

### The Role of the Supplemental Nutrition Assistance Program in Improving Health and Well-Being

The Supplemental Nutrition Assistance Program (SNAP, formerly “food stamps”) is the largest nutrition assistance program administered by the U.S. Department of Agriculture (USDA). SNAP serves as the first line of the nation’s public policy defense against hunger and undernutrition as well as an effective anti-poverty initiative. This invaluable program has a critical role, not just in reducing food insecurity, but in improving the health of the nation, especially among the most vulnerable Americans.

SNAP’s role in improving health is crucially important, given the high rates of food insecurity,<sup>1</sup> obesity,<sup>2,3</sup> and diet-related chronic disease in the nation.<sup>4</sup> Furthermore, leading scholars, economists, and health professionals recognize SNAP’s impacts on health and well-being, for example:

- According to the White House Council of Economic Advisors for the Obama Administration, “a growing body of high-quality research shows that SNAP is highly effective at reducing food insecurity, and in turn has important short-run and long-run benefits for low-income families. SNAP’s benefits are especially evident and wide-ranging for those who receive food assistance as children; they extend beyond the immediate goal of alleviating hunger and include improvements in short-run health and academic performance as well as in long-run health, educational attainment, and economic self-sufficiency.”<sup>5</sup>
- In 2015, two prominent food insecurity and poverty scholars wrote: “simply put, SNAP should be viewed as an important health care intervention for low-income Americans.”<sup>6</sup>
- James Marks, MD, MPH, of the Robert Wood Johnson Foundation, wrote in 2012: “SNAP helps families stretch their food dollars to alleviate hunger and buy healthier foods ... As we strive for a full economic recovery and a healthier nation, supporting SNAP is both the right thing to do and the smart thing to do.”<sup>7</sup>

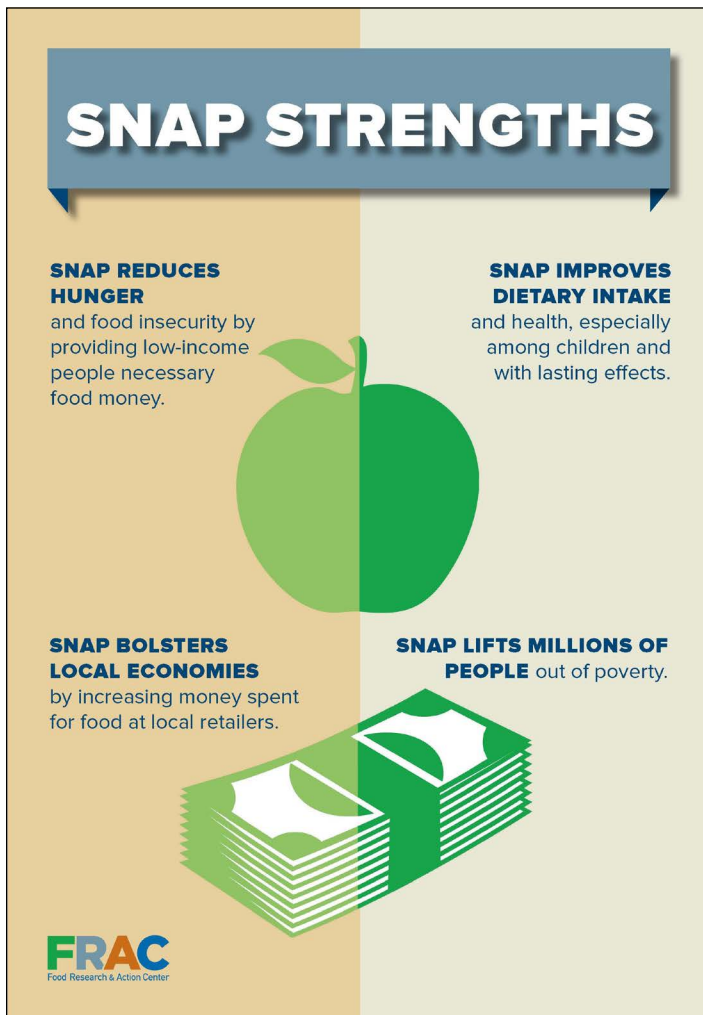
Overall, this white paper demonstrates that poverty and food insecurity have serious consequences for health and well-being in the short and long terms. Research shows that SNAP plays a critical role, not just in alleviating poverty and food insecurity, but also in improving dietary intake and health, especially among children. Increasing access to SNAP and improving SNAP benefit levels would further improve the nation’s health.

This paper will provide background information on SNAP; briefly summarize the harmful impacts of poverty, food insecurity, and poor nutrition on health and well-being; summarize research on SNAP’s role in addressing these issues among low-income Americans;\* and describe how this role of furthering the public’s health would be enhanced if SNAP benefits were more adequate.

*“Simply put, SNAP should be viewed as an important health care intervention for low-income Americans.”*

— Gundersen & Ziliak, 2015<sup>8</sup>

\* For research on the federal Child Nutrition Programs, see FRAC’s *The Role of the Federal Child Nutrition Programs in Improving Health and Well-Being* at [www.frac.org](http://www.frac.org). [The federal Child Nutrition Programs include the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); National School Lunch Program (NSLP); School Breakfast Program (SBP); Child and Adult Care Food Program (CACFP); Summer Food Service Program (SFSF), and Afterschool Nutrition Programs.]



