

A Mixed-Methods Evaluation of the Idaho Hunger Relief Task Force Rx for Fresh Fruits and Vegetables (RxforFFV) Pilot Program

September 2020

The Gretchen Swanson Center for Nutrition (GSCN)

The Gretchen Swanson Center for Nutrition (www.centerfornutrition.org) is an Omaha-based, independent nonprofit research organization providing research, evaluation, and partnership in childhood obesity prevention, food insecurity and local food systems. The team that worked on this evaluation is comprised of MPH and PhD level scientists and an MPH research associate; all team members have expertise related to healthy food access in underserved populations.

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Food is a main contributor to health and chronic conditions. Recognizing this, the Idaho Hunger Relief Task Force (IHRTF) started a Food as Medicine program in 2015. Over the past five years, it evolved into a produce prescription pilot program called Rx for Fresh Fruits and Vegetables (RxforFFV). RxforFFV is designed to assist low-income, food-insecure individuals with diabetes and prediabetes in managing their condition by providing improved access to fresh fruits and vegetables through partnerships with local clinics and retailers. IHRTF, with support from the Blue Cross of Idaho Foundation for Health, partnered with the Gretchen Swanson Center for Nutrition to conduct an evaluation of its RxforFFV pilot program in 2019-20.

How the program works:

- Participating clinics administer a two-item food security screener (Hunger Vital Sign™) and an HbA1c test to potential participants.
- Low-income, food insecure individuals with diabetes and prediabetes are referred to IHRTF, who then enrolls participants in the four-month program.
- Participants take a pre-program survey that assesses fruit and vegetable consumption, health status, and other related factors.
- At monthly support and education check-ins, participants are provided with vouchers that can only be redeemed for fresh fruits and vegetables at participating retailers.
- Upon completion of the program, participants take a post-program survey and a post-program HbA1c test is administered.

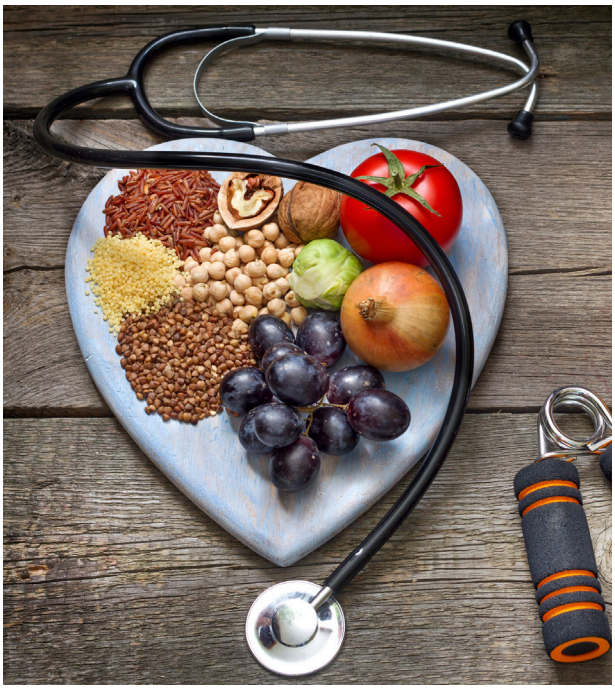
The evaluation data indicate that the RxforFFV pilot program was an overwhelming success based on the following results:

- *Program retention*. 84.2% of enrollees completed the program.
- *Voucher redemption*. More than $10,000 in vouchers were distributed, 85.2% of which were redeemed.
- *Perceived health*. Participants perceived their general health status to be better upon program completion as compared to when they started the program.
- *Health outcomes*. HbA1c values decreased by 12.77%, from an average of 8.69 to 7.58 (p=0.001).
- *Fruit and vegetable intake*. Participants increased their daily fruit and vegetable intake by 20.8% (p=0.0181).
- Q*ualitative feedback*. Participants reported overall satisfaction with the program, tried new fruits and vegetables for the first time, experienced weight loss and other health benefits, and became more confident in their cooking skills.

The RxforFFV pilot program had a positive impact across all program stakeholders.

- *Program participants*. Participants' access to fresh produce was increased through the distribution of vouchers, and they experienced improved health outcomes and fruit and vegetable intake.
- *Retailers*. Retailers had the opportunity to gain a new customer base and serve their community by offering the RxforFFV pilot program at their stores.
- *Clinics*. Clinics and health care providers were able to provide critical screening and connect participants to IHRTF, contributing to an important community-clinical linkage toward the goal of chronic disease prevention and management.

Program Strengths and Lessons Learned



- A guiding group with diverse expertise can be beneficial in informing program operations.
- Embedding the food insecurity screener into electronic medical records strengthens community-clinical partnerships.
- Vetting potential program participants before enrolling them in the program supports participation and retention.
- Monthly, in-person visits that provide education and vouchers to participants can contribute to participant engagement and retention.
- Tailored diabetes education, rather than a "one size fits all" approach, can successfully lower HbA1c levels.

Challenges and Opportunities for Growth

- The onset and ongoing impact of COVID-19 presented challenges for the program, including availability of post-program testing, administration of post-program surveys, and shopping frequency of participants (e.g., voucher redemption.
- Participant feedback over the winter months was that the ability to purchase frozen and/or canned produce would enhance the program.
- Future cohorts of the RxforFFV program could be strengthened by collecting additional biometric data (e.g., blood pressure, BMI).
- Recruitment of retailers that are readily accessible to participants in the five county service region will be critical to expanding the program.
- In future efforts, overall program length should be considered relative to frequency of HbA1c testing.
- As the RxforFFV program continues to grow, efforts to should be taken to explore the long-term effects of the four month program on participants' diabetes status, fruit and vegetable intake, and overall health.

If you are interested in learning more about the RxforFFV Pilot Program, or other initiatives of the Idaho Hunger Relief Task Force, email info@idahohunger.org or call 208-447-8218.

Introduction

The Idaho Hunger Relief Task Force (IHRTF) is a Boise, Idaho-based, statewide task force comprised of public and private representatives from multiple sectors, that works collaboratively to alleviate hunger in Idaho through its support of various programs and policies. Since its inception in 2008, IHRTF, alongside its 21 partner organizations, has worked to increase Supplemental Nutrition Assistance Program (SNAP) participation,[a] advocated for school breakfast initiatives, and organized biennial summits on hunger and food security, among other key efforts.

For several years, IHRTF has been involved in nutrition incentive program efforts. Broadly, nutrition incentive programs are designed to increase the consumption of healthy foods (i.e., fruits and vegetables) among low-income or food insecure populations by incentivizing the purchase of such foods. In 2017, IHRTF launched a Farm to Clinic program that connected families who had been identified as food insecure through clinic screening protocols with local farms, through which families were able to access fresh and seasonal produce.

In 2019, IHRTF, with support from the Blue Cross of Idaho Foundation for Health, partnered with the Gretchen Swanson Center for Nutrition (GSCN) to conduct an evaluation of its Rx for Fresh Fruits and Vegetables (RxforFFV) pilot program. Acknowledging the frequent overlap of food insecurity and diet-related chronic disease (in particular, people with diabetes and prediabetes), the RxforFFV pilot program was designed to assist diabetic and prediabetic individuals in managing their condition by providing access to fresh fruits and vegetables over the course of a four-month program.

The RxforFFV pilot program is structured as follows:

- IHRTF partnered with medical providers at four clinics (Family Medicine Residency of Idaho, Marie Blanchard Friendship Clinic, St. Luke's Humphreys Diabetes Center, and Terry Reilly Health Services) to administer a nationally validated questionnaire (Hunger Vital Sign™) assessing food security and to conduct HbA1c tests.[1]
- Based on results from the food security screener and HbA1c test, physician refer patients to the RxforFFV pilot program.
- IHRTF coordinates with referred participants to enroll them into the program, administer a pre-program survey, and provide vouchers to be used at participating retailers (Cliff's Country Market, Grocery Outlet, Pantera Market, Primo Supermarket, and Reggie's Veggies) to obtain fresh fruits and vegetables at no cost.
- The RxforFFV pilot program runs for four months (16 weeks) and includes monthly check-ins with participants and monthly disbursement of vouchers.
- Following program completion, IHRTF coordinates with the participant to complete a post-program survey, and participants receive a post-program HbA1c test at clinics or Albertsons pharmacies.

[a]The Supplemental Nutrition Assistance Program, or SNAP, is a federal program that provides monthly financial to assistance to low-income, food insecure families via electronic debit cards (EBT), which can be used to purchase food at authorized retailers across the country. Source: Feeding America.

