

SNAP INCENTIVES

SUPPORT LOCAL ECONOMIES AND LOCAL HEALTH EFFORTS.



Literature Review: SNAP Incentives

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Providing a financial incentive for low-income individuals to purchase healthy foods is an emerging strategy to improve public health and ease the burden of chronic disease. These programs and policies have only recently been created, thus the science-backed knowledge of these programs is in its infancy. The following is a review of currently available published literature on financial incentives related to SNAP or other similar research that may be germane to SNAP-based incentives. This report aims to assist state and local policy makers who are interested in forming an evidence-based policy on the subject.

The review begins with an evaluation of nutritional effects of the SNAP program, independent of financial incentives. It then summarizes the current research specifically linked to SNAP-based incentive programs. The third section aims to explore findings specific to details of program implementation, and is followed by a section that summarizes findings from programs that link low-income shoppers to nutrition benefits at farmers’ markets, though without requirements of SNAP participation. It concludes with a list of further research topics, strategies and other suggestions as expressed in the literature reviewed.

Terms & Abbreviations

For brevity, the following acronyms are used throughout this review.

SNAP	Supplemental Nutrition Assistance Program
SI	SNAP Incentive
WIC	Special Supplemental Nutrition Program for Women, Infants & Children
EBT	Electronic Benefit Transfer
FM	Farmers’ Market
FV	Fruits & Vegetables
HIP	Healthy Incentive Pilot Program in Massachusetts
SNAP-Ed	USDA Funded Educational Program for SNAP Participants
SFMNP	Senior Farmers Market Nutrition Program



I. Nutritional Findings for SNAP Participants

SNAP participation can reduce food insecurity. Standing alone (without produce incentives or other interventions) participation in SNAP is associated with reduced risk of food insecurity by 6% - 17%, and reduced risk of severe food insecurity between 12% - 19% in a national population¹⁽³⁴⁹⁾. SNAP participation was also found to be associated with decreased odds of childhood hunger in a rural immigrant population²⁽⁸⁾.

SNAP participants were, however, found to struggle to meet key dietary guidelines more than other income-eligible and higher income households³⁽⁵⁹⁵⁾. Inadequate SNAP benefit levels are also a barrier to purchasing and consuming high-cost, nutrient rich foods⁴⁽⁷²⁾. And in a survey of SNAP stakeholders, *the high cost of healthy foods* was the second most frequently identified barrier to a nutritious diet⁵⁽²⁸²⁸⁾.

Physical access to healthy foods is also a barrier to healthy diets. Experts said that improving the SNAP retailer environment is a viable strategy to improve nutrition in low-income households, as environmental factors associated with poverty are also barriers for healthy eating⁴⁽⁷²⁾. Not having EBT terminals at FMs was found to reduce impact of a nutrition intervention for SNAP users in rural Kentucky²⁶⁽²⁾. Researchers also found shorter physical distance to a healthy food store was associated with better response to a dietary intervention by obese adults with metabolic syndrome⁶⁽³¹¹⁻³¹³⁾. The availability of multiple FMs within a community offers flexibility (with respect to day and time for shopping), and increased variety (as vendors differ by market) for SNAP users⁷⁽⁴⁰¹⁾. Introducing multiple farm stands to a low-income community was found to increase FV intake communitywide⁸⁽¹¹⁴¹⁾.

II. Nutritional Findings for SNAP Incentive Programs

Healthy Food Incentive programs typically offer economic incentives in the form of discounts, rebates, matching vouchers, and qualification coupons for the purchase of FVs. The findings show these programs increase both purchasing and intake of FVs. In a global review of literature, healthy food subsidies are found to increase the purchase and consumption of the healthy foods they target⁹⁽⁵⁾. Additionally, A 50% discount of FVs led to both increased purchase and intake of those foods in supermarket study in New York City^{11(E547)}.

