



FINI GROCERY STORE Rx PROGRAM

ASSESSMENT OF PROGRAM
REACH, EFFECTIVENESS,
ADOPTION, IMPLEMENTATION,
& MAINTENANCE

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Executive summary

Background

Evidence suggests that moderate to high fruit and vegetable intake, when included within a balanced diet, can mitigate the risk of many chronic diseases and improve overall health. However, most Americans do not reach the recommended daily intake of fruits or vegetables. This is disproportionately the case for low-income individuals and other vulnerable populations. Through a Food Insecurity Nutrition Incentive grant, the Washington State Department of Health has developed the *Grocery Store Rx* program as part of its strategy to incentivize fruit and vegetable purchases among Supplemental Nutrition Assistance Program (SNAP) participants. Through the *Grocery Store Rx* program, participants receive prescription vouchers that can be redeemed for fruits and vegetables at partnering retail locations.

Project purpose and goals

We have partnered with Washington State Department of Health to provide a comprehensive assessment of the *Grocery Store Rx* program and its implementation in Washington State using the RE-AIM framework. This framework assesses program reach, effectiveness, adoption, implementation, and maintenance of the program. A secondary goal is to conduct a comprehensive literature review on the impact of fruit and vegetable incentive programs on health outcomes and healthcare expenditures to inform program best practices.

Methods

The *Grocery Store Rx* program was evaluated by analyzing participant surveys, voucher distribution and redemption data, and conducting and analyzing interviews with key staff from 11 provider organizations and a stakeholder from the Washington State Department of Health. Participant surveys were analyzed using an open-coding method. Voucher distribution and redemption data were analyzed by quarter and site. Provider and stakeholder interviews were coded by theme.

Key results

- **Reach:** As of September 2018, an estimated that 3,600 individuals participated in the program statewide. Currently, 11 provider agencies participate in the program. Provider organizations were heterogeneous in methods of distributing vouchers, with many pairing voucher distributions with nutrition education or other programs. Provider interviews indicated a desire to reach as many people as possible, including expanding to include those who are low-income and food insecure but SNAP-ineligible.
- **Effectiveness:** To date, over \$382,000 worth of vouchers were distributed, of which 54% or nearly \$208,000 were redeemed. Most survey participants reported increased access to fresh fruits and vegetables, positive changes in eating behaviors, overall lifestyle changes, and positive health outcomes. Similarly, providers indicated that the program increased attendance at nutrition education and cooking classes.

- **Adoption:** The Department of Health indicated that the number of participating provider agencies has grown since the program began in July 2016 and increasing interest has been expressed by other agencies throughout the state to join the program.
- **Implementation:** Insights from participant surveys indicate about half of participants reported ease of use and a positive experience using the program. Some barriers faced by participants include transportation and/or proximity to Safeway (the sole participating grocery store chain) and difficulty redeeming vouchers. The most common challenges reported by providers were expanding the reach of the program, freeing up sufficient internal resources, and fulfilling voucher tracking and reporting needs.
- **Maintenance:** Most providers reported successful integration and buy-in from their organization for the program. Providers were interested in expanding to more program settings, populations, and grocery stores. To sustain the program, providers primarily cited the need for ongoing funding and improved tracking.

Discussion

This study suggests that the *Grocery Store Rx* program has a beneficial impact on healthy eating behavior, for both adults and children in families participating in the program. Additional funds would allow the Department of Health to extend participation to additional participants and providers. Provider feedback indicated that while the program made a positive impact on their participants, the implementation of the program, particularly tracking and reporting of the vouchers, was time-intensive. Despite these challenges, participants and providers hope to see the program continue.

Recommendations

- **Introduce electronic systems:** An electronic system for use would make vouchers available on Electronic Benefits Transfer (EBT) or other similar debit-style cards. Transitioning to an electronic voucher system has benefits for participants, partner organizations, and the Department of Health. While electronic merging would be costly and resource-intensive, it would provide the greatest long-term benefits.
- **Offer price-varied vouchers:** Offering vouchers of varying amounts (i.e. \$5, \$10, \$20 etc.) would improve patient shopping experience by decreasing the need for multiple transactions. Varied amounts would allow for more flexibility and improved redemption by those who are unable to eat/store large amounts of fresh produce.
- **Ease transportation barriers and increase grocery store chain participation:** Addressing these commonly reported barriers to voucher usage would increase redemption rates. Providing participants with information on reduced-fare transit options and partnering with a variety of grocery chains would improve participant access to stores.
- **Improve the redemption experience through cashier and manager training:** Introducing efficient training strategies in Safeway stores would improve the redemption experience. Standardized visual printouts with voucher information and guidelines for cashiers would be tools to provide immediate validation of vouchers.
- **Increased provider communication:** Introducing a Department of Health-monitored platform for provider-to-store communication would improve the redemption process.

Background

Introduction

The purpose of this project is to inform the development of policies and practices to promote FV purchases among Supplemental Nutrition Assistance Program (SNAP) participants. We worked with the Washington State Department of Health (WA DOH) to evaluate the Food Insecurity Nutrition Incentive (FINI) fruit and vegetable (FV) prescription program (*Grocery Store Rx*), a program in which healthcare providers at provider organizations may write a prescription for any eligible SNAP-enrolled participant to receive a voucher redeemable for a \$10 FV purchase at Safeway supermarkets.

The goals of this project include:

- Review of the current literature on FV incentive programs implemented in the United States, focusing on impacts of health outcomes and healthcare expenditures
- Application of the RE-AIM framework to evaluate the *Grocery Store Rx* program
- Assessment of the experience of partnering prescription providers in the program
- Assessment of the experience and subsequent changes in health behavior of program participants
- Recommend strategies to promote continued program success

Background

According to the 2015-2020 *Dietary Guidelines for Americans*, increased consumption of FV is associated with positive health outcomes (U.S. Department of Health and Human Services, 2015). There is strong evidence to suggest that moderate to high FV intake, when included as part of a balanced diet, mitigates the risk of overweight, obesity, and costly chronic diseases such as cardiovascular disease and type 2 diabetes mellitus (T2DM). Despite the positive health implications, FV intake remains suboptimal. Only 1 in 10 U.S. adults are consuming the recommended daily amounts of 1.5–2 cups of fruits and 2–3 cups of vegetables. Significant income-related disparities exist: only 7% of adults living at or below the federal poverty line meeting the daily vegetable recommendation compared to 11% in those with the highest household income (Lee-Kwan et al., 2017). Federal and state aid programs designed to address food insecurity have increasingly turned efforts towards enhancing access to healthy foods.

In 2017, roughly 13% of the U.S. population received aid from the Supplemental Nutrition Assistance Program, which helps low-income individuals and families secure access to food through the monthly provision of federal funds that can be spent solely on food purchases (USDA Food and Nutrition Service, 2018). State-specific reports show that within Washington state, 13% of the population received SNAP benefits in 2017 (Center on Budget and Policy Priorities, 2018). However, diet quality and health disparities persist. Evidence shows that SNAP participants face higher all-cause, cardiovascular, and T2DM mortality rates when compared to the average American adult (Conrad et al., 2017, Nguyen et al., 2015, Leung et al., 2012). Despite overall improvement in diet quality among all US adults between 1999 and 2014, recent diet

quality among SNAP participants did not undergo similar improvements. Existing diet quality disparities either persisted or worsened for most dietary components when compared to income-eligible non-participants and higher-income adults (Zhang et al., 2018). As one of the largest and most critical safety net programs funded by the federal government, SNAP provides a unique opportunity to mitigate diet-related health disparities through incentive programs promoting increased access and affordability of healthful food options.

A 2017 United States Department of Agriculture (USDA) report suggests that nearly 11% of Washingtonians experience food insecurity, with 4.5% experiencing “very low food security.” Though the proportion of food insecure Washingtonians has declined steadily in the past eight years, other states are experiencing more rapid declines in residential “very low food security” prevalence. Furthermore, as these statistics do not capture the experiences of individuals and families facing homelessness or inconsistent housing, estimates of statewide food insecurity may be artificially low (Northwest Harvest, 2018). SNAP enrollment in Washington State reflects these statistics: 13% of families in Washington are SNAP-enrolled, the majority of which include households with children (59%), while 33% include families with members who are elderly or have disabilities (Cai et. al., 2018).

While SNAP helps to expand food access for eligible, low-income families, it does not address issues of FV affordability; FV are far more expensive than grains, fats, and oil (which make up a large proportion of processed foods). A family of four would need to spend approximately \$280.00 per month on FV, nearly half of the maximum four-person household SNAP budget, in order to meet the 2010 Dietary Guidelines for Americans (Grim et. al., 2012). The discrepancy in affordability between FV and energy-dense, nutrient-poor foods compounds a number of other barriers which limit FV intake among low-income communities.

The FINI grant was first authorized by the USDA in the 2014 Farm Bill to provide funding for nutrition incentive programs designed to increase FV purchasing among those participating in SNAP. The FINI program provides up to \$100,000 to support small, year-long pilot projects, up to \$500,000 to support multi-year, community-based projects, and over \$500,000 to support larger scale, multi-year initiatives spanning from one to four years (United States Department of Agriculture, 2018). Funding has been awarded to grant participants across the country. Each grant participant has then implemented nutrition incentive programs utilizing various point-of-sale incentives and redemption methods. After receiving a four-year, \$5.68 million FINI grant from the National Institute of Food and Agriculture at the USDA in 2015, the WA DOH has partnered with over 60 multi-sector organizations to test three types of cash-value incentive programs to increase healthy food access and affordability among low-income individuals participating in SNAP (Washington State Department of Health, n.d.).

Through FINI, the WA DOH has developed three main strategies to incentivize FV purchases among SNAP participants including 1) farmers market SNAP incentives, 2) grocery store FV coupons, and 3) FV prescription programs. In farmers market match programs, customers who use SNAP food benefits on SNAP-eligible purchases receive a certain number of bonus tokens

or vouchers for use on FV purchases at the market. The number and value of bonus tokens or vouchers distributed varies across farmers market sites and may include dollar-for-dollar matches. Grocery store SNAP incentives consist of FV coupons providing retail discounts for a variety of qualifying fresh, canned, and frozen FV without added salts, sugars, or fats. Lastly, the WA DOH has established FV prescription programs (*Rx*) in partnership with local healthcare providers, community health workers, and nutritionists at select pilot sites in priority areas throughout the state of Washington. Prescriptions, written in the form of paper vouchers, are distributed by partnering providers and can be used as cash-like funds for FV purchases at participating farmers markets (*Fresh Bucks Rx*) and grocery stores (*Grocery Store Rx*). Currently, the grocery store FV prescription program maintains an exclusive partnership with Safeway stores and will be referred to as *Grocery Store Rx* in this report.

RE-AIM evaluation framework

The RE-AIM framework is an evaluation tool used in the public health sector to evaluate programs and interventions both for program planning and as a tool for process evaluation and impact. RE-AIM is defined by five dimensions: reach, effectiveness, adoption, implementation, and maintenance.

- Reach is measured on an individual level to assess the number of participants within the targeted population that participate in the intervention and the characteristics and representativeness of those participants.
- Effectiveness is an individual-level measure to assess the impact of the intervention on the desired outcomes of the program.
- Adoption is an organizational level measure to assess the number, proportion, and representativeness of the settings that implement the intervention.
- Implementation is an organizational level measure to assess the extent to which the intervention was implemented as intended, including measures of time and cost.
- Maintenance is an individual and organizational level measure to assess how the intervention is sustained over time, including the extent to which the intervention can be embedded within the organization long-term (Glasgow, 1999).

