

A Vital Link in the Supply Chain: Food Hubs and the Opportunity to Work with Produce Prescription and Nutrition Incentive Programs

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Introduction

Nutrition incentive (NI) and produce prescription (PPR) programs, working together with food hubs, can help bridge the divide between local farmers and low-income community members. And while local sourcing is already built into the mission of many GusNIP grantee organizations, local sourcing is particularly relevant to NI and PPR projects because GusNIP applications with a local sourcing component are prioritized by reviewers.

These brief case studies highlight concrete examples of the ways in which food hubs offer a valuable opportunity for NI and PPR projects and how these projects might work with food hubs as supply chain partners, advocates, and community connectors.

Food Hub Definition and Stats

A food hub can be defined in many ways. The term most often refers to businesses or organizations that actively manage the aggregation, distribution, and marketing of source-identified, local, and regional food products to multiple buyers, which may include direct-to-consumer sales, wholesale distribution (the sales and delivery of large quantities of product to retailers and other food businesses), or a combination of both. As regional supply chain intermediaries, food hubs are often uniquely positioned to support successful implementation of NI and PPR programs.

Data from the 2021 National Food Hub Survey shows that 45% of responding food hubs actively participate in NI programs, and 34% offer PPR programs¹ (Bielaczyc & Colasanti, 2023). Comparing data from the previous National Food Hub Survey suggests the COVID-19 pandemic may have increased SNAP redemption by food hubs. In 2019, 13 food hubs reported redeeming \$97,855 in SNAP benefits, while in 2021, 28 food hubs reported redeeming \$399,702 in SNAP benefits (Bielaczyc et al., 2020).

Case Studies

East Denver Food Hub: A Food Hub Model Forged from the COVID-19 Pandemic

¹ N=109

East Denver Food Hub**Location** - Denver, CO**Established** - 2020**Total staff** - 18 people**Model** - For profit aggregator/ distributor**Website** - www.eastdenverfoodhub.com/

The East Denver Food Hub (EDFH) emerged from its parent farm organization, Emerald Gardens, in the early weeks of the COVID-19 pandemic in 2020. With deep roots in the local agricultural community, EDFH connects farmers markets, food pantries, food banks, and other food security organizations with its network of growers.

EDFH's mission is to "provide farm-fresh food for our community and promote equity and inclusion in our local food system." Creating partnerships that align with this vision is key to ensuring the sustainability of the business, which is why NI programs have had great success working with EDFH so far: the relationship makes sense with the food hub's mission, logistical capacity, and financial model.

EDFH engages in NI programs both directly and indirectly. While EDFH does not accept WIC or SNAP themselves, many of their partner organizations and wholesale customers do. Staff from EDFH have also served on the Denver Food Policy Council sub-committee on SNAP and SNAP Access.

Direct Sales through Farmers Markets

EDFH sells food directly to customers at several Denver-area farmers markets. In each case, the organization managing the market accepts SNAP and participates in an NI program. Engaging with food hubs at the market level is a great way for them to receive the direct financial benefit of working with an NI program, while strengthening the relationship between the NI implementor and the food hub.

Wholesale Supplier for SNAP, WIC, and Double Up Retailers

In addition to sales at farmers markets, EDFH is focused on wholesale distribution to a variety of businesses and organizations, some of which participate in the Double Up Food Bucks (DUFEB) program operated by Nourish Colorado, which offers nutrition incentives across the state. While EDFH is not a DUFEB site itself, they sell local produce to a number of businesses that offer DUFEB. Acting as a wholesale supplier to partner businesses and organizations is an important strategy for EDFH to increase its impact

and maintain financial viability. And it's notable that EDFH was originally contracted by Nourish Colorado, one of the State's primary NI implementors, to serve as the organization's value chain coordinator and increase local sourcing in retailers offering DUFB. While this was a successful experience for all involved, Nourish Colorado ultimately brought this work back in house after seeing "how valuable [it] was to be able to build relationships between our organization and a wide variety of producers across the state" (Wendy Peters Moschetti, Executive Director of Nourish Colorado). It also became clear that internal staff could more intimately understand the support needed by Double Up partners, including the culturally relevant produce to each store's customer base, as well as helping stores to identify the best prices on locally grown produce.

Today, Nourish Colorado's current Value Chain Coordinator, Laurel Smith, explained that each of the Denver-based participating Double Up retailers have placed orders directly with EDFH at least one time, and they are working on getting into a more regular rhythm. This takes a little extra support. For example, Smith sends a weekly email to participating retailers "reminding them of the need to buy CO-grown in order to meet the DUFB requirements / encouraging them to place an order. At one of our corner stores, this is a phone call since email doesn't work for them."