Incentive programs directed at SNAP participants show similar results. A matching program for low-income female caretakers shopping at FMs was found to incentivize slightly more than half to increase their FV consumption¹²⁽⁶⁶⁾. In the same study, the group with very low FV intake and the group without a high school diploma at baseline were the most likely to increase their consumption. Participation in a FM matching SNAP incentive program led to both greater food security and increased intake of tomatoes, corn, cabbage, eggplant, white potatoes, peas, and lettuce¹⁴⁽⁷²⁾. A rebate program for SNAP users showed a moderate improvement of self-reported intake of FVs, although those improvements were not found to motivate a change in shopping location^{15(s164)}.



The Massachusetts Healthy Incentive Pilot (HIP) offered a 30% rebate on purchases of FV for SNAP users in participating markets. Participation in the program was associated with an increase of FV intake¹⁶⁽²⁰⁷⁾. Researchers also found an increase in the 2010 Healthy Eating Index scores of 8%, a large enough gain to eliminate the disparity between SNAP-eligible and SNAP-ineligible populations^{16(167),17(430,433)}. There was also a positive substitution-effect externality found as participants in the HIP program decreased purchases of soda, and increased purchases of 100% fruit juice, despite 100% fruit juice not being eligible for the rebate^{15(s163),17(430)}.

While the positive outcomes of incentive programs have been indicated to diminish over time, several studies report evidence of some sustained impact. A 50% discount led to a partially-sustained behavior change at 4 weeks¹¹⁽⁵⁴⁶⁾. SI programs might lead to an increase in the percentage of participant food budgets spent at FMs over time¹⁸⁽¹⁾. And participants of an incentive program targeting low-income population showed a sustained behavior change at 5 month follow up¹⁹⁽¹⁵⁹⁾.

SNAP incentive programs may also reduce morbidity and mortality rates. An economic modeling study on a theoretical nationwide expansion of HIP showed expected decreases in type 2 diabetes, mitochondrial infraction, stroke, and obesity^{27(e150)}. In the model, a nationwide expansion of the 30 percent rebate would postpone or prevent 35,000 deaths due to cardiovascular disease, which was higher than modeling for a mass media campaign intervention or a 10% sugary drinks tax intervention²⁸⁽⁹⁾. These modeled estimates of association between morbidity/mortality and SI programs cannot be proven in any short-term, community-based trials²⁷⁽¹⁾, making modeling-based research the strongest available evidence for predicting chronic disease impacts.

Results are mixed as to whether incentives impact consumption of fruits over vegetables, or vegetables over fruits. A prepaid produce coupon was found to increase the consumption of fruits significantly more than vegetables²⁰⁽⁸⁶⁹⁾. The WIC-based Cash Value Voucher(CVV) was also found to increase the purchase of fruits over vegetables²¹⁽¹⁾. However, in an evaluation of the HIP program researchers did not find a greater impact for fruits than for vegetables¹⁷⁽⁴³³⁾. Self-reported surveys for a combined education-incentive program in Rhode Island revealed an increase in vegetable intake with no change in fruit intake²²⁽¹⁴⁾.

Incentive programs directed at low-income populations (SNAP-eligible or otherwise) were also associated with expanded physical access to healthy food in several studies. FM vendors reported increased sales associated with incentive programs in Cleveland⁷⁽⁴⁰²⁾, Philadelphia²³⁽⁸⁾, San Diego²⁴⁽⁵⁾ & New York City²⁵⁽⁴⁾. While there are reports of associations between incentive programs and expanded access to FMs and small retailers²³⁽¹⁾, the research could be further developed to measure causation of the increased access, possibly through randomized control study design.

The literature reviewed generally demonstrates public support for the expansion of SNAP incentives as a dietary intervention strategy. SNAP stakeholders surveyed in 2011 were found to believe that vouchers, coupons, or monetary incentives had the greatest potential for improving diets⁵⁽²⁸²⁸⁾. Experts in qualitative



in-depth interviews also classified incentives as a viable strategy to improving diets⁴⁽⁷³⁾. Some papers argue that nationwide expansion of the HIP program would be cost effective under several scenarios^{15(s167),16(8),27(e153)}, when compared with other intervention strategies like education, marketing, and excise taxes. There is also evidence that the greatest gains from SI programs would reach groups traditionally missed by healthcare-based interventions^{27(e153)}.