## Background of SNAP

In July 2017, more than 41.2 million Americans participated in SNAP.<sup>9</sup> This is a monthly number, and USDA estimates that 1.3 to 1.4 times as many people receive SNAP at some point during the year as do during an average month. This suggests that in fiscal year 2017, at least 54 million Americans will have received SNAP benefits for at least one month.<sup>10,11</sup> (Many stays on SNAP are of short duration — half of SNAP participants entering the program are enrolled 12 months or less.<sup>12</sup>) Over longer periods of time, even higher proportions of Americans participate: researchers estimate that half of all American children will receive SNAP at some point during childhood,<sup>13</sup> and half of all adults will do so at some point between the ages of 20 and 65.<sup>14</sup>

Thus, the program has a very broad reach. On the other hand, **at any given time, approximately 1 in 6 people**

**eligible for SNAP does not participate in the program.**<sup>15</sup>

This problem is even more pronounced among eligible older Americans,<sup>16</sup> who are far less likely to participate in the program than most other demographic groups for a variety of reasons, including barriers related to mobility, technology, and stigma, and to widespread mistaken beliefs about how the program works, who can qualify, and benefit levels.<sup>17</sup>

**Among those participating in the program, nearly two-thirds are children, elderly persons, or individuals with disabilities.**<sup>18</sup> In fact, 84 percent of all SNAP benefits go to households with children, elderly persons, or nonelderly persons with disabilities.<sup>19</sup> SNAP recipients are diverse with regards to race-ethnicity, many have earned income, and the vast majority of SNAP households do not receive cash welfare benefits.<sup>20</sup>

**The monthly benefits provided by SNAP enhance the food purchasing power of eligible low-income families.**

The benefits can be used only for food and are delivered through Electronic Benefit Transfer (EBT) cards, which are used like debit cards at authorized food retailers. USDA reports that more than 87 percent of SNAP benefits are redeemed at super stores, supermarkets, and small, medium, and large grocery stores.<sup>21</sup>

**SNAP benefit allotments are calculated based on household income and size.**<sup>22</sup>

The maximum allotment in fiscal year 2018 is \$192 a month for a single person, and \$640 a month for a family of four.<sup>23</sup> Families with countable income from earnings, Social Security, or other sources receive less than the maximum. About 39 percent of SNAP households receive the maximum allotment.<sup>24</sup> The other nearly 3 out of 5 participating households receive less than the maximum, and are expected to spend some of their other income on food to make up the difference. In fiscal year 2016, the average monthly benefit per household was \$254.<sup>25</sup>

*SNAP serves as the first line of the nation's public policy defense against hunger and undernutrition as well as an effective anti-poverty initiative. This invaluable program has a critical role, not just in reducing food insecurity, but in improving the health of the nation, especially among the most vulnerable Americans.*

### How Poverty, Food Insecurity, and Poor Nutrition Impact Health and Well-Being

Poverty, food insecurity, and poor nutrition have serious consequences for the health and well-being of children and adults, as summarized in this section.\*

#### Health Consequences of Poverty

In 2016, about 40.6 million Americans (12.7 percent of the population) lived in poverty.<sup>26</sup> This included nearly 13.2 million children, or 18 percent of all children.<sup>27</sup> **A considerable amount of research demonstrates that people living in or near poverty have disproportionately worse health outcomes and less access to health care than those who do not.**<sup>28,29,30,31</sup>

During childhood, low-income children are more likely to experience food insecurity,<sup>32,33</sup> obesity,<sup>34,35</sup> tobacco exposure,<sup>36,37</sup> lead exposure,<sup>38</sup> poor growth (e.g., low birth weight, short stature),<sup>39</sup> asthma,<sup>40</sup> developmental risk,<sup>41</sup> poor academic outcomes,<sup>42,43</sup> behavioral and emotional problems,<sup>44</sup> and unintentional injury.<sup>45</sup> **Childhood poverty and socioeconomic inequalities have health implications that carry through into adulthood as well.**<sup>46,47,48</sup> Furthermore, adults living in poverty are at greater risk for a number of health issues, such as diabetes,<sup>49</sup> heart disease and stroke,<sup>50,51</sup> obesity (primarily among women),<sup>52</sup> depression,<sup>53</sup> disability,<sup>54</sup> poor oral health,<sup>55</sup> and premature mortality.<sup>56</sup> The high levels of stress facing low-income families, including children, also can contribute to, or worsen, existing health problems.<sup>57,58</sup>

#### Health Consequences of Food Insecurity

In 2016, approximately 28.3 million adults (11.5 percent of all adults) and 12.9 million children (17.5 percent of all children) lived in food-insecure households.<sup>59</sup> **Food insecurity — even marginal food security (a less severe level of food insecurity) — is associated with some of the most common and costly health problems and**