EDFH has also partnered with a local public health department and Nourish Colorado to provide fresh produce boxes that also contain eggs, grains, beans, and other fresh food items to WIC recipients. As of 2023, this was a multi-week program that provides boxes to approximately 160 families, and while it is not directly linked to a SNAP-based incentive program, the distribution/supply model is comparable to a PPR program utilizing a community supported agriculture (CSA) box model. EDFH also supplies FrontLine Farming with supplemental products for its CSA box. Front Line accepts SNAP and DUFB.

Leveraging Advocacy and Activism to Address Challenges

EDFH was founded with a mission of transforming the local food economy and is therefore heavily engaged in advocacy efforts to address food system issues, both on the production and distribution ends of the supply chain. As a food hub, EDFH brings a holistic understanding of supply chains and serves as an intermediary voice between growers and buyers. As founder Roberto Meza put it, "The conversation isn't only about food access. It's about land access, and [how] those things are inextricably linked."

Because many NI and PPR projects are also engaged in advocacy work, food hubs may be ideal partners to connect with as experts in the field. Advocacy work may be the first point of connection between an NI and PPR program and a food hub, or it may be an intentional relationship that develops later. Nourish Colorado has been involved in advocacy efforts with EDFH on the local, state, and federal level and the relationship has been a fruitful one.

From EDFH's perspective, one of the biggest opportunities for food hubs and NI programs is online SNAP redemption. As more direct-to-consumer programs like multi-farm CSAs and grocery cooperatives start up, the need for online SNAP payment systems continues to grow. As of early 2024, online SNAP was not yet available at farmers markets or most food hub models. [Find out more about SNAP online acceptance through this resource.](#)

EDFH has an eventual goal of accepting SNAP benefits directly. They acknowledge that this comes with challenges but could be an important strategy to expand their impact and direct-to-consumer sales and would be an additional link in the chain of connection between NI and PPR practitioners and the food hub model.

Farm Fresh Rhode Island: A Community Nonprofit Growing to Fill a Need

Farm Fresh Rhode Island

Location - Providence, RI

Established - 2004

Total staff - 46 people

Model - Nonprofit community-based hub

Website - <https://www.farmfreshri.org/>

Founded in 2004 with the mission of growing and strengthening the local food system, Farm Fresh Rhode Island (FFRI) is uniquely positioned as both an NI implementor and a robust food hub, all in one.

FFRI recognized “the power of SNAP” early in its founding and prioritized SNAP shoppers at the farmers markets it operated. FFRI received funding from both GusNIP and its predecessor the Food Insecurity Nutrition Incentive (FINI) and from independent foundations, starting in 2009, and became a leader in nutrition incentives in the region.

SNAP at Farmers Markets

FFRI has been an innovator in the field of nutrition incentives for well over a decade, having created an early token system for farmers markets to accept SNAP. Two decades later, FFRI continues to operate 10 of its own markets as well as a network of dozens of other market operators across the state that accept SNAP and facilitate Farm Fresh Bonus Bucks as a \$1-for-\$1 match on SNAP for fresh fruits and vegetables. While the produce at these markets comes directly from small local farmers and not the FFRI food hub, FFRI has found a unique means of integrating its food hub activity with market activity. The Harvest Kitchen Program, which is a culinary job training program that operates out of the FFRI space, purchases much of its produce through the food hub. That produce is then turned into pickles, jams, sauces, etc., and those items are sold at the farmers markets. SNAP shoppers may purchase Harvest Kitchen products with their SNAP dollars and use the Bonus Bucks they earn on fresh fruits and vegetables.

Redemption of credit and debit tokens has declined annually since 2013 with a sharp decrease in 2020. This is correlated with an increasing number of farmers market vendors now accepting credit and debit independently from the Fresh Bucks system. FFRI is considering how their token system should evolve to avoid potential customer stigma and logistical challenges of minting physical tokens.

With total estimated annual SNAP sales of over \$250,000 across Rhode Island farmers markets, that value is doubled by Bonus Bucks, which accounts for over \$500,000 going into the local Rhode Island farming community through FFRI systems. This value is made even more impactful in that the 6 farmers with the highest SNAP and Bonus Bucks redemptions are farmers of color working with local non-profit partners including African Alliance of Rhode Island and Southside Community Land Trust, an organization that represents over 20 immigrant and refugee growers.