III. Differences in Incentive Strategies

Using Financial incentives to improve nutrition is still a new strategy, thus elements of program implementation vary widely. When evaluating different structures of incentive programs, research suggests it is important to consider not only the financial assistance value, but to factor in pre-existing knowledge of program details, retailer participation, and program promotion²⁹⁽⁶⁶⁷⁻⁶⁷¹⁾. Reimbursement based consumer subsidies might not be as effective a policy tool for impacting vegetable consumption when compared to a cash voucher, discount, or matching based program³⁰⁽⁵²⁶⁾. There is also evidence to suggest that dietary intervention policies will be more effective if they focus on smaller, independent stores as they more closely serve areas with low-access^{31(6),34(2105)}. While FMs fit this description, a FM-based incentive program will likely be limited by seasonality¹²⁽⁶⁹⁾. This section will review the evidence base for effectiveness comparisons of program system design details.

Evidence suggests that dietary interventions are significantly influenced by the proximity of a healthy food store^{6(316),31(4)}. The 30 percent rebate of the HIP program did not appear to induce a change in where participants did their shopping¹⁷⁽⁴³³⁾, further supporting the importance of proximity. Furthermore, SNAP spending is different in suburban areas than in urban areas. While most urban SNAP spending is done at convenience, discount, and co-op stores, SNAP dollars distributed into an urban environment were found to flow out of those urban areas, and into suburban supermarkets³²⁽⁹⁷⁾. One significant factor to this flow is a perceived quality difference between the two environments³²⁽⁹⁰⁾. Additionally, one study found that available FV quality measurements worsened as the geographic area became more rural⁵⁷⁽⁴⁾. Finally, it may be valuable to consider that distance from FV retail settings would likely have bigger impact on rural interventions relative to their urban counterparts³³⁽⁷⁾.

Payment processing may be a critical element to the effectiveness of a SI program. Creating and testing the EBT system for both processor and retailers was a major upfront cost for the HIP program¹⁶⁽⁸⁾. For a grocery-based incentive project, the “cashier not knowing how to process a produce coupon” was identified as one barrier to usage²⁰⁽⁸⁷¹⁾. Furthermore, a FM-based incentive project finding suggests the bottlenecks for processing SNAP transactions are a barrier to participation⁷⁽⁴⁰²⁾. And while EBT card processing system is found to reduce stigma, requiring dual payment methods might negate this benefit³⁶⁽⁵⁸⁾.



Education

As with all retail food sales efforts, success of an incentive program relies on a customer base that intends to purchase and consume healthy foods. Experts interviewed identified nutrition education as a viable way to improve diets for low-income households, while also calling for increased effectiveness evaluation and combination efforts with other interventions⁴⁽⁷³⁻⁷⁴⁾. Additionally, an increase in youth shopping or youth participation in shopping was associated with increased FV and fiber intake⁴¹⁽⁵⁾. However, a SNAP-Ed program in Kentucky did not find recipe samples, cooking suggestions, and food demonstrations to improve purchasing habits²⁶⁽⁵⁾. Other studies conclude that educational programs can have a positive dietary effect when paired with an incentive program²²⁽¹⁴⁾, and that a combined SI/education program may be most effective at increasing variety and consumption of unfamiliar FVs^{37(s36)}.

The literature reviewed suggests that incentive programs can be increasingly effective with health and cooking minded customers. One study showed that the “hierarchy of health predisposition” can determine where an intervention can be the most effective³⁹⁽⁷⁴⁾. Another study found that female TANF users were 300 percent more likely to use a FM coupon if they had knowledge of vegetable preparation³⁸⁽¹⁾. A third study concluded that incentives at farmers’ markets are an effective way to reach people who are already interested in eating healthy¹²⁽⁶⁹⁾.

Educational programs may best be used to change intentions, comfort, and predispositions to cooking and eating healthy. SNAP-Ed “*Menu Planning and Shopping*” and “*MyPlate*” courses effectively improved intention to improve nutrition-related behaviors scores of participants⁴⁰⁽⁸³⁾. Awareness of an educational marketing campaign in Kentucky was associated with increased willingness to prepare a given recipe at home²⁶⁽²⁾. And interviews with SNAP-Ed participants found an increase in knowledge and self-efficacy to prepare, store, and cook food^{37(s36)}. Training and educational materials on FM locations, how to use benefits at FMs, and providing tours were each effective at increasing knowledge of a SI program⁴⁶⁽⁷⁰⁴⁾.