**behaviors among adults**, including fair or poor self-rated health status,<sup>60</sup> diabetes,<sup>61,62</sup> obesity (primarily among women),<sup>63,64,65</sup> hypertension,<sup>66</sup> pregnancy complications (e.g., gestational diabetes, iron deficiency),<sup>67,68</sup> and depression (including maternal depression).<sup>69,70</sup> Among older adults, food insecurity has been linked with poor or fair health status,<sup>71</sup> diabetes,<sup>72</sup> depression,<sup>73</sup> congestive heart failure,<sup>74</sup> hypertension,<sup>75</sup> obesity (primarily among women),<sup>76</sup> lower cognitive function,<sup>77</sup> and lower intakes of calories and key nutrients (e.g., protein, iron, calcium, vitamins A and C).<sup>78</sup>



**The consequences of food insecurity — and, again, even marginal food security<sup>79,80</sup> — are especially detrimental to the health, development, and well-being of children.**<sup>81,82,83,84</sup> Research shows a link for children

between food insecurity and lower health status,<sup>85,86</sup> low birth weight,<sup>87,88</sup> birth defects,<sup>89</sup> iron deficiency anemia,<sup>90,91</sup> more frequent colds and stomachaches,<sup>92</sup> asthma,<sup>93</sup> developmental risk,<sup>94</sup> mental health problems (e.g., depression, anxiety, suicidal ideation),<sup>95,96,97</sup> and poor educational performance and academic outcomes<sup>98,99,100,101</sup> — all of which have health and economic consequences in the short and long terms.

**Because of limited financial resources, households that are food insecure also may use coping strategies to stretch budgets that are harmful for health**, such as engaging in cost-related medication underuse or non-adherence,<sup>102,103,104</sup> postponing or forgoing preventive or needed medical care,<sup>105,106</sup> forgoing the foods needed for special medical diets (e.g., diabetic diets),<sup>107</sup> or diluting or rationing infant formula.<sup>108</sup> Food insecurity and coping strategies such as these can exacerbate existing disease and compromise health.

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\* For a comprehensive review of this topic, see FRAC's *The Impact of Poverty, Food Insecurity, and Poor Nutrition on Health and Well-Being* at [www.frac.org](http://www.frac.org). A companion paper, *The Role of the Federal Child Nutrition Programs in Improving Health and Well-Being*, has a comparable section on consequences, but with a focus on children.

**Not surprisingly, research shows that household food insecurity is a strong predictor of higher health care utilization and increased health care costs.**<sup>109,110</sup> The direct and indirect health-related costs of hunger and food insecurity in the U.S. have been estimated to be \$160 billion for 2014 alone.<sup>111</sup>

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### Health Consequences of Poor Nutrition

**Americans from all income groups fall short of meeting federal dietary guidance — consuming diets too low in fruits, vegetables, whole grains, and low-fat dairy, and consuming diets too high in added sugars, sodium, and solid fats.**<sup>112,113,114</sup> In general, poor dietary intake (e.g., excess saturated or *trans* fat intake, a diet low in fruits and vegetables) has been linked to a number of diseases and chronic conditions, including obesity, cardiovascular disease, Type 2 diabetes, some types of cancer, and osteoporosis.<sup>115,116</sup> In addition, inadequate dietary intake during pregnancy and early childhood — which may be a consequence of food insecurity — can increase the risk for birth defects, anemia, low birth weight, preterm birth, and developmental risk.<sup>117,118,119,120</sup>

**Food-insecure and low-income people can be especially vulnerable to poor nutrition and obesity, due to additional risk factors associated with inadequate household resources as well as under-resourced communities.**

This might include lack of access to healthy and affordable foods; cycles of food deprivation and overeating; high levels of stress, anxiety, and depression; fewer opportunities for physical activity; greater exposure to marketing of obesity-promoting products; and limited access to health care.<sup>121</sup> In addition to these unique challenges, those who are food insecure or low income are subject to the same and often challenging cultural changes (e.g., more sedentary lifestyles, increased portion sizes) as other Americans in trying to adopt and maintain healthful behaviors.<sup>122</sup>

## SNAP Improves the Health and Well-Being of Low-Income Americans

Research shows that SNAP plays a critical role in alleviating poverty and food insecurity and in improving dietary intake, weight outcomes, and health, especially among the nation's most vulnerable children. The following selection of studies demonstrates these points.

### SNAP Reduces Poverty and Deep Poverty

- Nationally, 3.6 million people — including 1.5 million children — were lifted above the poverty line in 2016 under the alternative poverty computation that counts SNAP benefits as income, based on Census Bureau data on poverty and income in the U.S.<sup>123</sup> However, these estimates understate SNAP's anti-poverty effects due to the underreporting of program participation in Census surveys.
- Making this adjustment for underreporting, SNAP lowers the poverty rate by 14 to 16 percent, according to analyses using national data in *SNAP Matters: How Food Stamps Affect Health and Well-Being*.<sup>124</sup> In addition, the anti-poverty effects are particularly strong when poverty rates rise during recessionary periods. Based on these and other findings contained in the book, the authors “conclude that SNAP is our nation's most effective anti-poverty program for the nonelderly when adjusted for underreporting, one that is especially good at reducing extreme poverty — by over 50 percent — and also especially effective for poor families with children.” (Households are defined as living in extreme poverty when their cash income does not exceed \$2 per person per day.)
- The average annual decline in the depth of child poverty when adding SNAP benefits to income was 15.5 percent, according to Current Population Survey data from 2000 to 2009.<sup>125</sup> The effect was strongest in 2009, when the temporary increase in SNAP benefit levels from the American Recovery and Reinvestment Act (ARRA) began. In that year, SNAP benefits reduced the depth of child poverty by 20.9 percent.