Key partners on the RxforFFV pilot initiative include clinics, retailers, and pharmacies. Four clinics participated in the RxforFFV cohort that is described in this report – Family Medicine Residency of Idaho, Marie Blanchard Friendship Clinic, St. Luke's Humprey's Diabetes Center, and Terry Reilly Health Services. Cliff's Country Market, Grocery Outlet, Pantera Market, Primo Supermarket, and Reggie's Veggies were the participating food retailers on this effort. Finally, Albertsons pharmacies became a partner to assist the RxforFFV pilot program in adapting to the impact of COVID-19 in Spring 2020. The report that follows describes results from a mixed-methods evaluation of the 2019-2020 cohort of RxforFFV pilot participants.

Participants were recruited from and enrolled in the four-month program in partnership with participating clinics. Recruitment and subsequent enrollment were conducted on a rolling basis, with the first participants beginning the program in August 2019 and last participants completing the program in April 2020. All participants had prediabetes or diabetes. To increase the likelihood of retention, eligibility criteria and the vetting process prior to enrollment in the RxforFFV pilot program included ensuring that participants were not planning on relocating, taking extended vacation, or having a major medical procedure (e.g., surgery) during the four-month program window. Throughout the program, monthly in-person touchpoints were scheduled with each participant. Vouchers were provided at monthly in-person visits, which were also used to provide information on healthy eating and collect program feedback. Due to COVID-19 restrictions beginning in March 2020, some participants' final monthly check-ins were conducted via phone, and their final month of vouchers were sent via mail. The evaluation of the RxforFFV pilot program was a mixed- methods approach, with data from several different sources being collected and analyzed to produce the results presented in this report.

Data Collected

HbA1c. Participants were required to have two hemoglobin A1c (HbA1c) tests as part of their involvement in the RxforFFV pilot program – one at baseline/enrollment, and one upon program completion. HbA1c tests were conducted during in-person visits at participating clinics. Due to COVID-19 restrictions, some participants were unable to schedule appointments at their designated clinic to receive a post-program test, but were able to complete post-program tests at Albertsons. These results were shared with participating clinics. Once all participants had completed the program, each of the four clinic partners sent pre- and post-HbA1c data to GSCN; data were anonymized and each participant was given a unique ID number that was used across clinic data, pre-post surveys, and the qualitative post-program survey described below.

Survey. RxforFFV participants were required to complete a survey at baseline (pre-survey) when entering the program and upon completion of the four-month program (post-survey). The 21-item survey was developed collaboratively by IHRTF and GSCN and measured the following:

- Previous participation in nutrition incentive programs
- Current household participation in federal assistance and child nutrition programs
- Fruit and vegetable (F&V) intake frequency
- Social support and self-efficacy around fruit and vegetable intake
- General health, diabetes status, and hypertension status
- Race/ethnicity
- Zip code

The full survey is available in **Appendix A**. Additional information collected by IHRTF and participating clinics at the time of enrollment that was not formally part of the survey, but was included in analyses, was: age, sex, primary language spoken at home, and household size. Some participants completed the post-survey in person at their final visit; however, due to COVID-19 restrictions, some participants completed their post-survey via phone with IHRTF staff. IHRTF entered responses from paper-and-pencil and phone surveys into an Excel spreadsheet that was provided to GSCN for analysis. Survey results were analyzed using SPSS and R.[b]

[b]SPSS is a software package used for statistical analysis in social science. Analyses for this report were conducted using SPSS Version 26.0. R is a language and environment for statistical computing and graphics. Analyses for this report were conducted using R Version 4.0.

Vouchers. IHRTF tracked total voucher distribution and total voucher redemption for each participant, in collaboration with participating retailers. An Excel spreadsheet was provided to GSCN with voucher distribution and redemption data for all participants upon the final participant completing the program.

> ***"It's nice to find a way our pharmacies can step up to help our health care community when there is a need."***
>
> -Tim Flynn, Patient Care Pharmacist with Albertsons Pharmacies

Qualitative Feedback. Upon program completion, participants were asked to complete a nine-item short-answer format survey. This survey was distinct from the pre-post surveys mentioned above and assessed:

- Program satisfaction
- F&V consumption
- Health benefits
- Lifestyle changes
- Confidence in healthy habits
- Use of program incentives; program staff
- Recommendations for improvement

Data collection was managed by IHRTF, who provided GSCN with scanned copies of the surveys; responses were entered into an Excel spreadsheet, coded, and analyzed for themes.

Stakeholder Spotlights. Three "spotlights" are included in this report as **Appendices B-D**. The spotlights showcase the unique experiences of multiple stakeholders involved in the RxforFFV pilot program, namely, a participant, a retailer, and a provider. Brief, semi-structured interviews were conducted with each stakeholder by IHRTF with support from the Blue Cross of Idaho Foundation for Health. Interview questions were developed by GSCN and modified by IHRTF. The interviews were audio-recorded with participants' permission and transcribed; the spotlights were collaboratively written by IHRTF and GSCN.

> ***"We feel that we bring value as a vendor because we have fresh produce at prices that help the customers stretch the dollars. I think the program is running smoothly and it is easy to maintain and explain to our employees."***
>
> -Amanda and Jason Steele, Owners, Grocery Outlet, Boise, ID

Participant Characteristics

Forty-eight (48) participants completed the RxforFFV pilot program, that is, participated in both pre- and post-surveys and had pre- and post-program HbA1c values measured. Program participants were predominantly female (69%) and non-Hispanic white (83%), with distribution across age groups (see **Table 1**). Most of participants (71%) presented with Type 2 diabetes (as determined by clinical assessment), with smaller proportions presenting with Type 1 diabetes (17%), prediabetes (8%), or gestational diabetes (4%). One-fifth (20%) reported that children in their household received free or reduced-price school breakfast or lunch. More than half (52%) of participants reported current participation in SNAP, while 40% currently received Social Security Disability Insurance (SSDI). The mean household size among participants was 2.69, with a range of 1-10. Only one participant reported having previously participated in a similar program (i.e., produce prescription program). Nearly all (92%) participants reported that English was their primary language. **Table 1**, below, shows complete participant characteristics as measured by participants' self- reported survey responses and clinic data.[c]

