



Vouchers 4 Veggies

LA pilot Evaluation Report 2018: Key Findings

Preliminary Report DRAFT
May 6, 2019

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Acknowledgements

AARP Foundation
LA Food Policy Council
A Community of Friends
LA Housing Partnership

Executive Summary

Vouchers 4 Veggies is a transformative fruit and vegetable voucher program with a three-pronged mission to increase food security, improve dietary intake and support the local food economy in under-resourced and vulnerable populations. Started in San Francisco, V4V improved outcomes for low-income residents and has infused over \$1 million into the local food economy since 2015.

V4V aims to replicate this success in Los Angeles. With generous support from the AARP Foundation, V4V launched a pilot program in 2018 in the MacArthur Park neighborhood. Staff worked with two local housing organizations, A Community of Friends and the LA Housing Partnership to enroll 232 low income residents of Los Angeles aged 50 and older. After securing a network of grocery stores and corner stores in MacArthur Park, enrolled participants could use their \$20 per month in vouchers to buy fresh or frozen fruits and vegetables at their local stores.

We collected baseline and follow-up surveys to measure demographic information, food security status, fruit and vegetable intake, and program impact and satisfaction (follow-up only). Participants significantly increased fruit and vegetable consumption by .69 servings per day, but there was no significant difference in food security status. Participants report high impact of V4V, with over 90% of participants agreeing that program has improved their health, nutrition knowledge, and confidence to make healthy food choices on a budget. Focus groups were conducted with participants who regularly used their vouchers, as well as with participants who demonstrated low voucher use (4 or fewer vouchers redeemed in 6 months). Qualitative data suggest that participants valued V4V because it helped them buy healthy food to manage chronic diseases, as well as to extend monthly budgets. Distribution site staff and food vendors also report positive outcomes from the implementation of V4V, such as an increase in healthy food purchases among high-need participants.

Although the quantitative data is limited by small sample size, possibility of selection or social desirability bias and the validity of screening tools, there is multi-faceted evidence to suggest that receiving fruit and vegetable vouchers can improve health outcomes for low-income seniors.

INTRODUCTION

Program History

Los Angeles is a city known for both its great prosperity as well as its extreme poverty. The cost of living in LA is 46 – 95% higher than the national average. For many low-income residents, healthy food such as fruits and vegetables (F&V) are unattainable on budgets that barely cover rent and necessities. Financially struggling families instead consume processed foods with low nutritional value that are readily available, filling and cheap. Over time, this eating pattern can negatively impact their quality of life and lead to chronic diseases such as obesity, diabetes, and hypertension. In the poorest neighborhoods, many stores have little incentive to carry fresh produce, further contributing to unhealthy eating patterns. The cycle continues uninterrupted as children grow up with little exposure to fruits and vegetables.

In particular, residents of South Los Angeles are deeply impacted by historical inequities that led to its current food landscape. South LA has fewer full-service grocery stores in their proximity, poorer quality food options, and a preponderance of fast food options compared to other communities. (cite) Predominantly Latino and African American, the lack of geographic access to and affordability of healthy food options has led to residents of South Los Angeles Service Planning Area (SPA) 6 to experience some of the highest diet-related, chronic disease rates in the nation. (cite) Currently, the diabetes rate is 44% higher and the hypertension rate is 24% higher than the national average. (cite) Families with children face a particular challenge with one in five households reporting ZERO weekly purchases of fruits and vegetables. (cite)

Vouchers 4 Veggies (V4V) addresses this challenge with an innovative fruit and vegetable voucher program designed to help low-income households access healthy foods, stretch their food budgets, and to increase the demand for produce in their neighborhoods. During the V4V-LA pilot program, participants received \$20 per month in vouchers for a 6 months. Vouchers are redeemable at neighborhood stores and farmer's markets and supplemented with nutritional education resources. As a place-based model, V4V is embedded within the MacArthur Park neighborhood, and worked with subsidized senior housing sites to help increase food security for vulnerable residents 50 years and older. Two local housing management organizations (A Community of Friends, LA Housing Partnership) served as partners, where 232 residents of 12 housing sites enrolled in the 6-month program.

Background

The treatment of chronic disease costs the United States more than \$500 billion annually¹⁻⁴, despite the fact that most are preventable with diet and moderate exercise. For many low-income individuals, the foods critical for the prevention of chronic disease are not financially within reach. In fact, 24% of US low-income households report zero weekly purchases of fruits and vegetables⁵.

Disparities in dietary intake related to the accessibility and affordability of fruits and vegetables substantially increase health disparities. For example, studies show that an increase of fruit and vegetable intake by just 1-2 servings/day can improve cardiovascular outcomes and decrease cancer risk, two diseases with the greatest socioeconomic disparities in the US⁶. Although most Americans do not consume the recommended 5+ daily servings of fruits and vegetables, rates are strikingly low in low-income communities⁵. Low-income households face numerous barriers to fruit and vegetable consumption; in some studies, price is the most frequently cited barrier⁷. The resulting dietary disparity, disproportionately impacting people of color, leads to higher chronic disease rates, higher complication rates, greater health expenses, and lower quality of life^{8,9}.

Through the distribution of vouchers dedicated specifically to the purchase of fruits and vegetables in impoverished areas, V4V's goals are to significantly reduce food insecurity, improve the health of the population, and economically support stores that offer healthy food options in food deserts. This report summarizes quantitative and qualitative survey data and program outcomes from V4V in Los Angeles.

METHODOLOGY

The findings of this report are based on a multi-modal evaluation of V4V participants, distribution sites, and vendor partners in Los Angeles.

Data Collection

Participant Outcomes:

We administered a survey to V4V participants in Los Angeles both pre- and post- intervention (at 0 and 3-6 months). Findings are based on surveys of 232 participants between June - December 2018. Surveys were available in four languages (English, Spanish, Chinese and Korean) and either self-administered by V4V participants or completed with the help of distribution site staff (generally due to translation needs, vision impairments, and limited literacy). Survey questions consisted of a validated 7-item fruit and vegetable intake screener, the USDA's 6-item Food Security Survey Module, and closed- and open-ended questions addressing health status, healthy eating behaviors, and program satisfaction.