### SNAP Supports Economic Stability and Academic Outcomes



- Access to SNAP *in utero* and in early childhood increased women's economic self-sufficiency in terms of increased educational attainment, earnings, and income, and reduced poverty and public assistance program participation in adulthood, according to a study of people who grew up in disadvantaged families and were born between 1956 and 1981.<sup>126</sup>
- Families receiving housing subsidies, SNAP, and WIC (Special Supplemental Nutrition Program for Women, Infants, and Children) benefits were 72 percent more likely to be housing secure (i.e., defined as living without overcrowding or frequent moves within the last year), compared to those families receiving housing subsidies alone, based on a study of low-income caregivers of children younger than 3 years old.<sup>127</sup>
- Based on a national sample of low-income children, SNAP significantly moderated the association between difficulty affording basic needs and repeating a grade, indicating that "SNAP may contribute to the educational advancement of children living in poverty, which could have lifelong positive effects for them, their families, and society as a whole."<sup>128</sup>
- Starting (versus stopping) Food Stamp Program participation at some point during the kindergarten through third grade years was associated with significant improvements in math and reading scores, particularly for female students, based on national survey data.<sup>129</sup> (At the time of data collection, SNAP was known as the Food Stamp Program.)

- Other research has shown SNAP's value by exploring the effects of its absence: the end-of-the-month effects, i.e., the adverse impact on student performance and behavior when SNAP benefits, inadequate to last the whole month, are running low or depleted for households. Based on preliminary studies set in North Carolina and South Carolina, the exhaustion of SNAP benefits at the end of the month or benefit cycle may contribute to lower math and reading achievement test scores among third to eighth grade students.<sup>130,131</sup> Similarly, in a study of Chicago Public Schools' fifth to eighth graders, disciplinary infractions increased at the end of the SNAP benefit cycle for students in SNAP and non-SNAP households. However, the increase was larger for students from SNAP households.<sup>132</sup>

### SNAP Reduces Food Insecurity

#### Households

- The significant, temporary increase in monthly SNAP benefits from ARRA helped reduce food insecurity by 2.2 percentage points and reduce very low food security by 2.0 percentage points among low-income households between December 2008 (pre-ARRA) and December 2009 (about eight months post-ARRA).<sup>133</sup>
- Participation in SNAP for six months reduced the percentage of SNAP households that were food insecure by 6–17 percent, and reduced the percentage that were very low food secure by 12–19 percent, based on various estimates using a national sample of SNAP households.<sup>134</sup>
- In another study, SNAP participation reduced the likelihood of being food insecure and very low food secure by 31 and 20 percent, respectively, based on a national sample of low-income households.<sup>135</sup>

#### Children

- Children in households that had participated in SNAP for six months were approximately one-third less likely to be food insecure than children in households recently approved for SNAP but not yet receiving it, based on a national sample of SNAP households with children.<sup>136</sup>
- Among low-income households experiencing food insecurity among children, the odds of being food secure

two years later were almost four times higher for SNAP participants compared to non-participants, according to a study that used national, longitudinal data.<sup>137</sup>

- While food insecurity is dynamic and changes as families with children enter, participate in, and leave SNAP, a national study of more than 10,000 families found that participation in SNAP reduced the probability of child food insecurity.<sup>138</sup>
- Among low-income families with children in the Three Cities Study (Boston, Chicago, and San Antonio), SNAP receipt reduced the probability of very low food security for households and for children.<sup>139</sup>
- According to one estimate using national data, SNAP reduces childhood food insecurity by at least 8.1 percentage points “and perhaps much more.”<sup>140</sup>

### SNAP Protects Against Obesity

#### Adults

- In a national study of low-income adults, SNAP participants with marginal, low, or very low food security had lower Body Mass Index (BMI).<sup>141</sup> In addition, the probability of obesity was lower among SNAP participants experiencing marginal food security. The authors concluded that SNAP participation appears to buffer against obesity among those who are food insecure.
- In a study controlling for food security status, adult SNAP participants in Massachusetts, who live in households

participating in the program for at least six months, had a lower BMI compared to those participating less than six months, suggesting that long-term participation is associated with lower BMI.<sup>142</sup>

- A study set in eight New York City-area primary care practices found that food insecurity was significantly associated with increased BMI only among those women who were *not* receiving food assistance (SNAP or WIC), suggesting that food assistance program participation plays a protective role against obesity among food-insecure women.<sup>143</sup>

#### Children

- Based on a study of low-income families from a national sample, food-insecure girls participating in SNAP, school lunch, or school breakfast (or all three programs combined) had a lower risk of overweight compared to food-insecure girls from non-participating households.<sup>144</sup>
- According to Children’s HealthWatch data on more than 5,000 families in Minneapolis, young children in food-insecure households that received SNAP benefits were less likely to be overweight, compared to children in food-insecure households that were not receiving SNAP benefits.<sup>145</sup>
- SNAP participation reduced the probability of being overweight or obese for boys and young girls in a national sample of children and adolescents.<sup>146</sup>
- SNAP reduces the rate of childhood obesity by 5.3 percentage points, according to an estimate using national data.<sup>147</sup>
- Increasing participation in the federal nutrition programs — including SNAP — was recommended in two Institute of Medicine (IOM) reports that focused on child obesity prevention.<sup>148,149</sup>

### SNAP Improves Dietary Intake

- In a national sample of low-income adults, SNAP participation was associated with better dietary quality among those who were food insecure.<sup>150</sup> More specifically, SNAP participants with marginal, low, and very low food security had better overall dietary quality, compared to similar low-income non-participants.



