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### Title

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### Permalink

<https://escholarship.org/uc/item/4xx5m69h>

### Journal

PLOS Medicine, 15(10)

### ISSN

1549-1277

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### Publication Date

2018

### DOI

10.1371/journal.pmed.1002662

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Peer reviewed

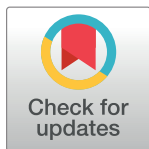
PERSPECTIVE

# In an unhealthy food system, what role should SNAP play?

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**Citation:** Seligman HK, Basu S (2018) In an unhealthy food system, what role should SNAP play? *PLoS Med* 15(10): e1002662. <https://doi.org/10.1371/journal.pmed.1002662>

**Published:** October 2, 2018

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**Funding:** The authors received no specific funding for this work.

**Competing interests:** I have read the journal's policy and the authors of this manuscript have the following competing interests: HKS receives grant funding to advise Feeding America, a domestic hunger relief non-profit organization that advocates on behalf of food-insecure Americans. SB receives a stipend as a specialty consulting editor for *PLoS Medicine* and serves on the journal's editorial board and has served on the Scientific Advisory Council for Healthy Food America, which has advocated for reduced sugar consumption, including through taxes and restrictions in sugar-sweetened beverages.

**Abbreviations:** SNAP, Supplemental Nutrition Assistance Program; USDA, United States Department of Agriculture.

It is no longer controversial to say that the United States food system does not support a healthy diet. Junk food is extraordinarily palatable and virtually omnipresent; its advertising is pervasive; many Americans do not live within convenient distance of a grocery store stocking healthy alternatives; and healthier foods are typically perceived as costlier. In this environment, the Supplemental Nutrition Assistance Program (SNAP) provides 42 million low-income people with financial assistance to purchase food. Most SNAP recipients, because they tend to live in lower-income communities, are exposed to the worst of the US food system: more unhealthy food marketing through traditional and social media, more unhealthy foods in the stores where they regularly shop, and fewer healthy foods that are financially within reach. Although SNAP benefits are intended to provide low-income families with sufficient food-purchasing power to obtain a nutritious diet, there is broad consensus that current benefits are insufficient [1]. The US food system is in urgent need of policies and programs that support and facilitate better dietary habits.

In a microsimulation modeling study in this issue of *PLOS Medicine*, Dariush Mozaffarian and colleagues examine one such policy: leveraging SNAP to incentivize healthy food purchases and disincentivize unhealthy food purchases [2]. Their model estimates that a 30% incentive on fruit and vegetable purchases would avert almost 12,000 cardiovascular deaths over the next 20 years, whereas combining a fruit and vegetable incentive with a restriction on purchases of sugar-sweetened beverages or combining a fruit and vegetable incentive with a restriction on a broad swath of unhealthy foods would avert even more cardiovascular deaths (40,420 and 48,088, respectively). Substantial cost savings are anticipated by this model.

The authors estimate the effect size of the proposed fruit and vegetable incentive from outcomes of a prior randomized trial [3], which strengthens confidence in this portion of their results (the effect sizes of a sugar-sweetened beverage purchasing restriction are more uncertain). The modeling is nicely validated in the components of the simulation related to cardiovascular disease risk estimation. However, as with all modeling studies, the authors needed to make assumptions. They did not explicitly simulate substitution between food groups (e.g., from sugar-sweetened beverages to 100% fruit juice); in the restriction scenarios, there is limited compensation for use of non-SNAP dollars to buy foods not allowed with SNAP dollars; and they assume that cardiac risk reductions from temporary improvements in diet will persist in perpetuity, even if a person only receives SNAP for a brief period. Despite these assumptions, their findings align with prior models that made alternative assumptions, similarly showing that modifications to SNAP can positively influence dietary intake among low-income people and generate substantial health benefits and cost savings [4,5].

**Provenance:** Commissioned; not externally peer reviewed.

Nevertheless, a large question looms over the findings: in the current political environment, how should public health practitioners and SNAP policymakers proceed with these results?

## The root cause of diet-related disease is an unhealthy food system

We contend that any SNAP policy changes must be introduced and framed as part of a broader effort to address perversities of the US food system. Public health researchers must avoid promoting the idea that SNAP as a program or SNAP recipients themselves are a cause of the US epidemic of diet-sensitive chronic disease and health disparities, when the root cause is an unhealthy food system. Although diets of SNAP recipients are poorer than diets of non-SNAP recipients, differences are relatively small and may be attributable to unmeasured confounders. For example, point-of-sale data suggest that there are few major differences in expenditure patterns of SNAP and non-SNAP households, with about 40 cents of every food dollar spent on basic items (meat, fruits, vegetables, milk, eggs, and bread) and 20 cents spent on junk food and sugar-sweetened beverages [6]. Sugar-sweetened beverages rank first in expenditures for SNAP households but second (just after milk) for non-SNAP households. Although added-sugar acquisitions are higher among SNAP participants than similar nonparticipants (31 tsp-eq versus 23 tsp-eq daily), overall diet quality as measured by the Healthy Eating Index is similar [7]. Studies correlating SNAP enrollment to obesity have been heavily publicized, but associations between SNAP and obesity disappear when adequately adjusting for unmeasured confounders [8]. In fact, many Americans—not just SNAP recipients—do not make healthy food choices in the current food system [9].

Public health research (including our own) on leveraging SNAP to improve dietary intake assumes that federal policymakers are interested in creating opportunities for healthier dietary intake and reducing health disparities. However, some policymakers have reframed this public health research to identify SNAP or SNAP recipients as the problem, playing into a broader agenda set on eliminating the social safety net and stigmatizing the poor.

In this climate, research can become misrepresented in the media or by politicians to suggest that SNAP as a program, or SNAP participants as a population, is to blame for unhealthy dietary practices that are draining the US healthcare system.

This misrepresentation risks inadvertently contributing to program defunding or eligibility restrictions, which may neutralize any public health benefits or even result in perversely worse health outcomes.

## SNAP has far-reaching benefits

Policy changes must not negate SNAP's far-reaching benefits. SNAP reduces food insecurity rates by 20%–30% [10]. Children born to mothers receiving SNAP are healthier at birth and less likely to develop the metabolic syndrome in adulthood compared with similar children born to mothers not receiving SNAP. Children receiving SNAP are also more likely to reach their full educational and cognitive potential and more likely to become economically self-sufficient [11]. Among adults, SNAP is associated with lower risk of chronic disease and lower healthcare expenditures [12]. SNAP has been associated with reduced recidivism among newly released prisoners [13]. SNAP dollars are also immediately reinvested into the US economy; the US Department of Agriculture (USDA) estimates that every \$1 billion in SNAP benefits results in \$1.8 billion in economic activity and creates 8,900–17,900 full-time-equivalent jobs [14]. Finally, SNAP is by design responsive to changes in the US economy, supporting more households during economic downturns and fewer households during economic expansions. Hence, any policy modifications to SNAP must be rigorously studied not only for their impact on dietary intake but also for their impact on these important collateral benefits.

## Opportunities for reform

The large health benefits from modifying dietary intake through SNAP predicted in Mozaffarian and colleagues' article indicate a need to explore the importance of programs similar to SNAP across all levels of government. SNAP is often the focus of public health research because it is a large, federal program, but this also makes SNAP a more difficult target for effective reform than local and state initiatives, which have often been subject to less legislative gridlock. Congress renegotiates the Farm Bill that funds SNAP every 5 years, and it is extremely unlikely that the bill currently under negotiation will substantially change allowable SNAP purchases (outside of pilot projects). Major changes are unlikely to be substantively debated again until about 2023. Meanwhile, numerous state and local policies and programs to support healthier dietary intake, particularly in low-income communities, are already being discussed, implemented, and expanded. These programs, including vouchers to support fruit and vegetable purchases, healthy food procurement policies, and workplace bans on sugar-sweetened beverage sales, have generally been underresearched.

Discussing SNAP research requires grappling with the political and ethical tensions that arise when a social safety net program primarily created to address poverty is leveraged to address public health harms resulting from unjust and inequitable food systems. Lessons from studies such as this one—that systems supporting healthier dietary intake, particularly in low-income communities, can have profound public health impacts—provide good reason to support vibrant research efforts beyond SNAP alone.

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