Distribution site staff recruited English- and Spanish-speaking V4V participants for focus groups conducted in Los Angeles. Two to three V4V staff facilitated each focus group for a duration of 60 to 90 minutes. Open-ended questions were followed by appropriate probes using an interview guide addressing the following major topics: experience receiving V4V vouchers, experience redeeming V4V at the food vendor, impact on consumption and purchasing patterns, and program satisfaction. Focus groups were audio-recorded with participant consent and staff took notes during each focus group. All focus group participants received a \$25 gift card.

Voucher Tracking and Utilization:

Ongoing voucher collection and tracking was supported by optical recognition software. Redemption rates, vendor use, and participant shopping patterns were assessed using data collected by this tracking system.

Data Analyses

We use descriptive statistics to illustrate demographic composition, fruit and vegetable intake, healthy eating behaviors, self-perceived health status, redemption rates, vendor use, and shopping patterns.

We examined participant outcomes at baseline and 6 month follow up (i.e. at completion of program participation). We used paired-sample t-tests to test the statistical significance of changes in fruit and vegetable intake and food security status at the three time points. We used Wilcoxon signed rank tests to test the statistical significance of changes in self-reported health status and monthly food budget across the three time points. All p-values are reported at the conventional significance level of <0.05. All analyses were performed using Stata software (version 14.2; StataCorp, College Station, TX), Microsoft Excel, and Microsoft Access.

Audio recordings of focus groups were transcribed and supplemented with staff notes. Transcripts were reviewed by two program staff members and coded independently. Codes were reviewed and refined to reflect the major concepts that emerged through focus group responses. In addition, there were 4 short-answer questions on the follow up survey, and 2 staff members reviewed and independently coded answers to those questions to develop common themes.

RESULTS

Target Populations

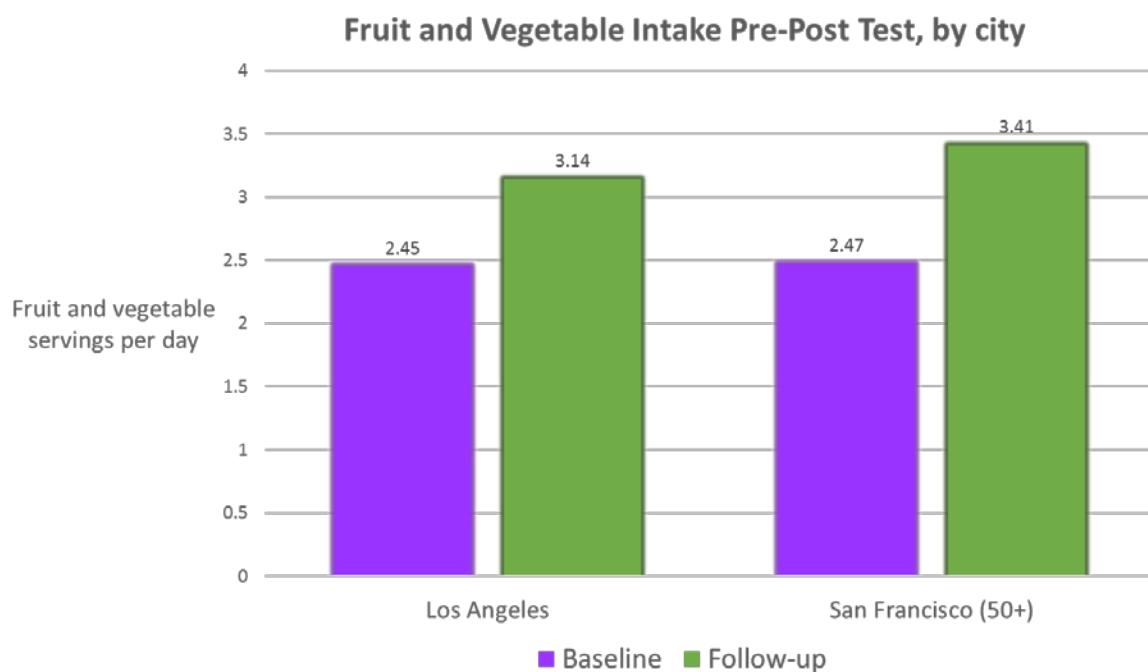
Between February and December 2018, V4V in Los Angeles enrolled 232 households. V4V serves critically poor residents of Los Angeles neighborhoods with the highest poverty rates, health disparities, and challenges with food accessibility. Participants are both physically and economically vulnerable: low-income families, seniors, and disabled adults receiving Social Security Disability Insurance. Seventy-one percent of participants report incomes under \$1,000/month, and 76% of participants have a chronic diet-related illness. Participants are also ethnically diverse: 26% Latino, 27% African American, and 32% Asian (Appendix Exhibit 1).

Participant Outcomes

V4V participants report increased fruit and vegetable intake

Participant surveys revealed that San Francisco participants increased their daily fruit and vegetable intake by 0.69 servings daily after six months in the program (see Figure 1). Measured by a validated fruit and vegetable screener, participants reported a statistically significant increase from 2.45 to 3.14 servings per day ($p<0.001$, $n=129$).

Figure 1.



Participants also reported positive changes in healthy eating habits after 6 months in the V4V program. They could afford fruits and vegetables they could not previously afford (93%), were more confident in their ability to make healthy food choices on a budget (95%), had increased knowledge of the importance of fruits and vegetables (95%), ate less unhealthy food (93%), and felt that eating a healthy diet was easier (28%). These positive changes could contribute to the persistence of healthy eating habits after vouchers are no longer available to a participant.

Increased fruit and vegetable intake was also a theme from the qualitative analysis of survey and focus group data. On follow-up surveys, participants described how the vouchers both helped them and reminded them to purchase produce. One participant wrote that V4V “increased fruit and veggies in [their] diet. Vouchers serve as an incentive and reminder to get fruits and veggies.”