- Based on national food consumption data, each additional SNAP dollar increased a household's score for overall dietary quality (as measured by USDA's Healthy Eating Index).<sup>151</sup>
- Household participation in SNAP increased preschool children's intake of iron, zinc, niacin, thiamin, and vitamin A, according to a national sample of children.<sup>152</sup>
- Young children enrolled in SNAP, WIC, or both had lower rates of anemia and nutritional deficiency than low-income non-participants, based on a study of more than 350,000 children in Illinois.<sup>153</sup>
- SNAP-Education (SNAP-Ed) has positive impacts on the dietary intake of low-income households as well. For example, in a study of mothers in SNAP households, mothers living in census tracts with high SNAP-Ed reach ate more cups of fruits and vegetables, consumed fewer calories from high-fat foods, and drank fewer cups of sugar-sweetened beverages, when compared to mothers living in census tracts with no or low SNAP-Ed reach.<sup>154</sup> (SNAP-Ed, a partnership between USDA and states, promotes healthy food and lifestyle choices among SNAP participants and eligible non-participants, using evidence-based strategies.)

### SNAP Improves Health Outcomes

#### Adults

- SNAP participation was associated with lower health care spending among low-income adults in a national survey.<sup>155</sup> According to one estimate, annual healthcare expenditures averaged \$1,409 lower in the case of SNAP participants versus non-participants, and even larger differences occurred among SNAP participants with hypertension or coronary heart disease.<sup>156,157</sup>
- Hospital admissions for hypoglycemia (i.e., low blood sugar) are higher at the end of the month for low-income individuals with diabetes than high-income individuals with diabetes.<sup>158</sup> This suggests that low-income patients are more likely to have hypoglycemia when food and other benefits (e.g., SNAP) are most likely to be depleted, typically at the end of the month.
- SNAP participation was associated with reduced hospitalization and, among those who were hospitalized, less costly hospital stays, in a study of Maryland older adults dually enrolled in Medicare and Medicaid. According to the study team's estimates, "expanding SNAP access to nonparticipating dual eligible older adults in Maryland could have resulted in inpatient hospital cost savings of \$19 million in 2012."<sup>159</sup> In addition, a companion study found an association between SNAP participation and reduced nursing home admissions and admission costs, with estimated cost savings of \$34 million in 2012 if SNAP had been provided to eligible nonparticipants.<sup>160</sup>
- National data found that SNAP improves adult health in terms of increasing the probability of reporting excellent or good health as well as having fewer sick days, office-based doctor's visits, and outpatient visits.<sup>161</sup>
- Access to SNAP *in utero* and in early childhood reduced the incidence of metabolic syndrome (obesity, hypertension, diabetes, heart disease, heart attack), reduced the risk of stunting, and, for women, increased reports of being in good health in adulthood, based on a study of people who grew up in disadvantaged families and were born between 1956 and 1981.<sup>162</sup>
- A study of SNAP-eligible households examined the impact of program participation on adult health and



health care utilization when accounting for state policy variation.<sup>163</sup> SNAP participation was associated with an increased probability of being in excellent or very good health. In addition, participation was associated with a decreased probability of reporting a stomach problem in the past two weeks, and needing, but not being able to afford, dental care and eyeglasses.

- Among a sample of low-income, urban medical center patients with Type 2 diabetes, SNAP receipt was associated with a lower risk of poor glucose control among those who were food insecure. According to the authors of this study, “recent cuts to SNAP benefits may have unintended consequences, such as worse chronic disease control among low-income patients with diabetes.”<sup>164</sup>
- A 2016 study found that states with higher ratios of social spending-to-health spending had significantly better state-level health outcomes (e.g., adult obesity, asthma, mentally unhealthy days, lung cancer mortality) compared to states with lower ratios.<sup>165</sup> Social spending included spending for SNAP and WIC. The authors concluded that, “our study suggests that broadening the debate beyond what should be spent on health care to include what should be invested in health — not only in health care but also in social services and public health — is warranted.”