RE-AIM provides a thorough framework to evaluate the implementation of the *Grocery Store Rx* program within Washington state to understand the extent to which this program meets the desired outputs and short-term, intermediate, and long-term outcome goals. See the **Methods** (Page 13) section for more details regarding how this framework was specifically applied to evaluation of the *Grocery Store Rx* program.

Literature review

Purpose

The purpose of the following literature review was to explore existing programs incentivizing health-related behavior change to better understand program components that may be associated with success in creating positive health outcomes. Particular emphasis was placed on the evaluation of FV incentive programs designed to influence produce purchasing and consumption in addition to the effect on related health outcomes and health care expenditures.

Methods

Twenty-eight studies were identified through a series of scoping searches of relevant electronic databases using search terms related to FV incentive programs and resultant changes in health behavior, general health outcomes, and health care expenditures. Study designs included in the review were randomized controlled trials, quasi-experimental studies, prospective cohort studies, cross-sectional studies, and systematic reviews. All references have been published within the last ten years either from a government research entity (e.g., Centers for Disease and Control, etc.) or in a peer-reviewed journal. Articles that were over ten years old, not published in a peer-reviewed journal, consisted of only secondary data collection, or did not evaluate or examine incentive programs and/or health behaviors were excluded. Additionally, two simulation models were examined to understand future implications and the effect of these interventions on health outcomes and economic conditions when scaled to a larger population.

Existing evidence and impact of incentive interventions

In a report analyzing economics, nutrition, and SNAP interventions, the USDA reviewed recent literature then utilized neoclassical economic methods to generate three models of consumer purchasing decisions. The following three benefit models were identified – Cash Value Voucher Model, Rebate Model, and Bonus Model. The Cash Value Voucher model distributes a fixed dollar value coupon to participants to use for healthy food purchases. In certain programs, cash value vouchers were given in the form of prescriptions distributed by health-care professionals to participants. The Rebate Model consists of a reimbursement of a predetermined percentage of FV (FV) expenditures immediately following purchase. The Bonus Model matches additional funds to be used for FV purchases after a certain amount of FV purchases are made (Prell et al., 2017).

Overall, it was found that all three models produced the desired effect of increasing produce-purchasing in the average SNAP consumer, however there were differential impacts within SNAP subgroups. Whereas the bonus and rebate models tended to increase FV purchases more than the Cash Value Voucher model in consumers who were already purchasing FV prior to intervention, the Cash Value Voucher model was more effective at increasing FV purchases in consumers who were previously non-purchasers (Prell et al., 2017). This literature review presents outcomes from these three types of incentive programs within the United States to reveal the impact of these interventions funded in large part by the federal FINI grant program.

Incentive programs: Cash-value voucher model

Cash Value Voucher models have been shown to increase FV purchasing among low-income communities. A quasi-experimental study conducted in Los Angeles, California evaluated the impact of a Cash Value Voucher intervention within Women, Infants, and Children (WIC) centers to assess the effect of a \$10 FV voucher for use at a farmers market, at a supermarket, or no voucher provided to compare purchasing on WIC participants' FV purchasing patterns. The number of daily servings of FV consumed increased for those who could use their voucher at farmers markets and supermarkets (Herman et al., 2008). Wholesome Wave's FV prescription

program, implemented in communities nationwide, has been shown to increase FV purchasing and increase food security (Wholesome Wave, 2013).

A retrospective quantitative assessment of the pediatric prescription program suggests that the majority of participating households visited the clinic three to four times in a three-month period and improved their summative food security score during that time. Additionally, the percentage of families who experienced high/marginal food security increased while the percentage of families who experienced low and very low food security decreased (Ridberg et al., 2018). Additionally, an evaluation of a FV prescription program in Flint, Michigan assessed participants' attitudes towards the FV prescription program. Most participants reported a positive experience with the prescription program citing gratitude for increased access to fresh FV at farmers markets located in close proximity to the pediatric clinic (Saxe-Custack et al., 2018).

Furthermore, cash-voucher prescription FV programs located within health clinics have resulted in decreased body mass index (BMI) and hemoglobin A1C (HbA1c) levels. A study in Albany, New York analyzed BMI measures before and after an 18-month intervention period in which participants from a health clinic were enrolled to receive FV coupons. There was a decrease in BMI in those who received the FV coupons compared to an increase in BMI in those who didn't receive the FV coupon (Cavanagh et al., 2017).

Similarly, in Detroit, Michigan, a study measured changes in HbA1c levels, blood pressure, and weight among participants with uncontrolled T2DM participating in a FV prescription program and found that there was a decrease in HbA1c levels, however no differences in blood pressure and weight (Bryce et al., 2017). The program evaluations of FV prescription programs highlight the beneficial impacts of Cash Value Voucher incentive programs to increase purchasing of FV, increase food security status, and increase health status in low-income communities.

Incentive programs: Rebate model

The rebate model incentivizes FV purchases by reimbursing a percentage of FV expenditures for eligible consumers back onto their Electronic Benefits Transfer (EBT) card. The rebate model may include both incentive rebates and disincentives through purchasing restrictions. One study evaluated the impact of a rebate program in Minnesota that randomized participants to receive 1) 30% FV rebates, 2) restrictions on purchases of sugar-sweetened beverages (SSBs), sweet baked goods, or candy, 3) 30% rebates on FV plus restrictions on purchases of SSBs, sweet baked goods, or candy 4) control – no rebates and no restrictions. The study demonstrated a decrease in SSB intake in both the rebate group and rebate plus restriction group compared to the control group. Additionally, participants in the rebate plus restriction group had improved diet quality scores (Harnack et al., 2016).

In a quasi-experimental study with the same four intervention groups as the Harnack and colleagues study described above, changes in purchasing patterns were assessed with different types of incentive programs. The evaluation revealed that there was a decrease in purchasing of sweet baked goods and SSBs in the group that restricted the purchases of SSBs, sweet baked

goods, and candy. Additionally, there was an increase in fruit purchased and a decrease in sweet goods purchased in the rebate plus restriction group compared to the restriction group and the control group (French et al., 2017).

The Healthy Incentive Pilot (HIP) study in Hampden County, Massachusetts evaluated the impact of a 30% rebate for all FV purchases with an EBT card, among SNAP participants. Rebates were applied back to the EBT card for the SNAP participants to use on SNAP approved food on the next shopping trip. They found an increase in total FV intake by HIP participants compared to non-participants (Olsho, Klerman, Wilde, & Bartlett, 2016). Additionally, there is evidence that programs have a greater impact when educational programming and skill-building resources are combined with incentive programs (Olstad et al., 2017). These findings reveal that different types of rebate incentive programs may yield different changes in dietary consumption. Most prominently, combining restrictions with incentives plus educational and skill building resources yields the greatest increases in FV purchasing and the greatest decreases in SSB and sweet baked goods purchasing.

Incentive programs: Bonus model

The bonus model is an incentive program through which individuals receive a certain amount of matching funds for FV purchases. The Philly Food Bucks program is a bonus model in which SNAP participants receive a \$2 coupon for every \$5 of SNAP benefits used on FV at the farmers market. In a convenience sample of consumers at low-income farmers markets in Philadelphia, an in-person cross-sectional survey was conducted to determine shopping characteristics, self-reported FV consumption, and use of Philly Fresh Bucks among consumers at the market. Among the respondents, 27% were Philly Fresh Bucks users. Philly Fresh Bucks users were more likely to report increased FV intake and increased willingness to try new FV compared to those who were not users. Receiving nutrition education at the farmers market was also positively associated with these outcomes (Young et al., 2013). The Double Up Food Bucks (DUFB) program in Detroit, Michigan found that the use of promotional and educational materials at a health clinic led to increased participation in the program. Additionally, FV consumption increased from baseline by 0.65 servings/day at 3 months, and 0.62 servings/day at 5 months (Cohen et al., 2017).

Another study examined transaction data of the DUFB in farmers markets. The data showed that the greatest number of transactions occurred during the peak market season of July-September. In the Detroit program, DUFB users were 72% female and 74% non-Hispanic black. One third of the DUFB users engaged in more than one transaction with repeat DUFB users more likely to be white (Cohen et al., 2018). A DUFB program in Salt Lake City, Utah found that the program resulted in fewer individuals being food insecure and an increase in reported intake of vegetables (Savoie-Roskos et al., 2016). Additionally, in rural Maine, among participants in a FV bonus program, those who received a 2-for-1 discount coupon and were SNAP participants had a greater increase in FV spending compared to those who received the discount coupon but were not SNAP participants (Polacsek et al., 2018). Taken together, these

studies suggest that bonus model incentive programs are an effective method to increase both purchasing and consumption of FV among SNAP participants.

Simulation models for future effects of incentive programs

In addition to the program evaluations of various FV incentive programs, simulation studies have been conducted to assess the estimated disease outcome risk for each individual before and after a 30% SNAP subsidy on approved FV purchases. One simulation revealed that the incentive programs result in a healthcare cost reduction of around \$3,600 per person and a decrease in incidence of obesity, T2DM, myocardial infarction, and stroke (Choi et al., 2017). Mozaffarian et al. further simulated the impacts of different types of incentive programs which include the aforementioned 30% subsidy for purchases of FV (FV incentive) program, a FV incentive with restriction of sugar-sweetened beverages (FV incentive/SSB restriction) program, and a broader incentive/disincentive program that preserves choice (SNAP-plus) by combining a 30% subsidy for purchases of FV, nuts, whole grains, fish, and plant-based oils and a 30% disincentive for purchases of SSBs, junk food, and processed meats. When simulated, the FV incentive, FV incentive/SSB restriction, and SNAP-plus programs are found to prevent cardiovascular disease events and cases of T2DM, with estimated healthcare cost-savings of \$7 billion, \$39 billion, and \$429 billion, respectively (Mozaffarian et al., 2018). These simulation models support the evidence of the profound effects that incentive programs may have on reducing incidence and healthcare-related costs of disease.

Limitations and knowledge gaps surrounding FV incentive programs

A growing body of evidence suggests a potential positive impact of incentive programs aimed at producing health-related behavior change. There is evidence to suggest that the rebate, bonus, and cash value voucher models of incentive programs are effective at increasing FV intake within the context of a given setting, however heterogeneity in key elements of program design and implementation may limit the extent to which large-scale conclusions can be drawn

General health-related incentive programs vary in scope and may consist of environmental modification targeting a variety of social, physical, and cultural factors or may instead target individual behavioral factors in order to produce the desired behavior change. As demonstrated with the rebate, bonus, and cash value voucher models of existing programs, FV incentivization most frequently consists of point-of-sale interventions designed to modulate the environment. Some programs utilize a combined environmental and behavioral approach and may encompass additional factors such as nutrition education or accompanying health promotion activities to increase the scope of intervention (Liberator et al., 2014). While the distinction between effectiveness of financial incentivization alone and combined incentive programs is less thoroughly documented, there is evidence to suggest that a combined approach may have a greater impact (Olstad et al., 2017). As such, further research is needed to evaluate incentive programs utilizing combined environmental and behavioral approaches to inform future program planning.

