

3. Boehm R, Wilde PE, Ver Ploeg M, Costello C, Cash SB. A comprehensive life cycle assessment of greenhouse gas emissions from U.S. household food choices. *Food Policy*. 2018;79(C):67–76.

4. Evich HB. The great nutrient collapse. 2017. Available at: <https://www.politico.com/agenda/story/2017/09/13/food-nutrients-carbon-dioxide-000511>. Accessed February 20, 2019.

5. Myers SS, Zanobetti A, Kloog I, et al. Increasing CO<sub>2</sub> threatens human nutrition. *Nature*. 2014;510(7503):139–142.

6. Leib EB, Chan A, Miller DL, et al. Diversified agricultural economies. 2018. Available at: [http://www.farbillaw.org/wp-content/uploads/2018/03/FBLE\\_Diversified-Agricultural-Economies\\_Final.pdf](http://www.farbillaw.org/wp-content/uploads/2018/03/FBLE_Diversified-Agricultural-Economies_Final.pdf). Accessed February 20, 2019.

7. Merrigan K, Griffin T, Wilde P, Robien K, Goldberg J, Dietz W. Designing a sustainable diet. *Science*. 2015;350(6257):165–166.

# Primer on US Food and Nutrition Policy and Public Health: Food Assistance



See also Nestle, p. 985; Miller et al., p. 986; Schwartz et al., p. 989; and Concannon, p. 991.

In the food assistance section of this US food and nutrition policy primer, we focus on inadequate access to healthy food, a problem that fuels the dual burden of food insecurity and obesity. Vast numbers of Americans are affected, with staggering public health consequences.<sup>1</sup> Nearly 12% of all American households, and almost 18% of children younger than 18 years, experience food insecurity. At the same time, 20% of American children are overweight or obese, triple the number from the 1970s, and two thirds of adults are overweight or obese, with a cascade of associated medical, social, and economic disadvantages. In the other editorials in this series, we address agriculture (p. 986) and school nutrition (p. 989).

Getting food right is essential for the health and vitality of the nation. This broad and complex task involves numerous matters, beginning with the way food is produced and ending with food being consumed or lost. Among the most pressing issues, in the past and the present, is helping people in need receive access to nutritious and affordable food.

Economic and social circumstances can make it difficult for individuals and families to afford healthy food, with tragic consequences. Parents face agonizing decisions about how food is parceled among their children when they themselves go hungry. Paying for food versus heat versus medicine can become a daily struggle.

Children convey the saddest story of all. Inadequate nutrition during critical stages of child development amounts to a life sentence, because key cognitive and other functions will never recover. Children may be too tired or depleted to learn in school, are more vulnerable to illness, and can begin a cycle of falling behind that never ends.

## SNAP AND WIC

The US government can and has responded in compassionate ways, by supporting a variety of food assistance programs. Two of the key programs are SNAP (Supplemental Nutrition Assistance Program, formerly known as food stamps) and WIC (Special Supplemental Nutrition Program

for Women, Infants, and Children). Both programs have highly beneficial effects and are cost-effective but are under constant pressure from those who oppose the programs on fiscal, political, or moral grounds. It is all that proponents of these programs (e.g., champions in Congress, a variety of nongovernmental organizations) can do to protect the programs from monetary cuts, which makes needed growth and improvement of the programs an elusive goal.

SNAP is the largest part of the massive Farm Bill, passed by Congress approximately every five years. In December 2018, after a grueling multiyear fight, Congress passed the most recent Farm Bill, estimated by the Congressional Budget Office to cost \$867 billion over 10 years: \$664 billion, or 77% of the overall cost, is for nutrition programs, mostly for SNAP.

Approximately 40 million people participate in SNAP. The strong bipartisan support for the Farm Bill indicates a convergence of interests of traditional agriculture with those of both urban and rural areas where food and nutrition policies are pressing.

WIC, authorized originally under the Child Nutrition Act of 1966 and currently under the Healthy and Hunger-Free Kids Act of 2010, provides supplemental nutrition foods, nutrition education and counseling, and screening and referral to mothers during and after pregnancy and during breastfeeding and to non-breastfeeding postpartum mothers, infants, and children up to their fifth birthday. WIC reaches approximately 7.3 million women, infants, and children each month and serves 53% of all infants born in the United States. Annual costs in 2017 were \$5.6 billion.

In the most recent iteration of the Farm Bill, the opponents made predictable and serious threats not only to reduce benefits but also to change eligibility, notably by increasing work requirements in ways that would reduce benefits to as many as two

## ABOUT THE AUTHORS

Kelly D. Brownell is with the World Food Policy Center, Sanford School of Public Policy, Duke University, Durham, NC. D. Lee Miller is with the Environmental Law and Policy Clinic, Duke University School of Law, Durham. Marlene B. Schwartz is with the Rudd Center for Food Policy and Obesity and the Department of Human Development and Family Sciences, University of Connecticut, Hartford.