### Children

- Maternal access to SNAP in pregnancy improves birth outcomes, including increasing birth weight, based on a study that examined the rollout of the program (then known as Food Stamps) in the 1960s and 1970s.<sup>166</sup>



- According to Children’s HealthWatch, SNAP-recipient children of immigrant mothers were more likely to be in good or excellent health and live in a food-secure household, and their families were less likely to need

to make health care trade-offs (e.g., paying for health care costs instead of paying for food or housing), when compared to income-eligible non-participants.<sup>167</sup>

- SNAP reduces the rate of poor general health by at least 3.1 percentage points, and anemia by at least 1.6 percentage points, among children, based on estimates using national data.<sup>168</sup>
- Compared to low-income non-participants, young children participating in SNAP, WIC, or both programs had lower rates of failure to thrive and lower risk of abuse and neglect, based on administrative data from more than 350,000 children in Illinois.<sup>169</sup>
- Young children in food-insecure households in Boston who received SNAP benefits were less likely to be at developmental risk and in fair or poor health, compared to children in food-insecure households who were not receiving SNAP benefits.<sup>170</sup>
- Young, food-insecure children who participated in SNAP had fewer hospitalizations than comparable non-participants and were less likely to be in poor or fair health, based on responses from more than 17,000 caregivers in six urban centers.<sup>171</sup>
- A recent study of SNAP-eligible households examined the impact of program participation on child health and health care utilization when accounting for state policy variation.<sup>172</sup> SNAP participation was associated with an increased probability of being in excellent or very good health. In addition, participation was associated with a decreased probability of needing, but not being able to afford, dental care and eyeglasses.
- A loss or reduction in SNAP benefits has detrimental health impacts on children and families. According to Children’s HealthWatch research, young children in families whose SNAP benefits were recently lost or reduced due to an increase in income were more likely to be in fair or poor health and at risk for developmental delays, compared to young children in families who consistently received SNAP benefits.<sup>173</sup> Families with SNAP benefit loss or reductions were more likely to forgo medical care for the child or other family members due to cost, or to make health care trade-offs.<sup>174,175</sup>



### SNAP Improves Mental Health Outcomes

- Children's HealthWatch data from Minneapolis and Boston found that mothers of young children in food-insecure households receiving SNAP benefits were less likely to experience maternal depressive symptoms and less likely to be in fair or poor health, compared to mothers in food-insecure households that were not receiving SNAP benefits.<sup>176,177</sup>
- Among mothers who became food insecure, losing SNAP benefits was associated with an increased probability of depression and gaining SNAP benefits was associated with a reduced probability of depression.<sup>178</sup> These findings are based on data from urban, unmarried mothers who participated in the Fragile Families and Child Wellbeing Study.
- Participation in SNAP for six months was associated with a 38 percent reduction in psychological distress, according to a national study of SNAP households.<sup>179</sup>
- In a national sample of low-income adults, low food security and very low food security were both associated with higher odds of depression among SNAP participants, but the odds were not as great as those for similarly situated non-participants. These findings suggest that SNAP may have a protective effect on mental health.<sup>180</sup>
- Food-insecure seniors participating in SNAP were less likely to be depressed than non-participants, according to analyses from a large, nationally representative sample of adults over age 54.<sup>181</sup>

#### The Supplemental Nutrition Assistance Program (SNAP):

- reduces poverty and deep poverty;
- supports economic stability and academic outcomes;
- reduces food insecurity;
- protects against obesity;
- improves dietary intake;
- improves health outcomes; and
- improves mental health outcomes.

### SNAP Benefit Loss or Reduction is Harmful to Health and Well-Being

- Young children in families whose SNAP benefits were recently lost or reduced due to an increase in income were more likely to be in fair or poor health and at risk for developmental delays.<sup>182</sup>
- Families with SNAP benefit loss or reductions were more likely to forgo medical care for a child or other family members due to cost, or to make health care trade-offs.<sup>183,184</sup>
- Among mothers who became food insecure, losing SNAP benefits was associated with an increased probability of depression.<sup>185</sup>

### SNAP Improves Health; More Adequate SNAP Benefit Levels Will Further Improve Health and Well-Being

The evidence shows that SNAP reduces poverty and food insecurity, improves dietary quality, protects against obesity, and improves health, especially among children. However, inadequate benefits — the most important weakness of SNAP — severely limit the program's ability to do even more to improve the health of low-income Americans. Regular monthly benefits are just too low to purchase an adequate, healthy diet on a consistent basis. Benefits are inadequate, even though SNAP recipients use a variety of savvy shopping practices to stretch their limited food dollars, such as clipping coupons, using shopping lists, looking for deals by comparing store circulars, purchasing generic brands, buying in bulk quantities, and shopping at multiple stores.<sup>186,187,188</sup>

Researchers, advocates, food pantries, and SNAP participants have been saying for years that SNAP benefits are inadequate, and in 2013, after a thorough study, the prestigious Institute of Medicine (IOM) outlined the factors

that explain why the SNAP allotment is not enough to get most families through the month with a minimally adequate diet (e.g., the lag in SNAP benefits keeping up with inflation, the failure to fully account for shelter costs).<sup>189</sup> An analysis by FRAC one year earlier found that SNAP benefits are inadequate, in part, because they are based on USDA's impractical Thrifty Food Plan. The plan assumes impractical lists of foods; lacks the variety called for in the Dietary Guidelines for Americans; unrealistically assumes adequate facilities and time for food preparation; unrealistically assumes food availability, affordability, and adequate transportation; even accounting for these shortcomings, the Thrifty Food Plan costs more than the SNAP allotment in many parts of the country; and ignores special dietary needs.<sup>190</sup>

The nation ran a large natural experiment involving more adequate benefits several years ago, and it worked. Average benefits starting in April 2009 reflected a temporary boost in allotments pursuant to the American Recovery and Reinvestment Act (ARRA) of 2009 — initially by 13.6 percent for those receiving the maximum allotment. This increase was in recognition of the effective and quick stimulative effect of SNAP benefits on the economy as well as the recognition that hard-hit families needed additional assistance. Unfortunately, the temporary ARRA boost ended on November 1, 2013, and benefits were reduced for all SNAP participants. Research on the ARRA boost and benefit adequacy suggest that SNAP's favorable impacts on health *are even greater* the higher the level of SNAP benefits, as highlighted in the following selection of studies.