Site-specific differences in program implementation could contribute heterogeneity to the evidence base and limit generalizability in assessing the overall effectiveness of FV incentive programs. In a recent study investigating changes in household food security associated with participation in Wholesome Wave's prescription program during 2013-2015, Ridberg and colleagues found an overall positive association between program participation and increased food security, however there were considerable site-specific differences related to clinic resource availability, budget, participant population, geographic location, and food access (Ridberg et al., 2018). Given that there may be inherent limitations associated with using aggregate data to draw conclusions about specific elements that ensure program success, future research on FV incentive programs should include measures of implementation climate and comparative effectiveness to increase relevance beyond the specific study context.

Beyond limitations in generalizability associated with program incongruities, impact on long-term behavior change and healthcare expenditures represent two substantial gaps in existing knowledge. Prior research suggests that subsidizing FV purchases is a cost-effective method of increasing FV consumption, however this rests on the underlying assumptions that subsidies continue and increased FV intake is maintained over time, a conjecture which has yet to be thoroughly evaluated (Choi et al., 2017). To date, few studies have examined the effect of FV incentive programs on long-term FV purchasing behavior and consumption, though Hermann and colleagues reported a sustained increase in FV consumption six months post-intervention among WIC participants (Herman et al., 2008).

Overall, the long-term effectiveness of FV incentivization remains relatively uncertain (Oshlo et al., 2016; Savoie-Roskos et al., 2016). Given the resource-intensive nature of financial incentive programs, program maintenance and sustainability are critical areas of concern, especially amongst resource-limited populations who may require sustained incentivization for long-term outcomes. Further research should address this knowledge gap regarding the long-term effect of FV incentivization on individual behavior change in addition to the broader societal implications related to increased FV purchasing and consumption.

Current evidence also tends to center around the effect of FV incentive programs on individual-level outcomes like net caloric intake and FV consumption, but there is growing evidence to suggest that such programs could have a substantial public health impact by reducing healthcare-related expenditures. One study that analyzed health outcomes associated with provision of nutritious food demonstrated that participation was associated with reduced hospital inpatient costs, length of stay, and frequency of hospital admissions. This study provides preliminary evidence that increasing access to nutritious food may present a potential strategy to reduce healthcare costs (Gurvey et al., 2013).

Recent microsimulation models have shown promising indications that increasing SNAP benefits could be a cost-effective measure to reduce chronic disease-related hospital fees on a systemic level, however further investigation is warranted (Mozaffarian et al., 2018; Sonik, 2016). As such, the assessment of long-term implications of FV incentivization should be

considered a research priority to inform program planning, implementation strategies, and policy recommendations (An, 2015).

In addition to scope of intervention, the differential results based on the model of monetary incentive programs employed underscores the heterogeneity of financial incentive programs while also highlighting a key knowledge gap. A sole focus on average SNAP consumer behavior leads to incomplete evaluation of effectiveness of incentive programs. Future studies should encompass varying SNAP participation rates and potential subgroup differences to determine which groups benefit and the extent to which these benefits may vary.

Contribution to the evidence base

Evidence suggests nutrition incentive programs are an overall effective intervention to drive health-related behavior change, improve general health outcomes, and potentially reduce healthcare expenditures on a short-term basis. Based on the body of literature assessing the impact of existing programs, there is strong evidence to suggest that such programs are effective at increasing affordability of FV and generating subsequent healthy behavior changes related to increased purchasing and consumption of healthy foods. While slightly less conclusive, evidence indicates that incentive programs are also associated with positive general health outcomes overall and may contribute to decreased healthcare expenditures.

Current recommendations for ensuring program success center around increasing both affordability and access to healthy food options. This can be achieved through financial incentives of varying types and may occur at the time of purchase (bonus and rebate models) or in the form of a prescription voucher given in advance (cash value voucher model). To date, there does not seem to be evidence to clearly suggest one model over the other, though each is associated with positive outcomes.

Based on current literature, there is limited ability to create specific recommendations to scale these interventions to city, state, or nationwide levels. Previous pilot programs may have low generalizability to larger-scale initiatives due to relatively small sample size, site-specific implementation climates, and unique community assets and needs. In order to foster community acceptance and feasibility at the city, state, or national level, it may be necessary to first conduct pilot programs across a variety of populations to experimentally determine which model of incentivization is most effective for the widest range of people. Particular concern for equity should be at the forefront when implementing pilot programs, as they often receive short-term funding and therefore may provide benefits for a limited amount of time. With FINI funding, the *Grocery Store Rx* program has the unique opportunity to increase access, affordability, and ultimately consumption, of fresh FV within low-income communities and SNAP participants across Washington state while further providing evidence to inform the development of federal policy for a national incentive program embedded within SNAP.

Methods

Overview

The program was evaluated by utilizing four data sources:

1. Program participant survey data
2. WA DOH agency-level redemption data
3. Provider interviews
4. WA DOH stakeholder interviews

Research design

The RE-AIM framework was used to guide this evaluation. Within each component of the RE-AIM framework, a variety of data sources were utilized to address key evaluation questions. Each dimension of the RE-AIM evaluation tool and the corresponding data sources are listed in **Appendix I**.

Data sources

Program participant surveys

The participant survey, developed and distributed by the WA DOH, was comprised of 45 different questions designed to gather participant-level knowledge about the FV vouchers, FV consumption, food security, and demographics (see **Appendix II**). The questions were either multiple choice or open-ended. Participants received information from their providers on how to access and complete the survey. The survey was ongoing and could be completed multiple times over the course of the program. A \$3 Amazon e-gift card was included as an incentive for participants to complete the survey.

Each participant response was assigned a de-identified code which allowed WA DOH to track unique individuals while still protecting their identity. Internal checking was conducted by WA DOH to identify legitimate repeat takers and those who may be misusing the system; surveys were considered ineligible if the same participant completed the survey within one week of a previous submission.

Participant survey data was collected for both adults and children. Caregivers were given the option to answer questions on the behalf of a child. Once responses were looked over and sorted by WA DOH, the participant demographic data and open-ended responses were compiled into Microsoft Excel spreadsheets. Four demographic questions and three open-ended questions were analyzed in this report. For the purpose of this analysis, all duplicate responses from each participant were excluded, ensuring that only one response for each participant was included in the qualitative and demographic data.

Redemption data

WA DOH gathered voucher redemption data through 1) health system reports, and 2) transaction reports. The health system reports synthesized the month-to-month distribution

rates of the vouchers from the eleven participating partners on a quarterly basis. The partners had the option to track their distribution of vouchers either via a paper method or a secure online portal. The transaction reports provided the point-of-sale information when the voucher was redeemed. Participating grocery stores tracked the number of vouchers that were redeemed, the quantity and characteristics of the items purchased, and the total dollar amount redeemed. The transaction reports also included a unique price look-up (PLU) code that was used to track which provider distributed the voucher. Each provider was assigned a unique PLU. WA DOH calculated redemption rates by dividing the number of prescriptions redeemed by the number of prescriptions distributed over the specified time period for each provider. This number was reported back to providers on a quarterly basis.

WA DOH summarized the *Grocery Store Rx* redemption data from July 2016 to September 2018 in a Microsoft Excel spreadsheet. Included in the spreadsheet were the eleven participating providers, approximate date when the provider started distributing vouchers, and the quarterly issue/redemption values. The values were broken down to show both the actual number and the dollar amount that was issued by the provider and what was redeemed at the grocery store for each quarter. There was a total of five individual quarters shown in the spreadsheet, with the data from July 2016 (Q3) to June 2017 (Q2) grouped together.

Provider interviews

Telephone interviews were conducted in January 2019, with representatives from the eleven provider organizations. WA DOH identified key individuals within each organization and pre-arranged times for the interviews. Interviewers emailed the providers to confirm the prearranged time.

Interviews were audio-recorded and conducted in pairs, with one interviewer responsible for conducting the interview, and one primarily responsible for taking detailed notes and assuring that the recorder was operating properly. All interviewers utilized the same interview script which included twenty-two questions developed by the Center for Public Health Nutrition (CPHN) and WA DOH (**Appendix III**), an oral consent statement, information about the project purpose, and use of interview data.

Each interview lasted between thirty minutes to an hour. The interviewers asked clarifying questions as needed. One interview could not be completed within the pre-arranged time period due to extenuating circumstances, so interviewers followed up with the provider via email to receive written answers to the remaining questions. This provider provided written answers to the remaining questions within one week of the initial phone interview. Once all of the interviews were completed, each pair compiled their interview notes and reviewed the recording.

Interview with WA DOH Staff

One telephone interview was conducted in January 2019 with a key stakeholder from the WA DOH. The interviewers asked five questions development by the CPHN in regard to the reach and adoption components of the RE-AIM framework (**Appendix III**). Similar to the provider

interviews, the interview was conducted in a pair, with one interviewer conducting the interview and the other interviewer was responsible for taking notes. The interview was recorded and lasted approximately twenty minutes. After the interview, the interviewers compiled their notes and used the recording to capture any information conveyed in the interview.

Analysis

Data analysis

The RE-AIM framework was utilized to frame evaluation methods. Final evaluation was based on eight overarching research questions (**Table 2**).

Table 2. Research questions in the RE-AIM framework.

Reach Effectiveness Adoption	<ol style="list-style-type: none"> 1. <i>How effective is the Grocery Store Rx program at impacting health and other participant behaviors?</i> 2. <i>What participant- and setting-related factors play a role in impacting these behaviors?</i> 3. <i>How do Grocery Store voucher redemption rates differ by provider agency?</i> 4. <i>What are the differences in approaches that provider agencies use to administer the program?</i>
Implementation	<ol style="list-style-type: none"> 1. <i>How well is the program integrated into provider agencies' policies, programs, and systems?</i> 2. <i>What factors do provider agencies perceive as barriers or challenges of implementing the Grocery Store Rx program, and what strategies do they suggest to address them?</i>
Maintenance	<ol style="list-style-type: none"> 1. <i>What resources and support do provider agencies need to sustain the program over time?</i> 2. <i>What other priority populations are providers interested in serving in the future?</i>

Quantitative and qualitative methods were used to analyze responses from interviews, surveys, and redemption data.

Participant surveys

Qualitative participant survey data were analyzed from a Microsoft Excel spreadsheet using an open coding method. A team of two evaluators read survey responses in detail, generated ten codes from the responses, and consolidated these codes in the spreadsheet. Each survey response was classified by the codes it contained (none, one code, or more than one code), and the number of times each code was identified was counted. Evaluators worked to resolve any potential discrepancies found among these codes, which were clarified through discussion to achieve consistency between evaluators. Finally, codes were analyzed and combined to identify overarching themes and concepts. These themes informed the organization and content of the results and recommendations.

Quantitative participant demographic survey data were analyzed in Microsoft Excel. Responses for adults and children were analyzed separately. Information on gender, housing type, language spoken at home, and years of school completed were tallied using the SUM function in Microsoft Excel. All duplicate respondent data were removed, and demographic variables were calculated into percentages.

Provider interviews

Information on the participating provider organizations was provided by WA DOH in a Microsoft Excel spreadsheet describing each provider organization's geographic location, distribution settings, dose, prescriber, SNAP eligibility, and population served. The provider interview questions were developed based on the evaluation questions and goals provided by WA DOH. Interviews were conducted in pairs, with each pair conducted three interviews. Detailed notes were collected during the interviews.

