an earlier measurement tool for food insecurity) and older children’s health, school performance, and psychosocial functioning. Behavioral, emotional, and academic problems are more prevalent in hungry children, with aggression and anxiety having the strongest association with hunger [33].

In comparison to children ages 6-11 years in food-sufficient families, children ages 6-11 years in food-insufficient families have lower arithmetic scores and are more likely to repeat a grade, see a psychologist, and have more difficulty getting along with other children [1]. Children younger than 12 years categorized as hungry or at risk of hunger are significantly more likely than non-hungry children to have impaired functioning, hyperactivity, absenteeism, and tardiness [30]. Among 15-16 year-olds, children from food-insufficient households are significantly more likely to have dysthymia, thoughts of death, a desire to die, and attempted suicide [2].

Public Programs Ameliorating the Impact of Economic Stressors Associated with Food Insecurity in Massachusetts

The state leverages federal programs—including the Supplemental Nutrition Assistance Program (SNAP—formerly food stamps); the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); Child and Adult Care Feeding Program (CACFP); and free or reduced-price school meal programs—to address food insecurity in childhood.

Income eligibility for these programs is determined primarily through using a percentage of the federal poverty guideline. In 2012, a household of four people was considered poor if it earned no more than \$23,050 per year or \$1,921 per month [48]. Program eligibility for families with children in Massachusetts includes having gross income no greater than 200% of the federal poverty guidelines for SNAP, 185% for WIC and reduced price school meals, and 130% for free school meals [15]. There are also state-specific nutrition programs such as the Massachusetts Emergency Food Assistance Program (MEFAP).

Children’s HealthWatch and other research groups have shown that these programs exert important protective effects on children’s food security, health, and development. However, not all eligible children receive the needed benefits nationally or in Massachusetts. Moreover, in Massachusetts—with our high cost of living—even maximal allowable benefits are often not fully adequate. Using a medical analogy: These programs are very good medicine, but the dose is often not fully therapeutic.

A mother's receipt of WIC is associated with decreased risk of low birth-weight and therefore lower attendant special care costs. In comparison to infants and toddlers who are unable to receive WIC benefits due to access problems, infants and toddlers who receive WIC are more likely to be in good health, have no developmental delays, and have a healthy weight and height for their age [6].

Similarly, SNAP—whose benefits are fully funded by the federal government—partially mitigates the effect of food insecurity on the health status of infants and toddlers, although it does not eliminate it completely [17]. SNAP can also protect against obesity among food-insecure girls, improve children's dietary intake, and reduce the risk for developmental delays among young children [26]. SNAP has lifelong benefits: A longitudinal study showed prenatal or early childhood exposure to SNAP reduces the likelihood of developing metabolic syndrome (obesity, hypertension, diabetes, heart disease) in adulthood [28].

For parents who struggle to provide enough food for their families, meal programs such as the CACFP and the school meals programs are a lifeline. CACFP is a federal nutrition assistance program that provides reimbursements for food served to young children in child care centers, family day care homes, after-school programs, and emergency shelters, as well as adults in long-term care facilities. Parents often rely on child care and after-school programs so that they can work. CACFP plays an important role in raising the quality of the care by providing nutritious meals and making the programs more affordable to parents, since the care providers receive a reimbursement for the meals served [19].

CACFP has been shown to sustain the health of young children in child care. For example, a 2010 study found that children who were receiving CACFP meals were more likely to be a healthy weight and height for their age, less likely to be in fair or poor health, and less likely to be hospitalized, than children whose meals were supplied from home [23].

Similarly, the national school lunch and breakfast programs ensure that school-age children are receiving nutritious meals. Across the state on an average day, 80% of children who are eligible for free or reduced price meals participate in school lunch and 35% of children eligible for free or reduced price meals participate in school breakfast.

The school breakfast program is an important component of the nutritional safety net and has been linked to positive changes in nutritional and educational outcomes. In Lowell, the implementation of school breakfast in elementary school is associated with decreased absenteeism, decreased tardiness, and increased standardized test scores [38], a finding replicated in Philadelphia [39].

The school breakfast program reduces the risk of household food insecurity in several ways: by providing meals to children who might otherwise have to miss a meal, freeing up household resources to feed other family members, and reducing the uncertainty surrounding availability of sufficient food [4]. Children who participate in school lunch have superior nutritional intakes compared to those who do not participate [43]. These programs cannot, however, fully buffer other shocks to family incomes. Other inadequately met survival needs contribute to undernutrition in children.

Sometimes getting ahead may mean falling behind, also known as the "Cliff Effect" [44]. Many families whose incomes exceed the eligibility cut-off for benefit programs—such as child care, SNAP or WIC—may still be unable to avoid food insecurity without assistance, if the costs of competing basic needs (e.g., energy or housing) or work supports (e.g. child care) are overwhelming [11]. Housing and energy costs, which are high in Massachusetts, are two factors that are often not considered when talking about food security [16].

