

# The FINI Fruit and Vegetable Prescription Program:

## A Comparison of Clinic Implementation Strategies, Perceived Patient Experiences, and Voucher Redemption Rates

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NUTR 531, Public Health Nutrition

Winter Quarter 2018



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# Acknowledgements

We would like to thank the stakeholders for this project, Alyssa Auvinen from the Washington State Department of Health, Robyn Kumar from the City of Seattle Office of Sustainability and Environment, Ben Atkinson from Harborview Clinics and Rebecca Finkel from Odessa Brown Children’s Clinic, for their guidance, expertise, and time. We would also like to thank the staff from the clinics who participated in interviews.

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# Executive Summary

## **Background**

Most Americans do not get the daily recommended intake of fruits and vegetables in their diets, which can lead to many negative health consequences. This is particularly true for low-income and other vulnerable populations. The Supplemental Nutrition Assistance Program (SNAP) provides funding for food for low-income populations in the United States. As part of the 2014 Farm Bill, the Washington State Department of Health (WADOH) was awarded a Food Insecurity Nutrition Incentive (FINI) Grant by the United States Department of Agriculture (USDA) to help increase fruit and vegetable consumption among SNAP recipients. The project uses three main approaches to incentivize SNAP participants to purchase more fruits and vegetables: matching funds provided at farmers markets when SNAP shoppers purchase fruits and vegetables; discounts at retail partner grocery stores for eligible fruit and vegetable purchases; and the Fruit and Vegetable Prescription Program, whereby clinicians, dietitians and other healthcare professionals can write prescriptions and provide cash vouchers for the purchase of eligible fruits and vegetables at participating farmers markets and supermarkets.

## **Study Purpose**

We partnered with WADOH, the City of Seattle Office of Sustainability & Environment - Fresh Bucks Program, Odessa Brown Children's Clinic (OBCC), and Harborview Clinics to evaluate the Fruit and Vegetable Prescription Program. Our goals were to evaluate program participation and redemption of prescriptions among SNAP recipients, as well as staff engagement and awareness at both the point of issuance and point of redemption of the vouchers. We also conducted a review of existing programs with similar implementation and objectives to provide recommendations to the Washington State Department of Health and participating clinics to improve the reach and efficacy of the Fruit and Vegetable Prescription Program.

## **Methods**

We evaluated the Fruit and Vegetable Prescription Program by analyzing prescription issuance and voucher issuance and redemption data covering the time period January-September 2017, conducting store audits at program partner supermarkets in Seattle in January 2018 to assess the presence of program promotional materials, and interviewing nine participating clinic staff in January-February 2018 to learn about program implementation, program barriers, perspectives on program value and recommendations for improvement.

## **Key Findings**

### Fruit and Vegetable Voucher Issuance and Redemption

- During the first three quarters of 2017, 135 unique patients received Fresh Bucks Rx vouchers issued by Harborview Clinics and OBCC.
- Between January-September 2017, \$35,420 in vouchers was distributed and \$17,000 was redeemed, for an overall redemption rate of 48%. Of these, 63% were redeemed by Harborview recipients and 31% by OBCC recipients. During this same time period, OBCC issued 2,756 Grocery Store Rx vouchers, and 657 (24%) of these were redeemed.
- Redemption rates by OBCC and Harborview clients were lower than statewide redemption rates.
- The value redeemed of Fresh Bucks Rx, which can only be spent in farmers markets, was highest from June through September, corresponding with the height of the market season. Between January and September, two-thirds of Harborview Fresh Bucks Rx vouchers were issued in the third quarter (July-September), which may be due to a preference by clients to visit farmers markets in the summer months. The value redeemed for the Grocery Store Rx program was higher during the winter months compared to summer months.
- At OBCC, which distributes both Grocery Store Rx and Fresh Bucks Rx, redemption rates were slightly lower for Grocery Store Rx (24%) compared to Fresh Bucks Rx (31%). Harborview Clinic, which only distributes Fresh Bucks Rx vouchers, had a higher redemption rate than OBCC (63% vs. 30% respectively).

### Program Administration

- Methods for identifying patients eligible to participate in the Fruit and vegetable Voucher Program varies between the two clinics. OBCC utilizes a two-question screening tool during well-child exams and refers food-insecure and SNAP-eligible patients to a social worker. Harborview clinics utilize a combination of professional judgment regarding food insecurity and patient-expressed need for more fruits and vegetables. Some Harborview providers also assess the patient's ability to shop at a farmers market and ability to prepare fresh produce.
- Seven out of nine interviewees indicated that the presence of food insecurity is documented in the patient's electronic health record.
- Approaches used to issue vouchers vary among clinics. Some clinics distribute six months of vouchers at one visit to all patients, while others provide patients with the option of either receiving all vouchers at once or one-at-a-time at future clinic appointments.
- At the present time, there are no mandatory supplementary classes or events that Fruit and Vegetable Rx participants are required to attend.

- Methods for documenting program participation - including prescription and voucher issuance and redemption data vary across clinics - are reportedly prone to error.

#### Presence of Grocery Store Rx Promotional Signage

- Supermarkets audits found that many stores lacked appropriate signage about the Grocery Store Rx program.

#### Perceived Program Barriers

- Patient-level barriers as perceived by clinic staff include lack of transportation; timing of voucher issuance; difficulty in understanding how the program operates; feelings of discomfort or intimidation when visiting farmers markets; affordability of food at farmers markets; lack of knowledge and/or ability to cook or prepare produce; and losing vouchers.
- Program-level barriers as perceived by clinic staff include seasonality, limited hours and locations of farmers markets; lack of familiarity with program by farmers market and supermarket staff; limited number of grocery stores that accept the vouchers; and inability of patients to pick up vouchers they miss.

#### Perceived Program Benefits

- Clinic staff perceive that patients are able to increase fruit and vegetable consumption as a result of the program.
- Clinic staff view the program as beneficial to the physical and mental health of their patients.

### **Recommendations**

#### Program Administration

- Create a standardized protocol and tracking system across clinics for determining eligibility and for voucher issuance.
- Implement an orientation to the program for participants.
- Clearly communicate program goals.
- Expand the number of participating grocery stores.
- Consider options for addressing transportation barriers such as implementation of a ride-share program.
- Provide opportunities for patients to interact with clinic staff and/or volunteers at farmers markets to ease feelings of intimidation or discomfort and to help facilitate use of vouchers.
- Work with participating grocery stores to encourage proper placement of promotional signage and to train store staff about the program, and how to assist patients redeem vouchers.

### Prescription Issuance and Voucher Redemption Process

- Clearly define program eligibility to expand reach to food-insecure persons who may not be SNAP-eligible.
- Implement an issuance system such as a punch card or debit card to increase program efficiency and decrease loss of benefits from loss of paper vouchers.

### Evaluation

- Implement a long-term evaluation of the program.
- Conduct interviews and focus groups with other stakeholders that offer a different perspective, such as program participants and grocery store and farmers markets staff.
- Evaluate optimal matching amount for participants.

### **Conclusion**

The FINI Fruit and Vegetable Prescription Program is positively regarded by providers after its first year running, following in the footsteps of similar programs around the country. Numerous opportunities exist at the program administration, tracking, and evaluation levels to further develop this program and increase its reach and utilization. In addition, we recommend further training of vendors to better meet the needs of participants seeking to redeem their prescriptions. The use of a debit card system may be a desirable solution to numerous issues experienced within the program. This program has potential to become a powerful strategy for improving and promoting the health of the citizens of King County.

# Introduction

The purpose of this project is to inform the development of policies and practices to incentivize and promote the purchase of fruits and vegetables by Supplemental Nutrition Assistance Program (SNAP) clients through fruit and vegetable prescription programs. We worked with the Washington State Department of Health, Harborview Medical Center and associated clinics, Odessa Brown Children's Clinic, and the City of Seattle Office of Sustainability & Environment. Project goals included:

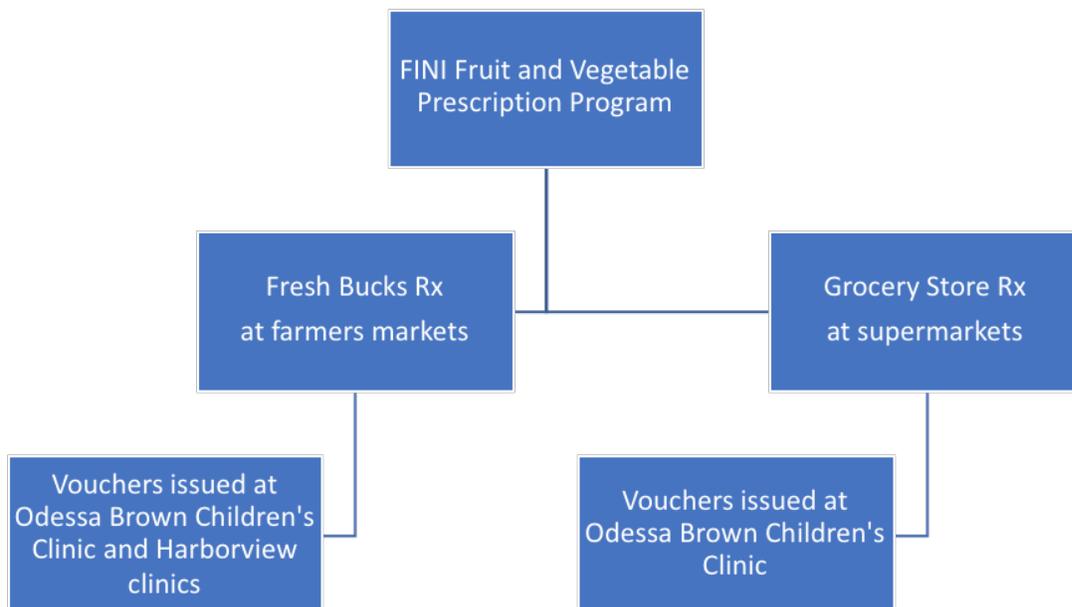
- Review current literature on the types of fruit and vegetable incentive programs used in the United States and their impact
- Assess and compare how two Seattle clinics manage and implement prescription (Rx) programs with their patients/clients
- Understand patients' experience with the FINI Fruit and Vegetable Prescription Program from the perspective of their healthcare providers
- Evaluate Rx voucher issuance and redemption rates between clinics
- Review the presence of promotional signage at partner supermarkets with the highest rates of redemption
- Recommend implementation strategies that enhance participant experiences and voucher redemption rates

The 2015-2020 Dietary Guidelines for Americans recommend fruit and vegetable consumption as a way to mitigate and prevent chronic diseases.<sup>1</sup> Recommendations for adults consist of 1.5-2.0 cup equivalents of fruits and 2.0-3.0 cups of vegetables daily. For children, recommendations range from 1.0-2.0 cups of fruit and 1.0-3.0 cups of vegetables per day. Current evidence suggests that consumption of fruits and vegetables as part of a balanced diet can reduce the risk of coronary heart disease, stroke, and various cancers.<sup>2-8</sup> However, despite the known health benefits, many Americans fail to meet the daily recommended amounts of fruits and vegetables.<sup>9</sup> In 2015, only 12% percent of U.S. adults and 12% of Washingtonians meet fruit intake recommendations while only 9% of U.S. adults and 10% of Washingtonians percent meet vegetable intake recommendations.<sup>9</sup>

The Supplemental Nutrition Assistance Program (SNAP) was established to reduce food insecurity and improve diet quality by providing low-income families with funds for purchasing food. In 2016, approximately 1 million people in Washington State participated in SNAP every month, with \$1.4 billion issued in SNAP benefits.<sup>12</sup> However, a recent systematic review found that SNAP participants struggle more than both low-income and high-income nonparticipants to meet important dietary guidelines.<sup>51</sup> This suggests that more efforts are needed to help SNAP participants access healthful food options.

Established in the 2014 Farm Bill, the Food Insecurity Nutrition Incentive (FINI) grant program supports projects that aim to increase fruit and vegetable consumption among SNAP participants.<sup>16</sup> FINI provides funding for pilot projects (\$100,000 or less per year), multi-year, community-based projects (\$500,000 or less over four years), or multi-year, large-scale projects (at least \$500,000 over a maximum of four years). The Washington State Department of Health was awarded a \$5.86 million grant by the National Institute of Food and Agriculture at the US Department of Agriculture.<sup>17</sup> This program is a collaboration between local and state health systems, grocery stores, and farmers markets to provide SNAP participants with incentives to purchase more fruits and vegetables.

The Washington State Department of Health’s FINI grant program uses three main approaches to incentivize SNAP participants to purchase more fruits and vegetable. First, matching funds are provided at participating farmers markets when SNAP shoppers purchase fresh fruits and vegetables. Second, SNAP shoppers receive discounts at retail partner supermarkets for fresh, canned, or frozen fruits and vegetables. Third, community health workers, nutritionists, and other health professionals can write prescriptions for fruits and vegetables. The prescriptions come in the form of printed vouchers that can be redeemed at farmers markets (Fresh Bucks Rx) and partner supermarkets (Complete Eats Rx, referred to hereafter as Grocery Store Rx) when purchasing fruits and vegetables.



**Figure 1:** Schematic of the structure of the Fruit and Vegetable Prescription Program funded with the Washington State FINI grant.