Twenty-six preset codes used for analysis of the interview results were based upon the key constructs in the interview questions and organized according to the RE-AIM framework dimensions. All team members reviewed and discussed the coding guide to ensure consistent interpretation and understanding of each code. Each member of the interview team coded the three interviews they had conducted. Each interview was double coded. The individual codes were discussed among pairs to clarify any questions or discrepancies, and to determine a final code for each text segment. As a whole, the interview team, combined the final codes from all of the provider interviews into a Microsoft Excel spreadsheet. Major themes from each code were identified and summarized into individual reports. To reflect the RE-AIM framework the themes within the codes were further consolidated and reported in four major categories: *Reach, Effectiveness, Implementation, and Maintenance*.

Stakeholder interview

One stakeholder interview was conducted by two members of the interview team. Throughout the interview, one interviewer took detailed notes on the stakeholder's responses. Interviews were recorded and reviewed for missing data. The stakeholder interview with the WA DOH was summarized and provided information and major themes for the *Reach* and *Adoption* component of RE-AIM.

Voucher redemption data

WA DOH supplied the number of issued and redeemed vouchers by agency and by quarter. In Microsoft Excel, the values of the issued and redeemed vouchers were calculated by multiplying the voucher numbers by 10 (i.e., \$10). The redemption rates were calculated by dividing the value of the vouchers redeemed by the value of vouchers issued. Redemption rates were calculated by quarter, stratified by agency and also in aggregate.

Results

Results are organized below by RE-AIM framework components (i.e., Reach, Effectiveness, Adoption, Implementation, and Maintenance). Specific data sources are identified throughout this section in the body of the results, and include an interview with WA DOH staff, a spreadsheet of provider information provided from WA DOH, a participant survey, voucher redemption data, and interviews with program providers.

Reach

Reach refers to the absolute number, proportion, and representativeness of individuals who are willing to participate in a given initiative, intervention, or program. Reach was assessed using participant surveys, provider interviews, and WA DOH interviews.

Participant demographics

As of September 2018, approximately 3,600 individuals participated in the *Grocery Store Rx* program statewide according to reports by WA DOH. This estimate is based on the number of prescription vouchers that were redeemed in Safeway stores using individual Safeway Club cards. However, these values may underestimate individual participation if households used the same Safeway Club card for multiple participants who received vouchers.

Gender, housing, education, and primary language of the survey respondents is presented here to provide background information about those who responded to the survey. However, it is important to note the participant survey sample is not representative of all program participants. Participant survey demographic results indicate that a majority of adult survey respondents are female, and a majority of their participating children are male. Eighty-five percent of respondents reported completing some years of college education or beyond, and the majority spoke English as their primary language. While a majority of survey respondents reported living in private housing, 28% reported living in public housing and approximately 1% reported to be homeless. Demographics of survey respondents is available in **Table 1**.

Table 1. Participant demographic characteristics by percent.

Gender (n = 126 adult, 35 child)		Housing type (n = 142)		Primary language (n = 129 adult, 35 child)		Highest education (n = 85)	
Adult (F)	79.4	Private	71.1	English (Adult)	83.7	Never or only attended kindergarten	0.0
Adult (M)	20.6			English (Child)	77.1		
Child (F)	42.9	Public	28.2	Spanish (A)	14.7	Grades 1-8	2.4
Child (M)	57.1			Spanish (C)	17.1		
		Homeless	0.7	Russian (A)	0.8	Grades 9-11	12.9
				Russian (C)	5.7		
				Somali (A)	0.8	College 1-3 years	58.8
				Somali (C)	0.0		
						College 4+ years	25.9

Provider characteristics

The participating provider organizations are located throughout Washington state, but the majority are located in the greater Seattle metropolitan area. Most organizations distributed the vouchers in a clinical setting in either one-on-one appointments or a group setting through community programs or nutrition classes. Each provider organization had different types of providers prescribing vouchers. In most organizations, dietitians, primary care providers, health educators, social workers and case managers were the distributors, but some organizations utilized school advocates, community health workers, nurses, or WIC certifiers to distribute vouchers.

Provider eligibility protocol and distribution estimates

Provider organizations reported strong – though varied – incentive distribution and a desire to expand the reach of the program. Most providers offered vouchers based on SNAP or WIC enrollment; however, other providers evaluated food insecurity and offered vouchers based on eligibility in programs regardless of enrollment, a verbal confirmation of enrollment in SNAP or WIC, or prior understanding of an individual’s eligibility in such programs. Providers expressed interest in expanding the program to include low-income, food insecure, and SNAP-ineligible individuals regardless of citizenship status.

Distribution varied greatly across the provider programs. One provider distributed approximately 2,000 vouchers in a six-month period, while several other providers estimated distribution of 400–600 vouchers annually. Additionally, the distribution of vouchers varied seasonally. While some providers indicated a specific target number for voucher distribution ranging from 500 –1200 annually, many indicated that they hoped to reach as many individuals as possible.

Effectiveness

Effectiveness refers to the impact of an intervention on important outcomes, including potential negative effects, quality of life, and economic outcomes. Effectiveness was assessed using redemption data, participant surveys, and provider interviews.

Voucher redemption rates and value

We utilized redemption data to assess voucher issuance and redemption. Across the program from Q3 2016 through Q3 2018, over \$382,000 worth of vouchers were distributed through agency providers, of which 54% or nearly \$208,000 were redeemed (**Figure 1**). Overall, quarterly redemption rates ranged from 45-55%, aside from the cumulative program data from 2016 (Q3) to 2017 (Q2) which reflected redemption rates in excess of 60%. The period with the highest redemption rates to date was April–September 2018, reflecting a two-quarter redemption rate of 55%. The quarterly value of both issued and redeemed vouchers increased steadily from 2017 (Q3) to 2018 (Q3) with an overall increase in issued vouchers of 205% and an increase of 261% for redeemed vouchers. From Q3 2017 to Q3 2018, the growth rate for voucher redemption (261%) surpassed the growth rate for voucher issuance (205%).

In terms of redemption rates by provider agencies, three of eleven agencies surpassed the total average redemption rate of 54%; all other providers trailed the average (**Figures 2-3**). While the maximum redemption rate for an individual agency was 69%, the minimum redemption rate was 34%. Five of 11 agencies participated for the full duration of the program (i.e., 2016 Q3 to 2018 Q3), while the remaining six participated for only the last two to three quarters. This should be kept in mind when interpreting the results, as should the relative scale of vouchers distributed by each provider. Specifically, three agency providers accounted for 59% of issued vouchers and 65% of redeemed vouchers: P4, P7, and P9.

Considering the variation in the scale of vouchers distributed at each agency, **Figure 4** reflects each provider’s influence on the overall quarterly redemption rates. While many provider agencies experienced declining quarter-over-quarter redemption rates for one to two quarters in 2018, increases driven by a few larger providers (based on voucher scale) and the addition of new providers helped to offset these declines.

Figure 1. Value of issued versus redeemed vouchers, 2016 (Q3) to 2018 (Q3)

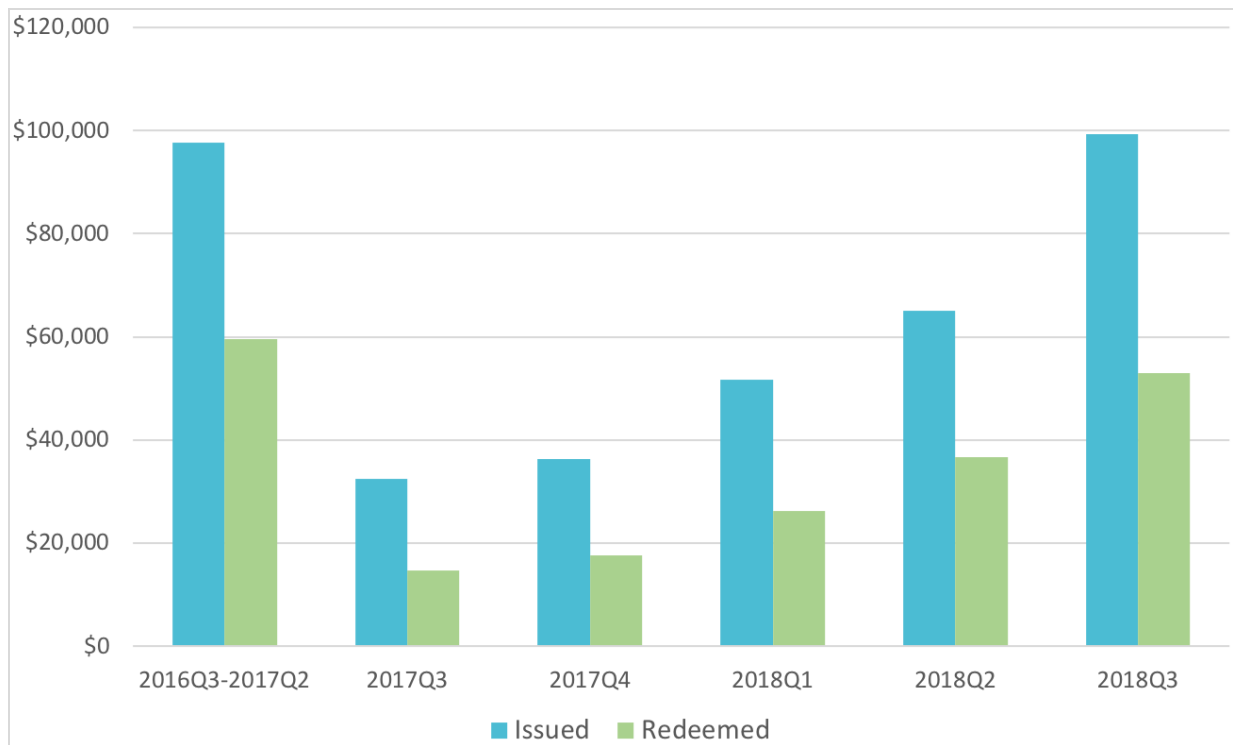


Figure 2. Overall redemption rates by provider, 2016 (Q3) to 2018 (Q3).

