2012 Project Report
Executive Summary
2012 FVRx Healthcare Partners
Codman Square Health Center
El Centro Family Health Clinic
Fair Haven Community Health Center
Greater Lawrence Family Health Center
Holyoke Health Center
LifeLong Medical Center
People’s Community Clinic
Skowhegan Family Medicine
Thundermist Health Center
Unity Healthcare, Upper Cardozo Health Center

2012 FVRx Farmers Market Partners
CitySeed Inc.
Holyoke Farmer’s Market
Codman Square Farmers Market
Columbia Heights Community Marketplace
DC Greens
Ecology Center
Española Farmers Market
Farm Fresh Rhode Island
Groundwork Lawrence
Skowhegan Farmers’ Market
Sustainable Food Center

2012 FVRx Program Supporters
The Aetna Foundation
Kaiser Permanente
Newman’s Own Foundation

“Farmers see the value to the [FVRx] program. They’re actually requesting this type of programming and strategizing around how to help low-income families.”
— Sarah Smith, Farmer, Maine
The Wholesome Wave Fruit and Vegetable Prescription (FVRx) program has been shown to improve the health indicators and health behaviors of overweight children and pregnant women who are at risk of developing diet-related diseases, such as type 2 diabetes and heart disease.

Our 2012 data continue to build upon the promising results that we found in 2011. In 2012, when surveyed at the end of the market season, more than 90% of patients reported that they were eating more fresh fruits and vegetables. Healthcare workers who asked patients during each visit to describe their daily fruit and vegetable consumption found that 55% of patients were eating more fruits and vegetables at their final visit compared to their first. Additionally, data showed that 38% of child patients decreased their Body Mass Index (BMI), a key indicator of obesity, from the first to the last FVRx visit.

One of the reasons why we believe the FVRx program is so successful is its community-based approach, which encourages productive and lasting partnerships between doctors, nutritionists, community health workers, farmers, farmers market operators, and community members. Additionally, we intentionally designed the program to serve the patient’s family as a whole. Family members of the patients are not only encouraged to participate in program activities, but they also receive prescription benefits.

Overall, a total of 1,570 people took part in the 2012 pilot intervention. There were 380 patients, 85% of whom were children, and the remaining 15% were pregnant women. We expanded the program from 6 sites in 4 states in 2011 to 12 sites in 7 states and Washington, D.C.

At the community level, the FVRx program provides support for healthy food choices in both the primary care setting and community settings. In the primary care setting, health care professionals measure patients’ BMI and engage in respectful conversations about their health and weight. The intervention includes support and reinforcement on a monthly basis over a 4-6 month period from a team consisting of a primary care provider, a nutritionist or dietitian, and a community health worker.

We found the FVRx program helped doctors emphasize healthy eating on a regular basis with their patients. Data showed that 90% of FVRx patients were told about the importance of fruit and vegetables by their healthcare provider at every visit. Additionally, 58% of patients completed the intervention, making at least 3 visits to the health centers and 6 visits to the farmers markets during the FVRx season, a rate that is consistent with other obesity interventions in underserved communities.

In many communities, the FVRx program occurs in the context of other activities to promote healthy eating and active living, such as physical activity programs and obesity clinics. Thus, FVRx can be an essential component of a community and family approach to a healthier lifestyle.

Keeping true with Wholesome Wave’s mission, in addition to increasing the access to and affordability of fresh, locally grown food in underserved communities, the FVRx program simultaneously supports small and mid-size farms. Overall, the FVRx program brought in more than $120,000 in additional revenue for the 26 participating markets, increasing sales for their farmers.

We would like to thank all of our dedicated FVRx partners and supporters, without whom none of our findings would have been possible. As we look to the future, we will deepen in certain communities and expand into new clinical and retail settings. We are also turning our focus towards developing strategic business plans and policy targets to ensure FVRx will serve as a self-sustaining and cost-effective disease prevention program for organizations across the nation.

Michel Nischan
CEO, President & Founder
The FVRx Process

**Overweight and obese children and pregnant women** are enrolled by their primary care provider as FVRx patients.

A primary care provider and a nutritionist meet with patients and their families each month to reinforce the importance of healthy eating.

The provider sets healthy eating goals with the patient, collects health metrics, including BMI, and then distributes the **FVRx Prescription**. The nutritionist assesses fruit and vegetable consumption.

A prescription represents **at least 1 serving of produce per day for each patient and each family member**, equal to $1/day; e.g., a family of 4 would receive $28 per week.

Prescriptions can be redeemed weekly for **fresh fruits and vegetables at participating farmers market(s)** throughout the 4-6 month program.

Patients return to their health care provider monthly to refill their FVRx prescription, and set new goals for healthy eating.

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**FVRx Program Intervention and Methods**

The Fruit and Vegetable Prescription Program (FVRx) uses health behavior change messaging in a primary care setting with farmers market vouchers for families with children who are overweight or obese, and in 2012, with pregnant women. Clinical teams recruit patients that are overweight and obese (as determined by BMI) from their existing patient populations. During clinic visits, families receive obesity treatment counseling from their physician, who undertakes a health assessment and discusses healthy weight, diet, and physical activity goals. The families also speak with a nutritionist. The nutritionist assesses fruit and vegetable consumption and emphasizes the replacement of unhealthy foods with fresh fruits and vegetables. At the end of each visit, the provider distributes a Fruit and Vegetable Prescription to the family ($1 per household member per day), which can be exchanged for fresh fruits and vegetables at a nearby participating farmers market.

At the farmers market, the patient presents their prescription to the market manager, who then exchanges the prescription for tokens, which can be used to purchase fresh produce. Market managers are encouraged to promote the importance of eating locally grown produce when speaking with families.

**Data Collection and Analysis is Vital**

Data collection and analysis is a vital component of the FVRx program. Data collection occurs throughout program implementation, for approximately 16-20 weeks from May through October. Primary care providers track patients’ weight, Body Mass Index (BMI), and fruit and vegetable consumption at each medical visit and enter the data into a secure online database used by all the clinics. Patients also fill out pre- and post-surveys, gauging changes in fruit and vegetable consumption, consumer knowledge, and shopping habits. Additionally, partnering farmers markets track prescription redemption.

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_The program gives patients the ability to take a risk to do something good for themselves. It gives them control over their lives and the power to make healthy choices._

— Mike Lambke, MD, Maine

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Wholesome Wave • Fruit and Vegetable Prescription Program

Nourishing Neighborhoods Across America
As a provider, this program is amazing and is clearly an incentive for our patients. The families love it, they remember it from season to season. I believe it increases the intake of fruits and vegetables as well, [which is] a tremendous barrier here (rates of intake are very low in this population).

— Vinny Biggs, MD, Massachusetts
Patients Increase Fruit and Vegetable Consumption

A primary indicator collected at each health care center visit is the intake of fruits and vegetables. Patients were asked about their daily average intake of fruits and vegetables at each health care center visit. Overall, 55% of patients saw an increase in their fruit and vegetable consumption from their first visit to their last clinic visit.

By the end of the intervention period, patients also ate their fruits and vegetables in fresh form more often, with almost two-thirds saying they always ate their fruits and vegetables fresh by the end of the intervention (Fig. 1).

Positive Health Outcomes

Another key indicator measured at every clinic visit is Body Mass Index (BMI). Of those completing the intervention in the eight clinics serving child patients, 38% decreased their BMI. The 70 child patients who reduced their BMI did so for an average of 0.93 BMI points.

Access to Fresh Fruits and Vegetables Increased

Farmers markets have the potential to provide consumers in underserved “food desert” areas with nutritious foods, especially fresh fruits and vegetables. In a 2012 survey of FVRx farmers market program managers, 92% believe that FVRx increased access to fresh fruits and vegetables in the community.

Creates New and Repeat Customers for Farmers Markets

- 60% of FVRx families had never or rarely been to a farmers market before participating in FVRx.
- 65% of FVRx families came to the market six or more times during the 2012 season, and over 90% visited the market at least once (Fig 2).

“...Our market is in a county with a high rate of food insecurity. For the last two seasons, we have increased vendor participation by over 25% each year, and I think this is partly due to the programs such as the FVRx program, which have brought people to the market, who might not otherwise attend...”

— Sabra Moore, Farmers Market Manager, New Mexico

FIG. 1
Change in Frequency of Consumption of Fresh Fruits and Vegetables for FVRx patients

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<tr>
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<th>PRE-SURVEY</th>
<th>POST-SURVEY</th>
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<tr>
<td>Fresh Fruits</td>
<td>19%</td>
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<tr>
<td>Fresh Vegetables</td>
<td>23%</td>
<td>24%</td>
</tr>
<tr>
<td>Fresh Fruits</td>
<td>49%</td>
<td>45%</td>
</tr>
<tr>
<td>Fresh Vegetables</td>
<td>45%</td>
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N=222; McNemar chi-square tests showed a significant increase (at P<.0001) for patients reporting that they ate fruits and vegetables as fresh “very often” or “always” from the beginning of the program to the end.

- Almost 90% of FVRx patients reported getting at least half of their fresh fruits and vegetables at the farmers market during the season, with 70% saying they got most or all of their fresh produce at the market.
- Almost 97% of FVRx patients agreed or strongly agreed that the FVRx prescription was important to their decision to shop at the farmers market.
Increases Knowledge about Locally Grown Produce

Surveys showed that FVRx patients increased their knowledge about locally grown fruits and vegetables, where to purchase local produce, and about their knowledge of the participating farmers markets.

Boosts Farmers Market Business

FVRx aims to expand the customer base for farmers at participating markets, thereby increasing the viability of participating small and medium-size farms.

- Each participating household spent an average of $352 in FVRx prescriptions over the season at the farmers markets.
- In 2012, 26 farmers markets took part in the program, adding approximately $121,000 in total revenue to those markets from FVRx alone.
- 86% of farmers market program managers running FVRx reported increased or greatly increased revenue for their markets.
- 87% of patients agreed or strongly agreed that they would purchase fresh fruits and vegetables at the farmers markets the next year, even if FVRx was not available.