



Healthy Food Pricing Incentives Learning by doing: A summary of interviews from leaders in the field

Executive Summary

Poor nutrition is a major contributor to many preventable chronic diseases including obesity, diabetes, cancer and heart, liver and dental disease. In recent years, healthy food pricing incentives have emerged as a promising strategy to improve nutrition. We define a healthy food pricing incentive as a monetary award that reduces the price of healthy foods, making them more affordable.

Numerous studies have demonstrated that these incentives increase the purchase and consumption of healthy foods, especially of fruits and vegetables, and particularly among low-income populations. While the science is clear that pricing incentives work, the most recent evidence reviews are current only through 2017 and it remains unknown what *specific attributes* of incentive programs contribute to success.

To help answer this question, Healthy Food America conducted key informant interviews with fourteen national healthy food pricing incentive experts. The purpose of the interviews was to learn from them about the factors that make incentives successful and what the field still has to learn about effective implementation.

Here is what the experts had to say:

- Incentive programs increase consumption and purchase of healthy foods.
- The goal of the program matters. While some communities may prioritize increasing affordability of healthy foods, others may be primarily interested in supporting local agriculture. There are usually trade-offs between pursuing these goals. An incentive program should meet the specific goals and needs of the community it serves.
- Fresh fruits and vegetables are the foundation of any incentive program. Expanding eligible products to include frozen or canned fruits and vegetables or even other types of foods that meet nutritional requirements may be desirable. However, doing so increases program complexity and presents implementation challenges.
- The optimal size of the incentive remains to be determined. The suggested amount of the incentive as a proportion of the food price ranged from 40-100% for farmers markets and 10-50% for supermarkets. Some experts favored eliminating caps on amount of incentives a participant could earn while others felt a cap of \$50-100 was reasonable as a way to limit per-participant costs so that more people could benefit from the program.
- Incentive programs need to be user-friendly: easy to understand, easy to utilize and available where the target population already shops.
- When feasible, offering incentives electronically is the preferred mechanism (e.g. electronic benefits transfer [EBT] or loyalty card) and incentives should be redeemable immediately.
- WIC or SNAP participation is the most commonly used program eligibility criterion. It is worth considering expanding eligibility to include people with Medicaid insurance, people eligible for WIC or SNAP but not enrolled, working poor not eligible for these programs, food insecure people, and/or children.
- The site where the incentive is redeemed matters. Stores are the preferred site when increasing access to healthy foods is the primary goal. Farmers markets are the preferred site when community building or supporting local agriculture is the primary goal.
- The benefits of including nutrition or cooking education as a component of incentive programs are uncertain.
- Collaboration contributes to program success. Partners may include healthy food advocates, food retailers, local and state government agencies including public health, WIC and SNAP, Farmers Market Associations and health care providers.
- Outreach, marketing and training of frontline staff providing the incentives are critical components of an incentive program.

The experts called out some challenges faced by incentive programs:

- Securing funds to sustain and expand the program. Potential sources include federal and state governments, taxes, private foundations, health care organizations and grocery retailers.
- Implementing the technology needed for seamless electronic incentive awards.
- Training retailer staff to consistently deliver the program.
- Making sure that people eligible for the program know about it and use it.
- Allaying concerns about fraud, whether actual or perceived.

Research and program evaluation is needed to clarify the specific components of incentive programs that constitute best practices, including types of eligible foods, size of incentive, award caps, immediate vs. delayed receipt and use of incentives, provision of the incentive as a direct

subsidy vs. match, engagement of smaller retailers in addition to supermarkets, inclusion of nutrition and cooking education as a co-intervention, expansion of eligibility requirements, and measurement of co-benefits (e.g. economic effects on local agriculture and small businesses). Additional knowledge gaps include defining the impact of incentives on diet quality and health metrics.

The results of the interviews have informed the development of Healthy Food America's review "[Healthy Food Pricing Incentives: Designing successful programs](#)" which is available on our website.

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Acronyms & Abbreviations

CBO: Community Based Organization

CSA: Community Supported Agriculture <https://www.nal.usda.gov/afsic/community-supported-agriculture>

EBT: Electronic Benefits Transfer <https://www.fns.usda.gov/snap/what-electronic-benefits-transfer-ebt>

FINI: Food Insecurity Nutrition Incentive Grant Program <https://nifa.usda.gov/program/food-insecurity-nutrition-incentive-fini-grant-program>

FV: Fruits and Vegetables

HFFI: Healthy Food Financing Initiative <https://www.acf.hhs.gov/ocs/programs/community-economic-development/healthy-food-financing>

HIP: Healthy Incentives Pilot <https://www.fns.usda.gov/hip/healthy-incentives-pilot>

RI: Key Informant

SNAP: Supplemental Assistance Nutrition Program <https://www.fns.usda.gov/snap/supplemental-nutrition-assistance-program-snap>

WIC: Special Supplemental Nutrition Program for Women, Infants and Children <https://www.fns.usda.gov/wic/women-infants-and-children-wic>

Introduction

Poor nutrition is an important contributor to persistent chronic disease health inequities.^{1, 2}

In recent years, healthy food pricing incentives have emerged as a promising strategy to make healthy foods more affordable, leading to better nutrition and ultimately reducing the burden of diet-related disease. We define a healthy food pricing incentive (hereafter referred to as “incentive”) as a monetary award that reduces the price of healthy foods, making them more affordable.

Numerous studies have demonstrated that they result in increased consumption, purchases and sales of healthy foods, especially of

fruits and vegetables (FV), and particularly among low-income populations.^{3, 4, 5, 6, 7} While the evidence is clear that incentives work, it remains unknown what *specific attributes* of incentives make them successful in impacting food consumption.

Healthy Food Pricing Incentive:

A monetary award that reduces the price of healthy foods, making them more

During the months of January – June 2018, Healthy Food America conducted key informant (KI) interviews with fourteen US healthy food pricing experts. The purpose of the interviews was to learn expert opinion regarding these incentives: what makes them successful and what does the field still have to learn. This document is a summary of these conversations. We identify common themes, as well as areas of discordance.

Methods

We identified informants with expertise in the design, implementation and evaluation of incentives from the non-profit, business, government and academic sectors through existing Healthy Food America contacts, a broad Google search, and recommendations of included key informants (snowball method). Fourteen experts participated in a semi-structured telephone interview with HFA staff (see Appendix).

During each interview, HFA staff recorded notes containing key responses and quotes. When both interviewers were present for an interview, notes from each were compared, differences discussed and resolved, and then combined. We then compiled notes across all the interviews for each of the questions asked. Within each question, responses were organized by emerging topical themes. Areas of agreement or discordance among responses were noted.

Results

We present results for each question asked during the interviews with a concise description of the overarching findings (in italics) followed by a more detailed summary of responses. Quotes that represent shared thinking by interviewees are highlighted in boxes.

What foods should be eligible for healthy food pricing incentives?

Overall, KIs agreed that incentives for fresh FV work. KIs also agreed that canned and frozen FV should be included as well, while noting that this presents important challenges. There was discordance about including additional healthy foods. While several KIs felt it was important to look beyond FV, others noted that doing so can be difficult.

KIs believed that FV should be the focus for incentives because:

- Impact has been demonstrated with FV but less so with other types of foods.
- Limiting included foods to FV only keeps the program simple and easy to communicate.
- We know FV are under-consumed and consumption can prevent chronic diseases.

Limiting [incentives to only cover] FV keeps the program simple and easy to communicate.

Some felt the definition of FV should include frozen and canned FV in addition to fresh produce, but acknowledged this approach has challenges and requires more person-power to implement:

- How do you determine which products to include?
- How do you make sure consumers can identify eligible products?
- How can you ensure cashiers can also identify eligible items?

Although the vast majority of incentive programs to date have been limited to FV, many KIs felt that it would be ideal to include additional healthy foods, especially at smaller corner stores:

- Shelf-stable foods such as whole grain cereals, lean proteins and water should be included.
- We need to look at total diet, especially if we want to impact obesity, and in terms of meal planning.
- Diet quality encompasses more than just FV; there are other food groups. Even if you are eating sufficient FV you may not improve your chronic disease risk if you are also consuming other unhealthy foods.
- We actually have a bigger problem [in society] with whole grain deficiencies vs. FV deficiencies.
- It can be hard for small stores to incentivize FV. Smaller stores have a harder time sourcing fresh produce, FV are often more expensive in smaller stores [since these stores are purchasing smaller quantities compared to the larger supermarkets], it is difficult [for these stores] to keep perishable foods fresh, and they often do not have enough shelving.

KIs noted many obstacles to including a broader range of “healthy foods” beyond FV:

- It is difficult to define what to include/exclude.
- [Ideally expand beyond FV but] it is hard to operationalize.
- It is difficult to communicate what foods are included to consumers and they may need more help identifying covered items.
- There can be conflicts of interests from the food companies if they push to have their products included...If different lobby groups get involved, it can get grey really quickly.

What is an appropriate amount for healthy food pricing incentives?

There was disagreement among the KIs as to the “right” amount of an incentive and if incentive programs should have caps. This discordance seemed due to the variety of different sizes of incentives that have been studied to date. Research is needed to identify if there is a “tipping point” amount.

KIs reported incentives offered in farmers markets (40-100%) were generally higher than those offered in supermarkets (10-50%). This raises the question of whether supermarkets might be more cost-effective for increasing purchases relative to farmers markets.

Incentive Amount

KIs noted that there is a trade-off (given finite funding) between the size of the incentive and the number of people served (e.g. smaller incentives can be offered to more people and/or over a longer time period, but the impact on the diet quality of each participant might not be as substantial compared to larger incentives offered to fewer people). Most KIs felt that the evidence is insufficient to identify the appropriate size of the incentive due to the wide range in incentives offered to date. They also felt that the amount offered should take into consideration the customer base, region of country and the intervention setting. Market research can help determine an appropriate size.

Supermarkets

While the suggested range of incentives in grocery store settings ranged from 10-50%, KIs felt a minimum incentive of 20-30% is needed:

- Anything under 10% won't make much of a difference; 20-30% is needed.
- HIP (Healthy Incentives Pilot project) indicates that 30% makes a difference; there is no evidence below 30%.
- Anything under 10% won't work. We saw good behavior change at 25%, but you have to be able to make the economics work. We saw that as the cash back amount increased (from 10% to 25%), the ratio of healthy to total food increased while the ratio of unhealthy to total food decreased.
- We've offered a \$5 coupon for every \$10 spent on fruits and vegetables (50%).
- [The large supermarket chain] we talked to said the easiest would be to offer a 50% discount.
- FINI (Food Insecurity Nutrition Incentive Grant Program) decided on 1:1 match, up to \$20 per day (at both supermarkets and farmers markets). Technically, you could get \$20/day if you shopped every day and SNAP had the money to leverage.

Farmers Markets

KIs noted larger incentives (40-100%) are seen at farmers markets:

- Double Up programs are often 50-100%. Not sure if they need to be this high but maybe it is necessary to get people to go to the Farmers Markets.
- We've seen good results with a 1:1 match. Although Food Bucks (at 40%) also has good results.
- We have offered \$10 vouchers per week per household and that has worked well for us. People say it's the right amount in our surveys. If it is higher, than it is hard to sustain, and make a policy case. You do need to consider household size.
- People argue that 1:1 or 2:1 is easiest to understand. Don't think it needs to be 1:1. Shoppers still think it's a good deal [even if it's less than this]. We do 40% at Farmers Markets. It is our model to stretch dollars and still have an impact.
- There's no right answer at this point in time. I would pitch for a 1:1 with a free incentive bag. Or would at least be happy with a 1:1. There's an inherent ease about 1:1. It makes a

measurable impact on community member's budgets. We did a study showing various levels of incentive amounts with SNAP (Supplemental Nutrition Assistance Program) participants (voucher amount of 40 cents on the dollar, 80 cents on the dollar, dollar to dollar, dollar to one dollar 50 cents, or dollar to two dollars). We found that, overall, the increase in one month was 13 cents a day. There was a much higher increase at the dollar to two dollars level (highest level. [However], the lowest incentive rate paired with a free market bag had the biggest impact.

Corner Stores

With respect to corner stores, one KI noted that the incentive needs to be substantial enough that it draws in consumers but low enough that it doesn't impact revenue of the store (smaller stores often operate on thin profit margins):

- The incentive should be at least 10-20% to attract customers but this could dramatically cut into the profit margin which makes it tough to sustain if the store pays for the incentive. Maybe it is ok to think about a larger subsidy if it is publicly funded (e.g. on EBT, electronic benefits transfer, cards). Every food is different, almost need to ask on a case by case basis to know the profitability of that specific food and then can figure out the subsidized price.

Incentive Caps

KIs disagreed about limits or caps being applied to incentives. When caps were suggested, the amount ranged from \$50-100 per month:

- There was a \$60 per month limit for HIP but only 1% of people hit the limit due to low uptake. I think a cap does matter, it just didn't for this pilot project. I wouldn't be concerned about a cap of \$50-60, I would be concerned with a cap of \$10 per month not being enough.
- Too many limitations can confuse things, but you need to have overall governance. We use caps for our program that serves a middle to high socioeconomic population.
- I'm not sure about caps. I would advocate for no cap but would certainly not place a cap below \$20 [per month]. Maybe a monthly cap of \$100 if there had to be one?
- We found that the match ratio had less of an effect on how much is spent compared to whether or not there is a cap (i.e. the cap does influence how much people spend). With a cap of \$10, most people will spend \$12 total. When no cap, they will spend \$20.
- You do need to set a limit on the amount that can be spent per trip so the stores don't blow their budget. They could not set a limit in [one state] and it was an issue.

What is the best mechanism for offering healthy food pricing incentives?

KIs felt that using incentives should be an easy and seamless experience. Most agreed that utilizing EBT or loyalty cards was preferable to physical incentives such as vouchers, coupons or tokens. They also believed that incentives should be redeemable for immediate use at the point of sale. KIs shared that an effective incentive program required sufficient cashier training and clear customer communication.

Incentive Delivery Mechanism

There was a variety of opinions on the ideal mechanism. However, KIs agreed that the incentive mechanism needed to be simple and user-friendly:

- Make it as simple as possible. Ideal is to get immediate gratification (at the point of sale). Our program used a rebate structure that went directly to the customer's bank account - this was effective. What we do want is to make it as seamless as possible for people to get the discount.
- Needs to be user-friendly for shoppers; have it be a part of their frequent shopper card.

Many KIs agreed that EBT and loyalty cards are the preferred mechanism, when possible:

- Coupons are very tedious. Ideal would be EBT cards, but I don't think it's plausible in the next couple of years for our state. Loyalty cards or an app system might be the next best option.
- I think at this point, everything should be EBT. Like WIC is going towards EBT. Can give \$10 or \$20 a month like WIC, or a meal for children during summer or at after school programs. However, there are multiple mechanisms and they all work.

- We're excited to launch a new pilot with a Mastercard/rewards card in partnership with loyalty programs. The goal is to deliver produce purchasing power to the

[Accessing the incentive] should be minimally invasive for the customer, fast to do the transaction, and needs to work within the existing

consumer with a rewards or debit card experience. On the back end we provide the incentive, but can also get more data and look at the whole market basket. This is more efficient than vouchers. This is a best practice especially for grocery stores – and hopefully for farmers markets too.

- Paper [incentives do not work as well because the consumer] has to remember it.

Some KIs felt that the preferred mechanism depends on the setting and populations served:

- Varies. It should] be minimally invasive for the customer, should be fast to do the transaction, and needs to work within the existing system. For example, a large supermarket won't deal with tokens but in our state, we can't currently issue incentives on EBT cards because the integration is really expensive. [However, conversations are happening to discuss transitioning to EBT cards]. You need to leverage the system in which you're going to work. [We asked the supermarket chain] "We want to offer an incentive...how do we do this?" [Incentive programs] could look different in each setting unless we can integrate into the EBT system.
- Loyalty cards or EBT are easiest to implement in stores; [the systems are already in place]. At farmers markets it's harder; you need someone to operate EBT or take tokens. And you need to think about the stigmatization that may be associated with tokens.
- Incentive implementation varies by retail site. [Stores are often able to use EBT cards, while vouchers or tokens are often used at farmers markets].

The jury is still out on what is the best way [to offer incentives. Incentive programs are new enough that we don't know yet.

- The jury is still out on what is the best way; [these programs are] new enough [that we don't know yet. However, we do know that it works to do incentives].

However, a few KIs believed cash value vouchers were preferred, although not without their challenges:

- I'm inclined to keep it simple - cash value voucher.
- I think our redemption rate is high especially with older adults, because they see and trust the voucher; they like to hold this piece of paper...The voucher system/ infrastructure seems to be quite robust. [However], we are exploring ways to use EBT. Tracking the vouchers is challenging. We have about 1,000 households enrolled, so that is four to six thousand vouchers processed a week. How do we do this super efficiently? We are thinking of adding a bar code so that we know where every voucher is at every moment.
- In WIC, participants were [automatically] mailed \$20 vouchers and redemption was really low whereas the seniors [received the vouchers] from the senior center upon request [and used them]. For WIC, they didn't opt in to the benefit, they automatically got it [and didn't use it].

Finding an appropriate mechanism that works in smaller corner stores was identified as a particular challenge:

- We've tried coupons and gift cards in the context of the smaller corner stores. These have not worked terribly well.
- Serving corner stores is a priority for us, and not all corner stores have EBT capacity. And if we want to support the local food system, and if a corner store converts to a healthy corner store, we want them to have steady demand to sustain them; a paper voucher is more tangible and more likely to be used.

Timing of Incentive Redemption

Most felt that the mechanism should allow for the incentive to be redeemed immediately:

- I think this idea that they get it at the market and then can spend it that same day. That is the bottom line; they need to be able to use it that day.
- There are different ways of earning incentives – loyalty cards, 50% off coupons for use at the next shopping trip. Incentives that are instantaneous, like loyalty cards, are much more meaningful for low-income people. If they have to go back to use the incentive, they may or may not. People want an incentive that they can redeem at the point in time they get it.
- [The incentive] needs to be automatically triggered [when they make their purchase] ...Either on their loyalty card or automatically loaded back to their EBT account.
- [Being able to use the incentive on the] same day is important regardless of the mechanism; easier to do same day with tokens [or vouchers at farmers markets] ...Big success when farmers market was right outside of the WIC offices [where vouchers were provided]. We used these strategies. We had some local money and the politicians wanted to have a hand in distributing vouchers through community centers for

[Being able to use the incentive on the] same day is important regardless of the mechanism.

future use, etc.; this approach did not yield as high of a rate of redemption [because consumers could not use the incentive where and when they received them].

Should healthy food pricing incentives be offered as a direct subsidy or as a match?

More research is needed to explore the benefits of subsidies vs. matching programs for incentives. Subsidies provide a fixed cash value amount to purchase specific foods and are not linked to how much a consumer spends. Matching incentives “match” all or a portion of the amount spent on specific foods and the amount is tied to the dollar amount a consumer spends (e.g. receive \$1 for every \$1 or \$2 spent). Very few KIs commented on which is preferable. Of those who did, only two had an opinion and their opinions conflicted.

Most KIs did not voice an opinion regarding a preference for subsidies vs. matched incentives:

- I wish I had the answer to this. I don't think we know yet. I think there's a place for both.

One KI noted a clear preference for a matched system, another strongly favored the direct subsidy approach:

- I'm absolutely in favor of just giving people the benefit and letting them use it. I studied Farmers Market Promotion redemption in Philadelphia [and found that] people who want [the incentive], redeem it.

Who should be eligible for healthy food pricing incentives?

Overall, KIs agreed that, at a minimum, incentive programs should be offered to those enrolled in SNAP, WIC (Special Supplemental Nutrition Program for Women Infants and Children), and Medicaid, and that other populations (e.g. those eligible for programs but not enrolled, working poor, food insecure, etc.) should be added as feasible. Several KIs also suggested prioritizing households with children.

KIs mentioned a variety of programs whose enrollees should receive incentives, including WIC, SNAP and Medicaid:

- I like the idea of building this into existing programs like WIC that already focus on promoting healthy foods; WIC reaches a lot more people [than Double Up programs at farmers markets]. And if you do it through SNAP, you could reach even more; 90-95% of local corner stores accept SNAP [in our area].
- WIC, SNAP, those at risk for health conditions – all are good. [It's] a practical and political decision. Offering benefits to all is difficult politically.

However, KIs often noted that the SNAP population is the easiest to reach and mentioned challenges with expanding beyond SNAP:

- Logistically, working with SNAP is the easiest. Expanding beyond is great, but I don't know the feasibility of doing this in retail and farmers market settings.

While SNAP was the eligibility criterion KIs mentioned most frequently, many liked the idea of offering incentives to populations beyond SNAP:

- It would be great to expand beyond SNAP, and to the working poor, if there was funding.
- [Incentives should be offered] beyond SNAP especially since people come on and off SNAP; we want them to stay eligible. [Incentives should be provided] to anyone who screens food insecure. I like the idea of site-based eligibility, e.g. food bank clients, families who go to a low-income child care setting, but this can be complicated.
- From the beginning, we've tried to reach people not eligible for SNAP. [This works in our state], but is not politically feasible in many areas. We let the CBOs (community based organizations) choose who to enroll; we give them flexibility. We think they can do this best and it gives us flexibility. Chronic disease is part of eligibility [for some CBOs].
- We'd love to be able to expand beyond SNAP. SNAP is an easy cut off point, but it is always under assault and always under enrolled so you're always missing people.

One KI specifically noted the benefit of not using SNAP as a qualifying factor for FV Rx programs (programs based at health centers where providers “prescribe” healthy food by issuing vouchers):

- Using Medicaid as the qualifying screener would be easiest for Rx programs because health care providers already know this information.

Several KIs also shared that a focus should be placed on reaching children:

- From long term return on investment and behavior change perspectives, supporting households with young children is important. What I see in our hunger safety system is that once you're a teenager, your supports go away. I think we need to connect/ support people into their adolescent years.
- I don't think anyone would consider a universal subsidy, but could maybe target all children, or low-income people. I think helping the working poor is more about paying a minimum wage. There are multiple ways to define this...I work in child care a lot, so I'd like to see a focus here on ages 0-5. It's a huge gap, especially in certain states. Adults are done...if they eat one extra apple, it is not going to make a difference if they are already unhealthy...is it worth the investment? It's also almost impossible to change adult habits. We need to look at children. SNAP also helps children. Could even focus on kids who maybe don't even have a problem yet, to prevent bad habits, poor health, if possible.

The decision about whom depends on the needs and interests of the community.

- Whom to serve is really a local decision that should be made based on the needs and priorities of the community.

What are the appropriate sites for healthy food pricing incentives?

KIs discussed the pros and cons of offering incentives across a broad range of food retail sites, from large super-stores to local corner stores and farmers markets. There was not consensus about one “right” site for incentives and many felt that the appropriate site depended on the community, the target population, specific program goals, funding, etc. For example, if increasing food access was the primary goal, supermarkets would be the preferred site given their lower prices and larger reach. In contrast, if community building or supporting local agriculture was the primary goal, then a farmers market setting would be preferred.

Many KIs felt that the appropriate site depended on the specifics of the local program:

- It depends on what the end goal of the program is. Is it affordable food access? Then supermarkets and grocery stores. In our state, 90% of SNAP households are within a

[The appropriate site] depends on the end goal of the program. Is it affordable food access? Then supermarkets and grocery stores... If the goal is benefiting the local community, would steer towards farmers markets where the farmers reap the rewards.

20-minute drive to a Safeway. If the goal is benefiting the local community, would steer more towards farmers markets where the farmers reap the rewards.

- [Should consider] which retailers are best connecting to the community. [Where is the farmers market?] Is it in the target community? [If working with] corner stores, they need to already be selling produce (in this case they will increase FV sales as a result of vouchers). For supermarkets... [they should be] located in an accessible place and be affordable.
- I would decide this differently based on funding. If you are constrained by funding, then limiting to farmers markets is a way to pace yourself. If your call is to have high impact than you want to expand beyond farmers markets and CSAs (community supported agriculture programs). You could do supermarkets or other local retail.

Several KIs felt larger supermarkets and “big box” stores were the ideal sites for redeeming incentives.

- I’m a big fan of the stores where people already shop (i.e. supermarkets, large supercenters like Walmart, etc.), especially if you are looking to support nutrition (farmers markets support the farmers more than nutrition). This is where you’ll get the biggest reach. Plus, farmers markets are already being done and will be included in the next Farm Bill. We will know fairly soon how farmers markets are working. Providing incentives at farmers markets is not a new idea, the feds are funding and I wouldn’t put any more resources into it. I don’t think there’s a need to expand until we have more evidence that it is actually working to improve diet quality long term.
- We partnered with supermarkets. If you want to scale something, the more you can work with something that has a ubiquitous presence, the better. At a minimum, supermarkets must be a partner in the point-of-sale system and also in marketing.

If you want to scale [the program], the more you can work with [a retailer] that has a ubiquitous presence, the better.

- We have to include the big box stores. I didn’t really want to include them originally, but [that is where] people shopped so we grappled with the role of [the larger supermarkets] in our food systems. For scalability, this model is likely to work well in both urban and rural settings. In suburban settings, people shop in so many different settings. We have a rural setting working with us potentially – you have to allow Walmart to be there, otherwise you won’t have options. Can you imagine if you got Walmart on board? You could cover lots of rural counties. Appealing if you want to fix the system, not if you don’t like Walmart.
- I think it is great that these programs can benefit local food environments, [but] from a food access perspective, I don’t think we should exclude partnerships with big supermarkets even though they’re big agriculture.

Other KIs felt smaller, local stores (like corner stores), should be considered, but noted they come with their unique challenges:

- If [incentives are provided through] SNAP and WIC, they can be used in most local food stores [because these programs are accepted in these stores], as opposed to farmers markets which don't service as many people. However, a temporary subsidy, like a coupon or one-week discount does not work well for corner stores. [Small store] owners are leery of temporary reductions because they feel the customers will complain once prices return to normal. Even though [temporary discounts may] make sense from a public health perspective to get consumers to try something new and address neophobia.
- The corner store environment and how they are operated and utilized is really different [from farmers markets and supermarkets]. I wouldn't exclude corner stores, but I think there would need to be parameters for corner stores – that they track pricing, have some sort of compliance around usage, and that there is a requirement for availability of specific products.

Some KIs saw a community building benefit to offering incentives at farmers markets:

- There is a big community cohesion aspect to this...one of the older adult centers gives all their vouchers out on Wednesday mornings and everyone comes down to get vouchers and then they all go to the farmers market together, they spend vouchers together on a group meal and then cook the meal together and eat together...I worry about losing some of this impact if we go to a larger scale.
- Farmers markets already serve middle- and high-income populations. Having SNAP-based incentives at farmers markets brings in this new population to the farmers market, bringing everyone together.

Other KIs felt farmers markets only reach a limited population:

- Lots of experience with Double Bucks at Farmer's Markets – I think that's good, but the reach isn't that wide, works with a very few select populations.
- I love farmers markets, but I like it when other retail channels are included. Farmers markets [only reach] such a small amount of the population.

CSAs were mentioned by one KI who expressed hesitations about this distribution channel:

- A few CSAs were funded through FINI; very complicated. They deliver to a site – where does the transaction happen? Online? You can't use an EBT card online as of now although there is a pilot happening. Also, many sites don't have the capacity to store the food if people aren't there to pick it up. There was a local public hospital CSA program linked to its cooking class that served select patients. The program provided a bag of local produce, but lots of patients didn't show up. CSAs can be really tough.

Should healthy food pricing incentive programs exclusively support local agriculture? Or should big agriculture be included?

KIs felt that support of local agriculture is worthwhile and incentives at farmers markets inherently do this. However, KI clearly agreed that restricting incentives to only locally-produced foods in other settings (supermarkets and other grocery retailers) is not feasible – it limits the

amount and types of foods that are eligible, is administratively burdensome for the retailer, and does not meet the needs of consumers.

By and large, KIs supported local agriculture and believed there are contexts in which utilizing local agriculture is beneficial:

- [It depends on your goals] ...Supporting local agriculture can help get the farmers on your side. It helps to have support from multiple parties. Local farmers are always popular.