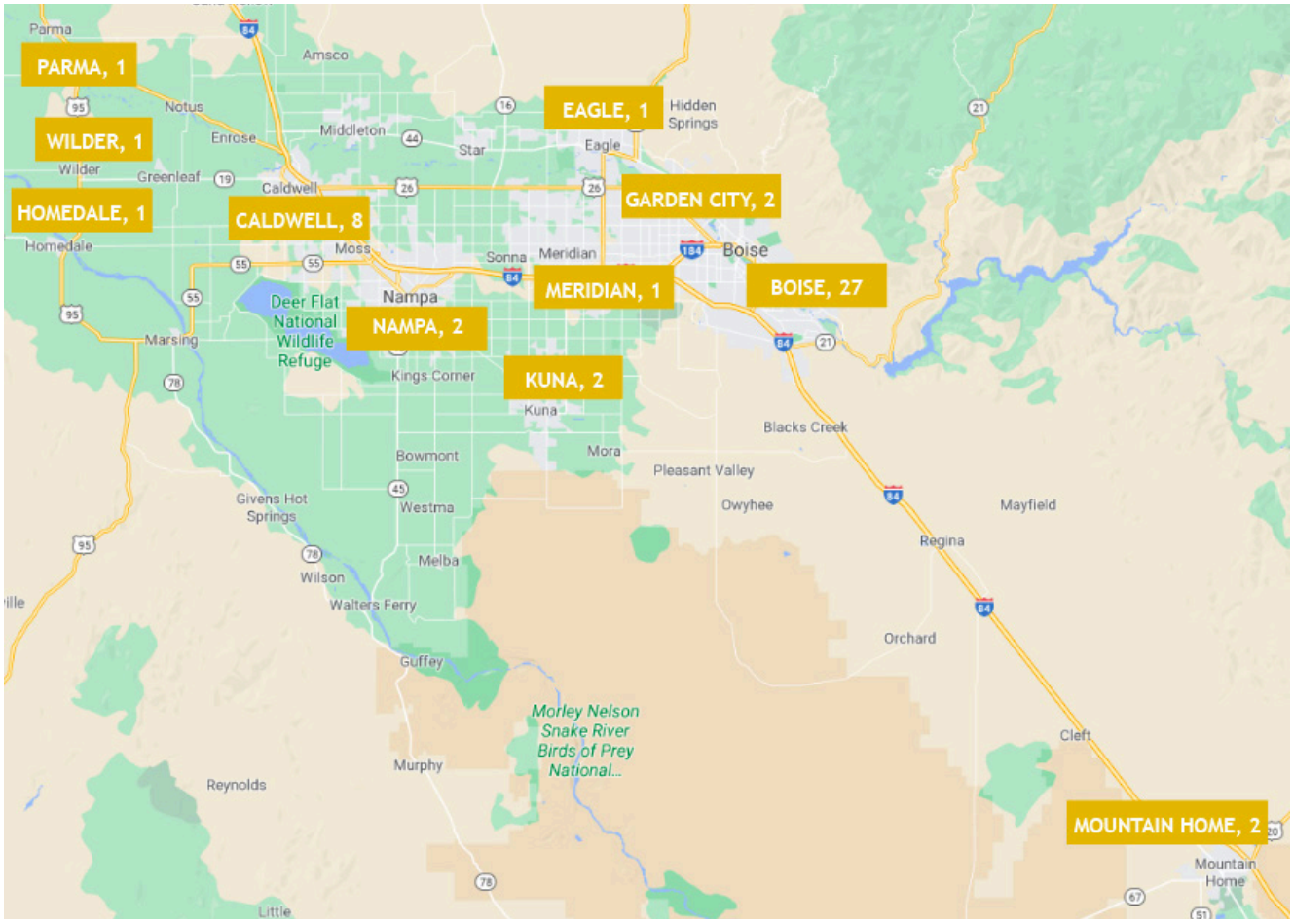
Table 1: Participant Characteristics

	n	%
Sex		
Male	15	31.3
Female	33	68.8
Age		
20-29	2	4.2
30-39	14	29.2
40-49	5	10.4
50-59	14	29.2
60-69	11	22.9
70+	2	4.2
Race/Ethnicity		
White or European American, non-Hispanic	40	83.3
Hispanic, Latino(a), or Spanish	9	18.8
American Indian or Alaska Native, non-Hispanic	1	2.1
Multi-racial	1	2.1
Diabetes Type		
Type 1	8	16.7
Type 2	34	70.8
Prediabetes	4	8.3
Gestational	2	4.2
Household participation in child nutrition programs		
Free or reduced-price school lunch/breakfast	10	20.8
Summer meals program	7	14.6
Afterschool meal or snack program	3	6.3
Household participation in federal assistance programs		
Supplemental Nutrition Assistance Program (SNAP)	25	52.1
WIC (Program for Women, Infants, & Children) (WIC)	6	12.5
Social Security Disability Insurance (SSDI)	19	39.6
Temporary Assistance to Needy Families (TANF)	1	2.1
Supplemental Security Income (SSI)	12	25.0

[c]Sex, age, and diabetes type were captured at the clinic level, rather than via survey. Note that for some survey questions, participants were able to select more than one response, so values may exceed 48.

Geographically, participants were dispersed across 11 cities near Boise, Idaho and surrounding areas: Boise, Caldwell, Garden City, Kuna, Mountain Home, Nampa, Eagle, Homedale, Parma, Meridian, and Wilder. The map (**Figure 1**) below shows the geographic reach of the RxforFFV pilot program and the number of participants who completed the program in each of the 11 cities.

Figure 1. Cities of RxforFFV Participants in Boise, Idaho, and surrounding areas



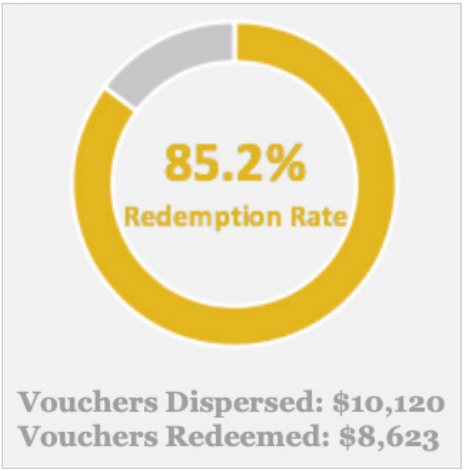
Program Retention

Fifty-seven (57) individuals were recruited to participate in and were enrolled in the program. Nine participants dropped out for various reasons, including relocating outside of Idaho; health issues or health issues of family members; self-quarantining due to COVID-19; and failing to respond to follow-up calls about the program. Although the overall sample is small, a retention rate of 84.2% (48/57) is considered successful in this type of program.

Voucher Redemption

Throughout the program, participants received up to $240 in vouchers to redeem at participating food retailers in order to purchase F&Vs. As displayed in **Figure 2**, in total, across the 48 participants who completed the program, a total of $10,120 in vouchers was disbursed. Of that amount, $8.622.96 was redeemed at participating retailers, for an overall redemption rate of 85.2%, which is very high, based on results from some other recent produce prescription programs.[2-4]

Figure 2. Voucher Dispersal and Redemption



Health Outcomes

On the pre-survey, participants were asked whether a physician or other health professional had ever diagnosed them with prediabetes, diabetes, or high blood sugar/glucose. All 48 (100%) participants indicated that they had previously received one of these diagnoses. Participants were similarly asked whether they had ever been told they have hypertension or high blood pressure. A large proportion (31, or 64.5%) of participants indicated that they had received this diagnosis from a physician or other health professional.

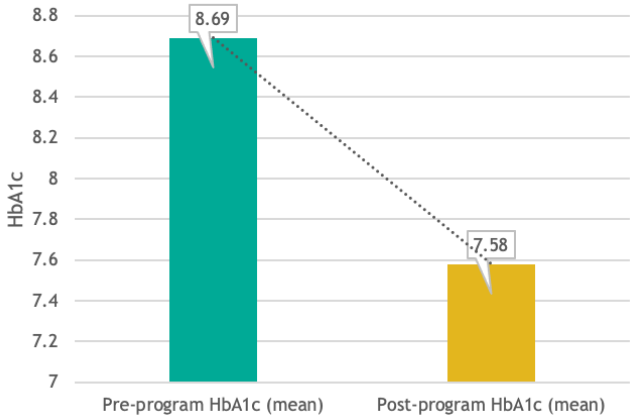
On both the pre- and post-surveys, participants were asked whether they perceived their health to be poor, fair, good, very good, or excellent. On the pre-survey, half of participants perceived their health to be fair (50%). On the post-survey, fewer participants perceived their health status as poor or fair, rather, more participants perceived their health to be good or very good. No participants perceived their health to be excellent on either the pre- or post-survey. Overall, there was a 13.36% increase in mean perceived health status among participants between the time of their pre-survey and post-survey. **Table 2** shows the full results from this survey item.

Table 2: Perceived health status of program participants, pre- and post-program

	Pre [n(%)]	Post [n(%)]
Poor	9 (18.8)	5 (10.4)
Fair	24 (50.0)	20 (41.7)
Good	13 (27.1)	19 (39.6)
Very good	2 (4.2)	4 (8.3)
Excellent	--	--
Mean	*2.17*	*2.46*

As previously mentioned, HbA1c was measured at baseline (pre) and follow-up (post) for each participant. For reference, a normal HbA1c level is 5.7 or below. An individual with an HbA1c value between 5.7 to 6.4 is considered to have prediabetes, and values of 6.5 or above are diagnosed as diabetic. At baseline, the average HbA1c among participants was 8.69, with values ranging from 5.6-16.8. The post-program HbA1c among participants at the end of the four-month program was 7.58, with values ranging from 4.4-14). As shown in **Figure 3**, this equates to a 12.77% decrease in HbA1c values. A paired samples t-test shows this change to be significant at p=0.001. Of the 48 participants, 37 (77%) had decreased HbA1c values, 3 (6.3%) had values that stayed the same, and 8 (16.7%) participants had an increased HbA1c value.