Qualitative results show evidence for improving food security through extended budgets and food access

The USDA defines food security as access at all times to enough food for an active, healthy life. People who are food insecure lack financial or other resources to access adequate food. Food security was measured on a 6 point scale (0 being the most food secure and 6 being very food insecure). The USDA recognizes four levels of food security: very low food security, low food security, marginal food security, and food security.

Participants reported that their monthly household food budget was approximately \$204/month for single adult households. V4V vouchers (\$20 per month for individuals) therefore represent approximately a 10% increase in household food budgets. For some participants, the vouchers seemed to have an even greater impact on their food budget. For example, we asked participants were asked, "how many weeks per month does your food budget last?" Almost a quarter (24%) reported an increase in their food budget by one or more weeks after six months in V4V, compared to their pre-V4V participation. 47% of participants reported no change.

In follow-up surveys and the focus groups, expanded food budgets and greater access to fruits and vegetables emerged as themes. A focus group participant said, "this program works because it can save you 20 dollars a month." Similarly, when asked in surveys how V4V has helped them, several participants mentioned how V4V creates more room in their budget to buy produce they enjoy. One person wrote that V4V "helps [them] get through the month easier. Fresh fruits/berries, etc. and salads of all kinds are my daily food choices." Another participant noted that the increased access to food "fulfilled [their] hunger - for veggies, fresh veggies and fruit."

Quantitative analysis of food security survey data found that there was not a statistically significant increase in overall food security status. At baseline, 66% of V4V participants lived in food insecure households (compared to a national food insecurity estimate of 11.8% of households¹²). 30% of participants moved up at least one food security category (i.e. from "very food insecure" to "marginally food insecure"), with 66% moving up from very low food security status. However, approximately the same number of people decreased at least one category, resulting in a non-statistically significant difference in food security before and after the program.

Analysis of FV consumption and food security before and after Food 4 Less

One large chain grocery store (Food 4 Less) was recruited in the middle of the program, so approximately half of participants had access to this store to exchange their V4V vouchers. We hypothesized that since this is a popular chain that participants' voucher redemption would be higher for this group than for the group who could not use vouchers at Food 4 Less. This in turn could lead to higher FV consumption and impact food security status due to more purchases of fruits and vegetables.

There was a statistically significant increase in FV consumption in both groups, and the magnitude of the increase was similar for groups before and after Food 4 Less (0.7 more servings per day for post-Food 4 Less, p=.0039; 0.65 more servings for pre-Food 4 Less, p=.023). However, food security was not significantly improved for the post-Food 4 Less group (p=.3411), just as it was not statistically improved for the pre-Food 4 Less group (p=.9763).

V4V participants report improved health status

Participants were asked to rate their health as excellent, very good, good, fair or poor at the start of the program and after six months of receiving vouchers. Participants reported a statistically significant improvement in self-reported health status ($p<0.001$). 37% of participants reported an increase in perceived health status after 6 months of participation in V4V. 95% either agreed or strongly agreed that their health had improved following participation in V4V.

"I really appreciate the program has been expanding to the needs of the family more in Los Angeles area. Our family became more conscious about eating healthy vegetables and fruit and [eating] a healthy diet."

- V4V program participant

These findings are consistent with our findings from the focus groups. Focus group participants highlighted V4V's impact health outcomes, including managing chronic diseases such as diabetes. One participant said, "I have to watch out for my diabetes. I had a bad report this month. Oh man, everything was out of wack. But I've promised to pull it back together, eat more vegetables." When asked in follow-up surveys how V4V has changed the way they thought about fruits and vegetables, participants also noted the difference in their health. One person noted that they felt better shortly after using V4V vouchers: "After eating fruits and veggies regularly for about 2 weeks, my body began to function better."

Participant Satisfaction, Voucher Redemption and Program Retention

Participants rate V4V highly. 88% of participants report a high or very high level of satisfaction with the program. 97% of participants report that redeeming vouchers at participating stores is easy or very easy, and 95% report that picking up new vouchers from their designated V4V staff member is easy or very easy. However, 29% feel that the \$20 monthly voucher amount is too low.

Include voucher redemption – talk to Sanjana. Run 2nd numbers after Foods Co was on board?

Ask Sanjana about program retention?

Low voucher users

V4V staff conducted 3 interviews with participants who had redeemed 6 or fewer vouchers throughout their 6 month enrollment period, classified as "low voucher users." These results shed light on the shortfalls of the V4V program for select participants and can help guide program improvements. The themes identified in these interviews include poor quality or limited

quantity of produce in partner stores, adherence to particular diets, lack of vendor assistance while shopping, and the stores were not convenient (due to proximity and crowdedness). One participant acknowledges the importance of fresh produce, not canned or frozen in their diet and was disappointed in the produce selection at the store they went to: "There were a few other things like canned vegetables. I needed fresh vegetables for my diet... I need the fresh vegetables, I really do."

Distribution site satisfaction and vendor interviews

Three qualitative interviews with distribution site staff show that V4V was a well-received program and resulted in positive outcomes for staff and participants. V4V helped increase the opportunity for bonding between staff and residents, as one staff member explained: "The (staff) was able to interact more with their tenants in regards to their health...It's just educating the tenants more about healthy eating and exercising and going to their medical appointments." Similarly, staff noticed that V4V helped bond residents with each other through shared shopping experiences: "They would all go together and buy produce. I'm sure they've talked about it together like 'I could make this and this.'"

In addition, staff members indicated that V4V helped increase affordability of healthy food for residents on fixed incomes. One staff member noticed how residents started taking advantage of cheaper prices for produce in different stores, and maximized their vouchers accordingly: "I think since they are all on a fixed income, \$20 made a big difference. And I noticed that some of them came up with little tricks. They will go to one store for a specific type of fruit and they will go to different store for a different fruit." Another staff member emphasized that V4V helped residents with their healthy food purchases when other types of food assistance fall short: "I think it really impacted them. I know some of the tenants had their food stamps run out so they would use their vouchers. That helped out a lot."