### More Adequate Benefits Improve Food and Economic Security

- The temporary ARRA increase in SNAP benefit levels helped reduce food insecurity, and helped increase food expenditures by 5.4 percent among low-income households between December 2008 (pre-ARRA) and December 2009 (about eight months post-ARRA).<sup>191</sup>
- After the ARRA boost took effect, SNAP households also exhausted benefits later in the month — meaning, they were able to save slightly more benefits for use at the end of the month.<sup>192</sup>
- A USDA report examining the impact on food spending behavior as a result of the ARRA increase found that “SNAP benefits provided a larger boost to food-expenditure share than an equal amount of cash ... Lowest income households (here, those with incomes under \$15,000 per year), single-parent households, and households with an unemployed member increased the food share of total expenditures the most in response to increased benefit levels ... [H]igher SNAP benefits can redirect households' spending behavior toward food at home.”<sup>193</sup>
- The temporary ARRA boost had positive spillover effects on non-food household needs, according to a study using a national sample of low-income households. More specifically, the increase in benefits had positive effects, not only on food expenditures, but also on housing, entertainment, and education expenditures.<sup>194</sup> The study “provides compelling evidence that during the economic crisis, the SNAP benefit boost not only shifted up food spending but also improved expenditures in other essential spending categories of low-income households.”
- One USDA researcher estimated that increasing the maximum SNAP benefit by 10 percent would reduce the number of SNAP households with very low food security by about 22 percent.<sup>195</sup>
- According to Children's HealthWatch, SNAP households with children would have an 8 percent increase in food purchasing power if SNAP benefits were based on the more-adequate Low Cost Food Plan (rather than the Thrifty Food Plan), resulting in 5.3 percent of food-insecure families with children becoming food secure.<sup>196</sup>
- Children's HealthWatch examined the impact on food insecurity of the post-ARRA reduction by analyzing data from 12,335 households with young children that were participating in SNAP. Compared to SNAP households with young children during the SNAP benefit boost period, SNAP households with young children after the SNAP rollback were 23 percent more likely to be household food insecure and 17 percent more likely to be child food insecure.<sup>197</sup> This is consistent with other Children's HealthWatch research demonstrating that young children and their families were more likely to experience food insecurity when SNAP benefits were reduced or lost due to an increase in income.<sup>198,199</sup>

- A 2011 demonstration project providing \$60 per month in EBT-delivered benefits to purchase food for low-income children in summer months (not limited to SNAP-recipient children) found a 19 percent reduction in food insecurity and a 20 percent reduction in very low food security.<sup>200</sup>

### More Adequate Benefits Protect Against Obesity

- Using national data, researchers examined the impact of increased SNAP benefits on obesity among adults living in SNAP households with at least one school-age child and at least one child under 5 years old.<sup>201</sup> The additional SNAP benefits available per adult from a child entering school were associated with reductions in BMI and the probability of being obese for SNAP adults. (In this study, a larger share of school-age children who were eligible for free school meals served as a proxy for increased SNAP benefits available per adult.)
- A larger amount of SNAP dollars received in the previous month was associated with significantly lower BMI and waist circumference among those women who reported their SNAP benefit levels in a national study.<sup>202</sup>
- Food insecurity was significantly related to increased BMI among North Carolina women receiving less than \$150 in SNAP benefits per household member, but not related among those women receiving \$150 or more in benefits.<sup>203</sup> In addition, the mean BMI of women receiving at least \$150 in benefits per household member was significantly lower than the mean BMI of women receiving less than \$150 in benefits. These findings “suggest that the provision of adequate SNAP benefits per household member might partially ameliorate the negative effects of food insecurity on BMI.”

### More Adequate Benefits Improve Dietary Quality

- Prior to the temporary ARRA boost in SNAP benefits, caloric intake declined by as much as 25 percent at the end of the month among SNAP participants, based on national survey data; however, the temporary boost in benefits eliminated this decline. This study’s author concluded: “now that the ARRA-induced benefit boost has been eliminated, it is likely that SNAP recipients are again experiencing a monthly cycle in caloric intake.”<sup>204</sup>

- A \$30-per-person increase in monthly SNAP benefits was estimated to reduce food insecurity as well as increase grocery spending, improve the consumption of many nutritious foods (including vegetables and lean sources of protein), and reduce fast food consumption.<sup>205</sup>
- In communities across the country, financial incentives are being offered to SNAP participants to promote the purchase and consumption of fruits, vegetables, and other nutritious foods at SNAP-authorized farmers’ markets and food retailers. These incentives increase the purchasing power of SNAP benefits, thereby improving their adequacy. Research and local success stories demonstrate that these positive economic incentives improve dietary outcomes among SNAP participants. Most notably, the USDA-funded evaluation of the Healthy Incentives Pilot in Massachusetts found that pilot participants on SNAP who received a financial incentive for targeted fruits and vegetables consumed about one-quarter cup (26 percent) more fruits and vegetables than non-participants on SNAP, which was a statistically significant and nutritionally relevant difference.<sup>206</sup>
- Each additional SNAP dollar increases a household’s score for overall dietary quality.<sup>207</sup> The higher the level of SNAP benefits, the larger the positive nutritional effect of program participation. Positive effects were most evident



for the vegetable, dairy, meat, and sodium components of USDA's Healthy Eating Index.

- In a 2010 report from USDA examining the potential impact of an increase in SNAP benefits on a number of measures of dietary quality, spending more money on food was associated with positive improvements in dietary quality, energy density, nutrient density, and fruit and vegetable consumption.<sup>208</sup>

### More Adequate Benefits Improve Health Outcomes

- In Massachusetts, inpatient Medicaid cost growth significantly declined after the ARRA increase, especially among people with chronic illnesses.<sup>209</sup> The cost declines were driven by reduced hospital admissions and, to a lesser extent, reduced length of stay per admission. The author concluded: "because of the link between additional SNAP benefits and reduced hospital admissions, it appears that the allotment amounts before the SNAP increase may not have been sufficient to fully alleviate food insecurity and its associated health effects."
- Based on claims data for more than 560,000 commercially insured nonelderly adults, those of lower income had an increased risk of emergency room visits or inpatient hospitalizations for hypoglycemia at the end of the month.<sup>210</sup> However, this risk was reduced to non-significance during the temporary ARRA boost in SNAP benefits. In other words, the ARRA boost was associated with less risk of end-of-the-month hypoglycemia among low-income Americans.
- Two years after the beginning of the temporary ARRA boost, young children in households receiving SNAP benefits were significantly more likely to be "well" than children from non-participating low-income households, according to a study of young children in emergency rooms and primary care clinics.<sup>211</sup> Such a difference was not observed prior to the benefit boost — that is, improved SNAP benefit levels positively impacted child health. (Children were classified as "well" if they were in good health per parent report, were developing normally, were not overweight or underweight, and had never been hospitalized.)
- A \$10 increase in monthly SNAP benefits was associated with reduced hospitalization and, among those who were hospitalized, less costly hospital stays, according to a study of Maryland older adults dually enrolled in Medicare and Medicaid.<sup>212</sup> A companion study had similar findings on nursing home admissions: a \$10 increase in benefits was associated with reduced nursing home admissions and, among those who were admitted, shorter and less costly stays.<sup>213</sup>
- Emergency room claims for hypoglycemia were significantly and inversely related to the size of SNAP benefits in a study linking Missouri SNAP and Medicaid claims data on 362,101 SNAP participants.<sup>214</sup> The findings suggest that as monthly SNAP benefits increase, there is a reduction in the likelihood of being treated for hypoglycemia in the emergency room, with the effect being larger for SNAP participants receiving smaller (i.e., less generous) allotments.
- According to a recent cost-effectiveness analysis, a nationwide expansion of the Healthy Incentives Pilot would reduce the incidence of Type 2 diabetes by 10.3 percent, myocardial infarction (heart attack) by 8.5 percent, stroke by 7.4 percent, and obesity by 1.3 percent among SNAP participants.<sup>215</sup> This translates into a reduction in incidence by 1.7 percent, 1.4 percent, 1.2 percent, and 0.2 percent, respectively, for the overall U.S. population. Such an expansion also would be cost-saving, largely because of costs averted for diabetes and cardiovascular disease.
- In a study exploring the impacts of four nutrition policy scenarios, researchers conclude that a fruit and vegetable subsidy for SNAP participants that reduces prices by 30 percent would be the most effective in reducing socioeconomic disparities in cardiovascular disease mortality.<sup>216</sup> The three other scenarios were a national mass media campaign to increase fruit and vegetable consumption and reduce sugar-sweetened beverage consumption; a national policy to tax sugar-sweetened beverages to increase prices by 10 percent; and, a national fruit and vegetable subsidy that reduces prices by 10 percent.

- Based on preliminary research using national survey data and regional food prices, increased SNAP purchasing power raises the likelihood that a child had a checkup in the past 12 months.<sup>217</sup> Increased SNAP purchasing power

also decreases the likelihood that a child had to delay or forgo medical care in the past year due to cost, visit the emergency room in the past year, and miss school due to illness.

*The evidence shows that SNAP reduces poverty and food insecurity, improves dietary quality, protects against obesity, and improves health, especially among children. However, inadequate benefits — the most important weakness of SNAP — severely limit the program’s ability to do even more to improve the health of low-income Americans. Research on the ARRA boost and benefit adequacy suggest that SNAP’s favorable impacts on health are even greater the higher the level of SNAP benefits.*

## Conclusion

Protecting and improving the public’s health is critically important for the nation. Far too many Americans struggle with poverty, food insecurity, inadequate dietary intake, and obesity. Research shows that SNAP alleviates these problems and improves health and well-being. Increasing access to SNAP and improving SNAP benefit levels would further SNAP’s role in improving the public’s health.

*This paper was prepared by FRAC’s Heather Hartline-Grafton, DrPH, RD, Senior Nutrition Policy and Research Analyst, with research assistance provided by Olivia Dean during a spring 2017 internship.*

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