Children's HealthWatch examined the relationships between receiving housing subsidies and nutritional and health status among low-income, food-insecure children younger than three years who lived in rented housing. Among these children, those whose families were on waiting lists for housing subsidies had significantly lower weight for their age than children in similar families already receiving subsidies [37].

As of January 2012, Massachusetts Section 8 Housing had a wait list of 103,226 households—and 64% of these households had children [14]. Because very few new housing vouchers are currently being issued in Massachusetts, most households on the wait list must depend on turnover. This situation results in an average wait time of years rather than months [3], during which time the health of their children may be jeopardized by poor housing and nutritional deprivation.

Another study evaluated the association between a family's participation in the federal Low-Income Home Energy Assistance Program (LIHEAP) and other forms of state and philanthropic energy assistance, and the size, weight and health of its young children. This study found that children in non-recipient households had a greater likelihood of being at nutritional risk for growth problems. Moreover, children from eligible households not receiving LIHEAP had a greater likelihood of acute hospitalization on the day of the interview [21]. These findings highlight the trade-offs that low-income parents must make during times of extreme temperature variations [5, 22].

Housing and heating are directly related to food insecurity as parents face their finite income and the bills that must be paid. Seasonal fluctuations (e.g., higher costs for heating in winter) can force parents to make choices between paying for housing/heating or affording nutritious food. Recent trends in energy and food price increases indicate that this "heat or eat" threat to child health, growth, and development is likely to increase in the future [16].

Another factor that impacts children's food security is out-of-pocket medical costs, whether for adults or children. When the high cost of health care forces families to forego paying for basic household expenses, children's health suffers. Children in families that report not paying their rent or mortgage payment, utilities, transportation, food, or other basic expenses in order to pay for medical care or prescriptions are more likely to be in fair or poor health, be at risk for developmental delays, be food insecure, and have mothers who are in fair or poor health and/or depressed [29].

POTENTIAL LEGISLATIVE AND ADMINISTRATIVE INTERVENTIONS

There are several important policy implications of the research detailed above. We briefly state them here and follow with a more in-depth description of each issue.

1. At the federal level, state lawmakers can lend their voices to protect nutrition assistance programs from cuts in the current budget struggles.

At the state level, state lawmakers can:

2. Sustain and increase state contributions to:
 - a. SNAP administrative funds, including frontline caseworkers who process applications; and
 - b. WIC, supporting the Governor's proposal for continued state WIC funding in budget line 4513-1002.
3. Advocate with USDA to ask for reconsideration of SNAP overpayment charges for Massachusetts dating from the Great Recession.
4. Streamline and update MassHealth processes for special situations:
 - a. Categorize enteral formulas and similar nutritional supplements as pharmaceutical items, not as durable medical equipment;
 - b. Create a special category of prior approval for special nutritional supplements requiring a 3-day window instead of the current 15-day period in which prior authorization must be processed; and
 - c. Provide an emergency supply of formula via WIC or other mechanisms, pending authorization and appeals processes.
5. Improve participation in CACFP by increasing funding for meal reimbursements and streamlining program paperwork.
6. Eliminate stigmatization of the breakfast program by making it universal in low-income districts, removing barriers to program access by institutionalizing breakfast after the bell and inside classrooms.
7. Improve the quality of school meals served by bringing in the best selection of fresh, commodity foods.

8. Sustain funding for MEFAP.
9. Consider an income tax credit of up to \$5,000 for persons engaged in commercial agricultural production for donations of food.

Detailed Explanation of Policy Implications

Current ideologically driven budget cutting measures in Washington, D.C. — including sequestration, changes to the Farm Bill, and cuts in housing and energy programs — will exacerbate food insecurity and hardship for families in Massachusetts and around the country. One study estimates 60,497 jobs will be lost in Massachusetts if the cuts happen [35].

Lawmakers can advocate with colleagues on the federal level to prevent cuts in nutrition programs, citing the projected impact here at home. Key programs like WIC are at risk, with more than 9,600 pregnant women and children likely to lose benefits. SNAP, although technically protected, could be used to offset cuts to another program. Such cuts would only increase the problem of hunger and food insecurity in Massachusetts.

The federal-level *Healthy, Hunger-Free Kids Act of 2010* provides \$4.5 billion in resources for child nutrition programs. Massachusetts received \$2,707,427 from this fund for SNAP in 2010. In addition, Massachusetts already has in effect *An Act Establishing School Based Nutrition and Childhood Hunger Relief Programs* (1992 Session Laws, Chapter 414). This Act includes authorization for a SNAP outreach program and the implementation of the WIC program.