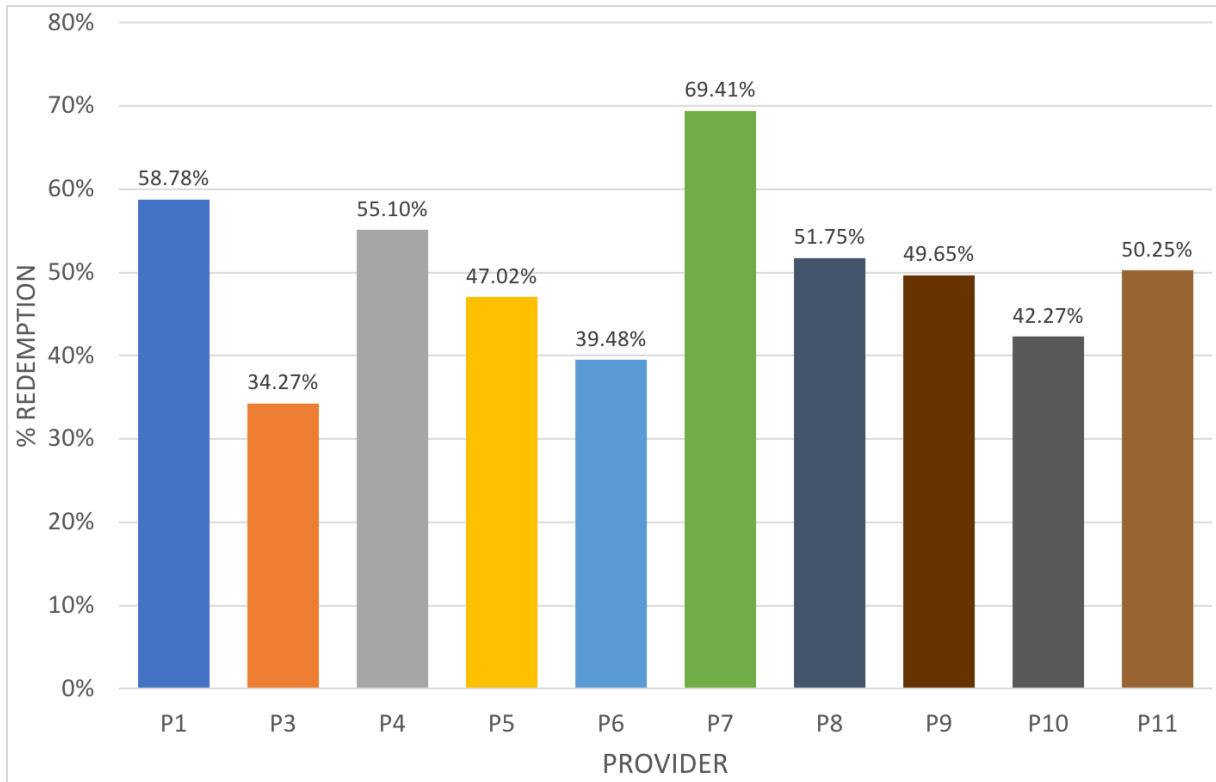


Figure 3. Value of issued versus redeemed vouchers by provider, 2016 (Q3) to 2018 (Q3).

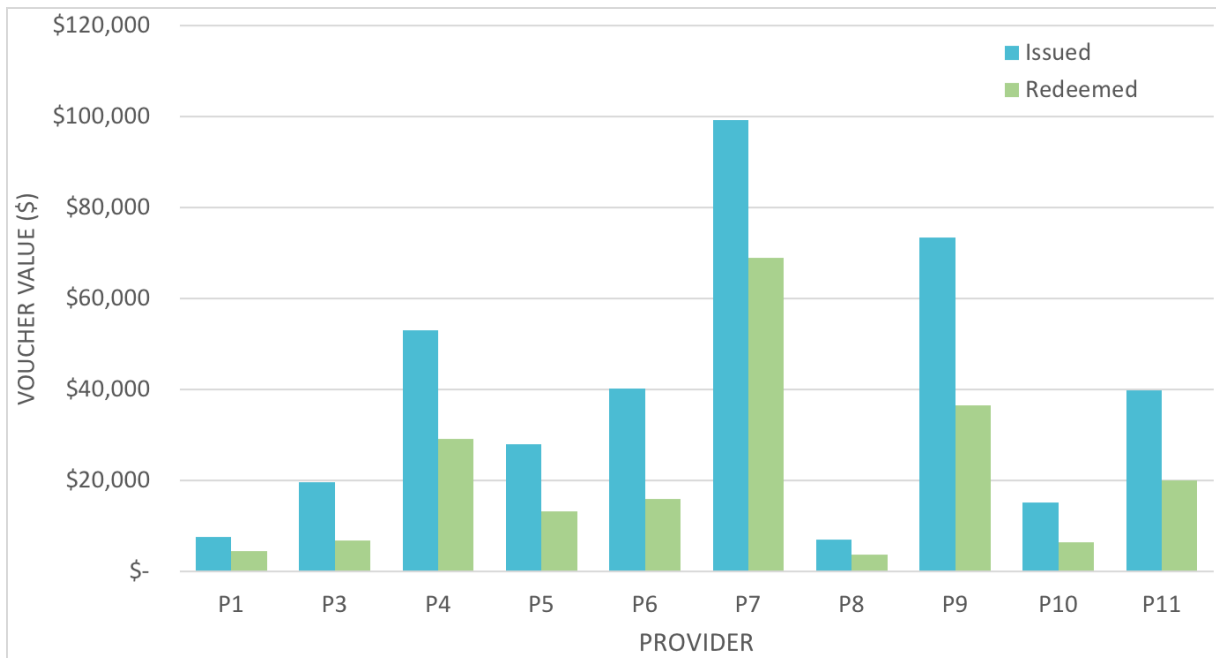
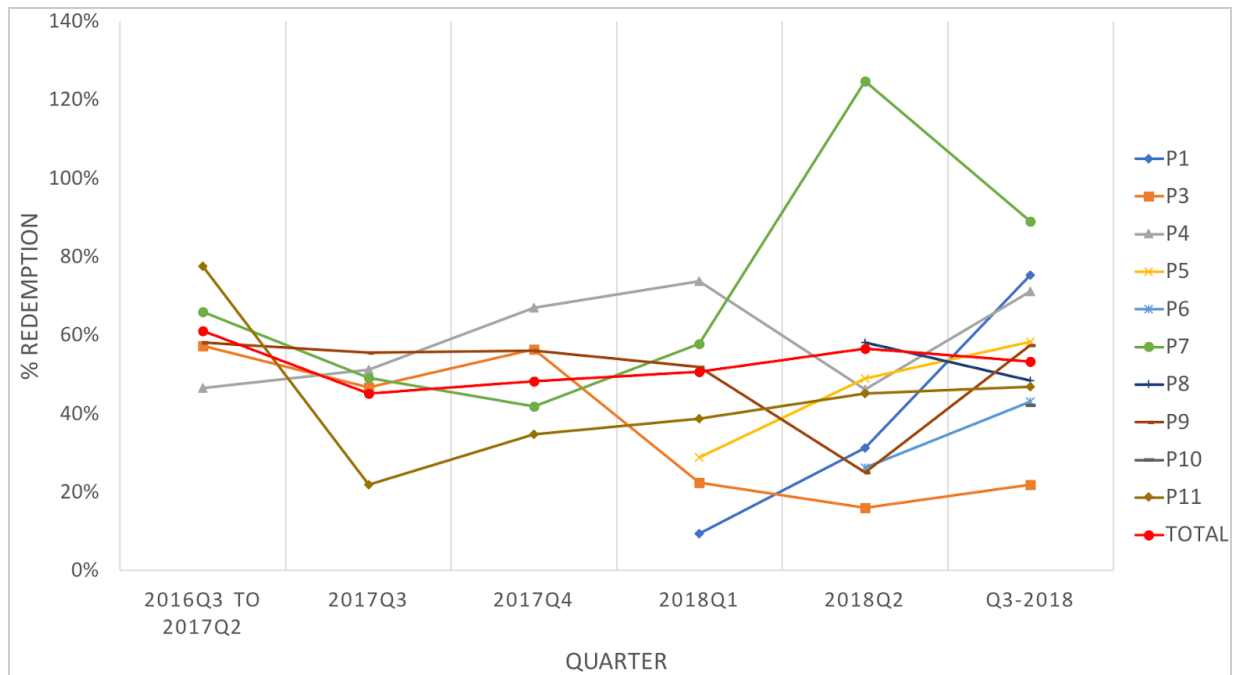


Figure 4. Quarterly redemption rates by provider, 2016 (Q3) to 2018 (Q3).

Participant experiences and behavior changes

As mentioned in the demographics data, results from the participant survey do not completely represent the program participant sample. Additionally, survey respondents who completed the demographic portion of the survey did not necessarily complete the open-ended question portion of the survey and vice-versa. From 169 survey responses, participant experiences and behavior changes resulting from the program were analyzed. Five emergent themes were identified from participant surveys and are ordered from most commonly cited to least commonly cited.

1: FV access (151 mentions)

Nearly all participant responses reported that access to FV increased. Some responses indicated that FV were more expensive than “junk food.” Not only did responses echo that participants felt FV were expensive, responses also indicated that vouchers allowed participants who previously purchased FV regularly to purchase additional FV and those who previously did not purchase FV due to cost to purchase them. Three participant responses described how the vouchers increased their access to FV in the following quotes:

“It helps stretch my grocery budget by a lot.”

“The program is a great opportunity for me to eat fresh fruit and veggies, It was absolutely a blessing, They are great. It really helps to ensure that I can choose the healthier food. Otherwise I cannot.”

“Without these prescriptions I would never be able to afford FV.”

2: Eating behavior changes (123 mentions)

Most survey responses reported positive eating behavior changes as a result of voucher redemption. Approximately 10% of responses directly mentioned the phrase “eating healthier.” Other responses reported increased purchasing of fresh FV and increased consumption of FV. Responses also included positive eating behaviors such as replacing less nutritious snacks with FV snacks and adding variety to their diet. Some participant responses mentioned that vouchers increased their opportunity to try new FV, and also enhanced their cooking experience by allowing them to add new FV to dishes they often made previously, or by trying out new recipes entirely, as exemplified in the following quote:

“I plan for awesome meals that makes me look forward to eating a meal and preparing it, instead of just making the same old thing.”

Additionally, several survey responses reported positive changes in nutrient intake. Nutrients of interest included increased intake of iron and fiber and decreased intake of added sugar and sodium.

3: Psychosocial and lifestyle changes (54 mentions)

In addition to positive physical health outcomes, survey respondents reported psychosocial benefits after using the vouchers. A few responses noted a newfound appreciation for the role that FV play in relation to health. Several survey participants did not report specific outcomes, but instead reported feeling positively about the health benefits received as a result of participation in the program, and mentioned improvement in overall health. A few responses also echoed that participants experienced feeling emotionally better about themselves and about life.

Survey participants noted other lifestyle benefits that stretched beyond improving diet, weight or other health metrics. A few responses noted an increase in physical activity as a result of their increased FV intake. For example, one response mentioned walking almost every day and another noted an increase in exercise frequency.

Several responses expressed that the benefits of FV intake extended to family members. Specific familial benefits reported included more frequent cooking with family members, increased opportunity to replace children’s unhealthy snacks with FV, and increased FV intake among family members, including children. In general, survey responses echoed that participants felt their overall family nutrition had improved. One response indicated that the participant was able to set a “good example of healthy eating” for their family. A second response noted:

“As a family we cook more at home and eat a variety of FV in many different ways.”

4: Ease of program use (50 mentions)

Feedback regarding program use was variable. About half of participant responses regarded the program as easy to use and reported a positive experience, and about half mentioned the program was difficult to use and reported a negative experience. Of the positive responses, most reported that vouchers were easy to redeem, practical, and effective. Survey responses reported that Safeway offered customer service help by answering participant questions regarding voucher redemption use and guidelines.

Of the responses that noted negative experiences, most were related to participant shopping at Safeway. Responses echoed that participants felt some Safeway employees were rude or unfriendly, and that many cashiers lacked proper training for the voucher redemption process. When describing the Safeway shopping experience, one survey response stated:

"[The] cashier at Safeway was rude and said, 'What is this? I don't know what to do with this!'"