The findings suggest that combining education and incentive programs can be more effective than either standing alone.

Outreach

The percent of eligible individuals who opt-in to an incentive or other dietary intervention will have a major impact on the program’s effectiveness. Marketing, recruiting, or encouraging participation are important details of program design and implementation; the literature has several applicable findings.

In grocery stores, signage directing shoppers toward produce sections lead to increase the purchase of FVs without increasing the total shopping budget⁴²⁽⁵¹³⁾. Another finding concludes that “descriptive and provincial social norm messages may be an overlooked tool to increase produce demand without decreasing store revenue or shopper budgets”⁴³⁽²⁹⁰⁾. A third study argues that targeting unplanned purchases provides a high upside opportunity for nutrition interventions⁴⁴⁽¹¹⁸⁾. Finally, one noteworthy



study found most online grocery promotions and coupons are for processed snack foods, candy, desserts, cereal, prepared meals and sugary drinks while rarely, <6%, promoting FVs⁵⁸⁽³⁾. Around the world, grocery store brands invest in exhaustive shopper behavior research and have developed effective methods for changing behavior and purchasing habits for their benefit. The literature reviewed suggests that nutrition interventions could benefit from learning from and mimicking these approaches.

Several other studies produced findings relatable to outreach and marketing for nutrition incentive programs.

- ▶ A clinical waiting room servicing a low-income population was found to be an effective place to inform and enroll participants to an incentive program¹⁹⁽¹⁵⁸⁾, providing an opportunity to “bridge historical silos between clinical care and community-based social services (which) may pay dividends in improved population health.¹⁹⁽¹⁶⁰⁾”
- ▶ Including culturally important foods is also associated with higher uptake, and the study suggests that interventions should take this especially seriously in culturally diverse markets¹⁰⁽⁹⁴⁶⁾.
- ▶ 73% of SNAP stakeholders, when surveyed, held positive attitudes about increasing Information Technology and Social Media as educational and outreach tools for SNAP⁵⁽²⁸³⁰⁾.

IV. WIC, SFMNP, and other Interventions Targeting Diets of Low Income Shoppers

The literature provides a body of research that, while not directly related to SNAP incentives, does offer potentially useful information.

- ▶ A grocery store-based cash incentive for produce had mostly low-income participation. After rebating \$1 for every item purchased deemed to be healthy, the program saw increases in daily vegetable intake, as well as other produce, low/no calorie beverages, and energy dense soups & meats⁴⁵⁽¹¹³⁾. Furthering the evidence base that economic incentives can change purchase behavior for low income adults.
- ▶ Vegetable prescriptions of \$10/week for 4 weeks were associated with significant reductions in Hb1c for low-income patients with uncontrolled Type 2 diabetes in Detroit, MI⁴⁷⁽¹⁷⁸⁾. This finding increases evidence for the potential power of linking healthcare outreach to a dietary intervention.
- ▶ One study found that stand-alone FM coupons may not be a high-reaching strategy for dietary change among TANF users³⁸⁽¹⁾.



- ▶ After changing the WIC program to add a cash value voucher of \$6-\$8 and changing the rules around milk purchasing, researchers found an increased availability of low fat milk and variety of produce offered⁴⁹⁽⁵⁾. These findings demonstrate a positive retailer/access reaction to a shift in food assistance policy.

Restrictions

The literature around SNAP incentives often references SNAP restrictions as a comparable strategy to influence diets of low-income shoppers who participate in food assistance programs⁴⁽⁷³⁾. This section will explore some of the published research on restricting unhealthy foods from SNAP purchases, and how this policy relates to SNAP incentives.