Vendor interviews

"V4V has been a lot easier to implement than we originally expected and we are seeing new customers coming into the store that really need these vouchers to buy healthy food". – Joel Ortiz, Manager of Food 4 Less MacArthur Park

Between November-December 2018, volunteers went to all 5 V4V partner stores and evaluated vendors on their professionalism and adherence to V4V voucher protocol (see Exhibit 8). Overall, vendors followed the guidelines set by V4V. All 5 vendors denied food purchases that were ineligible to purchase with vouchers (such as peanuts and candy), but completed the rest of the transaction for eligible items. In addition, volunteers reported being treated fairly and interacting with friendly staff members on each occasion.

Suggested V4V program improvements

When asked about improvements to the program, V4V participants, vendors, and distribution site staff most often expressed the desire to extend the program beyond six months. One

participant wished “to continue the program to make it permanent.” Participants also frequently requested an increase in the dollar amount of the vouchers, as \$5 per week often does not buy much. For example, a participant suggested that V4V “increase the dollar amount of the voucher” because “some fruits cost \$1 / pound. It takes almost the whole \$5 voucher amount for a piece of fruit.”

In addition, our participants are thoughtful about where they shop and look for convenience when they shop. They will benefit most from a program that accommodates their shopping preferences and physical needs. Some people wish for more places to be able to use the vouchers, so that they can “buy veggies everywhere including Ralphs, Vons, etc., ” and others want to make sure that V4V participating stores can “provide adequate accommodations for handicap and elderly.” Others emphasize that distance to the store is a barrier: “It would be essential not to have to walk close to an hour and then walk back home carrying the vegetables. It is very heavy; Almost impossible to go buy them.”

Finally, many participants express gratitude for the program and would not change it. One participant wrote, “it is a great program and I do appreciate everything.”

Discussion

The preliminary findings from the Vouchers 4 Veggies pilot program in Los Angeles suggest that fruit and vegetable vouchers may help increase dietary quality and food security among seniors living in a low-income neighborhood in Los Angeles, but these findings are not conclusive and additional rigorous research is needed. There are several lessons that can be learned from the implementation of this program to use for future research.

Quantitative and qualitative data from participants, distribution sites and vendors indicate that there is high demand for and acceptance of the program. Participants in Los Angeles agree that the program has impacted their health, nutrition knowledge, and confidence to make healthy food choices on a budget (see Exhibit 4). In addition, participants in focus group emphasized how V4V can save them \$20 a month and help them buy foods to manage chronic disease (see Exhibit 5). Distribution site staff also indicate positive changes in the participants they serve, such as using the vouchers to extend food budgets when their Cal-Fresh benefits run out.

One striking result of this evaluation is a statistically insignificant effect of V4V on food security, for which there are several possible explanations. During the first month of V4V, the bigger and more popular grocery stores (such as Sam’s, Food 4 Less and Foods Co.) were not yet accepting V4V vouchers because of a delay in getting corporate approval and/or navigating in-store processes. We found that participants had a strong preference for larger grocery stores

even if smaller stores were in much closer proximity (many willing to take multiple bus rides or other means) as they perceived the larger stores to have better prices, selection, and food quality. The voucher redemption rate was indeed lower during the first phase of V4V, and increased significantly when Food 4 Less (Kroger) participated. We hypothesize that without those larger stores, individuals may not have redeemed vouchers at the rate they would have if their preferred stores were accepting vouchers from the beginning. Because redemption was originally low, participants may not have had the increased access to fruits and vegetables that they needed to significantly increase their food security. This pilot demonstrates that when entering a new market, it is important to engage grocery stores as early as possible as it takes many months to get corporate approval and/or navigate in-store processes.

Another possible explanation for an insignificant effect on food security is the voucher amount of \$20. Although 30% of participants increased food security by one category or more, the majority of participants remained at the same level of food security after 6 months of vouchers. In San Francisco, V4V significantly improves participants' food security; however, the food retail environment may be different between San Francisco and Los Angeles. For example, \$20 a month to buy fruits and vegetables may sufficiently extend an individual's food budget in San Francisco, but due to intrinsic characteristics of Los Angeles, \$20 may not be enough to make a difference. Additional research is needed to determine if a larger supplement is needed in Los Angeles to impact food security among seniors.

A third reason that food security may not have significantly improved in V4V-Los Angeles participants was their comparably higher food security than V4V-San Francisco participants. When including only participants 50 and older in San Francisco, the food insecurity rate was 78.7%, compared to 65.6% in Los Angeles (see Exhibit 3). While these food insecurity rates are much higher than the national average of 8% (State of Senior Hunger), it still indicates that San Francisco participants had more room to improve than Los Angeles participants. In fact, Los Angeles participants had a higher rate of food security at baseline (34.4%) than San Francisco's 50+ participants did at follow-up (29.2%).

We utilized validated fruit and vegetable food frequency screeners to measure changes in F&V consumption. Other than 24-hour dietary recalls (which are more accurate but much more complicated and expensive to conduct), these screeners are the top-of-the-field. However the screeners have limitations: they require large numbers to power results and participants must fill-in all required elements for the surveys to be useful. In our post program evaluation, when comparing participant surveys across 3-time points, with multiple data points, we lost 25% of comparison data when participants did not fully complete surveys. To address this, we revamped surveys to reduce future nonresponses.

A unique aspect of the V4V program is that we also aim to economically support healthy food vendors in underserved neighborhoods. In communities with little access to fresh produce, V4V vouchers can drive an increased supply of fruits and vegetables by increasing demand for the perishable product, thereby contributing to a healthy food system and the reduction of food deserts. Between April 2015 and June 2018, V4V infused over \$1.3M in produce purchases in underserved communities in San Francisco. The USDA estimates that money for food has an economic multiplier effect of 1.9, suggesting that this infusion of \$1.3M in produce purchases resulted in \$2.47M of local economic impact. Although the sample size in Los Angeles is too small to determine an economic impact on the neighborhood, all of the participating stores expressed satisfaction with the program and a desire to continue participating.

When expanding the vendor network, it is important to keep in mind that larger networks can mean that the economic impact for each vendor decreases. For example, a smaller vendor noted that once Food 4 Less joined V4V, they were disappointed to find that they stopped getting as many customers. This illustrates that there is a tradeoff to make with having large grocery store partners to increase convenience for participants, while ensuring equitable distribution of economic impact.