However, all KIs felt that exclusive use of local agriculture is not practical for supermarkets and other food retail sites other than farmers markets. Exclusive use of local agriculture in these settings negatively impacts availability (due to what is available locally and seasonally) and increases administrative burden (local foods are not consistently available and change throughout the year):

- I think there should be latitude regarding local. It depends on [a state's] local food system. E.g. in New Mexico they really don't have a lot of local foods. There's a need for flexibility for different food systems.
- The farmers market [programs] are local, but not the other programs. Part of this is acceptability and [what] our shoppers and retailers are [ready for]. Having local food systems is an ideal and important but we need to meet people where they're at... Also, seasonal availability is an issue [as is] cultural appropriateness – [Local agriculture provides] what is available, but what do people want who come from other [countries]?...Don't place one over the other [local vs. big agriculture]...We are agnostic on source as long as the produce is accessible.
- In our state, we allow any produce, but the store operator needs to track money and volume of state grown produce sold on a monthly basis. [But], it is too hard to separate out and allow only local produce.
- I hear a lot about just doing locally grown FV. That feels politically savvy but an implementation nightmare and not as easy for people to use. We want it to be as easy as possible for people to use.
- With grocery stores, this comes back to being able to identify eligible items. It would be a huge burden to have to define local and then identify local items and to keep the eligible item list up to date, especially as things come in and out of season. Local shouldn't be a consideration if working with grocery stores. [If working with farmers markets], it's a given.
- [Incentives are] about getting more FV. Local is nice, but, not necessary.

Don't place one [local agriculture or big agriculture] over the other.. We are agnostic on source as long as the

Should ancillary cooking and nutrition education accompany incentives?

Overwhelmingly KIs agreed that a lack of cooking and nutrition knowledge is a problem. However, there was discordance about whether providing cooking and nutrition education is a necessary or even beneficial complement to an incentive initiative.

Many KIs cited examples of SNAP-Ed and other partnerships as examples of how cooking and nutrition education can enhance incentive programs:

- There is a huge need for this. Farmers markets have partnered with SNAP-Ed and done hands on cooking demonstrations. Some health systems have promoted [incentives] in SNAP-Ed and saw increased redemption rates. [There is a need for this] in grocery stores as well but I can't speak to that.
- Yes, most certainly. It is increasingly uncommon for adults to prepare meals from scratch using raw ingredients, and more and more people rely on convenience meals and fast foods. Over the past few decades, dietary patterns have dramatically shifted to include less vegetables and more packaged foods and beverages, in particular more sugary drinks, sauces and condiments, and sweet and savory snacks. It is also necessary to equip consumers with the skills to prepare healthy ingredients purchased through the incentive benefit in a healthy manner. For example, raw fish, a bag of potatoes, and canola oil are all healthy foods that qualify for the incentive, yet one can prepare fried fish and chips as a meal if you are not equipped with the necessary knowledge and cooking skills to cook something healthier. We launched... a teaching kitchen program that aims to empower people with knowledge about fresh, whole, nutritious foods and equip them with the skills to prepare these foods in a healthy manner. In this way, it addresses a potential barrier which is a lack of skills and experience with cooking healthy ingredients.
- Education is important – it creates demand for healthier foods and addresses predatory marketing. Cooking demos are wildly popular in low income areas of Philadelphia; there is also demand at farmers markets. [You would need] shorter education models, e.g. cooking demonstrations or taste tests with information available so shoppers don't have to sit there for a while. Could link to SNAP-Ed for education.
- Yes. [There is] definitely a need. FV often require some sort of processing. But how do you provide the education fast and efficiently? [A cooking component] is not necessary for a program to work well, but it can definitely [be a] complement.
- What I like about the FV Rx program is that it is a direct subsidy, but it's paired with something (e.g. a SNAP-Ed cooking or disease prevention class). The incentive helps bring people back to class. Anecdotally this works well.

Other KIs agreed that cooking knowledge is important, but weren't as clear as how to do it:

- Yes, this is important, but I'm challenged as how to do it. [It is] context specific. In Baltimore lots of kids go to recreation centers with kitchens; this has been a good place to teach cooking skills. The challenge is figuring out how to do this with adults. Urban farms might be another venue for tying in cooking skills.

Still other KIs agreed that the lack of cooking knowledge is a problem, but were not convinced that it needed to be a component of incentive programs:

- Loss of cooking skills [is a barrier, but] would teaching skills increase uptake or would it be a distraction? There's a huge amount of interest in farmers markets and a huge amount in local cooking programs. I feel that there are a lot of people in the local movement who don't really think like business people...I ask them what they know about their cost per unit. The cooking programs...[they are a] great idea but which low-income people are taking these classes? What's the demand for it? Few of us would think a cooking class would be the way to learn this [skill]...It seems like there are other outlets that would help with this issue best.

- We didn't want to recreate anything that already existed in the community. We encouraged participants to use existing [nutrition education and cooking] programs. I don't think nutrition education is the problem for our clients; the main problem is money.
- In our State, the incentive program partnered with SNAP-Ed for education and cooking demonstrations. There is not quantitative data yet, but there are stories about how people are learning to cook FV from the markets. [I don't think education is] as important as acceptability and affordability. If we can tie it into SNAP-Ed, that's great. I don't think education is as effective as incentives in increasing FV intake, but it's not a bad idea. Sometimes nutrition efforts are interested in expanding palates, but I'm more interested in starting simple. I think the core foods are what people will buy anyway, and nutrition education is the cherry on top. The incentive is before the nutrition education, at least for adults. For kids, you need to expand palates...Maybe taste testing. I was asked to do a grand tour of agriculture for key stakeholders...The one thing nobody, no matter how conservative, disagrees with is the idea that kids need nutrition education and people need to know where their food is coming from.

How do you scale-up healthy food pricing incentive programs?

When KIs were asked how to scale-up existing programs and make them sustainable, they focused on funding. As stated by one KI, "[We need to] bring in other funders (e.g. health departments, private philanthropy and foundations) so it's not just USDA." Other ideas included evaluation and outreach.

Funding

KIs identified funding as the primary need to expand incentive programs. Several funding sources, including federal and state governments, taxes, private foundations, health care organizations and grocery retailers were named:

Federal

- Seems like it should be federally funded.
- Our end game is for the \$10 [coupon] to be in your SNAP dollars.
- Securing financing...this is hard, unless it's a part of general legislation. Would have to be something big...changes to SNAP, WIC, child nutrition programs. For local policy it would need to be linked to local funding like taxes... but priorities change so this is not stable...[The] best [would be] if it was an entitlement program like SNAP – almost mandatory (vs. WIC is discretionary, same with local). If at the Federal level, they made it part of an entitlement or long-term legislation. We probably won't see this anytime soon. Also, should we shift from low-income to children because Republicans are more open to supporting children? The low-income is negative publicity right now...it's going to depend on local politics; there's no one answer.
- If there are SNAP restrictions, use that to subsidize healthy choices.

State

- [Scaling up is] incredibly difficult and nuanced. We're looking to see if we can secure state funding. It is a long process to request state dollars...We will find out this fall if our

leadership is willing to make the ask [note: the state legislature is considering funding incentives as of the time this report was prepared].

Taxes

- Taxing soda, sugar, alcohol, ...
- One KI noted that SSB taxes are a great source, while another did not think SSB taxes would be enough to take programs to scale.

Foundations

- We're also interested in exploring if there are any private foundations interested in this work. Maybe the Kellogg foundation [would be interested]; they've funded this type of work in other states.

Healthcare Organizations and Health Insurance Providers

- Health care systems should be financing.
- Some hospitals are using their community health dollars to fund their FV Rx programs. This becomes a part of health care – more of a health intervention vs. the retail approach.
- Insurance companies are probably an entity that benefits the most from these programs, it's easier for insurance companies to incentivize – [they] benefit from having healthier members.

Retailers

- There is financial benefit [for the supermarket] - we're driving customers to them. We are internally tracking this, but nothing is public yet.
- We'd also like to see if [supermarket chains] can find some funds from their manufacturers or producers. In the first 6 months of our [supermarket-based incentive] program, SNAP shoppers are spending around 12% more per trip (from 2017 vs. 2016), the primary driver of the increased spending is the purchase of FV. (We still need to do more data analysis around this).
- We've looked at reduced prices for healthy foods being offset by increasing the price of unhealthy foods. In a closed environment (e.g. worksite), this is more feasible, but at corner stores less feasible.
- It's worth exploring [the retail chains] but it's hard to see it working at scale. There's not a national FV advertiser or marketer. The trade associations - FV growers - are a promising organizer. Not sure if the supermarkets care enough about FV though...I've been asking "Are the margins substantially different in supermarkets so you care if you are selling healthy vs. unhealthy products?" The reply is "We want to sell a lot." I'm not sure sales are going to go up enough for the supermarkets to care.
- If we can get into grocery stores, manufacturers and growers should be a source of financing. All of the Catalina coupons are paid for by manufacturers. [The stores] have a ton of partnerships with manufacturers.

Other Sustainability Strategies

KIs shared additional ideas for sustainability and scaling-up:

- Evaluation
 - We have to show that incentive programs work.
 - Once the demonstration has been good enough, hard to argue against.
- Outreach
 - Get more community engagement with on-the-ground CBOs.
 - Do lots of community engagement to make sure running well.
- Site specific
 - Getting into mainstream grocery stores is a way to scale.
 - In farmers markets, alleviate some of the administrative burden (i.e. introduce low-tech technology to improve efficiencies so not counting chips, etc.).
- Tools
 - We need to create the tools to support other communities to develop similar programs.

What are the impacts of healthy food pricing incentives?

KIs were asked to describe the impacts of the incentive programs they had implemented and/or studied. Some KIs did not yet have data to share, but most reported positive impacts. They found that FV consumption and sales increased. One program was able to show a decrease in unhealthy food purchases.

KIs reported positive impacts of the incentive programs they had implemented and/or studied.

FV Rx Programs

- The outcomes are mixed. We've heard several instances of it not taking off, but there are a handful of places where it is working well.
- We're surveying to assess if participants changed purchasing or consumption (we're also gathering demographic information). A very preliminary review of the surveys we've collected so far (maybe 200 over the past 6 months) shows that survey respondents are saying that [the incentive] is very helpful; 90% say they eat more FV as a result of the incentive, 87% say they manage their health conditions better, 79% said they are less likely to run out of food.
- FV Rx programs provide a real opportunity to measure diet quality [since they are] running in health systems [which are] very interested in diet quality impact. Some of these programs may be looking at this.
- [We've seen a] decrease in A1c, significant changes in mean BMI, increased consumption of FV.

Farmers Markets

- We've learned so far that the folks shopping in farmers markets seem to already have a higher level of FV consumption than the general SNAP population...We're learning that it's a little challenging to take farmers market research and translate it to a broader SNAP population in the grocery store setting. [We have] self-reported data on increased consumption of FV and increased sales by farmers.
- We do have survey data from farmers markets showing consumption of FV increased.

Retailers

- We did a controlled study with a matched sample before and after the grocery store incentive was implemented and saw a 50% increase in produce sales among loyalty members using SNAP. In corner stores, we've seen an increase in quantity and sales – 175% pre and post. The complete data are not published.
- HIP results showed statistically significant increases for targeted and total FV intake (using a 24-hour recall). This was consistent across sub-populations. The average increase in FV consumption was 0.27 servings/ day. Is this a meaningful amount? It is at the low end of what was enough to matter. When you put it as a percent, baseline consumption is so low, this amounts to a 25% increase which is what you would expect from a 30% price incentive. Right in the middle. Secondly, what percent of the FV gap is narrowed by this incentive? It closed the gap for what people are eating vs. recommendations by 20%. Seems to me like it's enough to matter.
- [Our evaluation showed that FV consumption increased] from 0.3-0.6 servings FV per day; this was statistically significant. We also did a study to validate purchase data. For most of the people we went back and got historic purchasing information, not just for the people on the program, but for the wider cohort. We looked at pre/post effects. Data was used to categorize behaviors. We found that the percent of healthy food purchases increased, and the percent of unhealthy food purchases decreased by 5.7% and 8.5%.
- Our redemption rates are between 80-90% because participants are getting vouchers from people they see regularly and also can shop where they're used to. We've seen a one serving increase per day in FV (single group pre/post using FV screen with FFQ) based on self-report survey (at 0 and six months and then six months after exiting). When voucher ends, FV consumption goes down, especially among those who are the most food insecure.
- We did a study showing various levels of incentive amounts with SNAP...We found that, overall, the increase in one month was 0.13 cups per day. There was a much higher increase at the \$1: \$2 level (highest level).

However, one KI expressed skepticism about the true diet quality impact of incentives:

- Honestly, it depends on the intervention, incentive amount, and frequency of how often the person accesses the incentive. I'm skeptical...Participants aren't using enough [for us to measure the impact on diet quality].

What are the co-benefits of healthy food pricing incentives?

Several KIs commented on potential co-benefits of incentives on community building, the local economy, health, and equity.

KIs brought up a wide range of co-benefits:

- [Farmers market programs make] more local dollars available; benefit both the SNAP participants and the farmer. In the first 2.5 years of our FINI grant, the amount of SNAP spending in farmers markets was about \$1.6 million. It's a decent amount of their bottom line (estimated at \$47 million).

- Supermarkets could potentially see increased purchasing of FV if they did this well and marketed it well. It is in their interest to move the product. I think there could be a positive impact on food waste. It could also help with overall food culture – normalizing FV. For local stores, especially if owned by person of color, it can advance equity.
- We did some interesting work looking at the environmental impact of the program. As a result of changes in behaviors, we estimated impacts and preliminary results show an 8-13 percent decrease in land requirements, a 7-12 percent decrease in the water footprint, and an 8-10 percent decrease in greenhouse gas emissions.¹
- We did a literature review of the FV Rx program especially for pediatrics. Impact on BMI seemed potentially promising. [Rx programs] can increase social connectedness and appreciation of where food comes from. In corner stores, can improve storage, stocking of produce.
- It supports farmers and local agriculture communities...increases healthy food options for low income communities.
- Some sites use vouchers to build community – e.g. give vouchers out [to everyone] at same time so people meet, walk to farmers market, and spend vouchers to buy meals to cook collective dinner in a community kitchen (senior site). And when people come to an agency to get their vouchers, we can link them to other services, provide clinical follow-up, etc.

What partnerships facilitated healthy food pricing incentive program implementation?

A common characteristic of successful incentive programs was a foundation of strong partnerships and clear communication strategies.

KIs described the many types of partnerships that helped to make programs successful.

Partnerships for farmers market programs

- We partnered with the state Farmers Market Association.
- Major partners: local food advocates, SNAP, WIC...
- We followed the model of doing regional leads. This fit the FINI grant application well and has been very nice from an administrative and high-level management perspective.