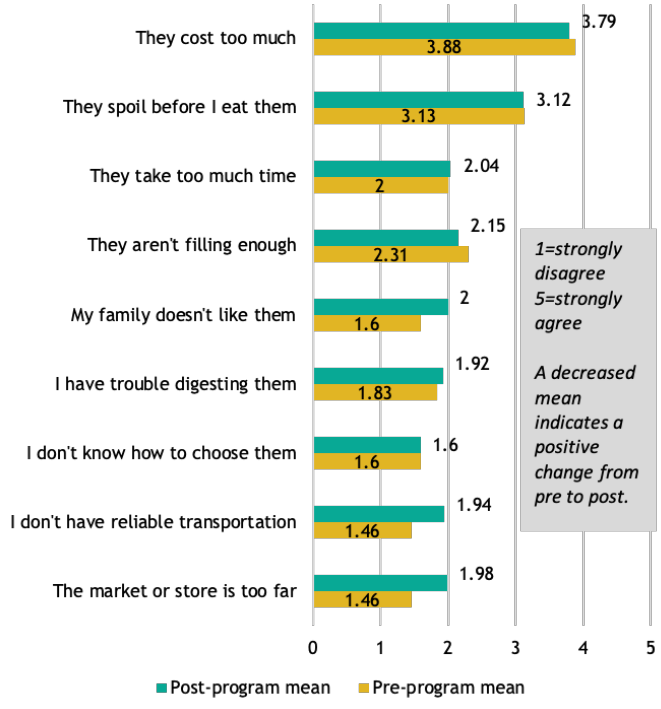
Figure 3: Change in Mean HbA1c among RxforFFV participants



Fruit and Vegetable Consumption

On pre- and post-program surveys, participants were asked a series of survey questions about reasons why they do not eat F&Vs as much as they would like to. Specifically, participants were asked to indicate how much they disagreed or agreed with a series of statements such as, "I don't eat fruits and vegetables as much as I'd like to because they cost too much" or because "My family doesn't like them." Response options were on a 5-point Likert scale, 1 = "strongly disagree"- 5 = "strongly agree." Mean values for each of the nine statements at both pre- and post-assessment were calculated and are displayed below in **Figure 4**. For each statement, the top bar shows the post-program mean, while the bottom bar shows the pre-program mean. For a few of the statements, including "they cost too much," "they spoil before I eat them," and "they aren't filling enough," there was a decrease in mean value (i.e., a positive change) between pre-program to post-program. Because of their increased access and exposure to F&Vs throughout the program, participants perceived F&Vs to be more affordable, less likely to spoil, and filling enough. Interestingly, there were increases in mean value for some of the statements, notably, "I don't have reliable transportation" and "The market or store is too far." Although this was not explicitly assessed, one significant change from pre to post-program for many participants was the impact of COVID-19. State and local restrictions, or participants' own perception of safety, may have prevented them from visiting retailers in the way that they typically would.

Figure 4: I don't eat fruits and vegetables as much as I'd like to because...



In both the pre- and post-survey assessments, participants were asked one question measuring social support around eating F&Vs and one question measuring their confidence in eating F&Vs.

In the question measuring social support, participants were asked how much they disagreed or agreed with the statement: "My family or friends encourage me to eat fruits and vegetables," with response options on a 5-point Likert scale, 1 = "strongly disagree" – 5 = "strongly agree." **Table 3**, below, shows full results for this survey item. At post-program, there was an increase in the proportion of participants reporting that they strongly agreed with this statement. Overall, there was an 8.4% increase in mean score on this survey item, from 3.69 to 4.00, indicating that participants agreed more strongly with this statement (i.e., their family and friends were more encouraging of their F&V intake) after the program than they did at the start of the program.

Table 3: ***My family or friends encourage me to eat fruits and vegetables.***

	Pre [n(%)]	**Post [n(%)]**
Strongly disagree	4 (8.3)	2 (4.2)
Disagree	3 (6.3)	3 (6.3)
Neither disagree nor agree	10 (20.8)	7 (14.6)
Agree	18 (37.5)	17 (35.4)
Strongly agree	13 (27.1)	19 (39.6)
Mean	*3.69*	*4.00*

The second question asked participants how much they disagree or agreed with the statement, "I feel confident in my ability to eat fruits and vegetables every day," with the same response options as the previous item. **Table 4**, below, shows full results for this survey item. Similarly, there was an increase in the proportion of participants reporting that they strongly agreed with this statement at post-program, as compared to pre-program. Overall, there was a 5.01% increase in mean score on this survey item, from 4.19 to 4.40, indicating that participants agreed more strongly with this statement (i.e., felt more confident in their F&V intake) after the program than they did at the start of the program.

Table 4: ***I feel confident in my ability to eat fruits and vegetables every day.***

	Pre [n(%)]	Post [n(%)]
Strongly disagree	3 (6.3)	1 (2.1)
Disagree	1 (2.1)	2 (4.2)
Neither disagree nor agree	3 (6.3)	2 (4.2)
Agree	18 (37.5)	15 (31.3)
Strongly agree	23 (47.9)	28 (58.3)
Mean	*4.19*	*4.40*

Additionally, on both the pre- and post-surveys, participants were asked about their intake frequency of 10 different food items: 100% fruit juice, fruit, salad, fried potatoes, other kinds of potatoes, cooked dried beans, other vegetables, salsa, pizza, and tomato sauce. These 10 items are used to assess F&V intake, and are sourced from the Dietary Screener Questionnaire (DSQ) used in the National Health and Nutrition Examination Survey (NHANES), a validated tool used to assess the health and nutritional status of adults and children in the United States. Response options for each item ranged from "never" to "6 or more times per day."

Frequency responses were converted to daily frequencies, i.e., times per day of intake. Daily frequency data were then analyzed using a scoring algorithm developed for the NHANES DSQ to determine cup equivalents of F&V intake, which is considered a stronger measure than daily frequency values. The algorithm additionally accounts for participant age and sex.

> ***"Because of the access this program provides to nutritious food, we've been able to improve our health on our own."***
>
> -RxforFFV participant, age 63, Boise, ID

Table 5, below, shows the mean (average) daily cups of fruits and vegetables consumed by all participants, by clinic type, and by type of diabetes, at both pre-program and post-program. Percent change from pre-program to post-program is also shown in the table. The goal of the RxforFFV pilot program is to improve health through better nutrition (i.e., increasing F&V intake) by providing vouchers that can be redeemed for fresh produce. Because of this, we would expect to see an increase in F&V intake at the end of the program. Based on results from the pre-survey, participants consumed a mean of 2.88 cups of F&Vs daily. At the end of the program, the mean cups of daily F&Vs increased to 3.48, which is a 20.8% increase. A t-test shows that the pre-post change in daily cups of F&V for all participants is statistically significant, p=0.0181 (see footnote, page 9). Participants at the Family Medicine Residency of Idaho clinic experienced a 16.9% increase, while participants at the St. Luke's clinic experienced an even larger increase of 23.3%. Participants with Type 1 and Type 2 diabetes experienced significant increases in F&V consumption (15.3% and 18%, respectively). These increases are independent of the participants' pre-program F&V consumption rate (which was higher among those with Type 1 diabetes than those with Type 2).

Differences in mean daily cups of F&V from pre- to post-program were assessed across two groups: those whose voucher redemption rate was 90% or higher (n=22) and those whose voucher redemption rate was less than 90% (n=26). The hypothesis was that participants in the higher redemption rate category would see a larger increase in F&V intake than those in the lower redemption rate category. As **Table 5** shows, the increase in mean daily cups of F&V from pre- to post-program was drastically higher (40.6% increase) among participants in the 90% or greater redemption rate category as compared to those who redeemed vouchers at a rate of less than 90% (5.0% increase).

Table 5: Mean daily cups of FV at pre- and post-program

	Pre	Post	% Change
All participants (n=48)	2.88	3.48	20.8
Clinic			
Family Medicine (n=12)	2.90	3.39	16.9
St. Luke's (n=33)	2.92	3.60	23.3
Marie Blanchard (n=2)	2.84	2.88	1.4
Terry Reilly (n=1)	1.54	1.93	25.3
Diabetes Type			
Type 1 (n=8)	3.08	3.55	15.3
Type 2 (n=34)	2.84	3.35	18.0
Prediabetes (n=4)	2.54	4.14	63.0
Gestational (n=2)	3.40	4.02	18.2
Redemption Rate			
90% or greater (n=22)	2.76	3.88	40.6
<90% (n=26)	2.99	3.14	5.0



An additional analysis was conducted to estimate the effect of the RxforFFV pilot program on F&V intake by voucher redemption rate. To estimate program effects, difference-in-difference (DID) analyses were used; the DID analysis calculated change in 90%+ scores subtracted by change in <90% scores. **Table 6**, below, shows the pre- and post-program means with standard error (SE) for each redemption rate group, as well as change from pre- to post-program. DID analyses showed that the pre-post change in 90%+ redemption rate participants was 0.97 cups of F&V more than the pre-post change in participants with redemption rates of <90%, which is statistically significant, p=0.0476. These results, even in a small sample, are encouraging, particularly over the short program duration, because they indicate that improved access to F&V can result in behavior change, that is, increased consumption of F&V.