However, with increased need in the community comes increased need for the state to respond effectively. Lawmakers can support the continuation or the increase of state contributions to (a) SNAP administrative funds, which include funds for frontline caseworkers who process applications and determine eligibility, and (b) the Massachusetts WIC program to ensure that pregnant women, infants and young children can access the nutrition and education to support their health.

Massachusetts is currently facing a \$27 million USDA assessment of overpayments of SNAP benefits. During the Great Recession, unemployment rates rose to double-digit figures and SNAP caseloads surged across the nation. President Obama signed the American Recovery and Reinvestment Act (ARRA), increasing SNAP benefits by 13.6% on average in April of 2009. Between January 2009 and January 2011 alone, the Massachusetts SNAP caseload grew from 318,286 SNAP households to more than 439,836. This change represents a 72.3% increase in SNAP households, demonstrating the huge surge in need in our state.

Since 2005, the average SNAP caseload also climbed from 500 to more than 900 cases per worker in local Department of Transitional Assistance (DTA) offices. Although requested internally and by a variety of state advocates, state appropriations were not made available to increase DTA resources to manage the surge. Thus, caseworkers had trouble processing SNAP renewal applications in the required timely manner. Appropriately concerned about the nutrition of Massachusetts families, when a renewing household had provided all the necessary information, DTA continued SNAP benefits for these households until they had time to more thoroughly review the case.

The USDA subsequently informed the state that this protocol designed to protect families and elders from hunger was not acceptable and benefits for these families awaiting review must stop. The USDA deemed benefits received in this period as overpayments. However, despite the fact that the USDA decided that these benefits were overpayments, the USDA found no fault or fraud on the part of the SNAP recipients [36].

State lawmakers can ask the USDA to show forbearance in tough economic times. In addition, they can ask the USDA to provide sufficient funding to increase staffing and help DTA modernize its eligibility processing. These steps would remove bureaucratic barriers so that families who have played by the rules are not penalized by going hungry due to overburdened state agencies' inability to keep up with processing paperwork.

In July of 2012, the Massachusetts General Court directed the Office of Medicaid to not terminate coverage to recipients who sent in renewal forms in a timely manner (Section 246 of Chapter 224 of the Acts of 2012). This decision was in recognition of the huge demand for health care among low-income households coupled with the difficulty the State had in keeping up with health care renewals. It is important to recognize the toll the recession has taken on all state agencies and to ensure that low-income households that play by the rules are not punished by overburdened state agencies.

State regulatory changes alone could mitigate the development of malnutrition among some particularly vulnerable populations, such as premature and malnourished infants and children with special health care needs. Current Massachusetts law mandates that specialized formulas and supplements for publicly insured premature and sick infants, and older children with special health care needs, require approval as durable medical equipment (DME), subject to the lengthy prior authorization process (130 C.M.R. & 409.13(B)).

Because it is classified as DME, a patient must obtain prior approval from MassHealth to obtain this formula—a process that takes several weeks, involves a large amount of paperwork, and is ripe for administrative error and delay. As of this moment, the risk of delay by administrative error is borne particularly by these vulnerable sick infants. This is because MassHealth makes no provision for the infant to receive an emergency supply while the approval process is pending. However, some formula may be obtainable from WIC for only a month. My colleagues and I have seen infants who, after discharge from lengthy and expensive neonatal intensive care stays, had to be rehospitalized for malnutrition while this process goes on.

In 2012, the Medical Legal Partnership—in conjunction with pediatricians from area hospitals—suggested that in order to prevent morbidity associated with inadequate nutrition in these vulnerable children, the following changes need to be made:

1. Categorization of enteral formulas and similar nutritional supplements as pharmaceutical items, not as durable medical equipment;
2. Creation of a special category of prior approval for special nutritional supplements requiring a 3-day window instead of the current 15-day period in which prior authorization must be processed;
3. Provision of mechanisms to secure an emergency supply of formula pending authorization and appeals processes.

CACFP provides children in child care and after-school programs with nutritious snacks and meals. The program is administered at the state level, although the reimbursements come from the federal government. In Massachusetts, the Department of Elementary and Secondary Education (DESE) is the designated CACFP administrator and the Department of Early Education and Care (DEEC) is the licensing agency for all child care centers in the state.

CACFP helps to meet the nutritional needs of about 50,000 Massachusetts children from low-income families in child care each day. While participation has been increasing overall, less than half of family day care homes participate nationwide. In Massachusetts, 70% of family day care homes participate, still leaving many children without the benefits of the program [27].

The gaps are overwhelmingly due to onerous program requirements and confusing processes for enrollment. There is also confusing and inconsistent agency enforcement of state and federal regulations, in addition to the actual regulations. This situation leaves current participant providers frustrated and discourages new providers from joining [27].