Partnerships for Rx programs

- We partnered with health systems and worked with health care providers. We wrote this into our FINI grant from the beginning. A local health clinic had already been working with a supermarket chain, so we replicated this model and scaled it up under the FINI grant. Now, we have health care organizations contacting us to get on board.
- Health care partners serve populations faced with diet-related chronic disease – the role of health care is extending beyond clinic walls – it now connects health and the food system. Within the health care system, our best partners have been the dietitians and nutritionists – they do more counseling; doctors just don't have the time.

¹ See: IOM (Institute of Medicine). 2014. *Sustainable diets: Food for healthy people and a healthy planet: Workshop summary*. Washington, DC: The National Academies Press.

- From a strategy point of view, bring clinical partners into the equation.

Partnerships for retailer-based programs

- One of most important partnerships in our State's FINI grant was the supermarket chain. [This] might be controversial to say, but from a food access perspective we need to move into the supermarket space. We brought them on at the corporate level and found the internal champion. We worked with government relations and PR people and also the marketing directors. This is an opportunity for them. Store directors are crucial to designing the incentive program – this is what they do – nudge customers. They are an untapped resource in this field. For implementation, it takes the person on the ground who cares.
- With the supermarket – we've used Catalina Coupons – they make the coupons with the receipts. They track a ton of customer data. Catalina can read when an EBT card is used and can also read this person just bought \$10 and now I'll make the coupon. When we first had questions, we looked at the data to see how often SNAP participants were buying FV with their EBT cards. Marketing director said they incentivize what customers are already buying (based on purchasing history), not new things. [It is a challenge to switch this and incentivize new things, such as FV when customers don't have a history of making these purchases] ...Marketing Directors... [are a huge untapped resource].
- [...Incentive programs, HFFI (Healthy Food Financing Initiative) and Snap-Ed]... work really well together. Bring in the retail, provide the nutrition education, and then offer incentives. The programs do best in stores that had HFFI funding and are in a low-income area with lots of SNAP shoppers.
- At a minimum, supermarkets must be a partner in the system and also in marketing. There is financial benefit [for the supermarket] - we're driving customers to them.

What are the challenges facing healthy food pricing incentive programs?

KIs mentioned several challenges to implementing incentive programs, including technology, training, outreach, community engagement, time, how to define healthy foods, fraud, evaluation and securing technical assistance.

Technology

- Technology is a big challenge. Each retailer has a different way for payment to trigger coupons. This can be tricky; systems don't talk to each other.

Training Retailers

Assuring that the food retail workers who accept the incentives are trained properly to implement the incentive program emerged as a common theme across all redemption sites. Most KIs' comments focused on supermarkets and groceries.

- Training of cashiers. The program launched June 2017. Earlier we had a supermarket manager training call to introduce them to the program and then the front-end manager went into the details. As a supplement, we provided cashiers with a cheat sheet for their binders on promotions. Also had educational materials located where they clocked in and

out. We heard complaints from the field in July and August from SNAP customers and service providers that either coupons weren't printing, or staff weren't aware of the program. We passed these complaints on to corporate who would then do more hands-on training. If I were to redo this program, I would do physical hands on trainings if feasible (it wasn't). Knew from the start it was going to be difficult to have consistency across stores. One thing we tried to do was trouble shoot. We worked with SNAP-Ed contractors and developed a toolkit for them to do a training with their stores as it aligned with their SNAP-Ed grant.

- Training is one of the biggest challenges in the grocery store setting – once the technology is working, the challenge is training the stores on how to implement. They don't have a really robust way to train across the board. This can make or break the success of the pricing intervention. [It is challenging because] although it may be easy for a customer to receive the incentive [if automatically provided at check-out], the customer may not even know that they got the incentive. This goes back to the training piece. You would need every cashier to actively tell the customer what they saved automatically. [If not], even though you saved them money, the customer may not know this and so no behavior change will happen.
- Needs to be automatically triggered by the cashier. This requires a lot training. Or it should be loaded onto the EBT card.

[Training is important]. Although it may be easy for a customer to receive the incentive [if automatically provided at check-out], .. you need every cashier to actively tell the customer what they saved. [If not], even though you saved them money, the customer may not know this and so no behavior change will happen

Marketing and Outreach

- How do you get the word out to make sure people know the program exists? E.g. The cashier might not have even told them [that they received an incentive or have an incentive to use].
- Who is doing outreach for the program? Are they representative of who is being served? For example, who is promoting the farmers market? Have it be members of the community. We piloted a community health worker model. One time it was a store owner who did a cooking demo and could promote the program. That was really effective. In Philly, have been doing the program for ten years, but there's other outreach that happens outside of our area. There have been people who have actively reached out to us, other places where we want to reach out but get a lukewarm response. We've done a lot of work with HFFI and we try to utilize these relationships. Farmers market managers and retailers are reaching out to us. Others aren't necessarily sold yet. It's not necessarily a huge money maker for retailers, but we want it to be sustainable. We've tried to pilot things that will be sustainable – which is why we don't do dollar for dollar.
- The participant might get the voucher at a CBO. Think about which CBOs to partner with. Who is best poised to be in the program? Be present at the market where SNAP participants might go? Corner stores – some programs try to increase supply of corner stores in the program, but we go for the stores that already have some produce, since they can exponentially increase their produce sales. If a store is doing minimal sales, the uptake

is challenging. At supermarket level, work with the IT people at the grocery stores... to make it work.

- [For our program, you get your] benefit via rebate directly to your bank account on a monthly basis (with a maximum of \$500/month). One important thing was to make clear to people what was in the healthy food catalog and also that the purchasing experience was easy. Incentives are motivational, but impact will be diluted if accessing it is hard. It's also about the process and experience of getting the incentives. We had clear labeling in grocery stores on which items qualified. It was integrated at the point of sale – need to make it clear to people what to buy, and what the economic value is, at the point of sale.
- The farmers markets got all geared up to handle new clientele...The local, community organizations found it appealing and publicized it and [organized] buses for transportation. [The outreach and marketing for the program was so strong that now they are having to stop the incentive program early].
- Partnerships with SNAP education, with SNAP agencies, with marketing and promotions is critical. You have to be able to drive people to the supermarket programs. This is a best practice. Social media, radio, TV. It's not just operational, it's also how you market it and promote it.

Incentives are motivational, but impact will be diluted if accessing it is hard.

Time

- [It can be time consuming to] get the program up and running.
- Lots of time put in by grocery stores and staff that isn't really financially covered.

Defining healthy foods

- ...Defining what comprises healthy foods. We got together an expert panel and looked at general health guidelines (South African and globally). We included FV but other categories as well. Original list was about 6,000 items. How do you categorize? How do you make [the list of eligible foods accessible to consumers]?

Fraud

- We have ways to prevent fraud – vouchers are printed on a secure check with anti-fraud features (e.g. can't print). We have secret shoppers who try to buy non-FV items. Some issues are more related to education than fraud such as buying [items they think are eligible but aren't]. Occasionally we have someone who is enrolled at two different locations. We have a monthly vendor check-in where we walk around and do price checks to make sure people are being charged appropriately. To be a site you must display prices of FV – we go and spot check this and also assess prices so we aren't being overcharged. We're asked about fraud all the time, it hasn't been that big of a problem for us. Part of that is, I think, because there's been so much face to face time.

What are the research gaps and evaluation needs for healthy food pricing incentives?