Limitations

Like all evaluations, this one has several limitations. First, there is likely some level of selection bias based on participants who chose to complete the surveys, who may not be representative of all participants. Second, social desirability may have biased some responses, particularly if participants felt as if responses could influence their likelihood of reenrollment in Vouchers 4 Veggies. Third, validation studies suggest that food frequency screeners like the fruit and vegetable screener used by V4V underestimate actual dietary intake. Finally, our evaluation does not include a control group; therefore, we cannot be certain that changes observed in participants are a result of the participation in V4V.

Conclusion

This evaluation suggests that a modest supplement (\$20 per month) for fruits and vegetables may be able to improve dietary intake and improve health status among low-income and ethnically diverse seniors in Los Angeles. More evidence is needed to demonstrate how fruit and vegetable vouchers can support food security in this population and what voucher amount is needed to increase food security. The program is also well-received among participants, distribution sites and vendors and may have positive impacts on the local food environment. Additional evaluation is needed to examine the extent to which the program was the driver of each of these important positive outcomes, and to dive deeper into the economic impact of the vouchers on low-income neighborhoods.

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Appendices

EXHIBIT 1

V4V Overall Participant Characteristics	Los Angeles N (%)	San Francisco N (%)
Age	(n=232, 13 missing)	(n=2507, 99 missing)
19-29	0 (0)	80 (3.2)
30-39	1 (.5)	200 (8.0)
40-49	1 (.5)	339 (13.5)
50-59	33 (15.1)	581 (23.2)
60-69	64 (29.2)	680 (27.1)
70-79	85 (38.8)	402 (16.0)
>80	35 (15.9)	225 (9.0)
Household Size	(n=229, 3 missing)	(n=2587, 19 missing)
Single Adult Households (1-2 people)	219 (95.6)	2096 (81.0)
Families (3+ people)	10 (4.4)	491 (19.0)
Gender	(n=229, 3 missing)	(n=2574, 32 missing)
Female	129 (56)	1396 (54)
Male	99 (43)	1114 (43)
Transgender	1 (0.5)	46 (2)
Other	0 (0)	18 (1)
Ethnicity/Race	(n=223, 9 missing)	(n=2577, 29 missing)
Latino or Hispanic	59 (26)	415 (16)
White or Caucasian	14 (6)	420 (16)
Black or African American	61 (27)	675 (26)
Native American or American Indian	0 (0)	28 (1)
Asian or Pacific Islander	72 (32)	820 (32)
Other	6 (3)	112 (4)
Multiracial	11 (5)	96 (4)
Do not know	0 (0)	11 (0.4)
Monthly income	(n=211, 21 missing)	(n=2383, 223 missing)
None	1 (0.5)	124 (5)
<\$500	22 (10)	301 (13)
\$501-\$1000	129 (61)	1354 (57)
\$1001-\$2000	50 (24)	488 (20)
\$2001-\$3000	7 (3)	83 (3)
>\$3000	2 (1)	33 (1)

EXHIBIT 2

Overview of key program outcomes

FOOD SECURITY	Change from Baseline to Follow-up	Significance
Los Angeles (overall)	Increase in food insecurity by 2.6 percentage points	Although there was a higher rate of food insecurity after the program, this change was not statistically significant ($p=.4764$)
Pre-Food 4 Less	Food insecurity was exactly 62.3% at both baseline and follow-up.	There was no change in food security for participants who did not have access to Food 4 Less.
Post-Food 4 Less	Increase in food insecurity by 4.7 percentage points	Although food insecurity increased for participants who did have access to Food 4 Less, this change was not statistically significant ($p=.3411$)
Comparison: San Francisco (50+)	Decrease in food insecurity by 7.2 percentage points	There was a significant improvement in food insecurity among seniors in V4V between 2015-2018 in San Francisco ($p<.0001$).
FRUIT AND VEGETABLE INTAKE	Change from Baseline to Follow-up	Significance
Los Angeles (overall)	There was an increase of 0.69 servings per day.	Increase in F+V consumption is statistically significant ($p=0.0009$).
Pre-Food 4 Less	There was an increase of .70 servings per day.	Increase in F+V consumption is statistically significant ($p=0.0039$).
Post-Food 4 Less	There was an increase of .65 servings per day.	Increase in F+V consumption is statistically significant ($p=0.0230$).
Comparison: San Francisco (50+)	There was an increase of .93 servings per day.	Increase in F+V consumption is statistically significant ($p<0.0001$).

Exhibit 2a.

Change in food security status V4V Los Angeles

Los Angeles (n=154, 6 missing)	Baseline	Follow Up
Food Insecurity Rate (Low + Very low food security)	101 (65.6%)	105 (68.2%)
Food Secure	39 (25.3%)	38 (24.7%)
Marginal food security	14 (9.1%)	11 (7.1%)
Low food security	66 (42.9%)	69 (44.8%)
Very low food security	35 (22.7%)	36 (23.4%)

*Change in food security status is not statistically significant ($p=0.4764$, $t=0.7139$)

There was not a statistically significant change in food security status from baseline to follow up among V4V participants in Los Angeles. However, 30% of participants improved food security status by moving up at least one food security category.

EXHIBIT 2b. Comparing food security status between pre-Food 4 Less vs. post-Food 4 Less participants

Post-Food 4 Less (n=85, 3 missing)	Baseline	Follow Up
Food Insecurity Rate (Low + Very low food security)	58 (68.24%)	62 (72.95%)
Food Secure	20 (23.5%)	16 (18.8%)
Marginal food security	7 (8.24%)	7 (8.24%)
Low food security	35 (41.18%)	38 (44.71%)
Very low food security	23 (27.06%)	24 (28.24%)

*Change is not statistically significant ($p=0.3411$, $t=0.957$)

Pre-Food 4 Less (n=69, 3 missing)	Baseline	Follow Up
Food Insecurity Rate (Low + Very low food security)	43 (62.3%)	43 (62.3%)
Food Secure	19 (27.5%)	22 (31.9%)
Marginal food security	7 (10.1%)	4 (5.8%)
Low food security	31 (44.9%)	31 (44.9%)
Very low food security	12 (17.4%)	12 (17.4%)

*Change is not statistically significant ($p=0.9763$, $t=-.0298$)

Overall, there was no difference observed in food security status change between participants who did and did not have the ability to use vouchers at Food 4 Less. However, the sample size of each group was small.