Table 6. Program effects on FV intake (cups), by voucher redemption rate

	90%+ voucher redemption rate (n=22)					<90% voucher redemption rate (n=26)						
	Pre	SE	Post	SE	Change	Pre	SE	Post	SE	Change	Diff. in Diff.	p-value
FV intake (cups)	2.76	1.73	3.88	1.09	+1.12	2.99	1.80	3.14	1.12	+0.15	**+0.97**	**0.0476***

Though not part of the 10-item Dietary Screener Questionnaire and associated algorithm, participants were also asked how many cups of bottled or tap water they drank each day, on both the pre- and post-surveys. As **Table 7** shows below, there was an increase in the number of participants reporting consuming 4-7 or 8+ cups from at the time of their post- survey, and a decrease in the number of participants reporting consuming 1-3 or no cups of water. Increased water consumption could indicate that participants are adopting other healthy habits as a result of being in the RxforFFV pilot program.

Table 7: Water consumption at pre- and post-program

	Pre [n(%)]	Post [n(%)]	% Change
None	1 (2.1)	--	100%
1-3 cups	8 (16.7)	4 (8.3)	50%
4-7 cups	16 (33.3)	19 (39.6)	18.8%
8 or more cups	23 (47.9)	25 (52.1)	8.7%

Qualitative Feedback

At the end of the program, participants were asked to respond to a brief, nine-item survey. The questions were predominantly open-ended, short answer format, the themes from which are summarized below.

Program satisfaction. Participants were asked to rate their overall experience with the RxforFFV pilot in Idaho, using a 5-point Likert scale of "poor, fair, good, very good, and excellent." The vast majority (95.8%) of participants indicated their experience as very good or excellent.

Fruit and vegetable intake. Participants were asked whether they increased their F&V intake while in the program, of which 97.9% (47 participants) indicated that they had. In addition, participants were asked whether they tried a new fruit or vegetable through this program and if so, what they tried. On the survey, 31 (64.5%) participants indicated they tried a new fruit or vegetable. Fruits that participants reported trying included: mangos, pomegranates, oranges, kiwis, and raspberries. Participants reported trying these vegetables for the first time: avocado, eggplant, and acorn squash. Three participants shared they were able to purchase the fruits and vegetable they enjoyed through this program that are often too expensive.

> ***"I love how the program provides patients with access to healthy foods that are prescribed by their clinical provider. So many people with chronic disease are told to eat more fruits and vegetables but those with a nearly nonexistent food budget often don't have the luxury of purchasing fresh produce. This program allows them to do just that."***
>
> -Stephanie Cooper, Program Coordinator, Idaho Hunger Relief Task Force

Health benefits. All RxforFFV pilot program participants were diagnosed with diabetes or prediabetes. When asked what health benefits they gained from the program, lowering HbA1c and blood sugar values were most commonly cited. Weight loss, generally "feeling better," and consuming more F&Vs were also common health benefits mentioned by participants. One participant shared that by reducing their blood sugar and cholesterol levels, they had more energy and improved overall health.

Lifestyle changes. Participants were asked about the lifestyle changes they made as a result of participating in the program. The most common lifestyle changes (cited by 20 participants) were cooking at home more often and using different methods and new foods. Other common lifestyle changes participants mentioned were consuming more fruits and vegetables (13, 27.1%), shopping at new locations (10, 20.8%), and engaging in meal planning and prepping (6, 12.5%).

> ***"Mostly we just added more variety to our diet. The whole family increased fresh produce intake and lowered our intake of processed foods."***
>
> -RxforFFV participant, age 37, Caldwell, ID

To assess participants' confidence in their newfound habits, they were asked whether they felt they would be able to maintain their healthy eating and lifestyle changes. A large majority (36 participants, 75%) indicated confidence in maintaining their new habits. One participant who responded that they were not confident in sustaining their habits shared that cost was the driving factor, as the vouchers from the program were the exclusive reason for their healthy eating.

> ***"Generosity, especially to those in need of social services is glaringly lacking in US culture at this time. But it's people like you fighting these micro battles each day for families in need - so we can eat as equals, and you make us feel as equals...Thank you for all of your help and for the hope that meeting people like you inspire. We will be praying that your study delivers results that will make people take note."***
>
> -RxforFFV participant, age 39, Caldwell, ID

Incentives. Participants received food-related products intended to help them with cooking. Participants were asked to share which of the giveaways they used most often or were most helpful. The produce brush, cutting board, and measuring cups were most often cited, each with 13 (27.1%) or more mentions. Other less commonly mentioned incentive items were the peeler, spatula, placemat, storage containers, carb counter, nail care set, tote bag, and nutrition calendar.

Program staff. Participants were asked whether RxforFFV pilot program staff had been helpful to them throughout the program. Many participants reported that staff were encouraging, supportive, polite, and always available to assist them. Other ways in which participants felt the staff had been helpful were their ability to be flexible with scheduling, their knowledge of the program and ability to answer questions, and their willingness to go out of their way to deliver vouchers to convenient locations. One participant shared their gratefulness that a staff member went above and beyond by bringing their vouchers to a downstairs location to accommodate their lack of mobility.

Program improvement. Lastly, participants were asked to provide any suggestions they had to improve the program. Nineteen (39.6%) participants mentioned the need for additional participating retailers, with some citing disappointment in the variety of produce selection at some of the locations. Participants also suggested expanding from only fresh fruits and vegetables to include frozen and canned fruits and vegetables and even healthy proteins. Some participants also recommended lowering the monthly voucher allotment to allow the program to run for a longer amount of time.

As described throughout the report, RxforFFV participants experienced positive changes in HbA1c levels and F&V intake throughout their time in the program. Changes in F&V intake were significant (p=0.0476) for participants who redeemed their vouchers at a rate of 90% or greater, as compared to those who redeemed less than 90% of their vouchers. Below, a few limitations from this evaluation are offered. Further, this evaluation would be remiss not to mention the implications that COVID-19 may have had on the program, and as such, this is also discussed below. Finally, a few lessons learned and opportunities for growth and improvement are presented.

Limitations

A few limitations of this program and its impact on the evaluation should be noted. First, the final sample size (n=48) is relatively small, which limits the types of analyses that are possible and the ability to test for statistical significance in some cases. It should also be noted that this program was designed as a pilot project and is purposefully smaller in scope. It was suspected that there was limited power to detect differences due to the relatively small sample, specifically with F&V intake; however, DID estimators were able to be employed to control for baseline differences confounding the program effects, which was a strength of the evaluation.

A second limitation is the onset and sustained impact of COVID-19 during the time that the program was operating. Depending on when they enrolled in and finished the program, as well as their own personal and household circumstances, COVID-19 impacted some participants more so than others. Challenges presented by COVID-19 include post-program HbA1c testing, the administration of post-program surveys, and shopping frequency of participants (i.e., voucher redemption). The ongoing impact of COVID-19 on the food security and overall health of low-income and underserved populations should be considered when interpreting results. The RxforFFV pilot program's response to COVID-19 and associated impact is described in more detail in the following section.

COVID-19 Impact

To ensure the safety of staff, program participants, partners, and students, the Idaho Hunger Relief Task Force implemented a closed- office policy for the public with no direct contact with program participants beginning March 23, 2020. Despite the office closure, all IHRTF program operations have continued with staff working remotely, all meetings conducted by phone or webinar, and communications to RxforFFV participants conducted by phone and through tracked mail rather than in-person.

Understanding that those with diabetes are immunocompromised and therefore at a higher risk for contracting COVID-19, IHRTF eliminated direct person-to-person contact for the RxforFFV pilot program on March 23, 2020. For any participants who had not yet completed the program at this time, their remaining vouchers were sent out via mail. Participants also completed their post-program surveys by phone, and their post-program incentives were sent through tracked mail. In some cases, participants were unable to complete post-program HbA1c testing due to the clinic partners limited contact with patients to emergent or COVID-19-related circumstances. These restrictions led IHRTF to successfully pursue a partnership with Albertons pharmacies that enabled remaining participants to complete their HbA1c tests. Unfortunately, despite these shifts to continue making the program as accessible as possible, one participant dropped out of the program after receiving three months of vouchers due to self-quarantining. Another participant completed the program, but did not feel safe traveling to Albertsons to have their post-program HbA1c test.