More evaluation and research about incentives is needed. While there is agreement that incentives do work, the specific characteristics of the incentives that yield the biggest impact remain unclear. More rigorous evaluations using standardized methods would contribute to a better understanding of the impact of these characteristics as well as the impact on overall diet quality.

Evaluation

Many KIs felt that evaluating current pricing strategies is a challenge, particularly in being able to evaluate across programs and evaluating impact on diet quality:

- Money could be directed to the individual grantees for an evaluation plan. Also, FINI could fund evaluation hubs where grantees could go, and across the hubs there would be consistency.
- We need a lot more work on evaluation. I see that the vouchers get redeemed..., we know that we are having a positive impact on the vendors. We know people are eating more FV [but] I'd love to be able to evaluate that better.
- Each FINI site has to do a local evaluation. My advice is don't have the evaluation be too sweet and kind. Think of empirical questions you don't know the answer to and plan the evaluation accordingly. If you have low take-up rate, report that. I wanted them to really report what is going on.
- [There is] huge variety in programming and complexity in being able to capture everything from the state level to grassroots in implementation. There's such a variety in how these programs are delivered, but there's nothing comprehensive to be able to go to a bigger funder. There's a lot of missing data out there. There are infrastructure issues. What's the sustainability? There are rural vs urban differences. [How do we] tie it back to dietary quality/ dietary intake.
- The FINI grant was super focused on increasing consumption and purchases by SNAP customers. All of these interventions are very focused on sales transactions rather than data for diet quality.
- In the FV Rx programs, even if a patient gets a Rx there are still lots of steps to take. [In evaluation we don't know if they are] buying for the whole household. We don't know who actually eats [the food]. Don't just assess diet quality - also examine household food security.

Research Needs

In addition to a more comprehensive and standardized evaluation approach across incentive programs, KIs felt several research questions remain:

- Are people substituting? Are they eating less of something else? What is the effect on the other products not being subsidized? The effect is not clear. In HIP, people are not eating less but they are not eating more...so are they eating healthier calories? What about obesity?
- Can FV subsidies be paid for by a tax of something else? There is some evidence about how these strategies work together but we need more.

- I think vouchers are more likely to be effective than other types of incentives, but this needs to be tested. [Also, we] know people are eating more FV qualitatively; would like to track this quantitatively but it is hard to do.
- Not clear about consumer behavior differences in using vouchers in corner store vs. supermarket vs. farmer market. The corner store is a very different environment and working in corner stores is challenging operationally.
- ...We are missing the qualitative research [and the quantitative research] ...to find out where the target population is shopping. Farmers markets aren't open year-round and/or are only open at specific times. [You need to] understand where your target population prefers to shop. If you look at where SNAP benefits are spent – 85% are spent at Walmart. But for some cultural groups, it's the local small store. I'm a big proponent of seeing incentives for everyone. Supermarkets, farmers markets – I would like to see them scaled up to more main stream places.

Conclusions

Key informants agree that healthy food pricing incentive strategies increase sales and consumption of healthy foods. Additionally, there are many co-benefits to these programs including adding dollars to the local economy, increasing revenues for retailers, building community, and possibly generating positive environmental impacts. While the KIs did not agree on all issues, there was a high degree of consistency with respect to the following:

- The goal of the program matters. While some communities may prioritize increasing affordability of healthy foods, others may be primarily interested in supporting local agriculture. There are usually trade-offs between pursuing these goals. An incentive program should meet the specific goals and needs of the community it serves.
- Fresh fruits and vegetables are the foundation of any incentive program. Expanding eligible products to include frozen or canned fruits and vegetables or even other types of foods that meet nutritional requirements may be desirable. However, doing so increases program complexity and presents implementation challenges.
- The optimal size of the incentive remains to be determined. The suggested amount of the incentive as a proportion of the food price ranged from 40-100% for farmers markets and 10-50% for supermarkets. Some experts favored eliminating caps on amount of incentives a participant could earn while others felt a cap of \$50-100 was reasonable as a way to limit per-participant costs so that more people could benefit from the program.
- Incentive programs need to be user-friendly: easy to understand, easy to utilize and available where the target population already shops.
- When feasible, offering incentives electronically is the preferred mechanism (e.g. electronic benefits transfer [EBT] or loyalty card) and incentives should be redeemable immediately.
- WIC or SNAP participation is the most commonly used program eligibility criterion. It is worth considering expanding eligibility to include people with Medicaid insurance, people eligible for WIC or SNAP but not enrolled, working poor not eligible for these programs, food insecure people, and/or children.
- The site where the incentive is redeemed matters. Stores are the preferred site when increasing access to healthy foods is the primary goal. Farmers markets are the preferred site when community building or supporting local agriculture is the primary goal.

- The benefits of including nutrition or cooking education as a component of incentive programs are uncertain.
- Collaboration contributes to program success. Partners may include healthy food advocates, food retailers, local and state government agencies including public health, WIC and SNAP, Farmers Market Associations and health care providers.
- Outreach, marketing and training of frontline staff providing the incentives are critical components of an incentive program.

What is less evident are the specific characteristics that make programs successful (e.g. what foods incentives should cover, incentive size, appropriate sites for issuing and using incentives or whether to offer nutrition or cooking education with incentive programs). Research is needed to answer these questions as well as the impact of incentives on diet quality.

Appendix: Interview Questions

1. What pricing strategy interventions have you evaluated, studied, or implemented?
2. Could you please briefly describe the intervention(s). Or, provide a reference where we can access the details of the intervention(s).
3. Can you describe the impact of the intervention (e.g. on sales, consumption, diet quality, etc.)?
4. Can you tell us about the implementation process? Specifically, we'd like to learn about any partnerships that facilitated implementation in addition to the process and how it was financed. What were the challenges and tactics?
5. Based on your experience, what would you would recommend as best practices? Specifically:
 - a. What should be subsidized/incentivized (i.e. fruits and vegetables only, other definitions of healthy foods)?
 - b. What should the size of the subsidy/incentive be? We're interested in learning how to balance the impact on the individual vs. the number reached. Do you have any recommendations on things like limits per trip, frequency of use, or monthly limits?
 - c. Who should be eligible for the subsidy (i.e. SNAP participants? Other population groups?)? Any observations on how to assure participation in the subsidy program?
 - d. What is the best mechanism for providing the subsidy/incentive (i.e. vouchers, EBT cards, etc.)? Are there any issues or considerations specific to this mechanism?
 - e. What are the appropriate sites for the subsidy/incentive (e.g. supermarket, farmers market, CSAs, etc.)? Are there any issues specific to this site?
 - f. Do you recommend a matching (e.g. SNAP) system or a simple direct subsidy/incentive?
 - g. What are your thoughts on linkages to local agriculture vs. big agriculture sources? How do we define "local" (e.g. metro area, state, region, etc.)?
 - h. Is there a need for ancillary cooking knowledge and skills acquisition?
 - i. How do you secure and sustain financing?
 - j. How do you recommend scaling up?
 - k. Any other issues/elements of intervention design or implementation we should be aware of?

6. What are the benefits of the intervention (s) outside of improving food access and diet quality (e.g. farm jobs/ revenue, grocery store revenues, local food systems development, sustainable food system development, community building, etc.)?
7. Do you have other resources you would suggest we look into, or people we should connect with?

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