One study of the HIP program demonstrates that a restriction policy can be feasibly integrated into existing operational processes. The study argues that requiring some portion of SNAP be spent on healthy foods (grains/FVs) is likely to improve dietary uptake of targeted items, while full banning the use of SNAP for unhealthy foods (soda, candy) is unlikely to have a significant impact^{50(s172)}. While some researchers warn that SNAP restrictions would reduce agency within an already agency-constrained population³⁶⁽⁵⁸⁾, others show that support for restricting sugary drinks from SNAP eligibility by 72 percent of SNAP professional stakeholders⁵⁽²⁸²⁸⁾. In a study modeling the two policies (SNAP incentives and SNAP restrictions), incentives could avert 39,000 diabetes person years and 4,600 cardiovascular deaths over 10 years, having a greater impact than a sugary drink restriction. But when considering cost-effectiveness, the sugary drink restriction may be more cost-effective as it is a revenue generator⁵¹⁽⁹⁴⁵⁾.

One study concludes that a combined incentive / restriction policy may have greater impact than incentives alone⁴⁵⁽¹¹⁶⁾. In a randomized control trial, a combined incentive/restriction participation had better dietary outcomes than either program alone⁵²⁽¹⁶¹⁵⁾. One survey showed similar support (between SNAP participants and non-participants) for a combined incentive/restriction policy⁵³⁽¹⁵⁷⁹⁾. The opinion polls reviewed show consistent support for both SNAP incentives (88% - 92%) and SNAP sugary drink restrictions (54%-87%) by both participants and nonparticipants^{53(1577-1578),54(s196)}.

Adjusting the Disbursement of SNAP Funds

Users, experts, and advocates were reported to support changing the SNAP fund disbursement from one time per month to two or more times per month⁴⁽⁷³⁾. Evidence suggests that SNAP participants are increasingly more likely to experience a full day without eating due to running out of EBT funds⁵⁵⁽¹⁵⁾. While it is sometimes contested that monthly issuance increases risk of extreme hunger, this is an area where additional research is needed to better predict outcomes of such a policy change.



V. Furthering the Research

The published studies around SI policies pinpoint several areas where expanded research could help the field.

- ▶ There is a need to better understand the long-term impacts of SNAP incentives on FM use, dietary behaviors, individual health outcomes, and population-based health outcomes^{23(1),24(5),9(7)}.
- ▶ There may be promotional effects of SI programs beyond the targets^{15(s162)}. Does participation encourage other healthy behaviors like reducing unhealthy foods, increasing exercise, greater self-confidence, increased cultural competency? Can incentives encourage corner stores to stock and successfully move more fresh produce?
- ▶ Using point of sale itemized tracking of purchase receipts is a better way to evaluate a program than recalls¹⁰⁽⁹⁴⁷⁾. While difficult to obtain, this type of data will provide more credible information and may uncover useful nutrition information in analysis of the gap between self-reporting and actual purchases.
- ▶ Efforts should be taken to re-assess and re-define the adequacy of the SNAP allotment formula²⁽⁹⁾.
- ▶ There is a need to better understand the specifics of barriers to uptake of incentive programs^{12(69),19(159)}.
 - How does transportation access effect uptake^{7(402)?}
- ▶ How can food assistance policy serve the most vulnerable, deeply rural areas where there is little access to grocery stores, FMs, Food Banks, etc¹²⁽⁶⁹⁾.
- ▶ Researchers should study different effects of educational programs, specifically around the cultural and social norms asserted²²⁽¹⁵⁾.
- ▶ Future research should aim to understand the specific factor associated with frequent patronage of FMs by SNAP users⁷⁽⁴⁰²⁾.
- ▶ Measure and compare the relationships between food quality and choices with dietary quality and health outcomes⁵⁷⁽⁸⁾.
- ▶ Food pantries are a potentially rich context for shopping behavior research and should be studied³⁹⁽⁷³⁾.
- ▶ Measure the effectiveness of subsidized CSA's on diets of low-income adults (underway)³⁵⁽⁷⁾.
- ▶ Qualitative interviews with food market operators around changes in food assistance programs will likely uncover information useful to improving the programs⁴⁹⁽⁵⁾.
- ▶ Assumptions about increased embarrassment, confusion, and dropout associated with SNAP restrictions are unproven and should be more closely studied^{56(s203)}.



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