

CAN CORNER AND CONVENIENCE  
STORE OPTIONS  
REALLY INFLUENCE  
HEALTHY EATING  
IN  
RURAL COMMUNITIES?

A Case Study in Western North Carolina

MOUNTAINmarkets

MOUNTAINwise.org



# Table of Contents:

<b>Overview</b> .....	3
Background on MountainWise .....	4
<b>Insights + Recommendations</b> .....	5
<b>The Challenge: Combating Obesity in Western North Carolina</b> .....	6
The Opportunity.....	6
<b>The Hypothesis: Increasing Access to Fresh, Healthy Foods</b> .....	7
<b>The Story, Part I: Designing the MountainMarkets Healthy Corner Store Project</b> .....	8
<b>The Story, Part II: Growing MM with Nine Corner Stores</b> .....	9
<b>The Story, Part III: Partnering with a Local Food Distributor Makes the Difference</b> .....	10
<b>The Story, Part IV: Was the MountainMarkets Hypothesis Correct?</b> .....	12
Answering hypothesis question #1 “Could corner and convenience stores in WNC play a role in increasing access to fruits and vegetables?” .....	13
What Successful MountainMarkets Stores Had in Common.....	14
How MountainMarkets Supplies and Services Facilitated Success .....	15
Barriers to Increasing Access to Healthy Foods.....	16
Answering hypothesis question #2 “Once more stores were stocking fruits and vegetables, would people living in WNC buy them?” .....	17
Words of Wisdom from MM Project Participants .....	18
Evaluation Limitations .....	19
<b>Conclusion</b> .....	20



# Overview

In 2014 and 2015, the MountainMarkets (MM) Healthy Corner Store Project sought to increase the number of convenience and corner stores that sold fresh produce in Western North Carolina (WNC). MountainWise, an organization with the mission of improving health outcomes for people living in WNC, developed and coordinated the MM project.

MM engaged a wide range of stakeholders, including local farms, regional distributors, academic institutions, and more than 30 corner stores across the WNC region. Participating stores received the following types of support from MM:

- Apples, bananas, and oranges from a regional food and beverage distributor
- Display shelving, baskets, and branded signage to promote the sale of the fresh produce
- Branded promotions in print media and radio throughout WNC
- Technical assistance to address challenges to ordering, stocking, and selling fresh produce

In 2016, MountainWise engaged Kujawa Consulting for an evaluation of the MM project. The research took place between May 2016 and May 2017 via mailed surveys and telephone interviews with store owners and key informants.

This evaluation was made possible as part of grant funding from the Centers for Disease Control (CDC) Obesity, Diabetes, Heart Disease, and Stroke Prevention (ODHDSP) program provided through the North Carolina Division of Public Health. The research for this evaluation was conducted by Kujawa Consulting, a woman-owned firm specializing in strategic planning, facilitation, evaluation, and research support for organizations and agencies working to improve health, support sustainable food systems, and transform community conflict. This document shares research findings from their report. The views expressed in this document are those of MountainWise and not necessarily those of the CDC or the North Carolina Division of Public Health.

MountainWise would like to thank the Centers for Disease Control and Prevention Community Transformation Grant (CTG) program, the Community Foundation of Western North Carolina, and the North Carolina Division of Public Health (with funding from the CDC ODHDSP program) for their support of MM.



## Background on MountainWise

MountainWise is an organization committed to improving health outcomes for people living in the eight westernmost counties of North Carolina (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain, and Transylvania). Formed in May 2011 as part of a Community Transformation Grant (CTG) from the Centers for Disease Control and Prevention (CDC), MountainWise seeks to make the healthy choice the easy choice by providing opportunities for:

- Physical activity
- Local fresh fruits and vegetables
- Tobacco-free places
- Access to services for chronic disease management

MountainWise identified these priority areas in response to community concerns about obesity, diabetes, and tobacco addiction.