EXHIBIT 2c. Comparison to San Francisco

San Francisco (overall) (n=804, 1703 missing or incomplete)	Baseline	Follow Up
Food Insecurity Rate (Low + Very low food security)	633 (78.7%)	565 (70.3%)
Food Secure	91 (11.3%)	153 (19.0%)
Marginal food security	80 (9.9%)	86 (10.7%)
Low food security	325 (40.4%)	351 (43.7%)
Very low food security	308 (38.3%)	214 (26.6%)

* Change in food security status was statistically significant ($p<.0001$, $z=6.498$)

There was a statistically significant improvement in food security status from baseline to follow up among V4V participants in San Francisco between 2015-2018.

San Francisco (50+ year olds) (n=606)	Baseline	Follow Up
Food Insecurity Rate (Low + Very low food security)	473 (78.0%)	429 (70.8%)
Food Secure	76 (12.5%)	115 (19.0%)
Marginal food security	57 (9.4%)	62 (10.2%)
Low food security	251 (41.4%)	273 (45.0%)
Very low food security	222 (36.6%)	156 (25.7%)

* Change in food security status was statistically significant ($p<.0001$, $z=4.883$)

There was a statistically significant improvement in food security status from baseline to follow up among V4V participants 50 years and older in San Francisco between 2015-2018.

EXHIBIT 3**Change in fruit and vegetable intake, V4V Los Angeles vs. V4V San Francisco**

	Baseline Servings per day (Std. dev)	Follow Up Servings per day (Std. dev)	Mean difference	Significance
Los Angeles (n=129, 31 missing)	2.45 (1.87)	3.14 (1.69)	0.69	Change is statistically significant (p=0.0009)
San Francisco (n=843, 1664 missing or incomplete)	2.47 (1.71)	3.39 (1.86)	0.93	Change is statistically significant (p<0.0001)
San Francisco 50+ (n=667)	2.47 (1.72)	3.41 (1.82)	0.93	Change is statistically significant (p<0.0001)

EXHIBIT 3a.**Change in fruit and vegetable intake, Pre vs. Post-Food 4 Less**

	Baseline Servings per day (Std. dev)	Follow Up Servings per day (Std. dev)	Mean difference	Significance
Post-Food 4 Less (n=70, 18 missing)	2.42 (1.68)	3.14 (1.81)	.70	Change is statistically significant (p=0.0039)
Pre-Food 4 Less (n=59, 13 missing)	2.48 (2.10)	3.13 (1.55)	.65	Change is statistically significant (p=0.0230)

EXHIBIT 4

Impact of V4V on fruit and vegetable consumption, health and budget

IMPACT	Los Angeles	San Francisco
Because of the Vouchers 4 Veggies Program, I eat more kinds of fruits and vegetables.	94% agree or strongly agree (n=156, 5 missing)	97% agree or strongly agree (n=979, 483 missing)
Because of the Vouchers 4 Veggies Program, I am able to buy fruits and vegetables that I was unable to afford before.	93% agree or strongly agree (n=154, 7 missing)	95% agree or strongly agree (n=975, 487 missing)
Because of the Vouchers 4 Veggies Program, I am more confident in my ability to make healthy food choices on a budget.	95% agree or strongly agree (n=155, 6 missing)	98% agree or strongly agree (n=972, 490 missing)
Because of the Vouchers 4 Veggies Program, my knowledge of the importance of fruits and vegetables in my diet has improved.	96% agree or strongly agree (n=155, 6 missing)	95% agree or strongly agree (n=978, 484 missing)
Because of the Vouchers 4 Veggies Program, my health has improved .	95% agree or strongly agree (n=155, 6 missing)	94% agree or strongly agree (n=980, 482 missing)
Because of the Vouchers 4 Veggies Program, I am eating less unhealthy food (like chips, cookies, fast food, etc.).	93% agree or strongly agree (n=151, 10 missing)	91% agree or strongly agree (n=982, 480 missing)

EXHIBIT 5

V4V Los Angeles Focus Group Results

Overview/Summary

Vouchers 4 Veggies staff conducted two focus groups with participants in Los Angeles to qualitatively assess how well the program meets the needs of individuals and families. An unexpectedly high turnout demonstrated strong interest in the program, and participants seemed very aware of how they can benefit from continuing in the program. Data gathered from these focus groups will be used to inform future program directions, such as widening the vendor network and addressing barriers to voucher use. The main themes that emerged from the conversations included increased food security, food preparation, managing health through food, experience with vendors, barriers to usage, recommendations and gratitude for the fruit and vegetable vouchers.

Methodology

Voucher 4 Veggies staff conducted two focus groups in Los Angeles. Participants were recruited from the cohort and given a \$20 gift card to compensate them for their time. Names and contact information were collected in the case that a follow up discussion was necessary. Staff then led participants through a series of questions about the duration of the program, amount of vouchers, variety of stores, types of produce bought, cooking habits and other topics in order to gain a greater understanding of the benefits and challenges.

One of the focus groups was recorded and transcribed, while data from the other focus group came from notes that staff were taking throughout the conversation. Common themes emerged from staff notes and the transcribed interview, and these themes were coded into a document with participant quotes.

Focus Group Results

Vouchers extend food budget and increase access to familiar fruits and vegetables.

Participants demonstrated a high awareness of affordability of produce. Participants cared about striking a balance between low cost and high quality produce and finding the best deals to get the most for their vouchers. As one person put, *"Well, the bottom line is, that really, sometimes we don't have extra to buy vegetable and fruit. [...] Let's say we go Food 4 Less. You know, you can get what they have on sale, you're going to get a lot more for the amount of the month."*

Individuals emphasized caring about freshness and taste, and the majority agreed that participating in V4V allowed them to buy more of the fruits and vegetables that they like while not having to worry about sacrificing money from within their monthly food budget. As one individual put, *"I get my vegetables. I get my fruits. I get my potatoes, my carrots, and they have fresh. Everything is fresh. [...] And I said to myself, this program works because it can save you 20 dollars a month."* Of value to many participants was the program's ability to extend limited budgets and allow them to purchase more fruits and vegetables, making their meals larger and more balanced.