Safeway was often deemed too expensive as well. Responses noted that Safeway produce was more expensive than other retailers survey respondents regularly frequented, such as WINCO. Compounding this issue, respondents mentioned negative redemption experiences due to the stipulation that only one voucher was permitted per transaction. At least one response also reported difficulty with the redemption process because the voucher required purchasing "exactly \$10.00 worth" of FV if personal funds were not available to use toward anything beyond the ten-dollar amount. FV subtotals were also difficult to determine while purchasing additional grocery items. For at least one survey respondent, a miscalculation led to putting some items back on the shelf.

5: Health outcomes (43 mentions)

Several participant survey responses mentioned positive health outcomes directly related to participation in the *Grocery Store Rx* program. Approximately 5% of those who mentioned physical health outcomes reported weight loss, which ranged from a few pounds to one response that reported a weight loss of 15 pounds. Of the responses that noted weight loss, some identified additional benefits related to weight loss including increased confidence, and increased mobility.

One response reported a decrease in HbA1c levels, and another noted fewer visits to the doctor. A few survey responses reported a decrease in blood pressure. Other responses noted that it was too early to see any potential changes in blood pressure but expressed an expectation that blood pressure might decrease and overall health might increase in the future. In regard to future health, one response stated:

"I am feeling better. I am losing some weight, maybe I can get off some of my medications in the future."

Behavioral changes from the perspective of providers

Provider interviews offered further insights into the operationalization of the program, the degree to which providers noticed behavior changes, and possible barriers to engaging sensitive populations. Many providers witnessed an increase in numbers and frequency of visits in community programs and clinics where vouchers were distributed. Participant behavioral changes noted by providers during interviews included increased FV intake, attendance in nutrition education and cooking classes, and better management of chronic conditions. Providers indicated that they noticed the most behavior changes in families, but changes were seen across all ages.

“I’ve had older adults come up to me and say ‘Thank you so much for providing the FINI voucher I’ve always loved eating berries but they’re so expensive, but now that gets to be my treat at night. I haven’t had berries in 20 years because I couldn’t afford them’.”

Not only did providers witness behavior changes with Grocery Store Rx program participants, but the participants also experienced some stress-relief due to the extra money for FV.

“The fact that they can have some FV is like a stress relief to some of those moms.”

Characteristics of participants’ readiness-to-change from the perspective of partners

Participant characteristics in the Grocery Store Rx program varied by provider agency programs. Providers identified common participant characteristics of those who seems more likely to change health behaviors. These common participant characteristics described by the providers are depicted in **Table 2**.

Table 2. Common characteristics of participants who appeared more likely to change health behaviors as identified by providers.

Category	Common characteristics
Gender	<ul style="list-style-type: none"> ● Women ● Mothers ● Pregnant women
Income status	<ul style="list-style-type: none"> ● Families who are food insecure ● People who are experiencing homelessness ● Individuals who qualify for WIC ● Seasonal workers
Health status	<ul style="list-style-type: none"> ● People struggling with chronic disease
Culture	<ul style="list-style-type: none"> ● Spanish-speaking ● Russian-speaking
Life skills	<ul style="list-style-type: none"> ● Individuals with prior knowledge of eating and preparing vegetables ● Organized individuals

Category (cont'd)	Common characteristics (cont'd)
Age	<ul style="list-style-type: none"> All ages
Resources	<ul style="list-style-type: none"> Individuals able to drive and with access to a car Individuals with time to go to the nearest Safeway
Immigration status	<ul style="list-style-type: none"> In some cases, immigrant populations were more likely to decline vouchers

In addition to personal characteristics, providers noted that participants who participated in health-promoting behavior classes, who felt supported by providers, and who were comfortable preparing FV were more likely to make positive health behavior changes. Common themes that prevented positive behavior change for participants included people with concern and discomfort around the redemption process or shopping at Safeway. Additionally, those without access to transportation or refrigeration were less likely to make positive health behavior changes through the program.

Adoption

Adoption refers to the absolute number, proportion, and representativeness of settings and intervention agents (people who deliver the program) who are willing to initiate a program. Adoption was assessed using the WA DOH interview.

Provider interest and adoption

A WA DOH staff reported that program adoption has varied and expanded over time. Following a somewhat slower ramp-up period, the number of participating provider agencies has grown since the program was first implemented in July 2016 and additional interest has been expressed by other agencies throughout the state. The original grant for the program had a target number of 8 for provider participation. There are currently 11 provider organizations participating in the program. Two providers dropped out initially due to staffing issues, and five new providers were added.

The WA DOH had a certain amount of federal dollars (~\$440,000) to implement the FINI Rx program. Within the first year of starting the program, less than \$100,000 had been redeemed, because it took time for provider staff to initially get familiar with the program. Furthermore, health providers varied greatly in the way they distributed vouchers, so some were not reaching broad audiences. Therefore, the WA DOH staff wanted to expand the program to more providers to maximize use of their federal dollars to increase reach and impact. About a year and a half after starting the program, the WA DOH began reaching out to more providers.

One WA DOH staff member expressed that the WA DOH could reach additional providers, as about 20 different health care providers from all over the state have contacted the WA DOH and expressed interest in the FINI Rx program. This was partly due to an article that was published in the Washington Nursing Commission Quarterly Newsletter when the program first started;

this article helped to recruit the Verdant Health Commission and Nisqually Tribe Health Services in 2017, which are both current provider organizations participating in the program. The WA DOH staff expressed that the WA DOH could improve reach through recruitment of providers in a more systematic way. An example provided was that the WA DOH could work with health care authorities to identify federally qualified health centers or other healthcare providers with a large Medicaid population. However, it was noted that additional funds would be needed to work with additional providers.

Implementation

At the setting level, implementation refers to the intervention agents' fidelity to the various elements of an intervention's protocol, including consistency of delivery as intended and the time and cost of the intervention. At the individual level, implementation refers to clients' use of the intervention strategies. Implementation was assessed using provider interviews.

The primary challenges with implementation of the program expressed by providers include expanding the reach of the program, freeing up sufficient internal resources to steward the program, and fulfilling tracking and reporting needs. According to providers, participants also faced barriers in utilizing the program in terms of transportation and/or proximity to Safeway and of painlessly redeeming the vouchers.

Challenges and strategies for reaching maximum participants

Providers noted initial uncertainty as to how many participants would be reached through the program. While some providers felt that they were reaching the maximum number of participants, most providers noted that they were not reaching the maximum number of participants possible. The eligibility criteria of being a SNAP beneficiary was the main barrier to maximum reach identified by providers. Reach was further limited by the inability to expand voucher distribution within the provider programs. Providers identified certain populations that they hoped to reach with the *Grocery Store Rx* program. Population groups identified by providers included children, residents in low-income housing, the homeless population, and the undocumented population.

The providers strategized to increase their reach by working with other community organizations, placing announcements in newsletters, or providing pamphlets at additional community events. Many providers have paired the voucher distribution with nutrition education and other food programs. Overall, providers report that it was rare for participants to decline vouchers. In the case where individuals declined, providers reported that the most frequent factors contributing to decline were immigration status, access to Safeway, SNAP eligibility, participant's ability to redeem issued vouchers, and personal motivation.

Organizational challenges

The most frequently noted organizational challenges noted by providers were the time-intensive nature of program implementation, limited staffing, insufficient funding, and staff turnover. Continual training was difficult, time-intensive and expensive. Many providers experienced

difficulty keeping adequate vouchers in stock, were challenged by poor voucher distribution logistics, and had difficulty communicating eligibility requirements for the program to interested non-qualifying participants. Providers also noted that it was difficult to effectively collect and address participant feedback.

Strategies to overcome organizational challenges

Strategies to overcome these challenges were specific to each program and varied across the agencies. Some providers commented on either continually optimizing procedures or being flexible in how they think about roles, responsibilities, and staffing. Training was a common theme noted to improve program implementation. Although the majority of programs expressed very little difficulty working with WA DOH, the common challenge was navigating the tracking and reporting of vouchers. The overall theme in recommendation for overcoming this challenge was to move to an electronic interface between Safeway, WA DOH, and the provider programs.

“Because right now, I have about— in every department or program, I could have up to 20 staff giving out the vouchers, and I have to have the forms come back to me and enter them each individual in the [Microsoft] Excel by date and month of the year. All making it into one spreadsheet.”

Participant challenges reported by providers

The main challenges reported by participants were lack of access to transportation and lack of access to a Safeway. Some expressed difficulties using the vouchers at Safeway, which included miscommunication and having to make multiple transactions. Suggestions by providers to improve the ease of the program use for participants include accepting the vouchers at more varied locations, providing vouchers of varying monetary values, offering the vouchers in electronic formats, extending voucher expiration dates, and improving education surrounding the use of vouchers.

Successes of the program

Providers indicated many different “successes” throughout the program. Many counted positive feedback and word of mouth as favorable indicators of program success. Several noted that the program fulfilled a niche within their broader toolbox of interventions to help individuals make healthy choices to improve their lives. A few providers noted how the program enabled them to meet a previously unrecognized need in their community.

“The biggest one is just that participants have really liked it and felt supported by it. Participants feel really grateful and send nice emails with follow up that they’re really happy about it. It feels like a big win. They feel supported and that’s what will get them to continue to get care and take care of themselves.”

Maintenance

Maintenance refers to the extent to which a program or policy becomes institutionalized or part of the routine organizational practices and policies. Within the RE-AIM framework, maintenance also

applies at the individual level. At the individual level, maintenance has been defined as the long-term effects of a program on outcomes 6 or more months after the most recent intervention contact. Maintenance was assessed using provider interviews.

Ensuring maintenance by meeting provider needs

Overall providers were excited about the program and wanted to see the *Grocery Store Rx* program continue. To sustain the program, providers primarily cited the need for ongoing funding, improved tracking, and improved data collection. They also expressed a desire to expand the program beyond the current SNAP-eligible participant base. Most providers expressed integration and buy-in from their organization for the program. To ensure maintenance of the program, the providers were interested in expanding to additional programs, including dental clinics, pediatric clinics, and other WIC programs, and other populations, including seniors, diabetics, families, immigrants, undocumented individuals and the homeless population, and other grocery stores, such as WINCO, Walmart, and Fred Meyer.

Discussion

The purpose of this study was to evaluate the FINI *Grocery Store Rx* program in order to inform the development of policies and practices that promote and incentivize the purchase of produce by SNAP participants via prescription programs. The reach of the program was assessed via voucher distribution and found to vary greatly across provider programs and season. Central to the findings was the reported effectiveness of the prescription program on the ability of participants to afford healthy food as well as positively impact healthy eating behavior.

Provider adoption has also been positive with the number of participating providers higher than the initial target and provider interest in expanding the program to other areas of their organizations. Implementation of the program varied among providers. Major barriers to implementation faced by participants included transportation, redemption issues, and lack of eligibility. The major barrier to implementation faced by providers was the time-intensive nature of the program, particularly with tracking. In order to maintain the program, providers expressed the need to ensure funding and to improve data tracking and collection.

This study suggests that the *Grocery Store Rx* program has a positive impact on healthy eating behavior and healthy food purchasing both for adults and children in participating families. A key positive behavioral change reported was increased purchasing of FV with a 54% voucher redemption rate. Overall, participants purchased a total of nearly \$208,000 in fruits and vegetables. Other reported positive behaviors include higher consumption of FV, decreased sugar consumption, and increased attendance in nutrition education and cooking classes.