With support from the Blue Cross of Idaho Foundation for Health, IHRTF was able to provide a one-month extension of the four-month RxforFFV pilot program for participants who were still enrolled at the start of the pandemic in Idaho. This emergency measure was in recognition that those with underlying conditions (e.g., diabetes) have a higher risk of complications if they contract COVID-19. Knowing that one of the best actions a person with diabetes can take is to pay attention to diet and manage blood glucose levels to protect the immune system (e.g. increasing consumption of F&Vs), IHRTF provided participants with an additional month of vouchers to be redeemed at participating RxforFFV retailers. Blue Cross of Idaho Foundation for Health and IHRTF saw the importance of ensuring access to the RxforFFV pilot program during the onset of the COVID-19 outbreak. Participants who received an extra month of vouchers were considered to be in other high-risk categories as well, including elderly participants, those with preexisting conditions such as cancer, or serving as essential workers during the COVID-19 crisis.

As part of the one-month program extension, participants received by mail a document entitled "Tips for Coping with the COVID-19 Pandemic," developed by St. Luke's Humphreys Diabetes Center, one of the participating clinics in the RxforFFV pilot program. This document provided participants with coping strategies they could use to deal with the stress and uncertainty that COVID-19 caused. The tip sheet is available in this report as **Appendix E**. Participants also received multiple recipe ideas, such as a recipe for Avocado Salsa that used exclusively fresh vegetables and herbs that could be purchased with RxforFFV vouchers, and offered key nutrition information (i.e., calories, carbohydrates, protein, fat, and saturated fat exchanges per serving).

Lessons Learned and Opportunities for Growth

- **Support from a guiding group can help inform program operations.** At the program's inception, a guiding group was organized by RxforFFV pilot program staff. The guiding group met on a regular basis to introduce ideas, identify areas for improvement, and discuss learnings from other nutrition incentive and produce prescription programs across the state and country. The group shared input on next steps, voucher design, retailer recruitment, grant opportunities and more. RxforFFV leadership and staff describes this guiding group as an essential component to the program's success. The group has diverse experience and includes clinical staff, registered dietitians, clinic managers, program champions (pediatricians), public health staff, the Idaho Diabetes, Stroke and Heart Disease Prevention Program, the Idaho Primary Care Association, the Idaho Physical Activity and Nutrition Program, and soon will include a participating produce retailer. The retailer voice is seen as particularly important, as it provides a unique perspective not typically considered in the health field.

> ***"We do find [RxforFFV] valuable. We believe we are able to provide the produce that the customer is needing at a great price along with other items they may need. Customers are impressed with the variety and selection we carry as well as the quality of produce we carry."***
>
> -Sharon and Jon Muniz, Owners, Grocery Outlet, Caldwell, ID

- **Vetting potential program participants before enrolling them in the program can help support participation and retention.** It was important that participants understood the overall goal of increasing daily consumption of produce to reduce HbA1c levels. Participants were asked what barriers might prohibit them from completing the four-month program (i.e. surgery/recovery, moving or traveling out of the program area). Food safety concerns are presented to homeless individuals since many do not have the means for refrigeration or food preparation. Homeless individuals were excluded from this program at this time, but this is an area of future interest for IHRTF.

- **Embedding a nationally validated screening tool into electronic medical records supports partnerships with clinics.** Having the two-question Hunger Vital Sign screener and the referral to the RxforFFV pilot program embedded in the electronic medical records is meaningful to the partnership between participating clinics and IHRTF as a community-based organization. This structure allows IHRTF to be part of the clinic's workflow, and having the results documented in the patient's file helps to validate the work and document its outcomes in a proficient manner.
- **Monthly in-person visits with participants can support program participation and retention.** Initially, the program was structured to include an in-person visit upon both enrollment and completion, with the plan to mail participants their vouchers during the second and third. After having two mailed envelopes get lost, a change was made to monthly in-person visits. This allowed program staff to not only see and talk with each participant but also to encourage and suggest new recipes and tips for continued healthy habits. It is presumed that the success of the program was largely influenced by this monthly personal interaction. During the COVID-19 pivot, as mentioned previously, vouchers were alternatively sent by mail; because the vouchers were sent via tracked mail, program staff were able to monitor the receipt and follow up by phone right away, thereby continuing to provide monthly and personalized check-ins.
- **Scheduling processes and program start dates for participants could be further streamlined.** With a program that straddles five counties, there is a need to streamline deliveries and appointments with future sustainability in mind. In the 2019-2020 RxforFFV cohort, vouchers were distributed on a rolling basis, that is, when a participant is referred, they can begin using the program as soon as they are vetted and enrolled. Therefore, participants could begin on any given day of the month. In the future, limiting to two start dates per month would allow for streamlined scheduling. Further, it is important to enroll participants who have daily access to the partnering retailers. As there are areas within the five country service region that have low food access, retailer recruitment and capacity building will be critical to scaling the RxforFFV pilot program.
- **Voucher consistency supports retailer participation.** RxforFFV vouchers are tamper-resistant, which helped in recruiting participating retailers in ensuring the security of the vouchers. All participating retailers and clinics used the same voucher template, which helped with program branding and consistency throughout the service area. This will be important to future statewide scalability.
- **Voucher redemption data can provide unique insights to support program participation and retention.** It is important to monitor monthly voucher redemption rates as part of the monthly check-in with program participants. If vouchers are not being used, there is an opportunity for troubleshooting. As the results showed, the voucher redemption rate was very high, presumably due at least in part to personalized monthly check-ins that helped participants stay engaged throughout the program.

- **Reimbursing retailers in a timely manner is critical.** Having retailer support is an integral part of the program and IHRTF went to great lengths to ensure retailer satisfaction. IHRTF collected vouchers from retailers, invoiced on their behalf, and mailed checks promptly on the last day of each month. Continuing to commit to streamlined processes around retailer satisfaction will be of even more importance as the RxforFFV pilot program looks to gain support from larger stores in scaling the program.
- **Participant feedback over the winter months showcased that the ability to purchase frozen or canned fruits and vegetables would enhance the program.** During the growing season, variety is abundant. In the winter, however, there are fewer options. A future consideration would be to allow for purchase of non-fresh produce items from participating retailers.
- **It is important to consider aligning program length with frequency of HbA1c testing.** The standard of care for many clinics is to have HbA1c tests conducted every three months.[5] As the RxforFFV pilot program duration is four months, testing did not align with the end of RxforFFV pilot programming for some participants. One option for consideration is for testing to be completed in line with provider protocol at three months, with a completion incentive offered in the fourth and final month. Another option would be to structure the program such that referrals can only be made at the time of a new (i.e., pre) HbA1c test, with the post-test prescheduled as a requirement to enroll.
- **The program could be further strengthened by collecting additional biometric data.** In future cohorts of the RxforFFV program, there is an opportunity to collect biometric data beyond HbA1c levels, such as height and weight (i.e., to calculate body mass index) and blood pressure. Doing so opens up the door for additional partnerships, such as with the American Heart Association, and provides additional metrics that can be assessed pre- and post-program to show a more comprehensive snapshot of health beyond diabetes status.
- **Medical nutrition therapy and nutrition education for diabetes is critical to changing HbA1c levels.**[6-8] There is no "one size fits all" approach; instead, the focus should be on creating "pathways" to nutrition education. RxforFFV staff first share the importance of nutrition education to participant success and ask how they might get this support. Rather than duplicate what clinic partners are already doing, RxforFFV supports existing education that is already in place. Clinic partners each have registered dietitians that are available when needed. RxforFFV staff work with participants to get them that access (i.e., physician referral to their internal registered dietitian). RxforFFV program staff are in the process of developing an online diabetes-focused cooking class and discussion group, as a response to COVID-19 and the inability to host in-person classes. In summary, there are a variety of ways to deliver nutrition education, and the RxforFFV program staff have had most success with encouraging and supporting – not mandating – any particular mechanism.
- **Finally, as the RxforFFV pilot program continues to grow, the sustainability of behavior change should be assessed.** Efforts should be taken to explore the long-term effects of the four-month program on participants' diabetes status, F&V intake, and overall health. These effects could be explored through follow-up surveys and/or interviews with past program participants. Based on results, the RxforFFV pilot program could be adapted to allow for longer-term participant engagement toward the goal of sustained behavior change.

As the data indicates, the first cohort of the RxforFFV pilot program was a success. In addition to quantifiable changes in health outcomes (i.e., HbA1c values) and healthy eating habits (i.e., F&V consumption), RxforFFV participants also reported trying new fruits and vegetables, increased confidence in their newfound healthy habits, and improved general health and wellness. Though the sample size was small and therefore unlikely to impact participating retailers' bottom lines, retailers had the opportunity to expand their customer base by inviting in shoppers (i.e., RxforFFV participants) who might not normally visit their stores. Participating retailers had the experience of giving back to their community in a unique way, and to begin building relationships with new customers that will hopefully be sustained beyond the duration of the RxforFFV pilot program. Health care providers were able to invest in their patients more holistically and use their prescriptive power to link RxforFFV participants to fresh produce at community retailers.