# Insights and Recommendations

## Other organizations considering this type of initiative should:

- **Examine whether or not their target area is conducive to a healthy corner store project.** Such projects have worked well in urban areas. MountainWise staff believe this is because the geographic scope of the project is more condensed. Participating MM stores were spread over a 3,482 square mile-region, with a number of mountain ranges making traveling from one county to another difficult. These factors made implementation and management of the project more difficult.
- **Choose local partners with on-the-ground relationships and a strong interest in doing the work.** Tapping into and activating an existing network of local organizations working on issues of healthy eating and/or distributors of healthy foods saves time. On reflection, MountainWise believes it would have been better to engage local and regional organizations for project implementation, especially given the geographic challenges of the region.
- **Understand that store owners do not manage and stock their own displays; distributors do.** This was a key takeaway for the MountainWise team. Before MountainWise engaged a regional distributor for the produce, store owners were tasked with finding and stocking produce for their stores, which they weren't used to doing. Typically, distributors are responsible for stocking and managing the displays, not the store owners. Relieving store owners of that task made it easier for everyone involved.
- **Be prepared to educate and provide technical assistance for store owners.** Store owners may not know how to store fresh produce or even have the equipment for doing so. Suppliers of the fresh produce may also require stores to order a minimum quantity of fruits and vegetables that stores cannot always sell fast enough. Spoilage became a big concern for MM store owners, and despite being told they'd be reimbursed for lost produce, they were hesitant to continue stocking produce.
- **Include well-designed signage and display materials to participating stores.** MM provided each participating stores with branded print materials, window clings, and display shelving to aid stores in promoting the healthy food items. These items were rated most helpful, with one key informant surveyed saying it was "a big benefit of the program."
- **Realize that regions with high tourism can skew the results.** WNC is a popular destination for tourists because of its beautiful and varying geography. MM store owners indicated in their survey responses that increased demand for fruits and vegetables was driven by seasonal tourists more so than residents. For MM, data were unclear about whether or not residents purchased more healthy foods.
- **Recognize that behavior change takes time.** Influencing food shopping behaviors at a population-level can take more time than an allotted grant period. Due to survey limitations, it's unclear if the target population began buying more healthy food items from their local corner and convenience stores. However, MM represented a behavior change for everyone involved. One person surveyed noted, "[The] biggest thing in general is whenever you bring in any new product, [it] takes a while for customers to get accustomed to you having it and buying it from you."

1 Pinard C, Byker Shanks C, Harden S, and Yaroch A. "An integrative literature review of small food store research across urban and rural communities in the U.S." *Prev Med Rep*, 2016. 3:324-332.

# The Challenge:

## Combating Obesity in Western North Carolina

Rural communities in the U.S. experience disproportionately higher rates of obesity and other nutrition-related chronic diseases than do urban and suburban communities.<sup>2,3,4</sup> Being overweight or obese has been linked to many poor conditions and diseases, including diabetes, heart disease, and stroke.<sup>5</sup>

North Carolina as a whole has what has been described as an obesity epidemic, with approximately 36% of adults being overweight, and 30% being obese in 2012.<sup>6</sup>

A variety of factors contribute to the high rate of obesity in WNC, but of particular note is the role the geography plays in the health of residents. WNC is part of Appalachia and as such many people live in remote, rural areas with limited access to fresh produce and healthy food items. For example, a supermarket may be an hour's drive or more away. As a result, many people living in WNC rely on convenience and corner stores for their nutritional needs in between trips to the supermarket. These stores are much smaller than supermarkets and have fewer food options overall, let alone healthy food options.

## The Opportunity

When the North Carolina Division of Public Health was awarded a grant from the CTG program in 2011, the health departments in the region created MountainWise to design and implement chronic disease prevention programs for the WNC region. The CTG program specified evidence-based strategies for communities to use, but encouraged those communities to tailor their programs appropriately for their target populations.

MountainWise had the option to increase access to healthy foods by supporting local farmers markets and neighborhood convenience stores.

At a high level, the logic model for this strategy was that by increasing access to healthy foods, WNC residents would consume more healthy foods, leading to improved health for children and adults.

---

2 Befort C, Nazir N, Perri M. "Prevalence of obesity among adults from rural and urban areas of the United States: findings from NHANES (2005–2008)." *J Rural Health*, 2012. 28(4):392–7.

3 Trivedi T, Liu J, Probst J, Martin A. "The metabolic syndrome: are rural residents at increased risk?" *J Rural Health*, 2013. 29(2):188–97.

4 O'Connor A, Wellenius G. "Rural–urban disparities in the prevalence of diabetes and coronary heart disease." *Public Health*, 2012. 126(10):813–20.

5 Haslam, David W., and W. Philip T. James. "Obesity." *The Lancet* 366.9492 (2005): 1197–1209. [www.thelancet.com](http://www.thelancet.com). Web.

6 Morgan, Maggie, Sarah Downer, and Tiffany Lopinsky. "The Diabetes Epidemic in North Carolina: Policies for Moving Forward." n. pag. Google Scholar. Web. 24 July 2017.

# The Hypothesis:

## Increasing Access to Fresh, Healthy Foods

Increasing access to fresh, healthy foods is often touted as a primary tactic in combating obesity at the population level. Areas with a lack of access to fresh, healthy foods are known as “food deserts” and there has been a significant increase in the number of initiatives to eliminate food deserts in urban areas in the past 10 years.

However, people living in rural areas may have less access than those in urban areas. Rural residents are more likely than urban residents to say the stores at which they shop do not sell healthy foods such as fruits and vegetables.<sup>7</sup>

Healthy corner store initiatives in urban areas have been deemed successful in increasing access to healthy fresh foods<sup>8</sup> and, in the case of Philadelphia, linked to a decrease in childhood obesity rates.<sup>9</sup>

Could corner and convenience stores in WNC play a role in increasing access to fruits and vegetables? More importantly, if these stores could stock fruits and vegetables, would people living in WNC buy them?

MountainMarkets (MM) was designed to increase access but it would also test an important hypothesis: whether or not increased access would lead to the desired behavior change of residents including healthier foods as a regular part of their diets.

**Could corner and convenience stores in WNC play a role in increasing access to fruits and vegetables? More importantly, if these stores could stock fruits and vegetables, would people living in WNC buy them?**

---

7 Jilcott Pitts S, Bringolf K, Lloyd C, et al. “Formative Evaluation for a Healthy Corner Store Initiative in Pitt County, North Carolina: Engaging Stakeholders for a Healthy Corner Store Initiative, Part 2.” *Prev Chronic Dis*, 2013. Vol. 10. Available at [https://www.cdc.gov/pcd/issues/2013/12\\_0319.htm](https://www.cdc.gov/pcd/issues/2013/12_0319.htm). Accessed 6/28/2017.

8 Pinard, C.A. et al.

9 “Declining Childhood Obesity Rates — Where Are We Seeing the Most Progress?” Robert Wood Johnson Foundation. Robert Wood Johnson Foundation, Sept. 2012. Web. 7 August 2017.

# The Story, Part I:

## Designing the MM Healthy Corner Store Project

**“The community transformation grants [CTG] from the CDC were designed to empower communities to tailor proven interventions for chronic diseases to fit their particular populations. The CTG program was experimental in the sense that they were testing how well different interventions could work in different areas in the country. For our grant, we had two options: working through farmer’s markets or corner stores to improve access to fresh fruits and vegetables.”**

- Sarah Tennyson, MPH, Regional Project Director for MountainWise.

Initially, MountainWise chose to promote access to fresh, local produce at farmer’s markets throughout the region to fulfill the CTG program strategy of increasing access to healthy foods by supporting local farms and neighborhood grocery stores. It quickly became clear to MountainWise that farmer’s markets were not the best option for their efforts because:

- Farmer’s markets did not necessarily operate in areas with the most need for fruits and vegetables
- People without transportation found it difficult to travel to farmer’s markets
- People with limited financial resources could not always afford fruits and vegetables

Realizing they weren’t going to reach their target population via farmer’s markets, MountainWise partnered with faculty at Western Carolina University to survey adults in WNC to ask them about the real barriers and motivators to eating fresh produce. The study found that:

- While most adults participating in the survey felt that eating fruits and vegetables was important or very important, almost half either did not know if they were eating enough or reported not eating enough of them.
- The study also found that adults in WNC obtained fruits and vegetables from a variety of sources such as grocery stores and farmers markets (during growing season).
- Very few adults obtained fresh produce from corner or convenience stores.<sup>10</sup>

After the study findings were released, MountainWise hosted a series of regional stakeholder meetings that included local health departments, county cooperative extension programs, economic development organizations, local businesses, regional sustainable agriculture organizations, and others. The meetings:

---

<sup>10</sup> Tallant A and Rawls M. “An Exploratory Study: The Rural Eating Assessment Project (REAP) of Western North Carolina, Part 1. Preliminary Findings Report.” 2013. Available at <http://mountainwise.org/wp-content/uploads/2016/12/REAPReportABSOLUTEFINAL-1.pdf>. Accessed 6-22-2017.

- Included presentations from successful rural healthy corner store initiatives from other regions in North Carolina
- Helped stakeholders identify opportunities for increasing access to fruits and vegetables in the region through corner stores
- Created the framework for the MM initiative

MountainWise then partnered with a local marketing firm to develop the MM brand, design promotional tools, and create an implementation toolkit for MM corner stores. The promotional tools included branded signage, labels for shelves, baskets for fruits and vegetables, recipe cards, and other educational materials.

After successfully running a one-store pilot to test the toolkit, it was time to expand the initiative.

## The Story, Part II:

### Growing MM with Nine Corner Stores

MountainWise reconvened the stakeholder advisory group to select more stores to participate in MM. The group reviewed and discussed the following materials to make their decisions:

- Hotspot analysis and maps created as part of the MountainElements Health Impact Assessment (HIA).<sup>11</sup> These maps identified census tracts within the eight WNC counties that had a higher prevalence of “poor health conditions” as defined by the North Carolina Division of Public Health. (See Appendix A for more information about the MountainElements HIA).
- A second set of maps that identified food deserts, or “a low-income census tract where either a substantial number or share of residents has low access to a supermarket or large grocery store” as defined by the USDA.<sup>12</sup>
- Feasibility concerns and individual county needs.

Recruiting the identified stores began with sharing the toolkit with the store owner, and then having a conversation about whether or not they would want to sell healthy food items, who their customers were, and what kind of marketing materials they felt would be most useful.

After that, MountainWise staff would interview between 10-15 store customers about what they typically purchased from the store, if they wanted healthy items offered, and if they would buy them. If the results were positive, that store would be asked to participate in MM.

---

<sup>11</sup> “MountainElements.” MountainWise. N.p., n.d. Web. 7 Aug. 2017

<sup>12</sup> The USDA defines a food desert as “a low-income census tract where either a substantial number or share of residents has low access to a supermarket or large grocery store.” Low income” tracts are defined as those where at least 20 percent of the people have income at or below the federal poverty levels for family size, or where median family income for the tract is at or below 80 percent of the surrounding area’s median family income. Tracts qualify as “low access” tracts if at least 500 persons or 33 percent of their population live more than a mile from a supermarket or large grocery store (for rural census tracts, the distance is more than 10 miles).” (Source: <https://www.fns.usda.gov/tags/food-desert-locator>)

It's important to note that MountainWise's initial strategy for creating a network of MM stores was to build it themselves. This approach was extremely hands-on, and entailed MountainWise staff making forays into unknown territory: forming relationships with the store owners, developing memoranda of understanding (MOUs) about expectations for the project, and helping store owners source the healthy food items themselves.

This proved difficult as store owners struggled to source and promote healthy food items in their stores. MountainWise discovered most store owners did not have the knowledge or equipment to store fresh produce, and didn't see much customer demand. As a result, the store owners just saw fresh produce going bad.

## The Story, Part III:

### Local Food Distributors Makes the Difference

**"We realized we [MountainWise] weren't the best people to facilitate the actual stocking of healthy food items. There had to be a more efficient way than all of us driving out to these stores. Finding a regional distributor that could manage and stock healthy food items for the stores made it much easier for stores to participate."**

- Sarah Tennyson, MPH, Regional Project Director for MountainWise.

Funding from the CTG program ended in 2014, but MountainWise secured a one-year grant from the Community Foundation of Western North Carolina to continue and expand the MM initiative. That same year, MountainWise also became a sub-recipient of the Obesity, Diabetes, Heart Disease, Stroke Prevention (ODHDSP) funding program through the North Carolina Division of Public Health which will extend MM into 2018.

At this point, MountainWise engaged a regional food and beverage distributor that expressed interest in taking a successful healthy food distribution model from New England and bringing it to WNC. This decision:

- Decreased the issues the pilot stores had had with stocking and storing produce
- Increased store participation from nine to 34 stores
- Eliminated the need for individual MOUs with each of the stores, because the relationship was handled by the distributor
- Reduced the burden on MountainWise staff in terms of delivering MM branded display and promotional materials

A key takeaway for MountainWise was: convenience and corner store owners do not stock and maintain their store shelves; distributors do. Before MountainWise engaged the regional distributor, MM participants had to find and stock healthy food items themselves. They weren't used to doing this because distributors and vendors managed their own displays. Relieving store owners of that task made it easier for stores to participate. Additionally, store owners were more likely to leave displays intact, because they "belonged" to the distributor.

However, working with a distributor presented its own challenges as well.

- Store owners struggled with the mandatory minimum volume purchase requirements from the distributor. For stores that weren't selling many healthy foods yet, it was hard to justify buying large volumes of them.
- The distributor had not worked with fresh produce before, so they ran into the same storage, spoilage, and financial concerns as the store owners.
- In addition to spoilage issues, the logistics of distributing produce to many small, rural stores was also financially difficult for the distributor.

Five stores dropped out in the first two-to-three weeks, and another 10 dropped out after two-to-three months. Within six months, about 15 of the original 34 stores remained and the distributor pulled out of the initiative because they had failed to turn a profit during that time. After the distributor dropped out, MountainWise was back to working with stores individually to help them source fruits and vegetables.



# The Story, Part IV

## Was the mountainmarkets hypothesis correct?

**“I think there was a disconnect between what people said they wanted versus what they actually bought. Customers said they wanted to see a greater variety of healthy foods. Whether or not they actually bought them is another story.”**

– Sarah Tennyson, MPH, Regional Project Director for MountainWise.

The MM initiative is ongoing through 2018, albeit on a much smaller scale, thanks to the ODHPSP grant. Part of the grant stipulated an evaluation and from May of 2016 - May of 2017, MountainWise engaged Kujawa Consulting for an evaluation of the MM project.

MountainWise sought to understand if the data supported the MM hypothesis: Could corner and convenience stores in WNC play a role in increasing access to fruits and vegetables? More importantly, if these stores could stock fruits and vegetables, would people living in WNC buy them?

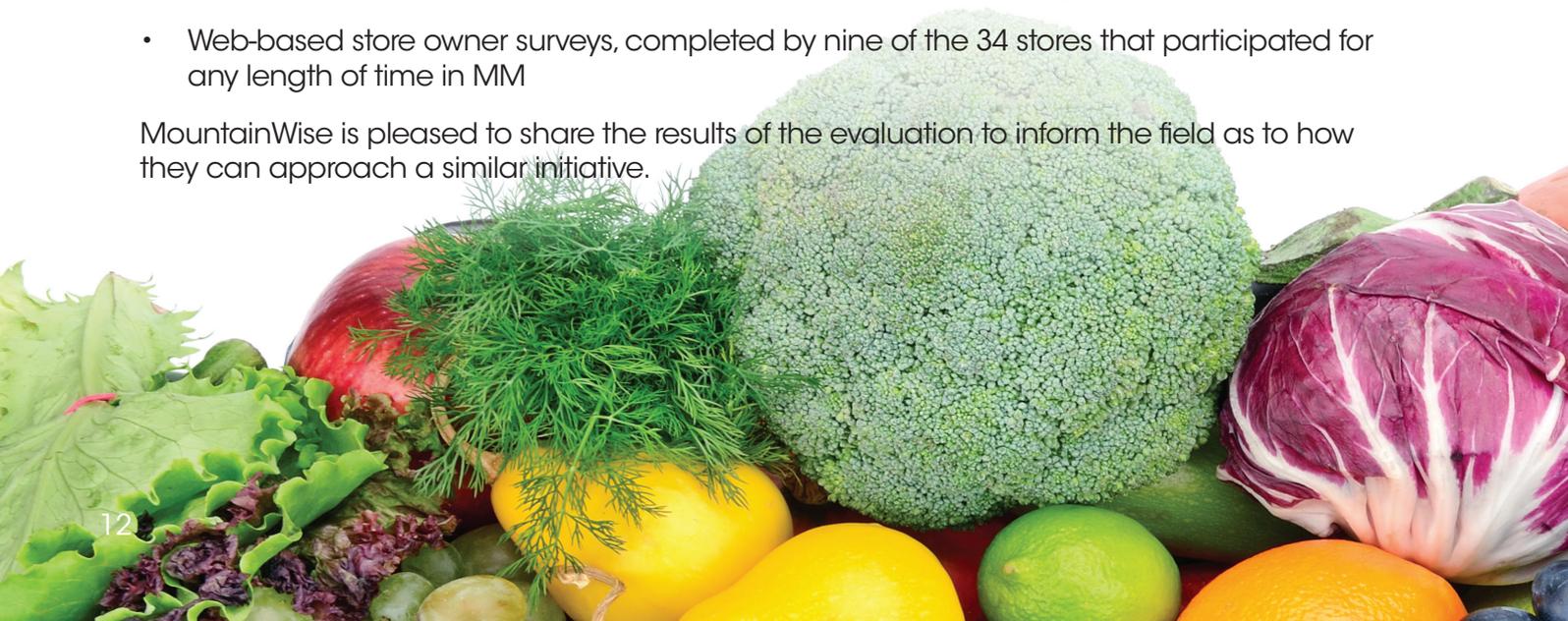
The MM initiative was not without challenges, as evidenced by the initial rapid drop off in store participation. At one point, MountainWise staff visited a store and discovered bananas and Oreo cookies in the same display. At a different store, a store owner had taken down all of the MM displays and put the produce in a box in a corner.

But there were also successes such as stores continuing to carry the MM torch despite a decrease in support. An evaluation offered the opportunity for MountainWise to dig into why some stores succeeded where others did not.

Kujawa Consulting conducted research using the following tools:

- Review of existing data provided by MountainWise
- In-depth telephone interviews with seven key informants, including store owners
- Web-based store owner surveys, completed by nine of the 34 stores that participated for any length of time in MM

MountainWise is pleased to share the results of the evaluation to inform the field as to how they can approach a similar initiative.



# Answering hypothesis question #1

## “Could corner and convenience stores in WNC play a role in increasing access to fruits and vegetables?”

---

The first part of the MM hypothesis was about whether or not a corner and convenience store strategy would work in making fresh fruits and vegetables available to people living in WNC.

Based on the fact that a total of 34 stores participated in MM, and nine stores still continue, the facile answer is yes. This strategy did lead to greater access to fruits and vegetables via corner and convenience stores in WNC.

56% of survey respondents increased their stock of healthy items because of their participation in MM. 44% of survey respondents continue to carry increased stock of healthy items.

Key informant store owners said they increased the types of healthy food items they carried. One said, “I started doing more after MM came by. Got a display with baskets. [I] still have it up, will have sweet potatoes, fall cabbage. Didn’t change a whole lot of pre-packaged foods.”

In addition to fruits and vegetables, stores were also encouraged to carry and promote other healthy foods in these categories:

- Healthy beverages
- Protein
- Canned, frozen, and/or dried fruits or vegetables
- 100% whole grain or whole wheat products
- Low-fat or fat-free dairy products

Overall, five of the nine survey respondents (56%) said they increased their stock of one of the categories of healthy items at some point because of their participation in MM. Four of these five stores (44%) continue to carry increased stock of some healthier items.

The evaluation team also asked questions to identify why some stores were more successful than others.



## What Successful MountainMarkets Stores Had in Common

Stores that stayed in the MM project tended to have similarities in three categories: the store owner's interest in participating, a robust prior product inventory, and a tourist customer base.

### Successful store owners had a personal interest in offering healthy items

Generally, store owners who sell healthy items have a personal interest in making them more available to the community. For example, one store owner has celiac disease and wants to offer items that are compatible with a range of dietary needs and choices.

"We quickly realized that ownership engagement was really important to success. Sometimes those stores weren't in the most high-need areas."

### Successful stores already offered healthy items

Key informant store owners described a broad product inventory prior to participation in MM, including a range of fresh produce, staple foods, and more, rather than simply convenience foods.

"[We] have apples, oranges, bananas, lemons, limes, tomatoes, potatoes, sweet potatoes, lettuce, cabbage, seedless grapes, mushrooms, carrots, celery, bagged salads/spinach, onions... We are so successful because our customers are used to seeing healthier products, plus we also carry more "grocery" items for take-home rather than immediate consumption."

"[We] have a deli [and] a convenience store...Have always had dried beans and rice. We have fresh eggs [from local community members] that include dates, people's addresses, etc. The state inspector buys all her eggs [from us]."

### Successful stores had a large, seasonal customer base of tourists

Store owners indicated some of their biggest demand for healthy items occurred during tourist season, when cyclists, hikers, and vacationers tend to visit the region.

"Seventy percent of [our] customers are year-round residents; the rest are here in the summertime who buy most of the produce. Very local people have a garden. Local people go to Ingles, in a rush they'll stop by here potatoes and onions in the wintertime."

While some stores stock and sell fresh fruits and vegetables year-round, others find significant seasonal fluctuations in demand due to the tourism prevalent throughout the region.

"A lot of tourists are customers—I am their go-to."

**Store owners indicated some of their biggest demand for healthy items occurred during tourist season, when cyclists, hikers, and vacationers tend to visit the region.**

## How MountainMarkets Supplies and Services Facilitated Success

Stores that participated in the MM project received both supplies and services from MountainWise.

### **Branded MM materials helped stores stock and sell healthy items**

Supplies included print materials, window clings, recipe cards, and display shelving to aid stores in promoting the healthy food items.

Overall, 44% percent of respondents said MM was “very” or “extremely” valuable in helping them stock and sell healthy items.

Key informants agreed that the signage was “a big benefit of the program.”

56% of survey respondents rated the baskets and shelves as being the most helpful in stocking healthy items. However, when it came to selling items, MM marketing and advertising was most helpful (67%).

“Since we already carried produce, the big thing for us was they provided us with free shelving which allowed us to increase our space and carry a few more products.”

“[We] did get displays and signage. I posted the signs outside, had some [window] clings to go inside on the windows.”

### **MountainWise provided educational and logistical support services to facilitate MM**

Overall, key informants appreciated the responsiveness and overall support of MountainWise staff.

“I didn’t have any issues with MM staff—everything went well. It was just a couple meetings/drop-ins. They showed us the ads they were going to run and what products (shelves, racks) to retail the product on.”



"[The] relationship with Mountain Markets did help—without their support it would have been even more difficult. They laid the groundwork."

Once the MM project was underway, the biggest role MountainWise staff played was solving the logistical challenges of helping stores source, stock, and sell produce.

"Having a distributor champion: that's their business model. If you can have a person designated to handle materials, it eliminates a lot of barriers. The stores deal with the same person from [the distributor]. [The distributor] had a lot of the infrastructure and processes in place that really facilitated [addressing] a lot of the barriers."

## Barriers to Increasing Access to Healthy Foods

Evaluation data indicate that access increased with the MM project. However, the increase was small, and owners of small stores found it challenging to carry fresh produce in their stores.

One of the major pain points in the MM project was helping store owners find fruits and vegetables to sell in their stores. At one point, MM contracted with a distributor, but that only solved the challenge of sourcing the fresh produce. Store owners still had to contend with volume, proper storage, and spoilage.

### The distributor's mandatory minimum volume purchases were prohibitive for small stores

The distributor required stores to order a minimum quantity of oranges, apples, and/or bananas with each order. Minimum ordering volume and resulting spoilage was a major reason many stores chose to stop participating.

Many stores were not able to sell the full order before the remaining stock began to spoil. As a result, MountainWise designed the program so store owners could discard  $\frac{3}{4}$  of the produce they received and still break even.

Some store owners were still frustrated when they had to discard spoiled fruit and attempted to get refunds from the distributor for lost inventory.

One store owner said, "I have to order in such a large quantity that I can't justify carrying it. If I could get a smaller box before they go bad I'd be able to order them."

Other stores said, "Hard to sell before they go bad. Along the same lines would be quantities they come in - having to purchase lemons in a 50 pound box; won't sell 50 pounds of lemons because they go bad."

"Quantity through [the distributor] was too much—couldn't sell it fast enough. Would have to throw it away (not throwing away profit, but are throwing away investment)."

**"I never realized it would be that hard to provide produce. The MountainMarkets mission isn't impossible, the biggest challenge is overcoming the logistics. The more rural the community, the more difficult it becomes to make fresh produce available in stores."**

– Sarah Tennyson, MPH,  
Regional Project Director for  
MountainWise.

## **Store owners lacked knowledge, resources, and/or equipment, to properly store perishable items**

New MM stores almost immediately ran into storage issues, such as bananas going bad very quickly. MountainWise realized most of the MM stores were not used to selling fresh produce. They provided print resources on how to store and sell produce (for example, don't store apples and bananas together). Unfortunately, providing refrigeration equipment and the like was outside the MM scope.

"A lot of the funding for these kinds of initiatives doesn't include coolers (will fund supplies but not equipment like coolers). Produce coolers are different temperatures from drinks. A cooler is \$3,000 a piece!"

"We ran into a little bit of spoilage—[don't] have enough refrigeration here...to keep a lot of stuff. After the season was over, I realized I could have used a small cooler to help keep produce fresh. I was limited on refrigeration—I did not ask for that."

## **The logistics of distributing produce to many small, rural corner and convenience stores**

"I never realized it would be that hard to provide produce. The MountainMarkets mission isn't impossible, the biggest challenge is overcoming the logistics. Would be a lot easier in Asheville because Sam's Club is just down the road and farmers' market. The more rural the community, the more difficult it becomes to make fresh produce available in stores. Unless you can get a produce company to deliver to you." - Sarah Tennyson, MPH, Regional Project Director for MountainWise

# **Answering hypothesis question #2**

## **"Once more stores were stocking fruits and vegetables, would people living in WNC buy them?"**

---

The second part of the MM hypothesis asks if access to healthy foods increases, do WNC residents buy (and hopefully consume) them.

Unfortunately, this is where evaluation data were either *unclear* or *indicate there may not have been significant improvement* in some key areas.

## **It's unclear if WNC residents bought the newly available produce**

Both store owners and the project director indicate that, in many cases, increased demand for healthy foods was driven by seasonal tourists (including cyclists, vacationers, and part-time residents).

One store owner said, "It's a seasonal business in the mountains...In summer, fruit sells really good. I grab fresh bananas and apples from the supermarkets. [The] only healthy items we sell are during tourist season."

Another store owner said “[There’s been] a little bit of a cultural shift [among] ‘nontraditional’ people for healthy corner store options (store owners, farmers, etc.) Overall, more broadly, people are more aware of healthier items... People like to see that a store is selling healthy items.”

The project director said, “[There seems to be a] disconnect between what people said they wanted and what they actually bought. Customers really wanted to see healthier items availability—they want to see more variety and healthier items. There’s no data showing increased healthier eating in the region.”

### **It’s unclear if stores saw a positive impact on sales from MM**

Key informants had mixed impressions of MM’s impact on store sales. The two store owner key informants were not sure if they experienced an increase in sales or not.

The MountainWise project director said, “For the stores that completed post-surveys, they were making money. One of them made \$300 extra per month. The stores that were doing it were definitely making a profit. They definitely benefited from the promotional materials: shelving, signage, and advertising. They loved it.”

### **There was no significant improvement to the distributor’s profits because of MM**

Initially, the distributor was making enough profit from selling produce to MM stores to continue offering the program. However, as more stores dropped out of MM, the distributor’s profit margins dropped below the necessary threshold for participation. They stopped offering the option for stores to order apples, bananas, and oranges.

The distributor said, “MM advertised the initiative to stores, [which was a] positive for [us]. Can’t say [stores] lost a lot of money, didn’t make much for sure. Started in the spring of the year. As the fall came around, had standing orders, [stores] would cancel because business was slowing down. Didn’t lose a lot of money, [but] didn’t make much. [I] knew there wouldn’t be much profit. We would have kept the program even if we had broken even on it.”

## **Words of Wisdom from MM Project Participants**

---

Key informants offered several lessons learned and recommendations for MM to consider for future similar initiatives, as well as for other rural healthy corner store programs and distributors hoping to offer healthy options:

- **Establish formal agreements with participating stores.** “[We] learned you need to have an MOU with the stores to be very clear about what MM provides versus what store provides. [We] used Food Trust template MOUs.”
- **Consider a regional approach for rural healthy corner store initiatives that includes local implementing organizations.** “One of the biggest successes is working regionally. MountainWise can think bigger picture and think outside the box. MountainWise took the

lead with implementing [with local health department support]. Local health departments have issues with capacity (e.g., may only have one health educator). [There are] downfalls of not having a local person. MountainWise's role was technical assistance for the region. Need a local person to monitor [implementation]."

- **Leverage partners with on-the-ground relationships.** "It's great if [the distributor] manages [interfacing directly with the stores] because they have already established relationships and understood rules for displays."
- **Select the fresh produce you provide wisely.** "Don't do bananas. [We] aren't having problems with apples."
- **Be flexible and patient. "Learning to be flexible was really important.** "[The] biggest thing in general is whenever you bring in any new product, [it] takes a while for customers to get accustomed to you having it and buying it from you...Can't try it for 2-3 weeks and give up on it, got to ride it out."
- **Successful stores focus on community benefit of the program.** "[Stores] have to want to do it and have an interest in it—do have to turn produce over...Need to have an interest in the community and desire to do it for the people. Not a tremendous income for the business. It brings people in that might not normally come into your business."

## Evaluation Limitations

---

This evaluation had several significant limitations. First, data collected was exclusively self-report and required survey participants and key informants recall information from up to three years prior. This likely affected data accuracy and reliability. Second, sample sizes for both the survey and interviews were small due to difficulty contacting store owners and other stakeholders; several stores had changed ownership since MM implementation. Thus, findings in this report cannot be generalized to all participating MM stores.

# Conclusion

MM was an ambitious and innovative initiative to address the unique challenges of increasing access to healthy foods among residents of rural WNC. Nine original stores are still operating in some capacity as Mountain Markets. MountainWise plans to check in with them soon and perform another survey.

The MountainWise project director believes the MM project accomplished some important things, such as:

- Connecting different partners and strengthening relationships across stakeholders throughout the region
- Building public-private partnerships (e.g., the local health department and the distributor)
- Developing tools and materials any health department, either regionally or nationally, can use to implement a similar initiative



The distributor plans to continue offering fresh fruit as an ordering option for stores. “[We] have already rolled out the program again. [In] this next round, we are doing pre-packaged bananas (22 per box). Can take 10 bananas out, wrap the rest back up...Just rolled the program back out to [select] stores.”

One store owner said, “[We] will continue to offer fresh produce as before. Have been here 36 years. For most of that time, we’ve had the produce selection, people are accustomed to purchasing it here. We are a bigger store and have a bigger grocery clientele.”





MOUNTAINmarkets  
MOUNTAINwise.org