Program participants also reported positive impacts on their health and physical activity levels. Common themes that prevented positive behavior change for participants included concern around the redemption process or shopping at Safeway. Additionally, those without access to transportation or refrigeration were less likely to make positive health behavior changes. Provider feedback indicated that the main barriers to usage among participants was transportation, proximity to a Safeway, and issues with voucher redemption. Notably, providers also reported a barrier to effectively promoting health behavior change in all food-insecure clientele was lack of SNAP-eligibility.

The perceived need for the program in the community is demonstrated by the number of providers who adopted the program. The current number of participating providers is higher than the initial target and even more providers have expressed a desire to participate than WA DOH can currently support. Additional funds would allow the WA DOH to extend participation to additional providers. Provider agencies expressed a strong desire to expand the program to include SNAP-ineligible families experiencing food insecurity, in particular those with low access to FV. This speaks to the program effectiveness, and also sheds light on gaps in SNAP coverage, which evidently fails to include all food-insecure families and individuals.

While the program made a positive impact on their participants, the implementation of the program, particularly tracking and reporting of the vouchers, was time-intensive for providers. Even with this difficulty, providers were excited about the program and wanted to see it continue. Most providers expressed that the prescription program had been successfully integrated and had buy-in from their organization. Providers were interested in expanding to more programs, populations, and grocery stores. Providers expressed excitement for the program and desired maintenance and expansion of the program within their organization. According to provider feedback, requirements for maintenance included ongoing funding and less time-intensive tracking and data collection.

Voucher distribution varied across provider organizations and season, though incentive and desire to distribute vouchers was strong across providers. Some providers offered vouchers to those ineligible for SNAP that were evaluated as food-insecure based on enrollment in other programs or prior understanding of the individual's eligibility. Some providers set target ranges for annual distribution rates while many distributed as many as they could without specific target numbers.

Participant feedback regarding financial barriers to FV access helps to contextualize the utility of FV prescription programs and the need for ongoing maintenance of the Grocery Store Rx program. This report highlights specific instances and larger trends in the challenges faced by low-income individuals with regard to FV access, corroborating current evidence which points to the need for increased FV affordability nationwide (Grim et. al., 2012). Importantly, this report provides evidence that the Grocery Store Rx program has a meaningful impact on the reported dietary behaviors of program participants by helping to increase reported FV purchase and consumption. Program participants report that the prescription program helps to alleviate financial barriers to FV access for both individuals who had and had not purchased FV prior to receiving prescriptions. Program participants also reported substituting low-nutrient snacks with FV and incorporating additional FV into home-cooked meals.

Survey responses and partner interviews suggest that the Grocery Store Rx program has a variety of benefits beyond increased FV access and consumption. Participants attributed the prescription program to increased physical activity, time spent cooking with family members, attendance at cooking classes, and improved self-esteem. These testimonies point to the impact of the *Grocery Store Rx* program beyond increasing FV consumption and provide direction for future program analysis.

Among the families and individuals receiving the vouchers, about half reported ease in using the prescription program. Those who had negative voucher-redemption experiences indicated that Safeway employees were not well trained in the program, rude, or otherwise unhelpful. Families using the prescriptions also indicated that Safeway produce is more expensive than produce at other grocery stores, suggesting that issues of FV affordability still impact the purchase and consumption of FV in program participants. Through continuing to gather participant feedback

on their experiences with *Grocery Store Rx*, the program can be further tailored to meet the needs and desires of participants.

This report points to an amalgam of systemic barriers faced by food insecure families and individuals impacting FV consumption such as transportation, voucher stigma, and storage. Addressing additional barriers to access necessitates policy and program development beyond the scope of the *Grocery Store Rx* program. Nonetheless, this report suggests that prescription programs may play an important role in the expansion of FV consumption and diet-related health outcomes among SNAP-eligible individuals.

Other recent studies have also evaluated FV consumption incentive programs in various states. Although the methods used to evaluate the effectiveness of Cash Value Voucher programs in similar studies are mixed, the main findings in this study are relatable to these similar studies in several ways. FV consumption, observed in this study by way of participant survey response rather than direct measure, was reported to increase by the majority of program participants. This positive trend in FV consumption following program implementation is similarly reflected in many of the studies mentioned previously. Additionally, many program participants in this study reported enthusiasm for the increased access to FV purchasing, which was similar to the response of participants in other studies.

Unique to this evaluation is insight from the provider organizations who distributed the prescriptions to participants, in addition to the voucher redemption data specific to each provider organization. In previous studies there exists a lack of perspective of the organizations that administer the program. The inclusion of provider organizations' input in this evaluation helps to set up the program for future sustainability and continued effectiveness.

Limitations

Alternative explanations of the study findings are worth consideration. Reported increased FV consumption could be skewed by program participant and provider agency bias. It is possible that participants feel motivated to report in a way that will please the investigators or because they feel that it is a desirable health behavior. Additionally, the voluntary nature of the online survey results in some selection bias. The requirement of having computer access to answer the survey may also narrow down the respondents to those with access to more resources and potentially more education than the broader pool of all program participants, affecting the generalizability of the survey results.

Another alternative explanation of the results is that providers may experience recall bias in their reporting of participants' attitudes towards the prescription program, possibly leading to over-reporting of positive remarks. Providers may also report more positive remarks than negative in hopes of being able to maintain a positive relationship with WA DOH. Additionally, there is no data from store employees to verify the participant reported stigma surrounding prescription use at check-out. While the possibility exists that some cashiers hold stigmatizing views towards prescription users, another possibility is that cashiers' unfamiliarity with the

prescriptions results in cashiers feeling flustered during check-out. This may be perceived as judgmental behavior by participants, when, in fact, cashiers simply need a more complete training of the prescription program.

Opportunities for future research

This study did not answer the question regarding the frequency of FV consumption or the percent increase of daily and weekly servings that can be attributed to the prescription program. Furthermore, some participants, in the patient survey data, stated positive health benefits, such as lower blood pressure, which they believe to be associated with the increase in their consumption of fresh FVs. Unfortunately, true causality between these stated health benefits and the impact of the *Grocery Store Rx* program on these benefits cannot be established with this self-reported data. Greater consideration for the *type* of data that should be collected to establish causal relationships would be useful. In particular from a funding standpoint; more quantitative data to demonstrate a reduction in chronic disease burden could open avenues for more funding opportunities.

As elaborated above, opinion about participant experience could be biased and is a limitation to what can truly be understood or known about the participant experience. Patient survey data provide some idea about the direct patient experience but is limited because follow-up or clarifying questions cannot be asked in response to their open-ended responses. Second, participant survey data and provider feedback suggested experience at the point of sale that was less than ideal and greater information about this experience would have been informative. Further research could look into the participant shopping experience in more depth. Furthermore, data could be collected on the perception that Safeway employees may have towards the *Grocery Store Rx* participants as well as their overall knowledge about the program.

The findings of this study are only generalizable to the populations studied: the providers interviewed and the participants in the state of Washington that use the FV prescription program and who responded to the survey. Given state-to-state variability, it cannot be assumed that the study results are generalizable to FV prescription programs outside of the state of Washington.

Importantly, there is need for a greater understanding of how the homeless population is being represented and served by such programs. In particular, understanding the barriers to serving the homeless community, such as access to or lack of access to storage and refrigeration to store fresh FV. It is also important to consider a greater understanding of how any future changes in SNAP eligibility requirements could impact the program and how this could hinder the ability to truly serve those in the community who are food-insecure and who would greatly benefit from services like the FV prescription program. For example, in September 2018, the Trump administration announced a proposed rule to establish public charge policies that would impact how the use of public benefits, such as SNAP, could impede an individual's ability to become a U.S. citizen or apply for legal permanent resident status (The Henry J. Kaiser Family Foundation 2018).

Recommendations

Introduce electronic systems

WA DOH could consider an electronic system for voucher issuance and redemption. Recognizing that an electronic system would be an intensive endeavor, electronic systems use was repeatedly mentioned in survey respondent data as a strategy to ease multiple challenges faced by both providers and participants.

One suggestion that may address participant challenges includes the use of either an EBT card or a similar debit-style card to complete transactions in place of presenting a physical voucher. Transitioning to an electronic voucher system would decrease participant stigma at the grocery store and ease the shopping experience by eliminating the need for multiple transactions. An electronic system may also increase redemption rates and FV consumption by allowing participants to spend voucher value over multiple shopping trips. Many participants were unable to utilize the full ten-dollar limit on their voucher at one time and forfeited the remaining amount left on the voucher. This would especially benefit single participants and participants with limited refrigeration or food-storage space.

Moving toward an electronic system could also create easier and more accurate tracking for providers. Providers cited tracking as a major concern, mostly due to the time and resource-intensive system that is currently in place. Electronic prescribing would streamline reporting. Additionally, electronic distribution would ameliorate difficulties around keeping vouchers in stock and poor distribution logistics. Loading benefits onto an EBT card would also ease issues around communicating eligibility requirements for the *Grocery Store Rx* program to interested non-qualifying participants.

Finally, automatic tracking of voucher distribution and redemption in an electronic system would also benefit the work of WA DOH to support program promotion, implementation and evaluation. For example, if seasonal redemption rates could be quickly tracked by WA DOH, there could be communication to provider agencies to increase program promotion during slower seasons. While electronic merging would be both costly and resource-intensive, it would provide the greatest long-term benefit to participants, providers, and stakeholders alike.

Offer vouchers of different values

If implementation of an electronic system were not possible, the issues regarding the need for multiple transactions or inability to use the full voucher amount could more simply be addressed by offering vouchers of different values (i.e. \$5, \$10, \$20 etc.). This would ease the shopping experience by allowing participants with large families and multiple vouchers to avoid having to complete multiple transactions in a single shopping trip. It would also allow for those who are unable to eat or store ten dollars' worth of fresh FV to spend a smaller amount at each shopping trip potentially resulting in increased redemption rates.

Ease transportation barriers and increase grocery store chain participation

Addressing these commonly reported barriers to voucher usage would increase redemption rates. Provider and participant feedback often indicated the use of Safeway grocery stores as impractical due to both cost and transportation barriers. Transportation to a Safeway, especially in rural areas, was cited as a major concern. Increasing the number of participating supermarkets would likely remedy this. Partnering with lower-price point grocery stores and/or more physically accessible grocery stores would also improve program access. Providing information to participants about ORCA Lift and other regional reduced transit fare programs could also increase Safeway accessibility and ease voucher usage.

Improve the redemption experience through cashier and manager training

Introducing efficient training strategies in Safeways would improve the redemption experience for participants. Many participants cited having negative redemption experiences at Safeway. Many cashiers did not recognize the vouchers, indicating the need for a better training system for Safeway managers and cashiers. Because high staff turnover could overburden participating stores, a visual printout could be created for cashiers and posted at the register. This would increase awareness among cashiers, be an immediate indicator of the validity of the voucher and lay out guidelines for redemption. Additionally, the participant experience in redeeming vouchers as well as store employee awareness of the program could be enhanced by implementing shelf signage to emphasize use of vouchers for the purchase of qualifying canned and frozen FV products that are typically in separate areas of the store from the fresh produce.

