Veggie Rx Data Report
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Introduction and Purpose

The importance of access to fresh foods has been enumerated over the last twenty years. Fresh fruits and vegetables are hallmark staples of a well-rounded, nutritional diet. Despite this, there exists within the United States, food deserts where access to fresh fruits and vegetables is limited. A food desert, as defined by the United States Department of Agriculture, is any urban neighborhood or rural town lacking basic access to healthy, fresh, and affordable foods; furthermore, food deserts qualify as low-income, low-access areas (USDA, 2015).

The purpose of this pilot project is dual-fold; the first is to examine the effects of fresh foods on the health outcomes of adults in local communities. Second, this project will also assess and evaluate the impact and effectiveness of providing access to fresh fruit and vegetables to patients who present to medical practices as patients who could benefit from participation in such a program.

The main research questions asked in this pilot study are:

1. Do participants who receive prescriptions for fresh fruit and vegetables actually use the prescriptions?
2. Do participants who use prescriptions and receive no-cost shares of fresh fruit and vegetables consume the share of fresh fruits and vegetables given to them?
3. Do participants reduce their daily fat intake and increase their daily fresh fruit and vegetable consumption as a result of taking part in the program?
4. Do participants who receive prescriptions for fresh fruit and vegetables show improved health outcomes after participating in a food prescription program as measured by:
   a. Self-rated health

Sample

Recruitment for participation in the Veggie Rx program was focused on older adults, aged 50 years and over. While the primary focus of this study is to examine the effects of providing access to fresh foods to older adults, any adult over the age of 18 was included in the study and provided a prescription for fresh foods if the consulting health care professional found that the individual would benefit from the program.

The following diagram shows the number of participants from each Fresh Stop that were tracked throughout the course of the program.
As in most studies, retention of participants needs to be addressed. Throughout the program, more participants were enrolled than the final total than are included in this evaluation of the program. Further analysis analysis of this problem illustrated that there were primarily three broad categories of lack of participation in the Veggie Rx program.

If a participant was deemed a repeated no-show, the participant was dropped from the continuing list of participant. Typically, the participant would miss 2-3 scheduled fresh stops before this would occur. Repeated attempts were made to contact these participants to remind them of participant in the program.

Repeated absenteeism also occurred in tandem with another overarching problem: disconnected phone lines. The primary method of contacting participants included telephone communication. Often the participants in enrolled in the program were from low-income backgrounds and as such, basic needs took priority over purchasing minutes for cellphones or paying landline bills. Without this line of communication, it was often hard to reach participants to confirm attendance and check-in on a weekly basis.

Due to the nature of the referral process, the program also served a number of participants that had severe medical problems. Given this, it was often difficult for these individuals to fully participant in the program as it was difficult for them to make it to the fresh stop sites and complete the surveys. These participants often dropped off and ceased participating in the program as a result.
The following diagram illustrates how widespread these issues were throughout the sample. Future iterations of Veggie Rx might not be able to solve these issues due to their nature, however, these problems should be considered.

Demographics

Demographics of participants in this program were calculated using basic descriptive statistics. The mean age of the participants was 55 years. However, upon further review of the data, the sample had 9 individuals that were enrolled in this program that were not older adults as defined as 50 years and older.

Descriptive analysis also showed that individuals enrolled in the program predominately identified as Black (80%) and as females (75%).

The demographic variables analyzed also indicated that individuals enrolled in the program were low-income or on a fixed-income. Only 30% of the participants were employed during the time of the program, while 27% indicated that they were unable to work and 18% indicated that they were currently unemployed.

Individuals were invited to participate in Fresh Stops that were geographically close to their residence. The 2 most represented zip codes of participants enrolled in this program were 40211 (30%) and 40210 (24%).
Availability and Affordability

The availability and affordability of fresh fruits and vegetables can be a barrier to consumption of fresh foods and subsequently the known benefits of healthy eating. Participants enrolled in the program were ask to indicate the availability of fresh fruits and vegetables in their community before starting the Veggie Rx program. These responses ranged from Sometimes (27%) to Often (24%) to Always (27%). Affordability was also a concern for a large percentage of the participants with roughly 55% of the participants indicated that they could only sometimes afford fresh foods in their community.

This analysis illustrates how important the program is for the participants given the lack of availability and affordability to fresh fruits and vegetables.