Home & Wholesale Delivery

The FFRI Market Mobile food hub serves a variety of wholesale and residential customers and supports multiple FFRI NI and food access programs. One of the primary channels that the program has engaged in NI work is through veggie box programs that FFRI has run over the years. These include CSA-type boxes that were 50% off for SNAP shoppers and currently, a senior nutrition box and diabetes prevention targeted box that function like a PPR program.

At the beginning of the COVID-19 pandemic, FFRI shifted focus from sales to restaurants, universities, and small grocers to home delivery. To streamline payment, FFRI was able to use mobile EBT devices from the farmers market to accept SNAP for home deliveries. FFRI has found some success in accepting SNAP benefits for Market Mobile orders at housing cooperatives across the state. Building on this idea, FFRI is exploring the potential of expanding wholesale sales to buying clubs and food co-ops.

In the post-COVID era, FFRI is shifting back to its original food hub model of selling directly to restaurants, schools, universities, and other institutions, with a smaller percentage of sales going to individuals. FFRI's GusNIP project is focused on providing incentives at their markets and does not include providing incentives at brick and mortar retailers.

Many Programs Under One Roof

Because of the dense geography of Rhode Island and the interconnectedness of programs at FFRI, it is advantageous to house all these operations in the same building. This creates efficiencies and opportunities to leverage the aggregation and distribution services offered by their in-house food hub programs. Other FFRI programs can buy products from their food hub to use for sampling, cooking demonstrations, and nutrition education. For example, their various community education programs have been able to source products from the food hub to pack veggie bags for participants that might not be able to visit a farmers market due to mobility issues.

Challenges and Opportunities

Many of the issues and challenges highlighted by FFRI center around payment and processing of EBT and tokens. Unlike many food hubs, FFRI can accept EBT directly.

Collecting payment for home deliveries strained FFRI's logistics systems, mobile payment equipment, and delivery staff capacity. For example, staff were often confronted with difficult decisions when insufficient funds were available at the time of delivery. These challenges were significant enough that FFRI now requires EBT customers to pick up orders. This experience highlights the challenge that mission-oriented organizations may face when supporting low-income community members, while simultaneously serving a farming population for whom cash flow is critical to operations and margins are slim. In cases such as these, SNAP online has the potential to help reconcile the tension on all sides.

The Fresh Bucks token system has grown to such a large scale that the administration and physical processing of tokens has become a significant use of staff time and

resources. FFRI is considering how technology can help reduce the burden of tokens and is developing a roadmap for implementation.

FFRI is unique in that they developed their own wholesale software platform in 2006 and launched a new software platform in 2022. This creates opportunities to build out custom systems to accommodate online SNAP but also creates limitations by not already working with existing processors who are authorized.

The Family Lifestyle Program Produce Prescription Initiative (FLiPRx) at Children’s National Hospital and 4P Foods: A Partnership Built on Core Strengths

4P Foods

Location - Washington, DC Metro Area

Established - 2014

Total staff - 58

Model - For profit aggregator/distributor

Website - www.4Pfoods.com

For 150 years, Children’s National Hospital (CNH) has served as the only integrated healthcare system in the Washington, D.C. area dedicated exclusively to the care of infants, children, adolescents, and young adults. CNH’s Goldberg Center for Community Pediatric Health provides primary care through five community-based Children’s Health Centers. After clinicians began universal food insecurity screening at preventive care visits, the Family Lifestyle Program Produce Prescription Initiative (FLiPRx) quickly emerged as an integral referral resource. Until recently, FLiPRx targeted families served by the two CNH health centers located in Ward 8 in Washington, DC, an area hardest hit by structural inequities like concentrated poverty. If a family screens positive for food insecurity, clinicians offer a number of services, including FLiPRx referral, which provides nutrition education resources and fresh produce home deliveries every two weeks for up to six months.

The produce boxes are curated and distributed through 4P Foods, a food hub specializing in delivery of locally and regionally grown produce to homes, school systems, universities, and food banks. FLiPRx began with 25 families in 2020 and has since grown to more than 200 families served annually, with more expansion to come.

FLiPRx at Children's National has found an incredible partner in 4P Foods. Both parties lean on their strengths and values to grow the program in a sustainable way.