The purpose of this project was to evaluate the effectiveness of the FINI Fruit and Vegetable Prescription Program for the Washington State Department of Health. This was achieved through a comparison of voucher issuance at clinics of Harborview Medical Center and Odessa Brown Children's Clinic with voucher redemption at grocery stores and farmers markets, store audits at partner supermarkets in Seattle, King County to assess proper labeling and marketing material of eligible items, and key stakeholder interviews to understand program implementation and potential barriers to participation.

In the following sections of this report, we first provide background information about incentive programs generally and then provide an overview of programs that specifically utilize a fruit and vegetable prescription model. We then describe the methods we used to evaluate program participation and voucher redemption in the FINI Fruit and Vegetable Prescription Program and present the results of our evaluation. Finally, we close with a discussion of these results and present recommendations based on our review of other programs and on interviews with program stakeholders.

## Literature Review: Incentive Programs

A variety of incentive programs have been implemented throughout the United States, which often complement SNAP in order to incentivize the intake of more fruits and vegetables. These models include incentives given at time of purchase, vouchers given in advance and incentives only given under certain circumstances. Programs make use of either supermarkets or farmers markets, sometimes giving participants the ability to choose either option.

### **Point of Sale Rebates**

Rebates and vouchers given at time of purchase are popular methods used by several state and county organizations with varying degrees of success. The USDA Healthy Incentives Pilot was a randomized controlled trial in Hampden County, Massachusetts in which the intervention group of SNAP participants received a 30% rebate of their SNAP benefits at the time of purchase, while the control group did not. A phone survey and 24-hour recall evaluation indicated that the rebate increased targeted fruit and vegetable (TFV) intake by an average of 0.24 more cups per day per person for the intervention group compared to the control group.<sup>8</sup> In a prospective cohort study conducted in Philadelphia, low-income supermarket shoppers were randomly assigned to either receive a rebate on fruit and vegetable purchases loaded onto a gift card, or no intervention. After an initial baseline period of no rewards, the intervention participants received a 50% rebate for eight weeks and were gradually tapered off to 25% over the next 4 weeks until incentives were removed for 6 weeks of follow up. Using point of sale data

collection and surveys, the intervention participants consumed 8 more servings of vegetables per week and 2.5 more servings of fruit per week than control participants. Intake returned to baseline levels when incentives were removed.<sup>19</sup>

### **Matching Point of Sale Rebate**

Double Up Food Bucks (DUFb) is a matching program that provides participants with a rebate at the time of purchase based on dollars spent on fruit and vegetable items. For example, when a customer uses SNAP benefits to purchase fruits and vegetables at a participating supermarkets or farmers market, they receive a dollar-for-dollar match in SNAP funds for up a certain amount per visit that can be used to purchase more fruits and vegetables. However, matching programs at the point-of-sale have not always been shown to be effective. In a quasi-experimental evaluation in Detroit, shoppers at a low-income community supermarket were either offered matching coupons in the amount spent on fruits and vegetables or assigned to receive no incentives. Monthly spending on fruits and vegetables on average increased among those who received incentives by \$0.40 from baseline. However, a \$10 minimum proved to be a barrier to use for some, particularly among participants who were SNAP recipients, as average spending on fruits and vegetables was just under \$10 before the program began. No long-term changes were seen once incentives were removed.<sup>20</sup>

Matching programs have proliferated across the country. A doubling program in Maine showed moderate increases in fruit and vegetable expenditures.<sup>21</sup> The Market Match program in California doubles the amount spent on fruits and vegetables at local farmers markets. While no formal evaluations on the program have been conducted, a survey conducted by Market Match in 2014 found that when 79% of participants reported that participation in the program increased their consumption of fruits and vegetables.<sup>33</sup> In 2010, Boston Bounty Bucks found that 87% of surveyed SNAP customers reported an increase in fresh produce consumption as a result of the incentive program. Furthermore, 84% of those surveyed rated the program as “very important” or “important” to their purchasing decisions for fruit and vegetables.<sup>34</sup>

### **Vouchers for Future Use**

Another option that has been explored is the distribution of vouchers for fruits and vegetables for future use by participants. In a quasi-experimental trial conducted in Los Angeles, 602 participants in the Women, Infant and Children Supplemental Nutrition Program (WIC) were randomly selected to receive either \$10 per week at a WIC appointment to use at participating farmers markets or supermarkets. The control group received \$13 in non-food coupons per week. Fruit and vegetable intake in the intervention group increased from baseline by 1.4 and 0.8 servings, respectively, per 1,000 calories consumed.<sup>22</sup> Other voucher programs have seen similar increases in fruit and vegetable consumption. Given an additional \$2 for every \$5 spent,

participants in the Philly Food Bucks program in Philadelphia who were surveyed were significantly more likely than non-users to report increasing their fruits and vegetable consumption and trying new or unfamiliar fruits or vegetables (OR 1.8) since becoming a market customer.<sup>23</sup>

### **Conditional Incentive Programs**

The use of incentive programs with restrictions may further increase impact. In a randomized controlled trial, participants were assigned to one of four groups: group one received a 30% rebate on fruit and vegetable purchases, group two had restrictions applied to their purchases of sugar sweetened beverages and sweets, group three had both the 30% rebate and restrictions on sugary food and drink purchases, and group four was the control group. Using a 24-hour dietary recall, the investigators measured participant energy intake and discretionary calories. Those who received both incentives and restrictions experienced the most beneficial changes in dietary habits and improved HEI score.<sup>24</sup>

### **Incentive Program Challenges and Opportunities**

There are several barriers to the sustainability of incentive programs. Long-term funding was reported to be a major problem, as most of these projects were pilot programs and were not found to have a continued impact once incentives ended.<sup>19</sup> In addition, some programs found that coupons given for future use resulted in low redemption rates, despite significant improvements in fruit and vegetable consumption among those who did redeem the coupons.<sup>21,26</sup> Additional challenges included lack of transportation and cooking knowledge among participants.<sup>26,28</sup> Other studies have shown opportunities for improved results when programs included education for participants about program details, locations of participating farmers markets, and recipes for using produce.<sup>26-27</sup> For example, a study in Michigan observed increased participation in DUFB (69% compared to 57% at baseline) and increased fruit and vegetable consumption by 0.65 servings per day, after providing informational resources about DUFB in a health center waiting room.<sup>27</sup>

## **Literature Review: Fruit and Vegetable Prescription Programs**

Prescription programs use several different formats to attempt to increase fruit and vegetable consumption among patients. The basic idea of a fruit and vegetable prescription program is that a clinician will prescribe fruits and vegetables to a patient and provide them with a means to obtain the fruits and vegetables either at no cost or at a discounted rate. Some programs seek to develop relationships between healthcare providers and corporate grocers, including Safeway, Target, and Walgreens. Others partner with local farmers markets, incorporate

markets into clinics, or implement a hybrid pharmacy and food bank within care facilities. Others use a combination of these strategies. Assessing the effectiveness of programs proved challenging due to the variety of program types, the relative infancy of these programs and inconsistency in program evaluation methodology. Each program evaluates effectiveness through different metrics, and evaluations are often conducted by the programs themselves, using undescribed or vague methods. Tables 1 and 2 provide summaries of the details and evaluation strategies, respectively, for the programs described in this section.

### **Wholesome Wave**

Wholesome Wave, a non-profit organization established in 2008, is a pioneer in the fruit and vegetable prescription paradigm of preventive medicine.<sup>35</sup> Hospitals and clinics partner with this organization, enabling doctors and dietitians to write patients produce prescriptions for \$1/day per household member. Over 1,400 grocery stores and farmers markets in 49 states participate in the program. The broad reach of the program allows low-income participants to redeem their prescriptions at a wide variety of locations. For example, partnerships with Target retailers exist in Los Angeles, Houston, and Miami. Potential future expansion would increase access to redemption sites across the country.

The Wholesome Wave prescription program has had extensive reach across the country: from 2015 to 2016, the program expanded to reach over 550,000 people from 153,000<sup>46</sup>. Evaluation of the Wholesome Wave prescription program is conducted largely through self-reported data. The 2016 Annual Report, based on patient survey responses, declared a 128% increase in fruit and vegetable consumption and a 38% decrease in food insecurity among participants. In addition, 57% of participants perceived a positive impact of the program on their child's health.<sup>46</sup>

### **Fresh Food Farmacy**

Pennsylvania-based Geisinger Health Systems recently launched a produce and healthy food incentive program called Fresh Food Farmacy in which food-insecure patients at high risk for diabetes receive foods at an on-site clinical "Fresh Food Farmacy" stocked through donor support, partnerships with a local food bank, and Pennsylvania-based Weis Markets.<sup>36, 37</sup> Foods meet American Diabetes Association dietary recommendations, and patients and their families receive enough ingredients to make two healthy meals every five days. The program also provides patients with recipes, menus, and 15 hours of diabetes education.

The Fresh Food Farmacy program is still in early stages of implementation, but because the Geisinger organization has a health insurance division, both clinical and payer-side data can be assessed.<sup>36</sup> Enrolled patients have already seen average HbA1c levels (a longer-term measure of

average blood sugar levels) reduced from a mean of 9.5% to 7.5% after 12 months, and some participants have even been able to reduce their dosage of medications. By spending around \$2,200 per patient per year, Geisinger and its affiliate insurance provider have cut patient treatment costs by an average of two-thirds, which they directly attribute to the Pharmacy.

### **Prescription for Health Program**

The Prescription for Health program in Washtenaw County, Michigan was piloted in 2008 and is ongoing.<sup>38</sup> Participants are recruited by clinicians based on food insecurity, chronic disease risk, and ability and willingness to commit to the program. The program is marketed in clinics via posters, pins, and word of mouth. A standardized referral and enrollment protocol streamlines participant recruitment and excludes participants who are not interested in the program. Participants must attend a mandatory group enrollment session at which community health workers (CHWs), interns, and volunteers provide participants with information and resources (i.e., food preservation tips and recipes) in order to improve participation. Participants also make “SMART” goals (specific, measureable, achievable, relevant and time-limited), take a pre-program survey, and undergo baseline assessments.

At the beginning of the market season, each participant is given either a farmers market card worth \$100 or ten cards worth \$10 each.<sup>38</sup> Upon arrival at the farmers market, participants visit the Prescription for Health booth where they show their card in exchange for tokens. The booth also holds special events for participants, such as cooking demonstrations and nutrition presentations. In addition, CHWs assist participants with resources for basic needs, such as housing and transportation assistance. Incentives are offered to maximize participation; participants who use all of their farmers market visits and attend two events are eligible for a share in a Community-Supported Agriculture (CSA) program.

The Prescription for Health Program evaluation and reporting is managed by the Washtenaw County Health Department.<sup>47</sup> Participants were asked to fill out a post-program survey to evaluate effectiveness. In the most recent report from the 2016 season, 49% of participants used all of their farmers market tokens. Based on pre- and post- survey data, this program resulted in an increase in average daily consumption of fruits and vegetables by one cup per day, as well as reduced consumption of unhealthy foods by 1-2 times per day after completion of the program. Awareness of SNAP benefit eligibility also increased, and there was notable economic growth in the local food system. While this program is one of the longest running, analysis is based solely on participant surveys.

### **Fresh Rx (formerly known as Health Rx)**

In 2013 a multilateral coalition spearheaded by The Ecology Center, a non-profit organization in Ann Arbor, Michigan, launched a fruit and vegetable prescription program called Health Rx (now known as Fresh Prescription or Fresh Rx) in partnership with the Community Health and Social Services (CHASS) Center, a federally qualified health center in southwest Detroit.<sup>39</sup> CHASS hosts an on-site farmers market called the Mercado as part of this program. Initially, Fresh Rx allowed CHASS Center clinicians to prescribe \$40 worth of fruits and vegetables in \$10 weekly increments at no cost to low-income patients with chronic disease, pregnant women, and caregivers of children up to five years old. Prescriptions were issued via debit cards redeemable at the Mercado, which has both a food demonstration booth and a nutrition education table.<sup>40</sup> The program now has 13 partners, agreements with five farmers markets and vendors, and Fresh Rx debit cards are accepted at all sites across the Fresh Rx network. Free deliveries are provided through Peaches and Greens, an inner-city community garden-supplied market. Fresh Rx benefits now range from \$40 to \$100, provided in \$10 to \$24 increments.<sup>41</sup>

Annual reports for Detroit's Fresh Rx are produced by The Ecology Center and are available for 2013 through 2016.<sup>48</sup> Fresh Rx evaluations are conducted through the use of participant surveys before and after the program, though details of survey questions and methods are not indicated, making it difficult to assess their rigor. Common themes of the reports from the program's first four years include the identification of cost as a primary barrier to increased fruit and vegetable consumption and reduction of this as a barrier; improvement in healthy eating behaviors and knowledge; an increase in consumption of fruits and vegetables and a decrease in consumption of unhealthy foods; contributions to a healthy community food system; improved relationships between clinicians and patients; and positive health outcomes for patients and their families. While better management of overall health and chronic health conditions were reported by 96% and 93%, respectively, of 2016 participants, no clinical data are reported except for reduced HbA1C levels in the 2015 Fresh Rx outcomes report. This was sourced from a separate cohort study conducted in 2015 that evaluated clinical outcomes of the program in newly enrolled participants using the \$40 benefit cap. This study assessed HbA1C levels, blood pressure, and body weight within three months of participation. On average, participants' HbA1C levels were reduced by 7.4% (9.54 to 8.83 points). No changes were observed in patient weight or blood pressure.

### **Veggie Rx**

In 2011, the Veggie Rx program was implemented in an urban, low-income neighborhood in Albany, New York.<sup>42</sup> In collaboration with Capital Roots, the Whitney M. Young Jr. Health Center provides a prescription coupon book to patients identified as obese, diabetic and/or hypertensive. It contains 13 coupons with a value of \$7 each that can be redeemed once per

week at any Veggie Mobile®, a traveling produce truck designed to increase fresh fruit and vegetable access for vulnerable urban populations. The truck goes to the Whitney M. Young Jr. Health center to provide the greatest opportunity for clients to fill their prescriptions. In order to receive another coupon book, patients must have redeemed all 13 coupons, one every week, and attend a quarterly visit with their provider and a nutritionist.

Researchers analyzing the Veggie Rx program in Albany utilized electronic medical records to match participants with non-participants and assess changes in BMI in both groups over a matched time period.<sup>42, 49</sup> To be included in analyses, participants had to be enrolled in the Veggie Rx program for at least six weeks. The program participants redeemed an average of 22 coupons. Program participants experienced a mean loss of 0.74 kg/m<sup>2</sup> in BMI, compared to mean BMI gain of 0.35 kg/m<sup>2</sup> in the control group. However, participation was not randomized, and patients may have been chosen for enrollment based on characteristics that made them more likely to take full advantage of the program. Capital Roots reports that almost 88% of distributed coupons have been redeemed since the program was first implemented.

### **Gorge Grown Veggie Rx**

The Gorge Grown Veggie Rx program was started in 2015 to serve low-income individuals throughout the Columbia River Gorge region in Oregon.<sup>43</sup> Individuals are screened for food insecurity by 35 local community partners, and eligible individuals receive a packet of ten vouchers worth two dollars each, with families receiving packets based on household size. Vouchers can be redeemed at 10 local farmers markets or 29 retail locations, and there is no limit to voucher refills.

There has been no formal evaluation of the Gorge Grown Veggie Rx program. An early assessment of the project collected data on participant's experience and possible early impacts on health.<sup>50</sup> This assessment was driven by participants who formulated the research questions and collected data through photovoice. Additionally, focus groups were held in English as well as Spanish to review photovoice data and analyze main themes. For each challenge identified, focus groups brainstormed recommendations for future implementation. Participants reported higher fruit and vegetable intakes, increased physical activity, and improved mental health. At least one seat on the Gorge Grown Food Network's board of directors is reserved for a program participant.

### **PRx**

A produce prescription program for low-income, urban pregnant women (PRx) was piloted in Cuyahoga County, Ohio for four months in 2013.<sup>44</sup> The PRx program combined a short nutrition counseling session with distribution of vouchers during monthly pre-natal visits. At each visit,

participants were given four vouchers, each with a value of \$10, to use throughout the month at local farmers markets. Participants were also given program materials including information on locations and hours of local farmers markets, directions and public transportation information, as well as shopping tips. The program utilized the monetary incentive paired with monthly counseling to reinforce fruit and vegetable consumption.

The mixed methods process evaluation of the PRx program found that only 56% of participants redeemed at least one voucher, but providers reported a number of perceived program benefits, such as increased appointment adherence and improved provider-client relationships.<sup>44</sup> The researchers also received positive feedback regarding program materials and the monetary value of the vouchers. The primary strength of this program was its integration into pre-natal care visits. More participants who redeemed at least one voucher reported living near a farmers market than participants who did not, indicating that geographic location of markets was a barrier to program use. Limitations of the evaluation were a small pool of participants eligible to complete the survey as well as a low follow-up survey response rate (53.3%), suggesting low overall engagement.

### **Food Rx**

Food Rx is food prescription program in southern Chicago with the primary goal of promoting healthy eating and the use of community food resources as part of a diabetes treatment plan.<sup>45</sup> Patient food insecurity was determined by primary care providers using a screening questionnaire, and patients were issued a \$10 cash coupon for use at the farmers market or \$5 off a \$20 purchase of qualifying food items at Walgreens. Qualifying food items included fruits and vegetables, whole grains, and low-fat, low-sodium, high-fiber foods. The program was designed to highlight the prescription as “doctor’s orders” and provided patients with educational materials on healthy foods and goals, as well as a one-page shopping guide with tips for buying groceries and preparing simple meals. The program also incorporated promotion of local resources, such as diabetes education classes, cooking demonstrations, and farmers market tours.

Preliminary phases of program evaluation are currently underway,<sup>11</sup> but anecdotal evidence from primary care providers and other partners suggests that there are opportunities for improvements in interactions between retailers and program participants. All patients that are identified as food-insecure are eligible, regardless of SNAP qualification, allowing patients not enrolled in SNAP to be connected with resources to enroll in SNAP or WIC. Coupons are framed as a formal doctor’s prescription, which may help facilitate patient behavior change. A drawback of this design is that only physicians are able to hand out Food Rx prescriptions. The program is working on reformulating the prescription so that other providers, such as dietitians,

are able to hand out the prescriptions as well. Finally, this program is exploring the possibility of integrating Food Rx into their Electronic Medical Record system in an attempt to overcome barriers related to provider forgetfulness.

**Table 1.** Comparison of prescription produce programs

<b>Program</b>	<b>Location</b>	<b>Target Population</b>	<b>Incentive Strategy</b>	<b>Additional Components</b>
<b>Wholesome Wave</b>	Nationwide	Low SES, high risk for chronic disease	Grocery store prescription vouchers	Farmers markets, participating Target stores; Distributed by doctors and dietitians
<b>Fresh Food Pharmacy</b>	Geisinger Health System, PA	At risk for diabetes	Prescribed visits to healthy food bank	Combines treatment plan with visits to food bank; clinic and insurance provider combined
<b>Prescription for Health</b>	Washtenaw County, MI	Food insecure, high risk for chronic disease.	Farmers market vouchers	Farmers market booth, special events, incentives
<b>Fresh Prescription/ Fresh Rx</b>	Detroit, MI	Food insecure, high risk for chronic disease, pregnant women and caretakers of young children	Produce prescription debit cards redeemable at markets and stands	Market w/ demo booth and nutrition info tabel associated with clinics; mobile delivery service through partner
<b>Veggie Rx</b>	Albany, NY	Low SES/Food insecure, obese, hypertensive and/or diabetic	Vouchers for Veggie Mobile®	Nutrition counseling and providers visits required to receive vouchers; Veggie Mobile® has weekly stops at clinic
<b>Gorge Grown Rx</b>	Columbia River Gorge (OR and WA)	Low SES	Farmers market and grocery vouchers	Opportunities for participation involvement in program management
<b>Food Rx</b>	Chicago, IL	Low SES, type 2 diabetic patients	Farmers market voucher, grocery coupon	Farmers market tours, diabetes education classes, cooking demos
<b>PRx</b>	Cuyahoga County, OH	Low SES, pregnant women	Vouchers to farmers markets	Nutrition counseling during prenatal visit

**Table 2.** Comparison of prescription produce program evaluations

<b>Program</b>	<b>Type of Report</b>	<b>Evaluation metric</b>	<b>Findings</b>	<b>Limitations</b>
<b>Wholesome Wave</b>	Annual Report *not a scientific study	Daily fruit and vegetable consumption; food insecurity; participation rates of patients and markets/retailers; patient anecdotes	Increased fruit and vegetable consumption; decreased food insecurity; increased participation of patients, markets, and retailers	No formal study design, Self-reported data
<b>Farmacy</b>	Pre-post review of electronic medical records and insurance billing	HbA1C, treatment costs	Decreased HbA1C and reduced health care costs observed in program participants	No formal study design or control group for comparison
<b>Prescription for Health</b>	Pre-post survey comparisons	Daily fruit and vegetable consumption, participation rate	Increased fruit and vegetable intake, decreased intake of unhealthy foods, awareness of SNAP benefits	No comparison group
<b>Veggie Rx</b>	Quasi-experimental with matched comparison group	Redemption rate, BMI	Decrease in BMI for program participants (-0.74 kg/m <sup>2</sup> ) significantly different from controls (+0.35 kg/m <sup>2</sup> )	Retrospective use of medical records for patient weight, potential for selection bias and volunteer bias, lack of information on diet or FV consumption
<b>Gorge Grown Rx</b>	Qualitative descriptive study (Photovoice)	User experience, fruit and veggie consumption	High user satisfaction, increased fruit and veggie consumption, increased physical activity	No formal study design, small number of participants thus far (N=24).
<b>Food Rx</b>	Descriptive study	Provider anecdotes	Study was not designed to report findings.	Tools planned on being used for evaluation of the program were not mentioned.
<b>PRx</b>	Mixed methods	Redemption rate, Provider interviews	Identification of barriers to utilization (e.g. farmers market locations), positive feedback from providers	No control group, low redemption rate (56% redeemed at least 1 voucher), low follow-up survey response rate (53.3%), lack of information on client enrollment, lack of FV consumption data

# Methods

## Overview

The purpose of this study was to evaluate the implementation of the FINI Fruit and Vegetable Prescription Program in Seattle, Washington. Two medical systems were included in this assessment: Harborview Medical Center and Odessa Brown Children's Clinic (OBCC). Harborview Medical Center includes 15 clinics that issue Fresh Bucks Rx vouchers. OBCC issues vouchers for both Fresh Bucks Rx and Grocery Store Rx programs.

Program evaluation occurred in three separate phases. First, we compared voucher issuance to voucher redemption at supermarkets (Grocery Store Rx) and farmers markets (Fresh Bucks Rx) as well as at clinics of the Harborview Medical Center and at Odessa Brown Children's Clinic. Next, we conducted store audits at partner supermarkets in King County to assess proper labeling and program marketing materials of eligible items. Lastly, we interviewed nine stakeholders to receive qualitative data regarding program implementation, potential barriers, and perceptions.

## Data Collection

### Existing Data

The Washington State Department of Health provided data from Odessa Brown Children's Clinic (OBCC) and Harborview Clinics for January through September 2017. Data included:

- Monthly number and corresponding dollar value of all prescriptions issued
- Redemption of Fresh Bucks Rx vouchers including date, amount, farmers market location, and patient's residence zip code
- Redemption of Grocery Store Rx vouchers including transaction number, date, and grocery store address, and itemized purchase information with eligible purchases identified by item name

## Store Audits

Audits of supermarkets participating in the Grocery Store Rx program were conducted in January 2018. Grocery Store Rx issues a \$5 coupon to supermarket shoppers who spend at least \$10 on qualifying items using their SNAP benefits and a supermarket membership card.<sup>30,31</sup> The coupon can be used for qualifying items on the shoppers' next purchase at any partner supermarket location in Washington.<sup>30</sup> Qualifying items are defined as fresh, frozen, or canned fruits and vegetables with no added salt, fat, or sugar.<sup>30,31</sup> Similarly, the Fruit and Vegetable Prescription Program allows health care providers, community health workers, and community nutritionists to issue paper vouchers to SNAP participants.<sup>32</sup> The vouchers can be used like cash for fruits and vegetables at participating retailers and farmers markets.<sup>29,32</sup>

On-site audits were conducted between January 13 and January 21, 2018 at four partner supermarkets located in four Seattle neighborhoods: Mount Baker, Northgate, White Center, and Capitol Hill. These stores were selected for audits by the Washington State Department of Health based on their relatively high voucher redemption rates. Each audit included an assessment of the following:

- Counts and locations of Grocery Store Rx promotional posters
- Counts of Grocery Store Rx shelf tags per section (i.e. fresh, frozen, and canned food sections)
- Notation of specific produce items with tags
- Availability of recipes near produce with Grocery Store Rx tags
- Availability of any other information or promotional materials for the Grocery Store Rx program

Prior to visiting the supermarkets, we created an online spreadsheet using the criteria described above in order to track the assessment data on a mobile device during store audits. Each student was assigned to one store based on availability and transportation access to the neighborhood.

Students searched for signage and promotional materials in all areas of each store including:

- Entrance/front of store
- Overhead (for signs suspended from the ceiling)
- Fresh produce
- Prepared foods/deli
- Meats and seafood
- Aisles (including canned and frozen sections)
- Bakery

- Cafe within the supermarket
- Customer service counter
- Checkout lines (including shelves, counters, and self-service checkout)

The student examined each area of the store twice during the visit.

## Interviews

The second method of data collection consisted of interviews with stakeholders. Odessa Brown Children's Clinic (OBCC) and Harborview Clinic managers identified key individuals involved in the administration of vouchers for the Fruit and Vegetable Prescription Program were identified as potential interview candidate, and provided their email addresses. Interview candidates were invited to participate in an interview via email, using a standard invitation script. A reminder was sent two days after the initial message to those who had not yet responded. Nine of ten candidates agreed to an interview; one declined due to a change in work location. Two interviewees represented OBCC and seven represented 12 different Harborview specialty clinics (some had multiple affiliations). One interviewee was a clinical social worker; the rest were registered dietitians.

The interview questions were developed by course instructors in collaboration with OBCC and Harborview managers (see Appendix). Phone interviews were conducted in January and February, 2018 by pairs of interviewers, with one interviewer conducting the interview and the other responsible for taking notes. At the scheduled time, participants were called at the provided number. Interviewers gave a brief recap of the project purpose, a confidentiality statement, and an invitation to view future findings. Interviewers used prompts and follow-up questions to clarify interviewee responses. The interviews were audio recorded.

## Data Analysis

### *Prescription and Voucher Issuance and Redemption Data*

The value of Fresh Bucks Rx vouchers redeemed at each farmers market during each month was tallied. The value of Fresh Bucks Rx vouchers redeemed was also counted by patient residence zip code. Transaction numbers were counted to determine the number of grocery store prescription vouchers redeemed per month, and this was used to ascertain quarterly redemption. This data also allowed for the tallying of the number of vouchers redeemed by grocery store location.

The values described above were tallied using the SUM function in Excel. Quarterly issuance and redemption data from the statewide FINI grant was provided as a reference and included

the number and dollar amounts of prescriptions issued and vouchers redeemed. This data allowed for a comparison between quarterly clinic voucher redemption and statewide voucher redemption to be made.

Excel was used to conduct analyses on the prescription issuance and voucher redemption information obtained from the Excel spreadsheets provided. For grocery store prescription vouchers and Fresh Bucks Rx vouchers, redemption rates were calculated for each clinic and month by dividing the dollar amount of prescriptions issued by the dollar amount of vouchers redeemed. Of eligible purchases made with grocery store prescription vouchers, the proportion of each food type and top ten items purchased were counted and recorded.

The graphing function in Excel was used to generate bar graphs illustrating the analyses above. Tableau was used to create several maps that provided a geographical visualization of the information. One map depicted the distribution of grocery store prescription voucher redemption based on grocery store ID. The other two maps showed the distribution of Fresh Bucks Rx voucher redemption based on farmers market, and patient residence zip code.

#### *Store Audits*

Eligible items were counted and coded by food type (fresh, canned, or frozen).

#### *Interviews*

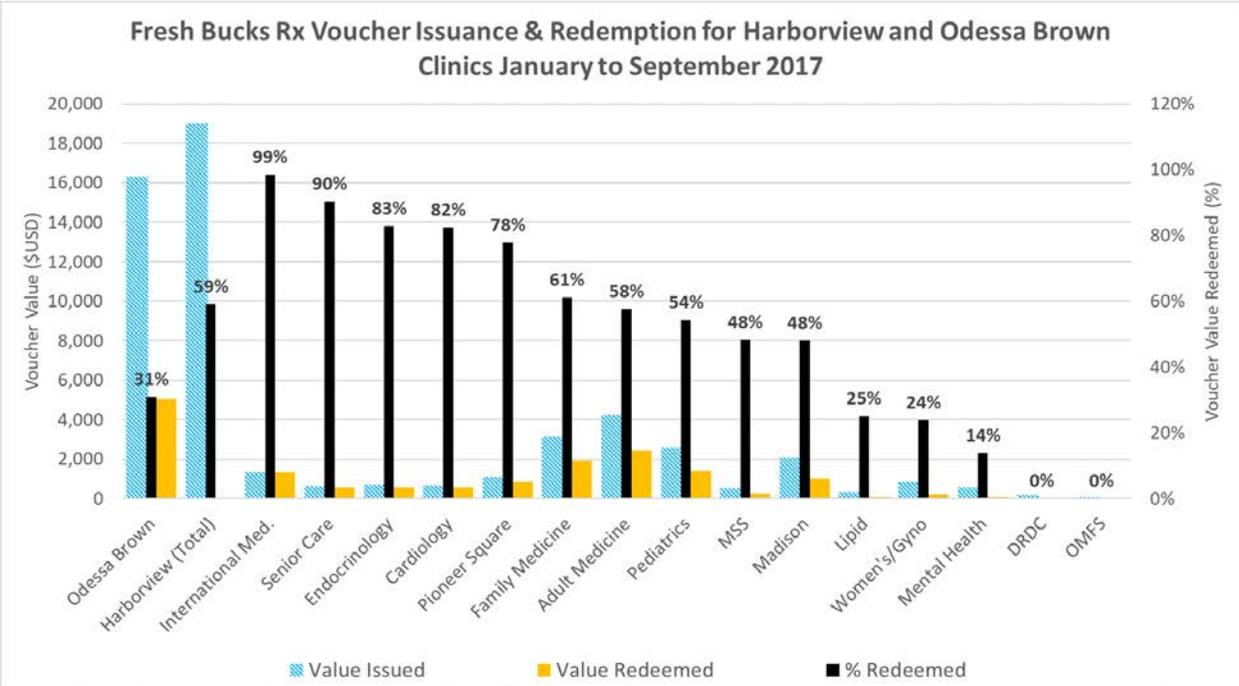
After all of the interviews had been conducted, notes and recordings were consolidated. Codes representing key points of each interview question were created. The evaluation team worked in pairs to independently code the interviews they had conducted. Later, discrepancies in coding were discussed and clarified for maximum consistency. All codes were consolidated into an Excel spreadsheet and categorized into four overarching themes, which informed the organization of our results and recommendations (see Figure 14).

# Results

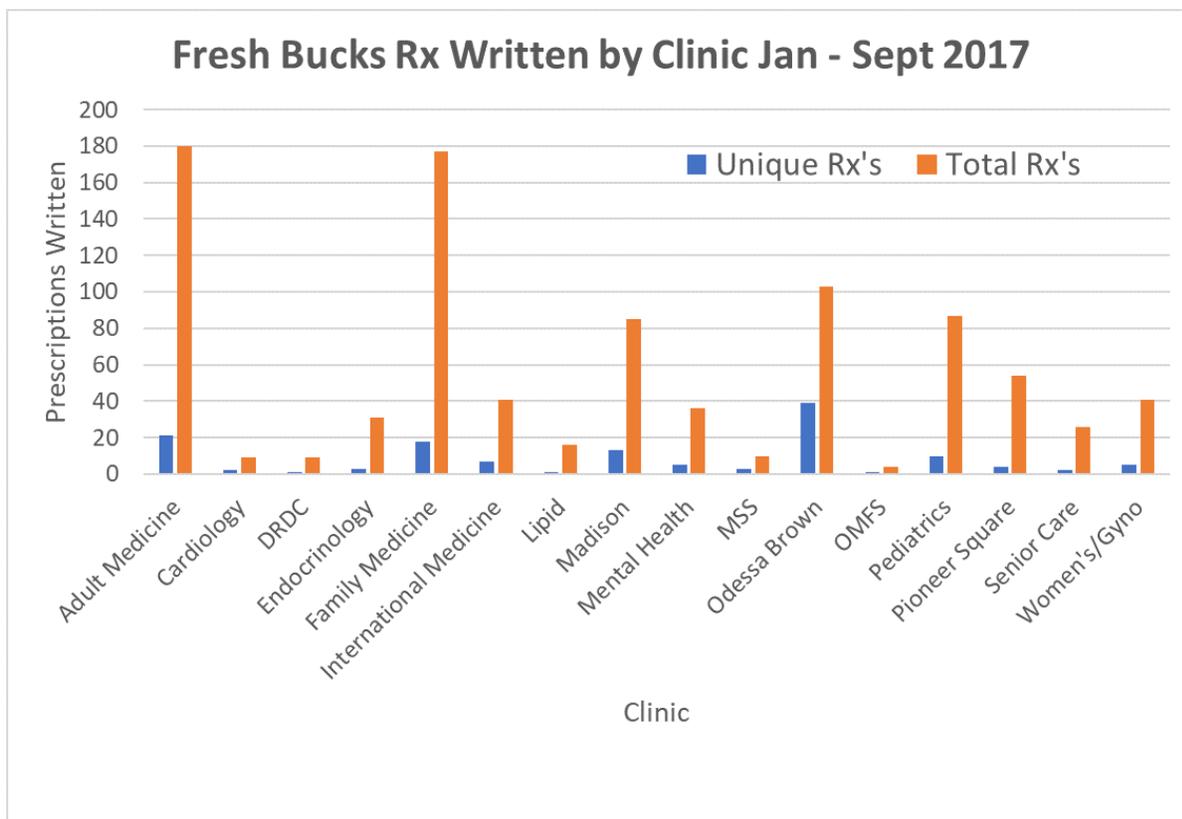
## Issuance and Redemption of Fresh Bucks Rx and Grocery Store Rx Vouchers

### Value of Vouchers Issued by Clinic

135 patients received Fresh Bucks Rx vouchers. Vouchers worth a total of \$19,100 were issued to 96 patients from the Harborview clinics. Vouchers worth a total of \$16,320 were issued to 39 patients by Odessa Brown Children’s Clinic. Figures 3 and 4 below specify the amount issued and percent redeemed per clinic.



**Figure 3.** The value issued and the value and percentage redeemed for Fresh Bucks Rx vouchers by clinic for Odessa Brown and Harborview sub-clinics during January to September 2017. Not shown are values for unknown (unlabeled) clinics: \$100 issued, \$720 and 720% value redeemed. Discrepancies may be due to vouchers issued outside of the examined window being redeemed during this time period.



**Figure 4.** Prescriptions written for Fresh Bucks Rx vouchers by clinic (Odessa Brown Children’s Clinic and Harborview sub-clinics) during January to September of 2017.

#### *Redemption Rates by Clinic*

At five of 16 Harborview Clinics, patients redeemed more than 75% of the value of vouchers they were issued: these clinics included International Medicine (99%), Senior Care (90%), Endocrinology (83%), Cardiology (82%), and Pioneer Square (78%) (see Figure 3). Patients from Odessa Brown had the highest redeemed voucher value of all clinics (\$5,040), but a low redemption rate of 31% (see Figure 3 and Table 3). The Harborview sub-clinics with the five highest value redemptions were Adult Medicine (\$2,440), Family Medicine (\$1,920), Pediatrics (\$1,400), International Medicine (\$1,320), and Madison (\$1,000). Two clinics (DRDC and OMFS) had a 0% redemption rate but both clinics issued vouchers to only one patient each. DRDC, OMFS, and Lipids clinics all appeared in the bottom five rankings for all categories of issued prescriptions and vouchers as well as vouchers redeemed (see Table 3).

Inconsistencies exist between value of vouchers issued and value of vouchers redeemed for numerous clinics and patients. These discrepancies are likely due to vouchers being issued or redeemed outside of the assessment period of January through September of 2017. As such, the value of vouchers redeemed during this entire time period may exceed that which was issued for some clinics and patients.

**Table 3.** Rankings of clinics issuing prescriptions for Fresh Bucks Rx vouchers and the issuance and redemptions of those vouchers. Clinics should not be considered equivalent in terms of size, staff, ability to implement program.

Rank	Unique Rx's	Total Rx's	Value Issued	Value Redeemed	% Redeemed
1	Odessa Brown	Adult Medicine	Odessa Brown	Odessa Brown	International Med.
2	Adult Medicine	Family Medicine	Adult Medicine	Adult Medicine	Senior Care
3	Family Medicine	Odessa Brown	Family Medicine	Family Medicine	Endocrinology
4	Madison	Pediatrics	Pediatrics	Pediatrics	Cardiology
5	Pediatrics	Madison	Madison	International Med.	Pioneer Square
6	International Med.	Pioneer Square	International Med.	Madison	Family Medicine
7	Mental Health	International Med.	Pioneer Square	Pioneer Square	Adult Medicine
8	Women's/Gyno	Women's/Gyno	Women's/Gyno	Endocrinology	Pediatrics
9	Pioneer Square	Mental Health	Endocrinology	Cardiology	MSS
10	Endocrinology	Endocrinology	Cardiology	Senior Care	Madison
11	MSS	Senior Care	Senior Care	MSS	Odessa Brown
12	Cardiology	Lipid	Mental Health	Women's/Gyno	Lipid
13	Senior Care	MSS	MSS	Mental Health	Women's/Gyno
14	DRDC	Cardiology	Lipid	Lipid	Mental Health
15	Lipid	DRDC	DRDC	DRDC	DRDC
16	OMFS	OMFS	OMFS	OMFS	OMFS

*Quarterly Redemption Rates*

When comparing quarterly Fresh Bucks Rx voucher redemption rates for OBCC and Harborview Clinics Combined with statewide Fresh Bucks Rx redemption rates, both OBCC and Harborview (all clinics combined) reported lower redemption rates. (see Table 4).