Increased provider communication

Introducing a WA DOH-monitored platform for direct provider-to-store communication would improve the redemption process. Provider feedback indicated a need for increased communication with Safeway stores. Communication with stores through the WA DOH led to miscommunication and decreased efficiency.

Conclusion

Low fruit and vegetable consumption remains an issue both within Washington State and nationwide and is particularly prevalent in low-income communities. Given that fruit and vegetable consumption is inversely associated with a host of negative health outcomes, programs that address monetary barriers to fruit and vegetable access may play an important role in addressing income-based health disparities. Existing evidence suggests that prescription programs have been successful in both addressing issues of food security and health outcomes among beneficiaries in a number of municipalities. In particular, programs similar to the *Grocery Store Rx* program have impacted the health and wellbeing of beneficiaries through increasing purchasing and consumption of fresh produce, overall food security, and weight and disease management. Participant survey and provider interviews presented in this report corroborate existing evidence favoring adoption of prescription programs.

Mutual efforts on the part of Washington State Department of Health and partnering agencies have been conducive to expanding fruit and vegetable access in Washington State. Feedback gleaned from participant surveys and provider interviews suggest that prescription distribution and redemption processes could be streamlined through implementation of an electronic voucher system. User experience could be further improved by offering vouchers of different values, and through the development of robust trainings for grocery store employees at partnering stores. Through expanding participating grocery store partnerships, cost and transportation-related barriers to prescription redemption could be improved. While areas for growth remain, the *Grocery Store Rx* program is a valued tool in expanding fruit and vegetable access to eligible Washingtonians. Continued collaboration, built upon existing program successes, will act as a meaningful investment in the future collective health of Washington State.

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Appendix I: RE-AIM evaluation plan

Construct and definition	Data sources	Provider and WA DOH stakeholder interview and participant survey questions
<p>Reach</p> <p><i>The absolute number, proportion, and representativeness of individuals who are willing to participate in a given initiative, intervention, or program.</i></p>	<p>WA DOH Provider Information Spreadsheet</p> <p>Provider Interviews Interview with WA DOH Staff</p> <p>Participant Surveys</p> <p><i>Note: goal is to capture individual and organizational reach</i></p>	<p><i>Providers:</i></p> <ul style="list-style-type: none"> ● What eligibility criteria are used for your participants? If you could change the eligibility criteria in any way, what would you change it to? ● How many individuals currently participate in the program through your organization? What is the target number for individual participation in the program? <p><i>WA DOH:</i></p> <ul style="list-style-type: none"> ● How many individuals currently participate in the program statewide? What is the target number for individual participation in the program? <p><i>Participant Surveys:</i></p> <ul style="list-style-type: none"> ● What language is most spoken in the home? ● What is the most common gender and race of participants (M/F)? ● What type residence is the participant current residing in? ● What is the average education level?
<p>Effectiveness</p> <p><i>The impact of an intervention on important outcomes, including potential negative effects, quality of life, and economic outcomes.</i></p>	<p>WA DOH agency-level redemption data from WA (available through September of 2018 -final quarter data won't be available until Feb 2019)</p> <p>Provider Interviews</p> <p>Participant Survey (Q5, Q45 and Q46)</p>	<p><i>Providers:</i></p> <ul style="list-style-type: none"> ● What if any changes in health behavior have you observed in program participants (<i>for example - eating more FV; manage health conditions better; better able to meet nutrition, diet-related meal plan goals; others</i>)? ● Do you observe these changes generally among all participants who participate or do participants with certain characteristics seem to be more likely to change their health behaviors (<i>for example - older adults, women, etc.</i>) ? ● Are there other factors, besides individual characteristics that you think influence whether or not participants change their health behavior(s) (<i>for example - setting they are served in clinic, education class, etc.</i>)?

		<ul style="list-style-type: none"> • Have you noticed changes in retention or in participants returning for clinic/health care visits as a result of participation in the program? If yes, can you describe these changes? • Are there other positive or negative changes in participant behaviors that you attribute to participation in the program? If yes, please describe these changes. <p><i>Participant Surveys:</i></p> <ul style="list-style-type: none"> • Is there anything you would like to tell us about your experience using the FV Prescription? • What, if any, health benefits did you/your child have as a result of the FV Prescription? • What, if any, lifestyle changes did you/your child make as a result of the FV Prescription?
<p>Adoption</p> <p><i>The absolute number, proportion, and representativeness of settings and intervention agents (people who deliver the program) who are willing to initiate a program.</i></p>	<p>WA DOH Provider Information Spreadsheet</p> <p>Interview with WA DOH Staff</p>	<ul style="list-style-type: none"> • How many provider organizations currently participate? What is the target number for provider participation in the program? • Do you think that you could reach more providers with the program? If yes, what would help you do so? • How many provider organizations currently participate? What is the target number for provider participation in the program? • Do you think that you could reach more providers with the program? If yes, what would help you do so?

<p>Implementation</p> <p><i>At the setting level, implementation refers to the intervention agents' fidelity to the various elements of an intervention's protocol, including consistency of delivery as intended and the time and cost of the intervention. At the individual level, implementation refers to participants' use of the intervention strategies.</i></p>	<p>Provider Interviews</p>	<ul style="list-style-type: none"> ● Think about the setting/programs that you currently offer the voucher. Do you think you are reaching the maximum number of participants with the voucher? If no, what would help you do so? ● Do participants ever decline an voucher when you offer it to them? If yes, what reasons do they give for declining the voucher? ● Thinking about the way things work now, what, if any, specific challenges within your organization make it difficult to implement the program? What would you do to overcome these challenges? ● Thinking about the way things work now, what, if any, specific challenges are there in working with WA DOH to implement the program? What would you do to overcome these challenges? ● Are there things that would make it easier for participants to participate and/or redeem their vouchers? If yes, please describe. ● What specific program successes would you like to point out, if any?
<p>Maintenance</p> <p><i>The extent to which a program or policy becomes institutionalized or part of the routine organizational practices and policies. Within the RE-AIM framework, maintenance also applies at the individual level. At the individual level, maintenance has been defined as the long-term effects of a program on outcomes after 6 or more months after the most recent intervention contact.</i></p>	<p>Provider Interviews</p>	<ul style="list-style-type: none"> ● Do you think that the program is well-integrated into your organizational systems? (policies, procedures, participant assessments; staff training; participant education; others?) Looking ahead, how would you better integrate it? ● Is there buy-in from your organization (i.e. leadership or management) for continuing the program? If no, what would you need to achieve organization buy-in? ● Are there other programs you would like to integrate the program into in the future? If so, what are these? ● Are there other priority populations you would like to focus on in the future? If so, who are they? ● What resources would your organization need to sustain the program in the long term? ● What changes to the program would help to assure that it continues to operate for the long term? ● Are there any other concerns or suggestions you have about the future of the program in your agency/organization? If so, explain.

Appendix II: Grocery Store Rx participant survey questions

The following are the questions analyzed in this evaluation which were asked as part of a larger participant survey:

1. Is there anything you would like to tell us about your experience using the FV Prescription?
2. What, if any, lifestyle changes did you make as a result of the FV Prescription?
3. What, if any, eating habit changes did your child make as a result of the FV Prescription?
4. What language is most spoken at home?
 - English
 - Spanish
 - Russian
 - French
 - Somali
 - Vietnamese
 - Other (Please specify):
5. What language is most spoken at the home where your child usually lives?
 - English
 - Spanish
 - Russian
 - French
 - Somali
 - Vietnamese
 - Other (Please specify):
6. Are you/your child:
 - Male
 - Female
7. What type of housing does your family live in?
 - Private
 - Public
 - Household is homeless
 - Other (please specify):
8. What is the highest grade or year of school you completed?
 - Never attended school or only kindergarten
 - Grades 1 through 8 (Elementary)
 - Grades 9 through 11 (Some high school)
 - Grade 12 or GED (High school graduate)
 - College, 1 year to 3 years (Some college or technical school)
 - College, 4 years or more (College graduate)

Appendix III: Interview questions

Provider interview questions

1. What eligibility criteria are used for your patients/clients when screening for participation in the *Grocery Store Rx* program?
2. If you could change the eligibility criteria in any way, what would you change it to?
3. How many individuals currently participate in the program through your organization? (approximation is ok)
4. Do you have a target number for total participation in the program? If so, what is that number? (approximation is ok)
5. What if any changes in health behavior have you observed in program participants? (PROBES: for example, behaviors like eating more FV; manage health conditions better; better able to meet nutrition/diet-related meal plan goals; others?)
6. Do you observe these changes generally among all patients/clients who participate or do patients/clients with certain characteristics seem to be more likely to change their health behaviors? (e.g., older adults, women, etc.)
7. Are there other factors, besides individual characteristics that you think influence whether or not patients/clients change their health behavior(s) (e.g., setting they are served in clinic, education class, etc.)?
8. Have you noticed changes in retention or in patients returning for clinic/health care visits as a result of participation in the program? If yes, can you describe these changes?
9. Are there other positive or negative changes in patient behaviors that you attribute to participation in the program? If yes, please describe these changes.
10. Think about the setting/programs that you currently offer the voucher. Do you think you are reaching the maximum number of patients with the voucher? If no, what would help you do so?
11. Do patients ever decline a voucher when you offer it to them? If yes, what reasons do they give for declining the voucher?
12. Thinking about the way things work now, what, if any, specific challenges within your organization make it difficult to implement the program? What would you do to overcome

these challenges?

13. Thinking about the way things work now, what, if any, specific challenges are there in working with WA DOH to implement the program? What would you do to overcome these challenges?
14. Are there things that would make it easier for patients to participate and/or redeem their vouchers? If yes, please describe.
15. What specific program successes would you like to point out, if any?
16. Do you think that the program is well-integrated into your organizational systems? (policies, procedures, patient assessments; staff training; patient education; others?) Looking ahead, how would you better integrate it?
17. Is there buy-in from your organization (i.e., leadership or management) for continuing the program? If no, what would you need to achieve organization buy-in?
18. Are there other programs you would like to integrate the program into in the future? If so, what are these?
19. Are there other priority populations you would like to focus on in the future? If so, who are they?
20. What resources would your organization need to sustain the program in the long term?
21. What changes to the program would help to assure that it continues to operate for the long term?
22. Are there any other concerns or suggestions you have about the future of the program in your agency/organization? If so, please explain.

Stakeholder interview questions

1. How many individuals currently participate in the program statewide? What is the target number for individual participation in the program?
2. How many provider organizations currently participate? What is the target number for provider participation in the program?
3. Do you think that you could reach more providers with the program? If yes, what would help you do so?

4. As we proceed with our project, besides the information already provided by you as the project was developed, is there anything else that you think is important for us to consider as we develop recommendations for improving the Grocery Store prescription program?

Appendix IV: Commonly used acronyms

BMI: Body mass index

CPHN: Center for Public Health Nutrition

EBT: Electronic Benefits Transfer

FINI: Food Insecurity Nutrition Incentive

FV: Fruit(s) and vegetable(s)

HbA1C: Hemoglobin A1c

RE-AIM: Reach, Effectiveness, Adoption, Implementation, Maintenance

Rx: Prescription

SNAP: Supplemental Nutrition Assistance Program

SSB: Sugar-sweetened beverage(s)

T2DM: Type 2 diabetes mellitus

USDA: United States Department of Agriculture

WA DOH: Washington State Department of Health

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