Key changes include: increasing CACFP funding at the federal or state level in order to raise the meal reimbursement rate, reimbursing providers for one additional meal or snack a day, or reimbursing providers for meals that are prepared but not served due to accident or unexpected child absences. In addition, streamlining program paperwork, putting more forms and requirements online, and not requiring handwritten attendance records would reduce frustration among providers and sponsors, improve program retention, and allow them to focus on their most important task, caring for children [27].

Schools across the Commonwealth recognize the importance of starting the day with a nutritious meal. For example, they provide breakfast on standardized testing days, recognizing that empty stomachs impair the concentration necessary to succeed on tests. However, breakfast on a testing day cannot provide a student with information s/he has missed because s/he was hungry the preceding week or month.

School meals programs need regular, sustained support to effectively reach all students who need them. Given that participation is voluntary for the student, whether the program is student-friendly is almost as important as the content of the food. Therefore, institutionalizing support for the program and removing barriers that stigmatize children by singling them out as reduced- or free-meals participants are important.

One effective strategy is allowing classroom mealtime to be counted as instructional time. This approach is not unrealistic because breakfast provides opportunities to discuss issues such as measuring skills, biology, nutrition, ecology, and other educational domains based on the real-world components of the breakfast.

A recent School Breakfast Scorecard found that for the 2011-2012 school year — for the first time nationally — more than half of all low-income students who participated in school lunch also participated in school breakfast, and more than 90% of schools that operate the National School Lunch Program also offered the School Breakfast Program [20].

The goal is to have as many children as possible who eat school lunch to also eat school breakfast, thereby yielding only a small discrepancy between the two percentages. States that ranked high in this report had institutionalized school breakfast in the classroom at the state level. As a state, Massachusetts ranked 42nd. Boston, in comparison with about 55 other urban districts, was 8th in participation. There is much to learn from Boston, which introduced Universal Breakfast and breakfast in the classroom across the district this year [20].

Existing laws dealing with school-based nutrition programs in Massachusetts are a strong foundation upon which to build. To improve participation, Massachusetts must eliminate the stigmatization of the breakfast program by:

- Putting in place a policy of counting breakfast in the classroom as instructional time;
- Making school breakfast universal in low-income districts (in qualifying areas, all meals at the school are designated as free, drawing a higher reimbursement for the school and removing stigma for the children as all are able to eat for free);
- Removing barriers to accessing the program by offering it after the bell and inside the classroom, including second chance breakfast (providing breakfast 'grab and go' bags at a later hour for schools that start very early in the morning).

Lastly, not just the structure but the quality of school meals is important for students' optimal nutrition and well-being. A significant number of the items used in school meals are provided by the USDA through the Schools/Child Nutrition Commodity Programs [47].

A variety of foods are accessible to states on the federal level, such as fresh produce, whole grains and low-sodium frozen vegetables, but not all of these healthy choices are available in Massachusetts at this time. Therefore, the Commonwealth can improve the quality of the food served by bringing in the best selection of fresh, commodity foods.

MEFAP is a state-funded supplementary food assistance program. Agencies, such as the Greater Boston Food Bank, use MEFAP to purchase foods that are distributed free to all eligible emergency food providers, to sponsor nutrition education initiatives, and to help food banks with funding to distribute food to those in need.

MEFAP is integral to the mission of the Commonwealth's emergency food providers to address immediate food needs in their communities. In FY2012, the four Massachusetts Regional Food Banks (the Food Bank of Western Massachusetts, the Greater Boston Food Bank, Merrimack Valley Food Bank, and Worcester County Food Bank) distributed more than 16 million pounds of MEFAP food (representing more than 12.5 million meals) to those in need throughout the state.

With commodity prices continuing to rise and cuts in federal emergency food funding, the food banks rely even more on MEFAP funding as they strive to provide all those in need in the Commonwealth with three meals a day. While not a structural solution, MEFAP is an important emergency response to fighting food insecurity in households in Massachusetts, and funds should be sustained for this program.

Additionally, Massachusetts lawmakers should consider a tax provision similar to Maine's *Act To Support Maine Farms and Alleviate Hunger (Sec. 1. 36 MRSA §5219-FF)*, which provides an income tax credit of up to \$5,000 to persons engaged in commercial agricultural production for donations of food to incorporated nonprofit organizations that provide free food to low-income individuals for the purpose of alleviating hunger. This could support both local food production and local food banks to help address food insecurity.

Children who lack food now cannot eat it later and receive the benefits retroactively. Hence, there is urgency when it comes to ensuring that all children in the Commonwealth of Massachusetts have adequate, nutritious food to be healthy, succeed in school, and someday reach their full potential.

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