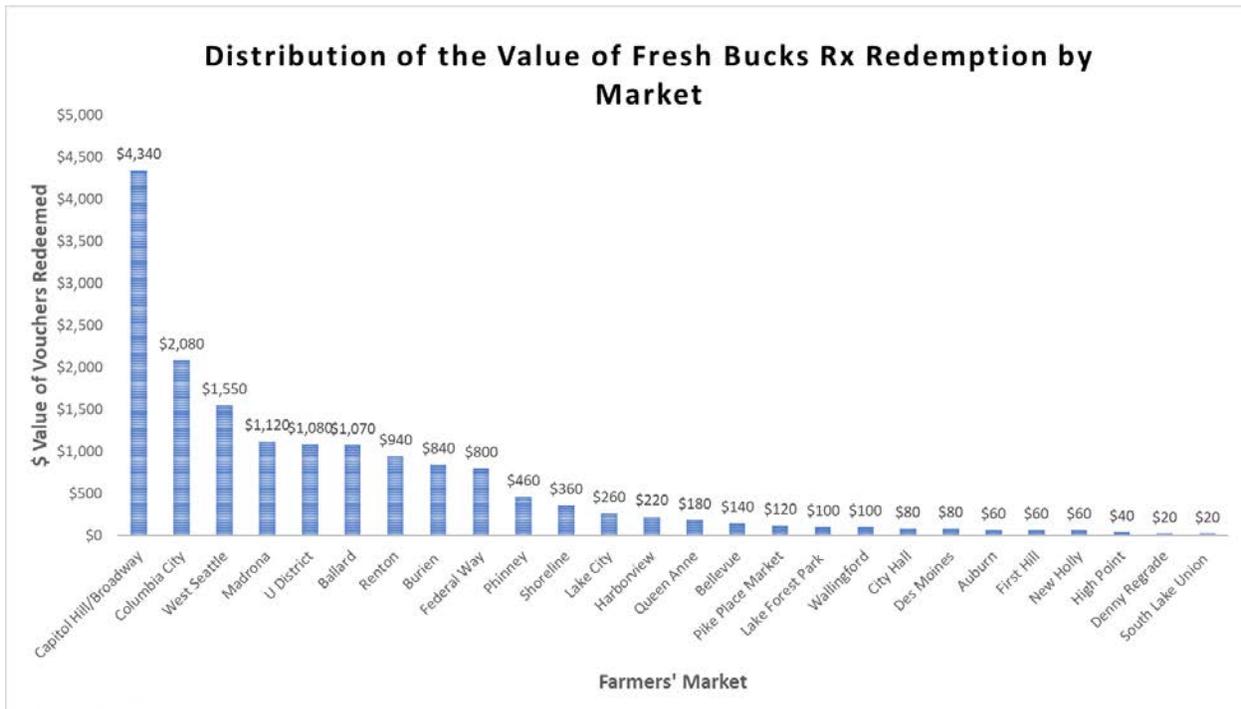
**Table 4.** Comparison of quarterly Fresh Bucks Rx redemption at Harborview & OBCC with statewide redemption

Quarter	Harborview clinics			OBCC			Statewide Redemption Rate (%)
	Value Issued (\$)	Value Redeemed (\$)	Redemption Rate (%)	Value Issued (\$)	Value Redeemed (\$)	Redemption Rate (%)	
Q1	1620	1310	81%	3760	1060	28%	92%
Q2	4680	2830	61%	6800	1820	27%	94%
Q3	12800	7820	61%	5760	2160	38%	77%

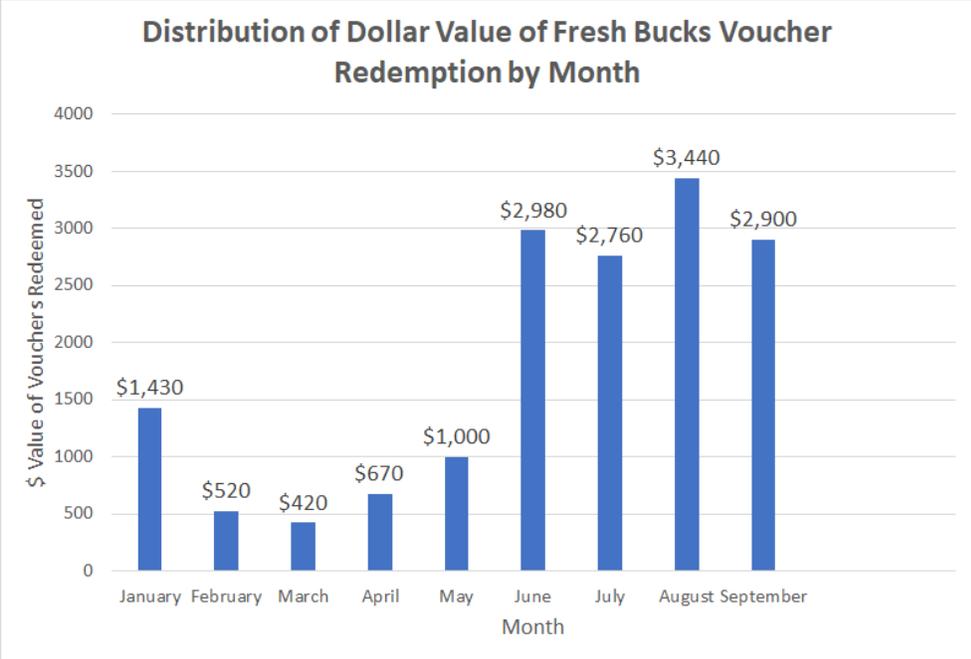
*Distribution of Fresh Bucks Rx Vouchers by Region*

Fresh Bucks Rx vouchers were redeemed at a total of 26 farmers markets between January and September of 2017. The total value of Fresh Bucks vouchers redeemed during this period was

\$17,000. The Capitol Hill/Broadway Farmers Market (a year-round market) had the highest value of Fresh Bucks voucher redemption, with a total of \$4,340. This was followed by Columbia City (year-round), West Seattle (year-round), and Madrona, with \$2,080, \$1,550, and \$1,120 being spent at each of these farmers markets, respectively. Refer to Figure 5 for the distribution of Fresh Bucks Rx vouchers across all 26 farmers markets. Figure 6 shows the monthly dollar value of Fresh Bucks Rx voucher redemption by month for January to September 2017. The map of distribution of Fresh Bucks Rx voucher redemptions at farmers markets (Figure 7) does not show any clear trends of where patients are choosing to redeem their vouchers. Most vouchers were redeemed at markets closer to Seattle and south of Seattle.

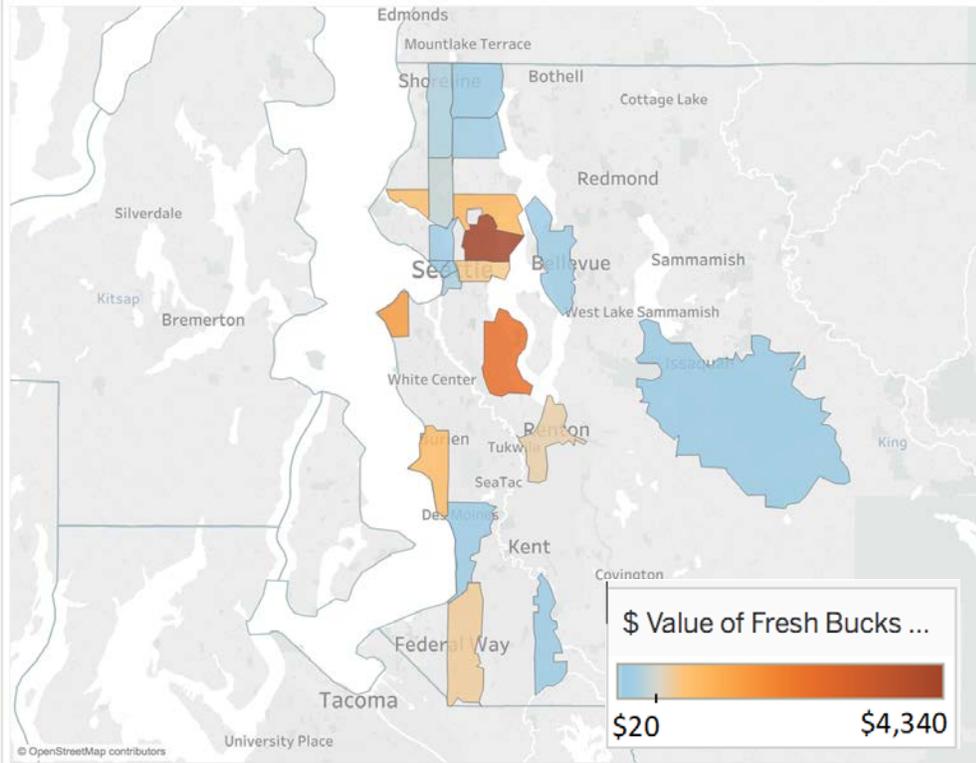


**Figure 5.** Fresh Bucks Rx redemption by farmers market during January to September 2017.



**Figure 6.** Monthly dollar value of Fresh Bucks Rx voucher redemption by month for January to September 2017.

## Dollar Value of Fresh Bucks Rx Voucher Redemption by Farmers' Market

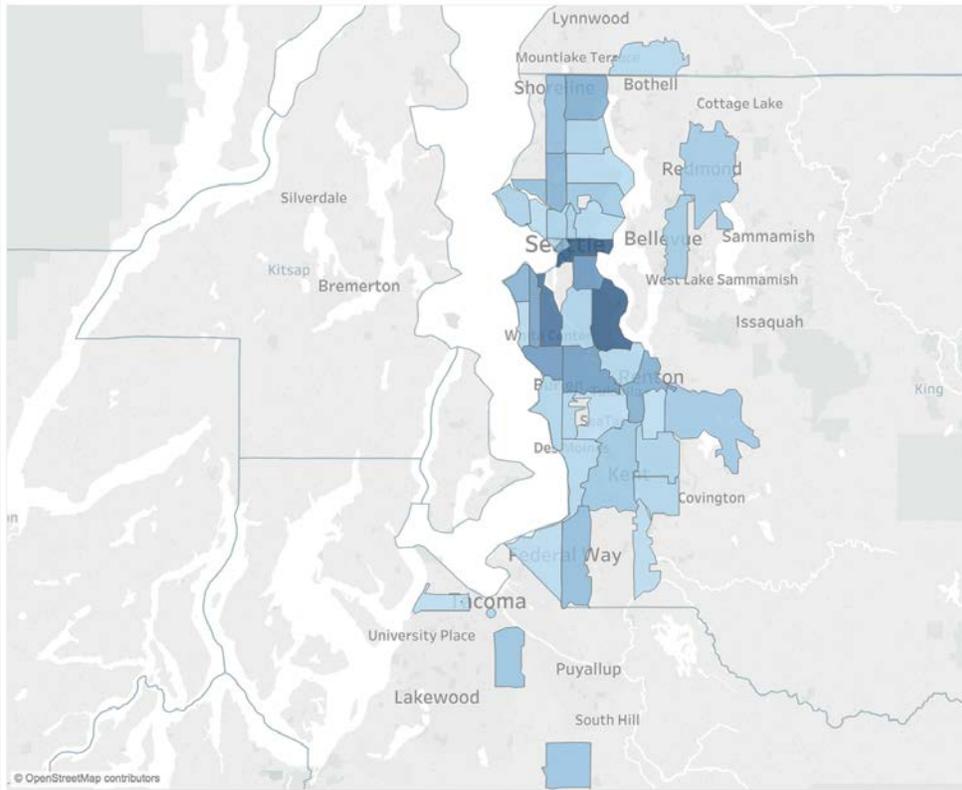


**Figure 7.** Dollar value of Fresh Bucks Rx redemption by farmers market location.

### Distribution by patient zip code

Most patients who redeemed Fresh Bucks Rx vouchers live in the west part of King County (see Figure 8). \$780 dollars of Fresh Bucks Rx vouchers were redeemed by patients who lived in Pierce County, and \$80 was redeemed by a single patient living in Snohomish County. The highest dollar value of Fresh Bucks Rx was redeemed by patients living in the 98118 zip code, which corresponds to the Mount Baker neighborhood. Patients living in the 98104 zip code, which is around downtown Seattle, Pioneer Square, and International District area, redeemed Fresh Bucks Rx vouchers worth \$3140.

Dollar Value of Fresh Bucks Rx Redemption by Patient Residence Zip Code

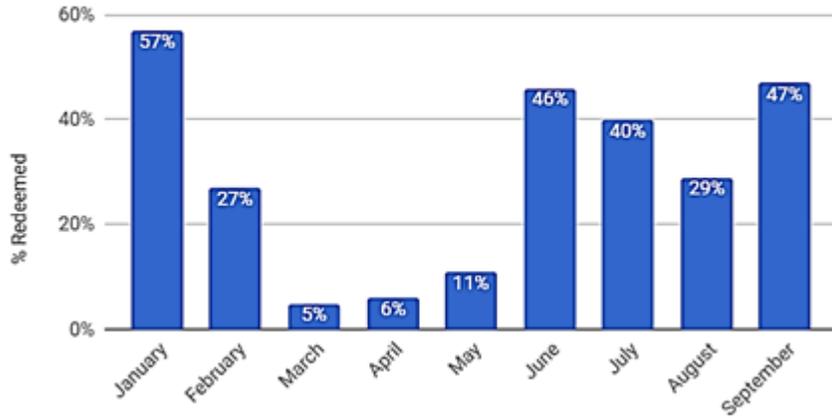


**Figure 8.** The darker the shading of the zip code area, the greater the value of the Fresh Bucks Rx vouchers redeemed by patients.

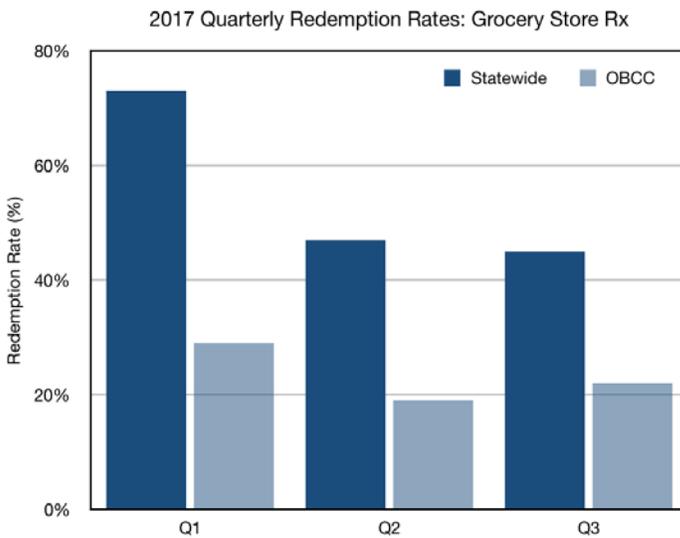
### **Grocery Store Rx Issuance and Redemption**

Overall, there were lower redemption rates of Grocery Store Rx vouchers issued by OBCC than vouchers issued through the FINI grant statewide. In total, 9,921 statewide vouchers were issued and 5,500 were redeemed in the first three quarters of the 2017 (January through September). During this same period, OBCC issued a total of 2,756 Grocery Store Rx vouchers and 657 (24%) of those were redeemed in grocery stores, whereas the statewide FINI grant saw an overall redemption rate for that period of 55%. Figures 9 and 10 below show monthly distribution of redemption, as well as redemption rates by quarter, respectively. Among statewide and OBCC Grocery Store Rx vouchers, redemption rates appear to be highest in the first quarter and very similar in quarters 2 and 3 (approximately 2-3 percentage points difference). As stated above, statewide data for quarter 4 was not provided.

**Percent of Fresh Bucks Rx Voucher Value Redeemed at OBCC**

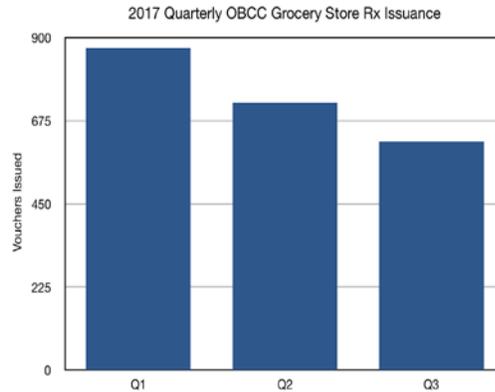
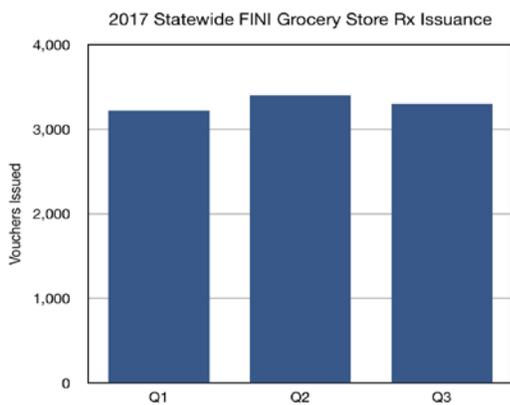


**Figure 9.** The redemption rates portrayed are a reflection of value in U.S. dollars not in number of vouchers distributed.

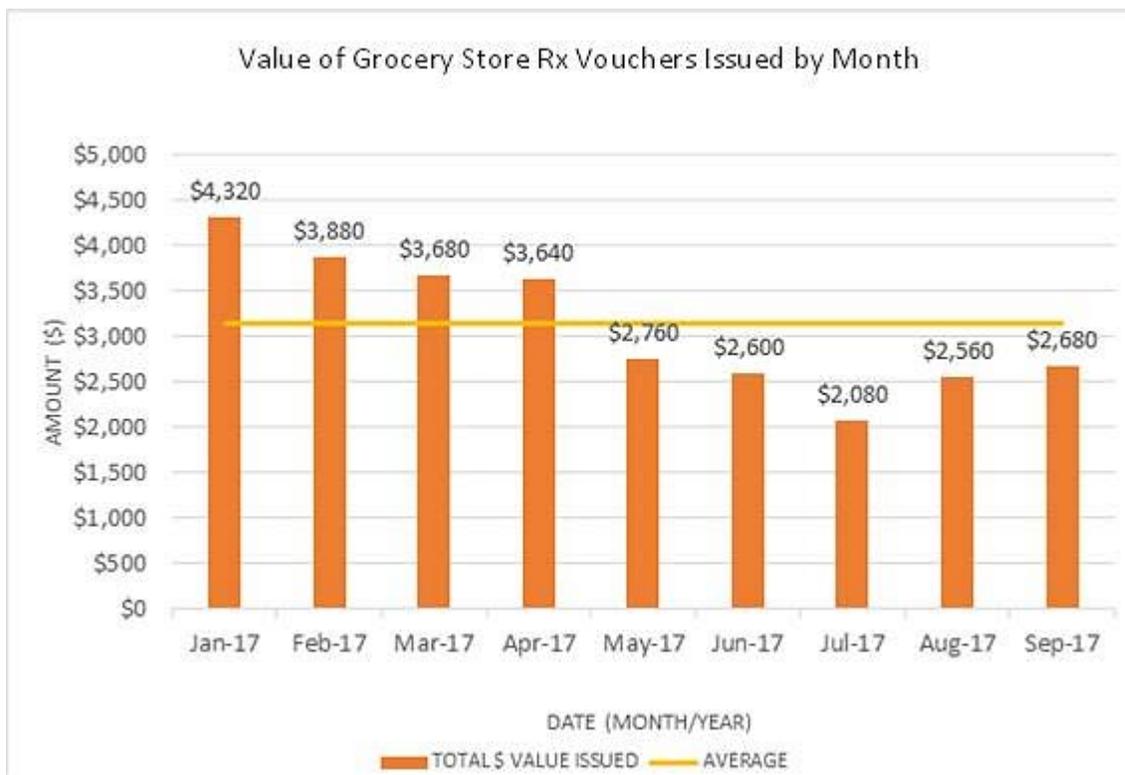


**Figure 10.** Comparison of Grocery Store Rx redemption rates between statewide FINI and OBCC

As we observed with redemption rates, Grocery Store Rx voucher issuance at OBCC also appears to be highest during the first quarter and decreases with each subsequent quarter. 1,160 vouchers were issued during quarter 1 while 620 vouchers were issued during quarter 4 resulting in a 53% decrease in issuance (see Figure 11). This is not the case with statewide FINI vouchers; while redemption rates did decrease as the year progressed, issuance was constant with no more than 5% change between quarters (see Figure 12).



**Figure 11 & 12:** Number of Statewide FINI Grocery Store Rx vouchers issued by quarter (11, left). Number of OBCC Grocery Store Rx vouchers issued by quarter (12, right).



**Figure 13.** Total Grocery Store Rx voucher issuance values were compiled by month, with the average line inserted (mean= \$2197 per month).

### Grocery Store Rx Purchases

A total of 657 transactions with Grocery Store Rx vouchers were made in Washington State from January 2017 through September 2017. The total value of Grocery Store Rx vouchers issued by month can be seen in Figure 13. Grocery Store Rx clients primarily purchased fresh produce (see Table 5). Of the purchases made by OBCC clients using Grocery Store Rx coupons, 96% of eligible items were fresh produce. Similarly, 93% of statewide Grocery Store Rx purchases are reported to be for fresh produce. Bananas were the top food item purchased by clients for both state-wide and OBCC clients (see Table 6). Both lists also include strawberries, avocados, clementines, Roma tomatoes, bell peppers, and grapes. Apples were the second most purchased produce by OCC clients. Oranges appear on the top 10 purchases statewide, but not on the top 10 purchases from OBCC clients.

**Table 5.** Comparison of forms of produce purchased: statewide vs. OBCC

<b>Grocery Store Rx Purchases January-September 2017</b>		
<b>Type</b>	<b>Statewide</b>	<b>OBCC</b>
Fresh	93%	96%
Canned	4%	3%
Frozen	3%	2%

**Table 6.** Top 10 eligible purchases statewide vs. OBCC

<b>Top 10 Foods Purchased with Grocery Store Rx January-September 2017</b>	
<b>Statewide</b>	<b>OBCC</b>
Bananas	Bananas
Regular strawberries	Apples
Hass avocados	Clementines
Clementines	Regular strawberries
Roma tomatoes	Cucumbers
Bell peppers	Bell peppers
Cucumbers	Red grapes
Red grapes	Green grapes
Green grapes	Haas avocados
Navel oranges	Roma tomatoes

### Distribution by Grocery Store

Redemption of Grocery Store Rx vouchers occurred at 46 stores dispersed throughout King, Pierce, Snohomish, Thurston, and Lewis counties (see Table 7, Appendix). The ten stores with the highest number of Grocery Store Rx transactions were located in King County. The highest transaction store is located in the Mount Baker neighborhood (zip code 98118) with 118 transactions, or 18% of all redemptions. This is higher than all other stores. The store with the second highest count had a total of 69 transactions (98112, Capitol Hill) and the third had a total of 62 transactions (98126, White Center). The top ten stores accounted for 456 voucher redemptions (69%) while the other 36 stores accounted for 201 redemptions (31%). Table 8 in the Appendix shows the number of transactions that occurred at each store.

### Store Audits

We found program informational materials at only one of four of the supermarkets visited, in Northgate. The only materials found in that store were Grocery Store Rx food tags in the canned foods section; none were found in the fresh produce section or frozen foods section (see Table 9).

**Table 9.** Number of Grocery Store Rx mentions in Northgate Supermarket

Location within supermarket	Number of Posters/Tags
Front of store/entrance	0
Overhead (for signs suspended from the ceiling)	0
Fresh produce area	0
Prepared foods/deli area	0
Meats and seafood	0
Aisles (including canned and frozen sections)	35
Bakery area	0
Cafe within the supermarket	0
Customer service counter	0
Checkout lines (incl. shelves, counters, and self-service checkout)	*1

\*SNAP Grocery Store Rx Coupon Payment Options

Within the canned foods section we counted Grocery Store Rx tags by product type and found a total of 35 Grocery Store Rx tags, 25 of which (71%) were placed in front of eligible Grocery Store Rx items (see Table 10). Twenty-five tags were located in front of canned vegetables, all

of which are eligible items. Examples of these items include canned peas, mixed vegetables, and carrots.

Seven tags were located in front of 50% reduced-sodium beans, none of which are eligible because they all included added salt in the ingredients. Three of the tags were in front of miscellaneous non-eligible items, including a container of fried onions and two soups with high amounts of sodium, fat, and seasonings. There were no tags in front of the canned fruits, and we were unable to find any canned fruit option that did not contain added sugar or seasonings.

**Table 10.** Number of Grocery Store Rx tags per product category

Products with Grocery Store Rx tags	Number of Tags	Examples of Tagged Products
Beans	7	50% reduced sodium beans; kidney, black, garbanzo
Canned Vegetables	25	Spinach, green beans, carrots
Soups and misc.	3	Tomato and rice, old fashioned vegetable, fried onions

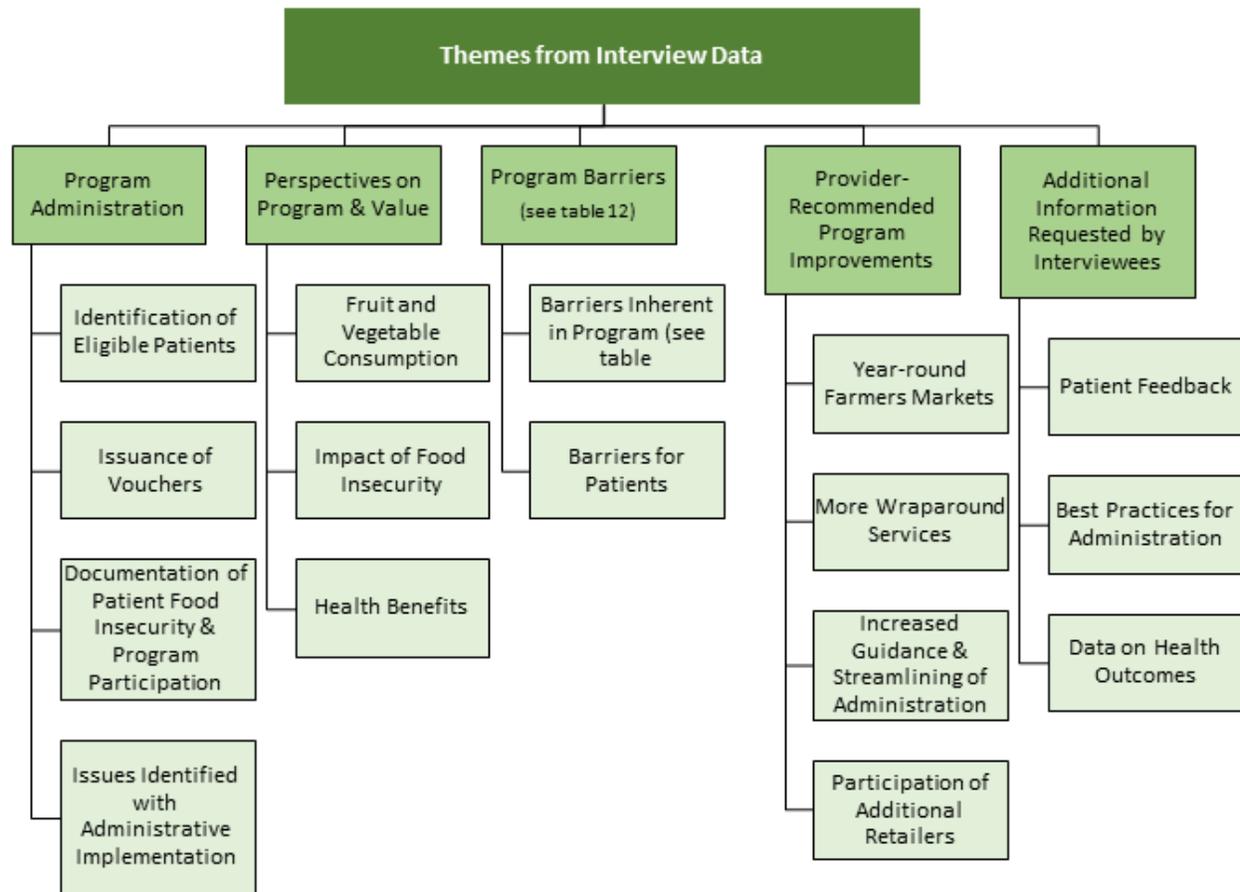
## Interviews

Interview results are organized into five categories (summarized in Figure 14, below): Program Administration; Perspectives on Program and Value; Program Barriers; Provider-Recommended Program Improvements; and Additional Information Requested by Interviewees.

### Program Administration

#### *Identification of eligible patients*

The process of identifying patients as eligible for the Fruit and Vegetable Prescription Program varied between clinics, and ranged from a formal two-question food security screenings during appointments to a less formal approach of identifying patients if they expressed a need for fruits and vegetables. Patients who were SNAP-eligible were then enrolled in the program. Two providers additionally assessed whether the program was appropriate based on the patient’s ability to attend farmers markets or capacity to prepare produce.



**Figure 14.** Key themes identified through analysis of nine interviews with providers from Harborview and Odessa Brown Clinics.

### *Issuance of vouchers*

Following confirmation of SNAP eligibility and enrollment in the Fruit and Vegetable Rx program, the staff social worker at OBCC issues the vouchers. The number of vouchers a patient receives at a time varied between and within clinics. Five providers interviewed prefer to distribute all six months of vouchers at the same time. The remaining providers allow the patient to choose whether they receive all the vouchers at once or on a recurring basis corresponding with future appointments. Another option is to give out vouchers one month at a time to encourage continued follow-up appointments.

### *Documentation of patient food insecurity and voucher issuance*

Seven of the interviewees indicated that food insecurity is documented in the electronic health record (EHR), although several providers noted documenting food insecurity screening information and/or participation in the Fruit and Vegetable Prescription program. Each provider interviewed confirmed there is an additional spreadsheet utilized to track vouchers distributed. Most providers indicated that filling out this spreadsheet is extremely time-intensive.

### *Issues identified with administrative implementation*

Interviewees identified several issues with the implementation of the program at the clinic level. There is a need for a streamlined approach to documenting data, preferably one that accommodates multiple simultaneous users and can be used to determine the number of participants at any given time. Providers also indicated a desire for clear guidelines to determine patient eligibility. They noted that the time-consuming process of filling out each voucher by hand leaves little remaining visit time to hear program feedback or discuss other nutrition priorities.

### *Complementary services*

Researchers asked providers about complementary wraparound services. All of the providers interviewed indicated that there are currently no required supplementary classes or events for program participants. Providers noted that such programming in the past had become too cumbersome due to mass enrollment, and the programs were discontinued.

## **Perspectives on Program and Value**

All interviewees expressed a belief that their patients were able to increase fruit and vegetable consumption. Another positive aspect cited was the perception that children are exposed to a variety of new foods without parents feeling burdened by cost or risk of waste. Providers received feedback from patients that the extra income for fruits and vegetables helps to reduce stress in patients. Other benefits they reported observing were improvements in weight, blood glucose, physical activity level and decreased social isolation. In regard to the program, one provider said that her patients “love it” and “don’t want it to end.”

Overall, the providers felt positively about the Fruit and Vegetable Prescription Program. One provider expressed that it allowed her to provide direct assistance rather than simply referring patients to another program (i.e. suggesting a food bank), and another felt that it was a creative way to address issues of food insecurity. However, as discussed in other sections, there were many barriers for utilization of the vouchers, as well as extra time required for administrative processes.

## **Program Barriers**

### *Perceived Patient Barriers*

The interviewees perceived a number of personal barriers their patients face when utilizing the Fruit and Vegetable Prescription Program. These and program barriers are summarized in Table 11. Most interviewees indicated that their patients have issues with transportation, given that many do not have cars. The timing and location of the markets can be a barrier for those taking transit or who have children. Additionally, providers reported it is often difficult for patients to

figure out market locations and hours when they are faced with mental health issues such as depression or have poor health. These issues can also make it more difficult to fully understand the program and how to use vouchers, which participants often lose. About half of the interviewees perceive that their patients feel intimidated or uncomfortable at the farmers markets, because they feel like they “don’t belong there” and “the people that visit the market are different than they are”. Some patients are concerned about being able to afford produce at farmers markets. Lastly, two providers also mentioned that some of their patients are experiencing homelessness, resulting in compounding challenges such as the inability to cook or prepare the produce they purchase.

### *Program Barriers*

Barriers inherent to the Fruit and Vegetable Prescription Program, particularly Fresh Bucks Rx, were also identified during the interview process. Most of the interviewees mentioned that seasonality of many farmers markets is a barrier to utilization for their patients. One interviewee said her patients typically “don’t live in the neighborhoods where the four year-round markets are so there’s probably less utilization [of the program] during October-March”. Since even year-round markets have less produce available during the winter months, providers will sometimes postpone giving the vouchers out until spring. Occasionally, there are workers at the farmers markets who are not familiar with the program and are not able to help the patients figure out how to use the vouchers. A number of interviewees mentioned that having more grocery stores accept the vouchers, in addition to the farmers markets, could help increase utilization of the program. One interviewee said it would be nice to have more participating stores in the North King County area, since that is where some of her patients live.

Patients from OBCC, because they receive Grocery Store Rx vouchers as well, can shop at grocery stores or farmers markets, which can be more convenient for them, particularly during winter months. However, interviewees from OBCC mentioned that the cashiers at the grocery store are often not familiar with the vouchers and don’t know how to process them, which can result needing a manager’s assistance and thus unwanted attention and embarrassment to the patient. Another barrier inherent in the program is the inability for patients to retroactively receive prescriptions for months they miss. For example, if a patient cannot pick up his or her vouchers from clinic one month, he/she would only receive vouchers for five months instead of six.

**Table 1.** Barriers to Utilization of Fruit and Vegetable Prescription Program

<b>Perceived Personal Barriers of Patients</b>
<ul style="list-style-type: none"> <li>• <b>Lack of Transportation</b></li> <li>• <b>Inconvenient Days, Hours, and Locations of Farmers Markets</b></li> <li>• <b>Mental Health Issues/Poor Health</b></li> <li>• <b>Difficulty in Understanding How Program Works and How to Use Vouchers</b></li> <li>• <b>Losing Vouchers</b></li> <li>• <b>Feeling Intimidated at Farmers Markets</b></li> <li>• <b>Cost of Produce at Farmers Markets</b></li> <li>• <b>Homelessness</b></li> </ul>
<b>Program-Level Barriers</b>
<ul style="list-style-type: none"> <li>• <b>Seasonality of Many Farmers Markets</b></li> <li>• <b>Less Produce at Farmers Markets during Winter</b></li> <li>• <b>Few Participating Grocery Stores</b></li> <li>• <b>Redemption Issues Due to Lack of Knowledge of Employees</b></li> <li>• <b>Inability to Make Up for Missed Months</b></li> </ul>

**Program Improvements Recommended by Providers**

Providers shared input on how to improve the Fruit and Vegetable Rx Program from their experience in administering the program and being uniquely positioned to hear patient feedback. Multiple providers stated that, ideally, farmers markets would be open year-round, or that utilizing a mobile food truck model or recruiting additional large retailers for Grocery Store Rx program would increase program reach. Some providers reported a desire for more guidance on how to administer the Fruit and Vegetable Prescription Program, which include the practices of other providers as described below. In response to the many patient barriers identified, another suggestion was to have more patient education about use of the vouchers themselves, or to pair the vouchers with nutrition education. As one dietitian stated, “I still think there’s always room for reaching the patients in a better way.”

The desire for a structured protocol, streamlined workflow, and usable feedback reflects the overall perspective of our interviewees. The majority of interviewees expressed an interest in learning other providers’ best practices for program administration, including identification of potential recipients, voucher distribution, and data management. Providers reported interest in approaching the Fruit and Vegetable Prescription Program from a research perspective,

collecting data about both participation and dietary or other health outcomes as the program continues.

### **Additional Information Requested by Interviewees**

Going forward, providers felt it would be important for the program to obtain direct feedback from patients to develop better practices and encourage participation. Information about patient's own perception of barriers and degree of participation was a gap identified by the providers we spoke to. Exactly what providers wanted to know from participants varied, but included opinions regarding the value of the vouchers and whether a different mode of assistance would be preferable. Several mentioned wanting a clear understanding of what, if any, benefits patients experienced due to the program. In general, what interviewees had in common was wanting to know more about the experience of using the vouchers, and what improvements patients would want to see in that process.

## **Discussion**

In order to inform policy that incentivizes fruit and vegetable purchases by SNAP recipients, we examined the Fruit and Vegetable Prescription Program at Harborview Clinics and Odessa Brown Children's Clinic between January and September 2017 and assessed the presence of Complete Eats signage in partner supermarkets. Our results indicated that Harborview clinics had higher overall redemption rates as compared to OBCC. Fresh Bucks Rx redemption rates tended to vary by season and were highest among year-round markets as well as markets located near patient zip codes. We also observed insufficient and incorrect placement of Complete Eats signage in four grocery store audits. In addition, interviews with clinic providers identified major barriers to program utilization as well as administrative issues.

The data shows that 135 unique patients were served by the Seattle-area fruit and vegetable prescription programs during the first three quarters of 2017. A total value of \$46,660 was distributed through vouchers and \$18,530 of this amount was redeemed, yielding an average redemption rate of 63 percent for Harborview Clinics and 31 percent for OBCC during this period. Among OBCC and Harborview, voucher redemption rates were lower than statewide redemption rates, suggesting that improvements may be warranted to increase participation in fruit and vegetable prescription programs. The qualitative data revealed that the clientele of the Seattle-based clinics may be particularly vulnerable, potentially accounting for these lower redemption rates. For example, some participants are homeless and therefore less likely to partake in this program due to a lack of resources. Additionally, OBCC is a children's clinic whereas the Harborview Clinics serve a larger population that is primarily comprised of adults.

As a result, OBCC distributes vouchers to large families who might face more challenges in grocery shopping on a regular basis.

Harborview Clinics, which only distributes Fresh Bucks Rx vouchers, had a higher Fresh Bucks Rx redemption rate than OBCC (63% versus 31%, respectively). The redemption value of Fresh Bucks Rx was highest between June and October. This may be accounted for by the majority (67%) of Harborview Fresh Bucks Rx vouchers being issued in the third quarter. While this could be partially due to recipient preference to visit farmers markets in the summer months, it is likely also influenced by market seasonality. For instance, the farmers market in the Mount Baker neighborhood is only open from May to October, yet was the second highest Fresh Bucks Rx redemption site. The farmers market with the highest number of transactions was Capitol Hill, which is open year-round. Furthermore, the value redeemed for the Grocery Store Rx program was higher during winter months as compared to summer months, suggesting greater supermarket use over this season. Upon interpreting such seasonal differences in program utilization, it is important to consider the differences in distribution patterns between clinics that may have affected when patients received and redeemed vouchers. For example, some providers chose to wait until spring to distribute vouchers due to the lack of year-round farmers markets accessible to participants.

At OBCC, which issues both the Grocery Store Rx as well as Fresh Bucks Rx, redemption rates were slightly lower for Grocery Store Rx (24%) as compared to Fresh Bucks Rx (31%). Qualitative data suggested that providers felt there were not enough participating supermarkets in areas accessible to patients, which may have contributed to low Grocery Store Rx redemption. Another contributing factor may have been lack of program awareness among supermarket staff, which can result in patient embarrassment during checkout and may impede future participation (which was a patient experience reported to us by the providers). Indeed, our store audits revealed that sampled supermarkets generally lacked appropriate signage for the Complete Eats program, indicating the need for improvement in identifying eligible food items. These factors may be indicators that the level of engagement, training and awareness for this program among staff and management at participating supermarkets and farmers markets needs improvement.

Location of participating supermarkets and farmers markets may be another factor impacting program utilization. The locations of supermarkets and farmers markets with the highest redemption rates tended to coincide with the highest concentration of participant residences, suggesting that participants tend to shop in their own neighborhoods. Furthermore, providers from both clinics reported lack of transportation and access to markets as a barrier for many participants. This is consistent with the findings of Freeman et al. who also found that SNAP,

WIC, and FMNP users reported logistical barriers impacting their usage of farmers market prescription programs, including market location and lack of transportation (52).

### **Best Practices**

The providers at OBCC and Harborview Clinics made adjustments to the voucher administration process as necessary to cater to the needs of their patient populations. While the majority of the providers tended to give out all six months of the prescription at one time, several providers mentioned giving out vouchers on a monthly basis in order to increase patient contact, unless the patient expressed that this would not accommodate their schedule. At OBCC, patients were given the option to choose between farmers market or supermarket vouchers, providing more flexibility to meet patient needs and interests related to proximity to farmers markets or supermarkets, grocery shopping season, and dietary preferences.