It is anticipated that Idaho families will continue to encounter food insecurity, especially given the acute and ongoing impacts of COVID-19. Nutrition incentive programs such as RxforFFV may enhance access to healthy foods thereby helping to manage diet-related chronic diseases, such as diabetes. The positive results from the first round of the RxforFFV pilot program make IHRTF and their partners well positioned to seek additional funding for continued and expanded efforts that align with their mission of decreasing food insecurity and increasing food access for families across the state.

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Rx for Fresh Fruits and Vegetables in Idaho
Participant Survey

1. Have you ever participated in this type of program (fruit and vegetable prescription program) before?
   - ☐ No
   - ☐ Yes
   - ☐ I don't know

2. In general, how would you rate your overall health?
   - ☐ Poor
   - ☐ Fair
   - ☐ Good
   - ☐ Very good
   - ☐ Excellent

3. Do any children in your household participate in any of the following programs? **Select all that apply.**
   - ☐ Free or reduced-price school lunch or breakfast program
   - ☐ Summer meals program
   - ☐ Afterschool meal or snack program
   - ☐ Other: _____
   - ☐ None of the above

4. Are you or anyone in your household currently receiving any of the following? **Select all that apply.**
   - ☐ SNAP/food stamps
   - ☐ WIC (Program for Women, Infants, & Children)
   - ☐ Social Security Disability Insurance (SSDI)
   - ☐ Temporary Assistance to Needy Families (TANF)
   - ☐ Supplemental Security Income (SSI)
   - ☐ Other: _____
   - ☐ None of the above

The next set of questions (5-14) are about the different kinds of foods you ate or drank during the past month, that is, the past 30 days. When answering, please include meals and snacks eaten at home, at work or school, in restaurants, and anyplace else.

5. During the past month, how often did you drink **100% pure fruit juices** such as orange, mango, apple, grape, and pineapple juices? Do **not** include fruit-flavored drinks with added sugar or fruit juice you made at home and added sugar to.
   - ☐ Never
   - ☐ 1 time last month
   - ☐ 2-3 times last month
   - ☐ 1 time per week
   - ☐ 2 times per week
   - ☐ 3-4 times per week
   - ☐ 5-6 times per week
   - ☐ 1 time per day
   - ☐ 2-3 times per day
   - ☐ 4-5 times per day
   - ☐ 6 or more times per day

6. During the past month, how often did you eat **fruit**? Include fresh, frozen, or canned fruit. Do **not** include juices.
   - ☐ Never
   - ☐ 1 time last month
   - ☐ 2-3 times last month
   - ☐ 1 time per week
   - ☐ 2 times per week
   - ☐ 3-4 times per week
   - ☐ 5-6 times per week
   - ☐ 1 time per day
   - ☐ 2-3 times per day
   - ☐ 4-5 times per day
   - ☐ 6 or more times per day

7. During the past month, how often did you eat a green leafy or lettuce **salad**, with or without other vegetables?
   - ☐ Never
   - ☐ 1 time last month
   - ☐ 2-3 times last month
   - ☐ 1 time per week
   - ☐ 2 times per week
   - ☐ 3-4 times per week
   - ☐ 5-6 times per week
   - ☐ 1 time per day
   - ☐ 2-3 times per day
   - ☐ 4-5 times per day
   - ☐ 6 or more times per day

8. During the past month, how often did you eat any kind of **fried potatoes**, including french fries, home fries, or hash brown potatoes?
   - ☐ Never
   - ☐ 1 time last month
   - ☐ 2-3 times last month
   - ☐ 1 time per week
   - ☐ 2 times per week
   - ☐ 3-4 times per week
   - ☐ 5-6 times per week
   - ☐ 1 time per day
   - ☐ 2-3 times per day
   - ☐ 4-5 times per day
   - ☐ 6 or more times per day

9. During the past month, how often did you eat any **other kind of potatoes**, such as baked, boiled, mashed potatoes, sweet potatoes, or potato salad?
   - ☐ Never
   - ☐ 1 time last month
   - ☐ 2-3 times last month
   - ☐ 1 time per week
   - ☐ 2 times per week
   - ☐ 3-4 times per week
   - ☐ 5-6 times per week
   - ☐ 1 time per day
   - ☐ 2-3 times per day
   - ☐ 4-5 times per day
   - ☐ 6 or more times per day

10. During the past month, how often did you eat refried beans, baked beans, beans in soup, pork and beans or any other type of cooked dried beans? Do **not** include green beans.
    - ☐ Never
    - ☐ 1 time last month
    - ☐ 2-3 times last month
    - ☐ 1 time per week
    - ☐ 2 times per week
    - ☐ 3-4 times per week
    - ☐ 5-6 times per week
    - ☐ 1 time per day
    - ☐ 2-3 times per day
    - ☐ 4-5 times per day
    - ☐ 6 or more times per day

11. During the past month, not including what you just told me about (green salads, potatoes, cooked dried beans), how often did you eat **other vegetables**?
    - ☐ Never
    - ☐ 1 time last month
    - ☐ 2-3 times last month
    - ☐ 1 time per week
    - ☐ 2 times per week
    - ☐ 3-4 times per week
    - ☐ 5-6 times per week
    - ☐ 1 time per day
    - ☐ 2-3 times per day
    - ☐ 4-5 times per day
    - ☐ 6 or more times per day

12. During the past month, how often did you have Mexican-type **salsa** made with tomato?
    - ☐ Never
    - ☐ 1 time last month
    - ☐ 2-3 times last month
    - ☐ 1 time per week
    - ☐ 2 times per week
    - ☐ 3-4 times per week
    - ☐ 5-6 times per week
    - ☐ 1 time per day
    - ☐ 2-3 times per day
    - ☐ 4-5 times per day
    - ☐ 6 or more times per day

13. During the past month, how often did you eat **pizza**? Include frozen pizza, fast food pizza, and homemade pizza.
    - ☐ Never
    - ☐ 1 time last month
    - ☐ 2-3 times last month
    - ☐ 1 time per week
    - ☐ 2 times per week
    - ☐ 3-4 times per week
    - ☐ 5-6 times per week
    - ☐ 1 time per day
    - ☐ 2-3 times per day
    - ☐ 4-5 times per day
    - ☐ 6 or more times per day

14. During the past month, how often did you have **tomato sauces** such as with spaghetti or noodles or mixed into foods such as lasagna? Do not include tomato sauce on pizza.
    - ☐ Never
    - ☐ 1 time last month
    - ☐ 2-3 times last month
    - ☐ 1 time per week
    - ☐ 2 times per week
    - ☐ 3-4 times per week
    - ☐ 5-6 times per week
    - ☐ 1 time per day
    - ☐ 2-3 times per day
    - ☐ 4-5 times per day
    - ☐ 6 or more times per day

15. On average, about how many cups of bottled or tap water do you drink each day? (8 oz. of water is equal to one cup. One standard 16 oz. bottle of water equals 2 cups).
    - ☐ None
    - ☐ 1-3 cups
    - ☐ 4-7 cups
    - ☐ 8 or more cups

16. Please select how much you disagree or agree with this statement: **My family or friends encourage me to eat fruits and vegetables.**
    - ☐ Strongly disagree
    - ☐ Disagree
    - ☐ Neither disagree nor agree
    - ☐ Agree
    - ☐ Strongly agree

17. Please select how much you disagree or agree with this statement: **I feel confident in my ability to eat fruits and vegetables every day.**
    - ☐ Strongly disagree
    - ☐ Disagree
    - ☐ Neither disagree nor agree
    - ☐ Agree
    - ☐ Strongly agree

18. For each statement listed, check ("X") the box that best indicates how much you personally agree or disagree with that statement. Use the scale of 1 (Strongly Disagree) to 5 (Strongly Agree).

    I don't eat fruits and vegetables as much as I'd like to because:

	Strongly Disagree				**Strongly Agree**
	1	**2**	**3**	**4**	**5**
They cost too much.					
They often spoil before I get a chance to eat them.					
They take too much time to prepare.					
They are not filling enough.					
My family doesn't like them.					
I have trouble digesting them.					
I don't know how to choose fresh fruits and vegetables.					
I/we don't have reliable transportation.					
The market or store is too far away.					

19. Has a doctor or other health professional ever told you that you had **pre-diabetes, diabetes, or high blood sugar**?
    - ☐ No
    - ☐ Yes
    - ☐ I don't know

20. Has a doctor or other health professional ever told you that had **high blood pressure or hypertension**?
    - ☐ No
    - ☐ Yes
    - ☐ I don't know

21. Please tell me which of the following you would use to describe yourself. **Select all that apply.**
    - ☐ White or European American, non-Hispanic
    - ☐ Hispanic, Latino(a), or Spanish
    - ☐ Black or African American, non-Hispanic
    - ☐ Asian or Asian American, non-Hispanic
    - ☐ American Indian or Alaska Native, non-Hispanic
    - ☐ Middle Eastern or North African
    - ☐ Native Hawaiian or Pacific Islander
    - ☐ Multi-racial
    - ☐ Other: _____

Maria is a 35-year-old single mother and essential worker, providing childcare for front-line workers responding to the COVID-19 outbreak in Idaho. Maria was diagnosed with prediabetes when referred to the RxforFFV pilot program by St. Luke's Humphreys Diabetes Center. With the rise of COVID-19, St. Luke's ceased in-person appointments, and as such, Maria was unable to get tested for her post-program A1c level. The Idaho Hunger Relief Task Force (IHRTF) team worked quickly to identify testing alternatives; they were able to partner with Albertsons pharmacies to make HbA1c testing available to participants in the program, including Maria. Maria was able to get her post-program A1c testing completed, and as a result of the program, was able to bring her HbA1c levels to a normal range.

The RxforFFV pilot program positively impacted Maria's life in many ways. She reported trying raspberries for the first time and purchased more fresh produce overall. Prior to receiving the vouchers, Maria limited the amount of fresh produce she purchased due to the price and fear of spoilage. Having the vouchers made accessing fresh fruit and vegetables easier not only for Maria, but her daughter as well, who also incorporated more fruits and vegetables into her diet throughout the program. Maria loved the program and appreciated all the help and guidance she received from the program staff.

Another emergency COVID-19 pivot of the IHRTF team was to extend the voucher program for participants, including Maria. Maria described the overall impact the program on her, saying, **"Overall, between eating healthy and exercise, I was able to not only lower my A1c but also try new fruits and vegetables. I tried raspberries...because of the low sugar they have, they were recommended to me. I learned how to cook with [fruits and vegetables]. I lost weight also throughout the program. I really loved it."**

Reggie is owner of the long-standing Reggie's Veggies produce stand in Boise, Idaho. He has operated the stand for 24 years and is a favorite among community members for fresh, local fruits and vegetables.

Reggie's Veggies goes out of its way to assist participants in maximizing their vouchers. Reggie offers advice to participants that helps them get the most for their money and steers them towards seasonal produce as it tends to be more affordable. Reggie's guidance helps participants maximize their vouchers and educates them about the process of purchasing fruits and vegetables.

During the COVID-19 outbreak, the produce stand was deemed an essential business and was busier than usual. With restaurants being closed, families reported cooking more at home and ordering less takeout, leading to a busier spring than normal for Reggie's Veggies. Reggie shared that they have responded to the bump in customers and the associated COVID-19 crisis by incorporating safety measures such as socially-distanced lines, among other things. At the beginning of the season, there were fewer vouchers being redeemed; towards the end of the program, there were more vouchers used, which took additional time to process, but Reggie said he still tries to get people through as quickly as possible.

Reggie says of the RxforFFV pilot program: **"it's been a win-win totally."** He added, **"New faces come in and some of those faces still come back even though they've run out of their vouchers."**

> ***"All aspects of the program seem to be positive. People who normally don't eat much produce, or necessarily healthy, are trying a nice variety. Not seeing anyone trying to 'game' the program. Looks like a 'win-win' program."***
>
> -Reggie States, Owner of Reggie's Veggies LLC, Boise, ID

Julie is a Registered Dietitian with more than 30 years of experience as a certified diabetes educator. She is the Manager of Diabetes Education at St. Luke's Humphreys Diabetes Centers in Meridian and Boise. Julie sees patients twice a week and fulfills management duties on the remaining days. Humphreys is a strong program partner, with the majority of RxforFFV referrals coming from their clinics.

As patient educators, the diabetes clinics see various types of diabetes and educate on aspects of diabetes both in individual and group settings. In response to COVID-19 and knowing that those with underlying medical conditions, such as diabetes, are at higher risk for COVID-19 complications, Julie's clinics temporarily eliminated face-to-face and group settings. Instead, the clinic conducted phone visits with patients.

Julie reported that there was good communication about the program from RxforFFV pilot program staff. The training she received prepared her and her team for enrolling participants and operating the program. Of the impact the program had on participants, Julie shared, **"We received really good, great feedback from our patients. They really did eat more fruits and vegetables. I saw people with better blood sugars, A1c improvement, weight loss."**

Julie recognized that some of the challenges patients have in accessing fresh fruits and vegetables are due to socioeconomic factors, such as affordability. The program thereby eliminated one key barrier to accessing fresh fruits and vegetables. Commonly, patients ask Julie to help them identify which fruits and vegetables might be best to eat. Julie equips her patients with the knowledge to identify fruits and vegetables that have a lower glycemic index and are recommended to patients with diabetes or prediabetes. Finally, to prospective clinic directors who may be considering participating in a produce prescription program, she says **"Go for it!,"** as there is minimal work on the clinic's part and maximum benefits for patients.

> ***"They absolutely loved it. They like having more fruits and vegetables. They were eating healthier. Some people had phenomenal improvement."***
>
> -Julie Walker, Director of St. Luke's Humphreys Diabetes Center, Boise and Meridian

Amy Walters, PhD; St. Luke's Humphreys Diabetes Center

This is a trying time for everyone, full of uncertainty and concern. Practicing these strategies may be helpful in building your coping skills as we patiently wait for this state of emergency to pass. These strategies are a collection of ideas shared by psychologists across the country:

- Stay informed and obtain information (in small doses) from reliable sources (CDC, WHO, local public health). Information can help you make educated decisions and has been shown to reduce anxiety. We do not recommend watching news or reading articles for extended periods of time as this may increase anxiety.
- Create routine – predictability creates a sense of calm. This is especially important if working from home, when children are out of school or when self-isolating to avoid exposure.
- Practice daily movement and activity – regular physical activity promotes health, provides a healthy coping strategy, and can boost immunity.
- Maintain connection with family and friends – with social distancing and self-isolation efforts, loneliness can creep in. find safe ways to connect with others – phone, FaceTime, email, text, letter, social media, and outdoor activities can all be good options.
- Build simple pleasures into your day – the media is full of bad news and our lives have been disrupted. Create balance by adding small moments of pleasure into your day. Things like sitting in the sun, fresh cut flowers, listening to music, funny videos or a favorite treat can go a long way in adding bursts of joy to your day.
- Practice daily relaxation and self-soothing activities – deep breathing, music, yoga, prayer, meditation, hot bath/shower, aroma therapy, a blanket and a good book or time with pets are all examples
- Practice good self-care – choose healthy foods, limit alcohol and caffeine, maintain a sleep routine, and do regular activity.
- Avoid obsessive or ruminating thoughts – thinking over and over about what could happen or other "what ifs" have been shown to drive up anxiety.
- Practice good stress management strategies – stress has a negative impact on immune function, identify healthy coping skills, problem solve, focus on things you can control instead of what you cannot.
- Talk about your concerns and practice active listening with others. Just being heard can be very calming. Practice compassion for yourself and others.
- Connect with your values – choose to behave in ways that are consistent with your core values like compassion, generosity, patience, connection, productivity, respect, creativity, gratitude, and others.
- Practice psychological flexibility – this is an important quality for resilience and psychological health. During challenging times, you need to adapt and adjust to changing information and conditions.
- Engage in creative expression – art is a great way to relieve stress and express emotions.

- Be mindful – periodically stop. Listen to your breath. Calm your thoughts. Pay attention to the birds, wind and leaves. Connecting with your breath and with nature can help reduce your heart rate and your stress.
- Let go of perfection – during challenging times, things will not always go as planned. Setting expectations that are too high set you up for frustration and stress.
- Have family conversations about expectations – sometimes increased togetherness can be challenging. Being clear about expectations of members during social distancing and isolation can help prevent conflicts. When conflicts do occur, practice assertive communication using the Fact, Feeling, Fair request format.
- Look for ways to build hope and optimism – remember, humans are very resilient creatures, and this too shall pass. Throughout history people have faced adversity (wars, famine, disasters, loss) and survived – we can too.
- If quarantined or self-isolated, take the opportunity to do things you seldom have time to do – read, practice creative arts, play games, learn a language or instrument, write letters, watch movies, review old pictures, clean closets, try new recipes or explore new pastimes.