Correspondence should be sent to Kelly D. Brownell, PhD, Director, World Food Policy Center, and Professor, Sanford School of Public Policy, Duke University, 201 Science Dr, Durham, NC 27708 (e-mail: [kelly.brownell@duke.edu](mailto:kelly.brownell@duke.edu)). Reprints can be ordered at <http://www.ajph.org> by clicking the “Reprints” link.

This editorial was accepted February 28, 2019.

doi: 10.2105/AJPH.2019.305070

million individuals. Because of bipartisan support of SNAP, the total amount of funding was protected, and the proposed work requirements were not included.

## RETURN ON INVESTMENT

Threats to funding for SNAP and WIC do not align with data showing program benefits and positive return for every dollar invested. Not surprisingly, participation in SNAP decreases food insecurity,<sup>2</sup> a key outcome in its own right. Access to SNAP in childhood is associated with a variety of positive health and economic outcomes that can be measured decades later.<sup>3</sup> In addition, data from the US Department of Agriculture and from other researchers show a significant anti-poverty effect. Of the households receiving SNAP benefits, 10% rise above the poverty threshold,<sup>4</sup> and in women, economic self-sufficiency increases.<sup>3</sup> This food assistance program also has a positive effect on the nation's economy. Research by Zandi showed that increasing food stamp payments by \$1.00 per year increased gross domestic product by \$1.73.<sup>5</sup>

The benefits from WIC are at least as impressive. Research has

shown that WIC participation is associated with fewer premature births, fewer infant deaths, lower incidence of low and very low birth weights, and greater likelihood of prenatal care.<sup>6</sup> For every dollar invested in WIC, savings in health care costs are estimated to range from \$1.77 to \$3.13.<sup>6</sup>

These economic benefits do not capture the very human benefits of children missing less school and learning more effectively, children having improved resilience to disease, and families having less stress about uncertain food access. Stress, with its own set of serious biological consequences, often is not discussed in the context of food assistance programs but is likely an important area in which benefit occurs.<sup>1</sup>

## MAXIMIZING REACH

Persistent threats to funding of food assistance programs make it difficult to address the key issues—namely, how these programs can best reduce poverty, improve nutrition, and protect public health. If battles over funding would cease and benefits were extended to all in need, then attention could focus on maximizing reach and effect. For instance, the percentage of individuals eligible for SNAP who are

actually enrolled varies widely across states, from a low of 56% to a high approaching 100% (<https://fns-prod.azureedge.net/sites/default/files/ops/Reaching2016.pdf>). Improving low enrollment rates would provide significant benefit at little cost to the states.

Modeling the effects of various nutrition standards for SNAP and WIC would be helpful, as would additional studies on financial incentives to improve diet quality<sup>7</sup>; analyses of the benefits and drawbacks of controversial possibilities such as the restriction of SNAP benefits for the purchase of sugar-sweetened beverages; better use of technology to improve enrollment and to ease use of benefits; and above all, ensuring that the nutrition promoted and provided through such programs maximizes health, cognitive development in children, and other key outcomes. **AJPH**

*Kelly D. Brownell, PhD*  
*D. Lee Miller, JD, MEM*  
*Marlene B. Schwartz, PhD*

## CONTRIBUTORS

K. D. Brownell drafted the editorial. D. L. Miller and M. B. Schwartz provided feedback and edits.

## CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

## REFERENCES

1. Seligman HK, Schillinger D. Hunger and economic disparities in chronic disease. *N Engl J Med*. 2010;363(1):6–9.
2. Mabli J, Ohls J, Dragoset L, Castner L, Santos B. Measuring the effect of Supplemental Nutrition Assistance Program (SNAP) participation on food security. Nutrition Assistance Program Report. Prepared by Mathematica Policy Research for the US Department of Agriculture, Food and Nutrition Service; August 2013.
3. Hoynes H, Schanzenbach DW, Almond D. Long-run impacts of childhood access to the safety net. *Am Econ Rev*. 2016;106(4):903–934.
4. US Department of Agriculture, Food and Nutrition Service. Characteristics of USDA Supplemental Nutrition Assistance Program households: fiscal year 2016 (summary). November 2017. Available at: <https://fns-prod.azureedge.net/sites/default/files/ops/Characteristics2016-Summary.pdf>. Accessed February 23, 2019.
5. Zandi MM. Assessing the macro economic impact of fiscal stimulus 2008. January 2008. Available at: <https://www.economy.com/mark-zandi/documents/Stimulus-Impact-2008.pdf>. Accessed February 23, 2019.
6. US Department of Agriculture, Food and Nutrition Service. Women, Infants and Children (WIC): about WIC—how WIC helps. November 18, 2013. Available at: <https://www.fns.usda.gov/wic/about-wic-how-wic-helps#Improved%20Birth%20Outcomes%20and%20Savings%20in%20Health%20Care%20Costs>. Accessed February 23, 2019.
7. Harnack L, Oakes JM, Elbel B, Beatty T, Rydell S, French S. Effects of subsidies and prohibitions on nutrition in a food benefit program. *JAMA Intern Med*. 2016; 176(11):1610–1618.