Getting Connected and Leaning on Core Strengths

As a family-centered community-clinic collaborative intervention, FLiPRx prioritizes close ongoing partnerships with community-based organizations, participating families, and clinicians to maximize programmatic relevance, access, and impact as it aims to address food insecurity and improve diet quality for children and families. 4PFoods is a food hub and distributor with strong relationships to farms and a business model designed for individual deliveries. When FLiPRx at Children's National was looking to develop a PPR program via GusNIP and private foundation funding, the connection to 4P Foods is what made it possible. Though FLiPRx has smaller-scale partnerships with other local food aggregators, 4P's infrastructure, experience with delivery, and prior partnership with a PPR program made delivery on the GusNIP-level scale feasible.

FLiPRx at Children's National had been committed to working with local growers, and specifically local growers of color, from the start. They recognized that a thriving local food system is intertwined with the mission of alleviating food insecurity. In the words of FLiPRx Leadership, co-Project Directors Laura Fischer (RD, PhD) and Qadira Ali (MPH, MD) and founder Kofi Essel (MPH, MD), "Our passion to work with 4P Foods was birthed from our aligned passion to support families with high quality food from local growers with dignity...we are aligned in the core value of promoting sustainable, regenerative farming practices, which becomes clearer as we get deeper into the work of Food as Medicine."

Children's National clinicians conduct all health screenings and refer prospective program participants to FLiPRx, who then shares contact information for its participants with 4P Foods. There are specific, carefully considered data-sharing procedures in place to protect sensitive information, which were established and agreed upon at the outset by both 4P and the CNH Institutional Review Board. All participants consent to sharing their information with 4P for the purpose of FLiPRx food delivery. PPR customers are entered into the 4P Foods system with only a few small tweaks from how a typical customer might be entered. For example, 4P Foods takes extra care related to the privacy of the Children's National customers and includes only a first initial and a last name in the system.

Once 4P Foods has the participant information, the company delivers produce boxes to program participants every two weeks. Delivering to individuals is what 4PFoods does, so partnering with FLiPRx fits into their business model naturally.

FLiPRx does the bulk of communicating with participants, though 4P Foods provides an app with notifications, which has been very helpful to participants. Both parties send a text to recipients reminding that the delivery is coming and sharing a link for what produce to expect. FLiPRx created an extensive produce guide to help familiarize folks with items they may encounter in their boxes. There is also a text after delivery day to ensure that the produce was received and there were not quality issues. FLiPRx also sends out a monthly evaluation form to assess satisfaction and eating and cooking behavior change and conducts robust pre- post evaluations on food and nutrition security using the Gretchen Swanson Center for Nutrition's Food and Nutrition Security Scales (<https://www.centerfornutrition.org/food-security-measures>).

FLiPRx also delivers a whole host of nutrition education offerings that prioritize experiential learning, including print and electronic recipes and instructions, and a YouTube channel featuring Children's National physicians offering healthy eating tips for families. There are also two monthly live, virtual classes featuring a healthy recipe and nutrition tips offered on a weekday and weekend to accommodate different schedules.

Program Pivots and Adjustments

FLiPRx and 4P Foods share certain values that connect them beyond a transactional relationship. This alignment is key in the long term.

- FLiPRx takes a wide view of health and considers the health of the planet in its decision-making. This is why a distributor like 4P Foods, with a focus on regional produce, is an ideal partner, over any big box delivery company that might be entering the space. As Dr. Laura Fischer explained, "With national expansion being a long-term goal, the sustainability and sourcing of the food to deliver on this goal is an important consideration. We want to highlight the opportunity and benefit of working with local and responsible food systems to achieve this larger goal."
- Tom McDougall, Founder and CEO of 4P Foods, echoed that sentiment in his analysis of the market, explaining that the Food is Medicine Market is projected to be in the billions. Large companies will inevitably enter this space, just as Walmart, for example, began selling food 25 years ago primarily because of the market opportunity presented by SNAP shoppers. With big business seeking a financial opportunity, it is critical to demonstrate thriving local food economies. And that's what the mission of 4P Foods is all about: Supporting local and regional food producers while also building an equitable food system for all.

Technology and communications have been a unique challenge in this arrangement and a regular meeting is held between FLiPRx teams and 4P Foods just to review operations. This meeting was added to the schedule after running into some small but important issues. Thanks to the partnership and great ability to work together, they found solutions and were able to make adjustments.

- Both FLiPRx and 4P Foods communicate with customers via text message, and it has been important to ensure that messaging on both ends is aligned so as not to confuse recipients. This may seem like a small issue, but 4P Foods explained that they are a start-up with inevitable “tech debt.” It takes extra time and manual input on behalf of staff members to ensure that FLiPRx customers receive only messages that apply to them.
- Delivery schedules are another area where a small tweak needed to be made manually to reduce confusion. The PPR period with FLiPRx may last between two and six months, but 4P Foods delivers every other week. Not all months have the same number of days and 4P Foods now has a dedicated delivery schedule just for this program.