Broad range of foods bought and prepared. Participants enjoyed describing the diversity of produce they typically bought with their vouchers and what they ultimately made with them. Several

people mentioned enjoying smoothies, and they used their vouchers to buy ingredients such as berries, bananas and leafy greens to make healthy blended drinks. Over half of participants talked about cooking when discussing what they did with their purchases, and there was less emphasis on buying items for snacking. Common meals include soups or stews and salads. Once again, the cost of the different produce items was almost always a factor in individuals' purchasing decisions, just as important as quality and taste. One participant described a typical shopping experience: "*A pineapple costs me, well I don't remember exactly, like two dollars or something. And a papaya, a small papaya, was like two something. Everything was steep in prices. And a couple of plantains, you know the big cooking bananas we call it, I'm from Panama, we do soup with that. We fry potatoes too. You know, not a whole lot. Some tomatoes, some ginger, I use the ginger to do a tea. And a couple of lemons and that was like the whole lot of ten dollars. The prices are steep.*"

Importance of fruits and vegetables in managing health conditions. Focus group participants were highly cognizant of their health needs and recognize the importance of a balanced diet in managing their respective conditions. V4V helps participants more closely follow the advice of their care providers, as two people noted:

"Now I eat more vegetables. The fruit is too sweet. I have diabetes. I want to have pineapple. The doctor said, 'No, it's too sweet.' Papaya is too sweet."

"I have to watch out for my diabetes. I had a bad report this month. Oh man, everything was out of wack. But I've promised to pull it back together, eat more vegetables, because I like the smoothies and the blackberries."

Older participants constituted the bulk of the focus groups, which naturally brought about conversations around certain health topics. In addition to diabetes, participants worry about colon cancer (particularly from consumption of red meat), digestion, and hunger. Having the extra money every month to prioritize healthier items and make larger meals helps ease some of these concerns.

Experiences with vendors were generally positive. There was both positive and constructive feedback from participants about the different vendors and their experiences with shopping there. Sam's, Numero Uno, and Jon's were highlighted as having high quality fresh produce. Rampart and Sixth was identified as having inexpensive produce, but which is not always the freshest. Ralph's and Superior were popular due to the ease of getting there for participants. Food for Less was identified as a potential new store to partner with due to their competitive prices, high quality and location, and for already being part of participants' regular shopping routine.

One participant noted that although Sam's has affordable and fresh produce, the other items in the store were expensive, making them less likely to want to shop there. For individuals wishing to purchase a variety of items on one shopping trip, it is important to have vendors who offer affordable items of all kinds. Participants had a high familiarity with the different grocery vendors in the area, and there was a wide range of items for which they were searching. This demonstrates the importance of having a broad vendor network so that participants can find all of the produce that fulfills their dietary and cultural needs.

Factors that increase difficulty of eating healthy and using vouchers. Limited time and limited budget were brought up as barriers to eating fruits and vegetables. Busy schedules can often make

it difficult to eat healthy, as one individual explained: *"If you're on the run, you have to put something in you before you run. Because, sometimes you don't have time to fix breakfast, you have to get a banana and hold on until you get back."*

For transportation, the stores that participated in the LA pilot were accessible by bus, but shopping still might present challenges for people with limited mobility or carrying capacity. One participant can only go shopping *"every two weeks, because I don't have car. I got to go on a couple of buses with a walker."*

Recommendations for voucher use. Participants consistently request to continue with the program beyond the designated 6 months. The extra money for fruits and vegetables has noticeably improved their diet and lifestyle, but it would be difficult to maintain that progress without the vouchers. When asked what they would change about the program, participants consistently stressed that the \$5 per week voucher amount was not enough, and that *"Double. Ten dollars a week,"* would better serve their needs. In addition, even though participants have high awareness of the importance of fruits and vegetables in a balanced diet, in this group several people wished for other foods be eligible for vouchers, such as milk, eggs and meat.

Program staff also asked the group about the voucher expiration dates and whether it was difficult to use vouchers within the 2-week window. There was no strong consensus on the timing of the expiration of the vouchers: some did not mind that vouchers were set to last 2 weeks, others commented that they would prefer if vouchers were valid for the whole month.

Gratitude. Throughout the focus groups, participants regularly expressed how the extra money for fruits and vegetables has positively impacted their health and provided a peace of mind. As one participant put, *"It's a blessing. We like it very much."* In addition, it is not lost on individuals that V4V serves in high-need communities. One participant remarked that *"the program is needed, especially [for] fixed income,"* and it is encouraging for them to know that *"someone still cares."* Whenever individuals are asked how they would describe the voucher program to someone, staff receive creative and uplifting responses, such as *"we done died and went to heaven."* Vouchers 4 Veggies is grateful for the opportunity to serve Los Angeles communities and improve food access for seniors.

EXHIBIT 6

Interviews with participants with low voucher redemptions ("low-users")

Low voucher users:

Reasons for low voucher use	
Low quality of fresh produce in partnering stores	I saw there was no fresh fruit. Everything was molded, conceived of white mold... There wasn't even a full batch where they put in the produce. There were a few other things like canned vegetables. I needed fresh vegetables for my diet... I need the fresh vegetables, I really do.
Negative interaction with store staff	There was no help as far as looking for fresh produce. I needed more produce than I needed meat. As far as someone in the store to help me, they pretty much ignored me.
Meat eater/low fruit and vegetable consumer	Sometimes I eat a 4 course meal and sometimes I just eat meat and bread. You know I am a bachelor and bachelors eat weird. We eat strange.
Not convenient to shop at current stores	If you had more stores it wouldn't even phase me because I would still go to Sam's Market. <i>Is that because it is the closest?</i> Yeah and um, see, when you go to Food 4 Less, you get a long line, but there is no line at Sam's Market. You just go in and out.
Received vouchers too close to expiration time	The other unfortunate thing is that whoever delivers the vouchers delivers on expiration time. They were already expired. They had different expiration dates. I had to make sure I had to beat that date. I didn't get many before the expiration date.

EXHIBIT 7**Distribution site interviews:**

Theme	Quote
Training of other site staff	
Proactive	"I provided the case managers with the packed vouchers... They were able to set up something with the tenants where they could check in with them and the tenants could receive the vouchers"
Recruitment of participants	
High Level of Interest	"They were really interested in the program. They heard the word "free" and were like "yeah" (both laugh)"
Word of mouth/encouragement from others	"(Residents) have a group clicks ...there is a coffee group in the morning and people come down to get coffee and they talk about things and they encourage each other." "A couple of them, They didn't want to take it. "I don't want to take it"... I think it's a more cultural thing, .. "I don't need it" And then now they are used to it, everyone else has it .. Yeah, it doesn't degrade me, I could take it too."
Paperwork/Voucher Administration Processes	
Participants enrolled in groups	"What happens a lot is if we try to meet with them one-on-one to fill out paperwork, it doesn't get as quickly. But if we gather them all together, and they're all filling out paperwork at the same time, it helps, especially when we have deadlines."
Additional Language Material	"It was a good thing that they have the applications in different languages because that is a very important thing to have. So that we could give it to them, it's easier for them to do it and give it back to us. So that process went smoothly..."
Participant Impact	
Budget extension	"I thought it was really nice because ... one of the tenants had expressed ... a week prior to the presentation that she wants to buy more fruits and vegetables but she can't afford it. So it was perfect timing."

	<p>"I think it really impacted them. I know some of the tenants had their food stamps run out so they would use their vouchers. That helped out a lot."</p> <p>"I think since they are all on a fixed income, \$20 made a big difference. And I noticed that some of them came up with little tricks. They will go to one store for a specific type of fruit and they will go to different store for a different fruit. I even had one resident say, "oh I just buy everything frozen because it lasts longer and there is more". So I'm like okay. So I think they ended up picking up little tricks... So it helps a lot."</p>
Awareness	"Just bringing that awareness of eating more fruits and vegetables. I think they didn't realize how important that is."
Nutrition education	"It seemed like the staff at the markets educated them a little bit as well about different recipes or what they could cook with that produce."
Bonding among residents	<p>"They would all go together and buy produce. I'm sure they've talked about it together like "I could make this and this."</p> <p>"Well the thing is here, everyone for the most part they don't get visitors, so they are already a family within themselves. So as soon as one of them heard about it they passed the message along."</p>
Participant Feedback that staff have received about the program	
FV intake	"One of the tenants said that they felt better when they eat more fruits and vegetables ...I know some that do have diabetes. It helped them with eating more fruits and vegetables."
Increased independence of grocery shopping	(With the vouchers) "Tenants are able to go to the markets on their own rather than the grocery actually being delivered to them...they are able to become more independent and figure out how they can... (be) more independent."
Excitement around buying fruits and vegetables	"They would tell me what they would buy, some of them would show me what they would buy. They really liked it."
Site Staff Feedback/Lessons Learned	

Increased communication between staff and clients	<p>"The (staff) was able to interact more with their tenants in regards to their health...It's just educating the tenants more about healthy eating and exercising and going to their medical appointments."</p> <p>"Initially I didn't know exactly where they shopped. So that was an eye-opener for me too to get a better idea exactly where they get their groceries from."</p> <p>"Well a lot of our participants who don't really engage in services, they would ask for the vouchers. So that would be my opportunity to be like, oh how are you, do you need help with anything? Because for the most part a lot of them like to be alone and independent so that was a good thing about the vouchers too, it gave me an opportunity to catch up with the residents."</p>
Recruitment strategy may take trial and error	<p>"What happens a lot is if we try to meet with them one-on-one to fill out paperwork, it doesn't get as quickly. But if we gather them all together, and they're all filling out paperwork at the same time, it helps, especially when we have deadlines."</p>
Length of survey; Lack of staff time	<p>"You know, the length of it. We don't have a lot of time. And when they come they come and ask, "can you help me with that?" And you know I have to read it for them. I don't have the time to sit with each and every person."</p>
Difficult to distribute vouchers sometimes	<p>"It was a little bit difficult trying to get a hold of people because they are always in and out."</p>

EXHIBIT 8

LA Secret Shopper Assessments

Between November-December 2018, volunteers went to V4V partner stores and evaluated vendors on their professionalism and adherence to V4V voucher protocol.

Question	Assessment	Comments
1. Customer Service: Was the staff friendly?	[5/5] Yes [] No	All vendors were reported to be friendly.
2. Treatment Where you treated fairly (i.e., unbiased)?	[5/5] Yes [] No	All volunteers reported being treated fairly.
3. Eligible Food Did the store deny your request to purchase item(s) other than eligible fruit and vegetables?	[5/5] Yes [] No [] Did not try	All volunteers attempted to buy an ineligible item (tortillas, candy, trail mix and peanuts) with the vouchers and were appropriately denied by vendors.
4. Cash Back Did the store deny your request for cash back for a purchase under \$5.00?	[1/5] Yes [] No [4/5] Did not try	1 volunteer tried to get cash back, but the vendor was very clear on the rules. Another volunteer did not try because their purchase was exactly \$5.00.
5. Expired Voucher Did the store accept the voucher even though it was not in the correct timeframe?	[] Yes [1/5] No [4/5] Did not try	When given an expired voucher, one store clerk appropriately refused to accept it. The other 4 volunteers had valid vouchers.
6. Suspect Behavior Was there any unusual or suspect behavior? If yes, please describe.	[1/5] Yes [4/5] No	From the volunteer who did notice unusual behavior: "A female cashier told me that the store no longer accepted vouchers when I went to go pay. However, the matter was soon cleared up and I was directed to another cashier to make my purchase. I tried to purchase Mexican candy with the voucher and this was taken away from the items I was going to pay for and I was just charged for the produce."
7. Other	1 volunteer left additional comments.	Comment: "Everything seemed straightforward, the Food4Less staff was trained well and behaved in a professional manner."