The data collection protocol at clinics, farmers markets and grocery stores provides detailed information about voucher issuance and redemption, including voucher issuance amounts, locations and dates of voucher redemption, which food items were purchased, and additional information. This allows for thorough analysis of voucher issuance and redemption rates and trends.

### **Limitations**

Prescription and voucher issuance and redemption data were collected and reported in different ways across clinics. While every attempt was made to compile and use the provided data consistently in the analyses, any errors inherent in the raw data are unknown. It was not possible to compare the value of vouchers issued to those redeemed over a given time period due to variation in issuance policies across clinics. The relatively small number of providers interviewed for this project limits the ability to make comparisons and identify best practices across clinics. Understanding of potential program barriers and benefits is based on the providers' understanding of the patients' experiences, as it was not possible to interview program participants themselves. Grocery store audits were limited to one visit to four stores, and without context from grocery store management.

# Recommendations

## ***Administrative/Protocol***

*Create a standardized protocol.* The use of a standardized protocol for prescription issuance will allow evaluators to better track redemption rates. However, it will be essential to take into account different participants' potential life circumstances, including homelessness, mental illness, and/or language barriers. An ideal standardized protocol will balance patient needs with a more efficient process for prescription issuance. Fostering communication between clinics for providers to share challenges and solutions with one another can further improve the logistics of program administration.

*Create a better tracking system.* Currently, all prescription issuance is tracked by multiple clinicians on a single Excel spreadsheet. As indicated by many clinicians, this tracking system is inefficient, especially as the program grows, and is prone to data entry errors. We recommend the introduction of software for efficient data entry into a comprehensive database. The database could also be used to print out the prescriptions and automatically collect and analyze data on voucher redemption rates, allowing program administrators to calculate measures to assess the success of the program, such as a social return on investment (SROI). This measure captures the extent to which investment in incentives drives the amount of spending on fruits and vegetables at participating markets, and is an example of a measure that can serve as a policy lever in order to apply for, and potentially receive, additional sources of funding (53).

*Implement a program orientation session for participants.* The providers indicated that explaining the program to their patients is time-consuming and detracts from the nutrition education component of clinic visits. Having an orientation program paired with information on participating vendors, locations, recipes, cooking demonstrations or classes, and nutrition education for all patients would remove some of this burden from the providers and provide participants with the information they need to fully utilize the program.

There are several examples of successful methods for providing information about similar healthy food incentive programs which increase program utilization and benefits. For instance, the Prescription for Health program in Michigan has a mandatory group enrollment session where the participants set SMART goals<sup>54</sup>. This program also offers cooking demonstrations and nutrition presentations at a booth at farmers markets. After completion of this program, participants self-reported an increase in their average daily consumption of fruits and vegetables. Alternatively, Cohen et al. implemented an information dissemination program in waiting rooms of health centers serving SNAP recipients<sup>55</sup>. Potential participants for the Double

Up Food Bucks program were provided with a brief program explanation, written promotional materials, a map of farmers market locations and hours, and a FAQ list. The authors concluded that this method of disseminating information to program participants was effective, inexpensive, easy to implement, and a productive use of waiting room time.

*Clearly communicate program goals.* The goals of the program may require further clarification. While it was assumed that the primary goal of the program is to increase fruit and vegetable consumption among SNAP recipients, we were unable to find any documents that clearly defined the goals of the program. Explicitly stating the goals of the program and sharing this with all program stakeholders will provide better perspective on the importance of this program, and allow everyone to be on the same page. Additionally, having clearly defined program goals will help researchers effectively conduct an impact evaluation in the future.

*Other recommendations.* Since a lack of transportation and participating supermarket locations were two of the most commonly cited barriers to program utilization, increasing the number of participating supermarkets would likely help to address this issue. Developing a rideshare program to pick up patients in high concentration areas to attend farmers markets could also ease the transportation burden for a number of participants. In addition, allowing the vouchers to be redeemed at either farmers markets or supermarkets and instituting a standardized staff training protocol for voucher redemption at all participating locations could increase redemption rates. Another suggestion would be to hold monthly farmers market tours to help reduce feelings of intimidation. Having a clinic staff member or volunteer present at the farmers market to act as a point person could also help to ease feelings of intimidation and help participants navigate the voucher system. This could increase the comfort level of participants and encourage them to return for future shopping trips.

### ***Prescription Issuance and Voucher Redemptions***

*Clearly define program eligibility.* The eligibility requirements for the program need to be clarified. Persons who are food-insecure but not SNAP-eligible could benefit from participation in this program. Accordingly, a standardized method of determining food insecurity would need to be developed. In addition, by comparing the number of patients in each clinic who are eligible for participation with the number of patients actually receiving vouchers, the reach of the program can be determined.

*Implement an alternate prescription issuance system.* The paper voucher system poses difficulties such as participants losing or misplacing vouchers, as well as patients missing out on benefits due to missed appointments. A punch card system, entailing one card for the entire prescription, could eliminate this issue and could also be more environmentally friendly.

Alternatively, a debit card system to which prescription dollar amounts can be loaded would potentially make the redemption process easier for both participants and employees. A debit card system may also result in greater redemption rates, as it has been suggested that immediate-use incentives appear to be more readily used by SNAP recipients than future-use vouchers and may be more effective in improving fruit and vegetable intake<sup>56</sup>. Additionally, this would be less time-consuming for providers, as they would not need to fill in vouchers by hand. Another advantage to a debit card system is that participants would not necessarily need to spend the full amount of their voucher allotment in one shopping trip, as they could instead spread it out over multiple transactions. Another possibility would be to create an app that would allow participants to receive monthly prescriptions and redeem vouchers via their mobile phones or other electronic devices.

### ***Further research***

*In-depth research and evaluation.* Currently, studies documenting the long-term effectiveness of fruit and vegetable incentive programs are lacking. Longitudinal cohort studies that follow participants for a period of time after they stop receiving vouchers can provide valuable information on the trends in fruit and vegetable consumption when incentives are removed. This information could indicate the long-term effectiveness of the program in relation to its goals. Furthermore, a randomized controlled trial (RCT) would help determine whether this prescription program is actually increasing participants' consumption of fruit and vegetables when compared with patients not involved in the program.

*Focus groups.* Consider holding focus groups with other stakeholders, such as program participants and staff at grocery stores and farmers markets. This would provide additional perspectives to understand perceived benefits, barriers and opportunities of the program.

*Other recommendations* It may be useful to evaluate the current matching structure to determine the optimal matching amount for participants. In the SNAP Healthy Food Incentives Cluster Evaluation, it was reported that program managers agreed that a dollar for dollar match with a \$20 maximum would be the best incentive structure<sup>57</sup>. Given this information and the particular characteristics of the patient population served by this program, it may be beneficial to determine what seems to be an appropriate prescription amount.

## Conclusion

With food insecurity impacting millions of Americans, most of whom consume far fewer fruits and vegetables than recommended, fruit and vegetable prescription programs can be a powerful tool for alleviating this insecurity and facilitating preventative care within the current medical paradigm. Existing programs across the country have used the prescriptive model to confer the weight of a health provider's recommendations for healthy eating. While many programs are still young and little crossover exists for their implementation and assessment, research has shown that thousands of patients are eating better, creating connections within their community's food environment, and experiencing improvements in their health. Program success may be discussed in terms of health and behavioral outcomes as well as the enriched relationships and partnerships that they foster. Successful programs, such as those in the Columbia Basin River Gorge and Eastern Michigan, are strengthened by a diverse coalition of partners and program policies that constantly work to improve participant experience.

The FINI Fruit and Vegetable Prescription program developed in partnership with Odessa Brown Children's Clinic and Harborview clinics has generated positive perceptions from patients and providers alike. Improvements are needed to ensure that the program addresses barriers to success. Difficulties in administration include the issuing of vouchers, proper tracking of patient participation and program metrics, and effective evaluation of outcomes. Additionally, improved signage at grocery stores and training for grocery store and farmers market staff is recommended. A debit card-based benefit disbursement strategy like the one employed by the Fresh Rx program in Detroit may offer an elegant solution for numerous issues and should be considered. Overall, positive feedback from nine clinicians reaffirmed the value and importance of the prescription model and its effects on citizens of King County.

# Appendix

## Provider Interview Guide & Script

### Clinic RD and Social Worker Interview Guide and Script

Thank you for your willingness to speak with me today. As I mentioned in the email invitation, I am a master's student at the University of Washington Program in Nutritional Sciences. For my Public Health Nutrition class this quarter, we are conducting a project to understand differences in how the Fruit and Vegetable Prescription program works in clinics, and differences in voucher redemption rates. You are one of about 10 Clinic Staff that we are interviewing for this project. You were asked to participate given your experience and expertise with the Fruit and Vegetable prescription program.

Today's interview should take about 20-30 minutes. If you would like to stop at any time, please let me know. Also, you can skip any question that you do not feel comfortable answering. I want to assure you that your name will be kept confidential, and all data will be de-identified during the analysis process.

We will be preparing a report for Washington State Department of Health, summarizing our findings and recommendations for implementation strategies that may enhance participant experiences and voucher redemption rates.

Do I have your permission to participate in this interview? [If no, thank them for their time and end the call.]

I would like to audio record our call in case I have questions while going over my notes. Do I have your permission to record our call? [If no, do not record and take handwritten or typed notes.] Great, let's get started!

1. What is your role in the clinic(s)? What is your role with the fruit and vegetable prescription (f/v Rx) program?
2. How does/do your clinic(s) identify patients who can benefit from the program?
3. Who in your clinic(s) can issue the f/v Rx? How does that process work?
4. How is participation in the Rx program documented?
5. How is the Rx program complemented with other services such as food insecurity screening, or nutrition wraparound services, or educational opportunities like cooking-based nutrition education that your clinic provides or uses?
6. Does your organization document food insecurity within the electronic health record?
7. How do you feel about the f/v Rx program?
8. What do your patients say about the program?
9. Do you think that the program is effective in increasing fruit and vegetable consumption of your patients?
10. Are there any other benefits you see from the program?
11. From your perspective as a provider what could be done to improve administration of the program at your clinic level?
12. From your perspective as a provider, what could be done to improve utilization of the program by patients?
13. From what your patients tell you about their experience with the program, what would you identify as barriers or challenges to participation in the program or redemption of vouchers?
14. We are talking with key clinic staff from several organizations that issue the F and V Rx vouchers. What would you most like to know about how other organizations administer the program?
15. If we were able to talk with patients who are eligible for and/or are using the program, what are the most important things you think we should ask them?

Thank you very much for taking the time to talk with us. As I mentioned earlier, we will be preparing a report and a presentation and will make sure that you have information about the time and location in case you would like to join us!

**Table 7. Dollar Value of Fresh Bucks Rx Redemptions by Zip Code**

Zip code	\$ value of voucher redemption	Zip code	\$ value of voucher redemption
98002	40	98119	20
98003	400	98121	100
98005	240	98122	1740
98021	80	98123	20
98022	40	98125	160
98023	40	98126	700
98030	120	98133	420
98031	160	98136	60
98032	280	98144	860
98052	240	98146	800
98055	20	98148	120
98057	560	98155	570
98058	260	98160	20
98101	560	98166	120
98102	180	98168	780
98103	520	98178	120
98104	3140	98188	40
98105	280	98194	60
98106	1260	98198	80
98107	380	98199	160
98108	160	98232	40
98109	180	98375	320
98112	100	98401	120
98115	80	98404	320
98116	510	98406	20
98118	4220	<b>Total Redemption</b>	<b>21820</b>

\$120 worth of voucher redemption at Shoreline Farmers Market was excluded for invalid zip code.

\$20 worth of voucher redemption at Capitol Hill/Broadway Market was excluded for invalid zip code.

\$20 worth of voucher redemption at Pike Place Market was excluded for invalid zip code.

\$20 worth of voucher redemption at U District Market was excluded for invalid zip code.

\$20 worth of voucher redemption at Columbia City Market was excluded for invalid zip code.

The voucher redemption data worth the following amounts were missing zip code entries: \$120 at Capitol Hill/Broadway; \$140 at Harborview; \$40 at Lake City

Total value of voucher redemption excluded/missing: \$500

**Table 8.** Number of Grocery Store Rx voucher redemptions by store between January and September 2017

Store Code	Zip Code	Number of Transactions
1508	98118	118
1993	98112	69
1923	98126	62
219	98118	46
1965	98118	32
531	98002	31
1586	98125	30
1551	98112	24
1563	98057	24
459	98031	20
1436	98404	19
1664	98166	16
1594	98408	13
3501	98023	13
3540	98198	13
490	98005	10
519	98058	10
1555	98003	10
1966	98030	9
1437	98418	8
1294	98032	7
1297	98026	7
474	98201	6

Store Code	Zip Code	Number of Transactions
537	98272	6
3213	98133	6
3545	98354	5
1186	98198	4
3298	98203	4
488	98105	3
497	98155	3
3091	98105	3
3120	98168	3
1143	98117	2
1493	98188	2
1645	98499	2
1885	98119	2
1952	98516	2
368	98109	1
464	98052	1
534	98223	1
1062	98116	1
1484	98201	1
1495	98531	1
1550	98115	1
3472	98006	1
3523	98087	1

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