Tips from 4P Foods to Food Hubs Interested in Doing This Work

- Examine your food hub's mission and if a PPR program aligns.
- Establish what your sourcing standards are at the start of the initiative – Where will the food come from? What growers will it support?
- Determine your capacity to deliver direct to homes or single drop sites, and layer that into different potential pricing models. Don't undervalue the time it takes to portion produce, and don't undervalue your final delivered product at all!
- Determine who your community partners are and what your role will be – is it liaising with clinical sites, or is it just the aggregation, packing, and delivery of food? Will you offer a food literacy piece and cooking education, or will you identify a community expert to assist? Will sites self-pay or will you have a non-profit partner that handles all fundraising? Do you have bandwidth for more customer service?

Key Takeaways for Food Hubs and GusNIP Project Leads

These case studies illustrate that NI and PPR programs can partner with food hubs in a variety of ways. The following are a few key points to help NI and PPR program leads and practitioners form these connections and leverage these models to improve NI program operations.

Think Outside the Hub

Food hubs operate under many different names and business models. A local food hub may not describe itself as a “food hub,” but there may very well be a central distributor of regionally grown foods. Oftentimes distributors source locally during peak growing season because the cost of produce is more affordable. If you aren’t familiar with any food hubs in your area, start by asking local farmers how their produce is distributed and follow the trail.

Avoid Assumptions

Just because a food hub shares values with your NI or PPR program (such as local food systems development and food access for all), doesn’t mean that a food hub knows what NI or PPR programs are or how they run. Be sure to take time when introducing your work to a food hub so they can make their own connections of how the programs could work within their models.

Expect to Iterate

Not all partnerships between NI and PPR programs will work at first. Start with a pilot program to “work out the kinks” with any food hub. Incorporate systems to evaluate programs and share lessons and insights, which is critical to long term success.

Learn More About the Food Hub Sourcing Practices

Many food hubs use a more nuanced set of criteria to evaluate what produce is in their system – this may include production practices and fair treatment of agricultural workers in addition to third-party certifications and geography. Many food hubs are working to procure food from multistate regions to increase product variety and supply chain resilience. Regional networks support the movement of products, even during periods of global supply disruptions. Be sure to have these discussions to ensure that the food hub meets your program criteria.

Bottom Line

Food hubs are complex operations, logistically and financially. Be sure to have transparent conversations with the food hub about how and when compensation happens and be clear about logistics and who handles what. If your program is far outside of the business model that the food hub has created, it just might not work. Regional context and geography are important factors in determining how programs are designed and their rate of success. Densely populated regions may find different

solutions than states where communities are spread out or separated by mountains, lakes, and rivers. NI program leads should consider what makes their region similar or unique from others.

NI and PPR programs are highly dependent on closely aligned partnerships, and a region's ecosystem of businesses and organizations is very important to program success. As demonstrated throughout these case studies, engaging supply chain intermediaries, like food hubs, in partnership development presents an exciting opportunity to ensure representation and involvement from regional farms and food producers.

References

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About

About the Author(s)

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About MSU Center for Regional Food Systems

The Michigan State University Center for Regional Food Systems advances regionally-rooted food systems through applied research, education, and outreach by uniting the knowledge and experience of diverse stakeholders with that of MSU faculty and staff. Our work fosters a thriving economy, equity, and sustainability for Michigan, the nation, and the planet by advancing systems that produce food that is healthy, green, fair, and affordable. Learn more at foodsystems.msu.edu.

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The Nutrition Incentive Hub

The Nutrition Incentive Program Training, Technical Assistance, Evaluation, and Information (NTAE) Center is led by the Gretchen Swanson Center for Nutrition. In partnership with Fair Food Network, they created the Nutrition Incentive Hub, a coalition of partners to support this work, including the National Grocers Association Foundation, Farmers Market Coalition, Michigan Farmers Market Association, Ecology Center, Betty Irene Moore School of Nursing at UC Davis, Colorado School of Public Health, Ingredients Consulting, University of California San Francisco, and University of Michigan, among others. These partners are practitioners, retail experts, researchers, and evaluators from across the country bringing decades of experience and leadership in technical assistance, training, reporting, and evaluation. The Nutrition Incentive Hub is dedicated to building a community of practice to maximize program impact and ensure that all Americans have access to the healthy foods they need.

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