Changes in Consumption of Fresh Foods

Paired sample t-tests were conducted to analyze participant’s consumption of fresh fruits and vegetables. This analysis showed that there was not a significant difference between baseline and posttest data of participants in the program.

Fresh food consumption throughout the program remained roughly the same, with individuals through the program indicating that they consumed fruits and vegetables 4 out of the previous 7 days at baseline. Participants at posttest indicated that they consumed fruits and vegetables 5 out of the 7 previous days. While this was not a statistically significant difference, the overall mean did increase.

Changes in Self-Reported Health

Multilevel modeling was used to analyze the changes in self-reported health of the participants. Over duration of the program, the self-reported health of participants greatly improved. The probability of a participant rating their health as very good to excellent went up from 1% to 40%, while the probably of a participant rating their health as poor to fair went down from 27% to 12%.

The main predictors of these changes in self-reported health are: the amount of days per week respondents ate 5 portions of fruit and veggies, whether they were retired when they participated and what their fat intake was at pretest.

The following graph shows the the probability of self-reported health at each time interval:
Qualitative Interviews

Once the follow-up data was completed, the process of conducting qualitative interviews began. This part of the project is on-going. Currently, 4 interviews have been conducted, transcribed and analyzed. At least 4 more interviews are currently scheduled with other participants that were identified from the program. Content analysis was used to synthesis the interviews. Content analysis is a qualitative research tool where by the data is systematically reviewed and categories form from the data.

Through the process of content analysis, the following themes emerged along with quotes that highlight the significance of the theme.

Improved Quality of Life
Individuals in the program consistently discussed the effects of the program on their overall quality of life, and how they felt with having access to fresh fruits and vegetables.

*It was psychological like I had cooked all this great food. It felt good I have cut stuff up till my hands were soar and cooked all this but I knew I was eating well. Better than if you were buying food from the grocery store.*

Access and Exposure to Fresh Fruits and Vegetables
Exposure to new fresh fruits and vegetables was also a theme that was highlighted several times throughout the interviews:

*I love turnips. The fresh stop had turnips but they were odd ball turnips (Watermelon Turnips). I had never seen them before. I got to experience stuff I had never experienced before.*
Like squash I had never tried and Kale I like but had never sautéed it. As a matter of fact for Christmas I sautéed a whole skillet of Kale. I used to boil everything but this year I sautéed green beans and kale. It kind of opened up my horizons and I did that for my whole family and they loved it.

It makes me look at things different I would never have eaten butternut squash. I have some in the fringe now. So before I wouldn’t eat certain thing and now it kind of opened. Like I put spinach in my now. I bought spinach and put it in my salad. I eat a lot of different salads now.

The Importance of the Veggie Rx Program
Interviewed participants also talked about the importance of the program in their lives. Several interviewed indicated that it was not only important for them to have access to fresh fruits and vegetables but to also share this access.

I would like it to continue for me because its good for me emotionally because I know I’m going to see good people, people in my situation or the volunteers that I get a kick out of. Once you go the first time you can go back and not feel alienated from anyone. I’m a social person and the first time I came I was nervous.

What was so important is I’m a foster parent. It was important to me to introduce my kids to things I was never introduced to. It’s been a challenge for them because all they ate was processed, frozen or McDonalds. It’s been a struggle to get them to see thing differently but it’s been a blessing.

Synthesis of Findings
Analysis of the program suggests there were not significant findings across consumption among the participants in the programs; however, this is in alignment with other studies including similar prescription based programs (Buyuktuncer, Kearney, Ryan, Thurston & Ellahi, 2014). However, this must be considered in context.

The program ran from June to October for a majority of the participants; if an individual was enrolled for the program during it’s entirety this meant that they attended 10 Fresh Stops. Given the short duration of the program, it stands to reason that there would be little change in such a short period of time. In the future, it would be interesting to track these participants, if still enrolled, throughout a number of Fresh Stop seasons.

In future evaluations of this program, it might be warranted to add a question regarding number of chronic conditions as this has an impact on both mental health and subsequently self-reported health. Addition of this information would add to the analysis and provide context for the understanding of the impact of the program.

Through the interviews of identified participants, it is clear that the program has made an impact on a personal level and promoted not only access to fresh fruits and vegetables but also had an impact on the participant’s life.
References: