

Aetna Foundation Grant Final Evaluation

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Introduction

The impact of food environments on the nutrition and overall health of Native communities is in need of more holistic approaches. This report highlights the success of three innovative programs working to effect change in their communities, with the ultimate goal of improving individual food choices and reducing the burden of diet-related illnesses. As shown in the following pages, research has demonstrated that individual food choices are highly impacted by access to healthy foods, which is in turn influenced by the broader food environment. This report uses such research, and its corresponding behavior-change theories, to highlight three key factors: 1) education, 2) culture and tradition, and 3) strengths-based interventions, that contributed to the success of the featured programs. Ultimately, this report recommends that interventions aimed at reducing diet-related illness through impacting individuals' behaviors must take a more holistic approach.



The State of Healthy Food Access on Tribal Lands

Documentation of food insecurity and its impact on the health of Native American populations within the United States has been slowly gaining attention. However, despite this increase, a significant lack of information persists, as most nationwide rates do not specify American Indian/Alaska Native in an ethnic/racial breakdown, and reservation-specific rates are nearly nonexistent. The United States Department of Agriculture (USDA) defines food insecurity as a household's limited or complete inability to consistently access adequate amounts of food (USA ER 2018). In its recent report on household food insecurity in the United States, the USDA estimated an 11.8% nationwide food insecurity rate in 2017 (USA ER 2018). The state of New Mexico was estimated to be higher than this average, with 15.8% of the population, or 327,830 people, experiencing food insecurity (USA ER 2018). This rate reveals an increase of 5.6% between the 2012-2015 rates at the current 2015-2017 rates (Coleman-Jensen et al 2018). Additionally, McKinley County, home to part of the Navajo Nation, has the highest rate of food insecurity in New Mexico, estimated to be 23.7% in 2016 (Coleman-Jensen et al 2018).



At least part of the high rates of food insecurity among Native Americans can be attributed to the lack of readily available healthy foods. In 2015 on the Navajo Nation, an area spanning over 27,000 square miles across the states of New Mexico, Arizona and Utah, there were only 10 retail food stores, all of which had an inventory of 80% or more junk food (Morales 2015). Lack of access to healthy foods and the fact that Native Americans are two times as likely as their white counterparts to experience food insecurity, results in large disparities of chronic and diet-related illnesses (Jernigan et

al 2016). Research has shown that those who experience food insecurity are twice as likely to be obese and more likely to have diabetes than those who are food secure (Jernigan et al 2016). Additionally, trends reveal a significant decline in fruit and vegetable intake as food insecurity increases (Jernigan et al 2016). Combined with higher rates of poverty and rural environments, high levels of food insecurity and lack of access to healthy foods have had serious negative impacts on the health of many Native communities.

Impacts of Advertising on Food Behaviors

Throughout the Aetna Foundation grant period, the three project participants focused their projects on impacting the retail environment, often through promotion of healthy eating using marketing and advertising. The impacts of advertising on individual and group behaviors have long been of interest to researchers and public health professionals. Research has shown that the influence of ads is especially strong among children (Harris et al 2009). A 2009 study investigating the priming effects of advertising on children's consumption showed that children who saw food advertisements consumed 8.8 grams more than those who did not (Harris et al 2009). They then expanded these results, estimating that children who ate snacks as they watched television containing food ads for only 30 minutes per day would consume an additional 94 calories, resulting in a weight gain of 10 pounds per year without other interventions in place (Harris et al 2009). With more frequent exposure to television, social media and other forms of advertising, the impact of ads on personal behaviors and how these behaviors manifest in our health becomes increasingly important.



The impacts of advertisements can also be positive. Public service announcements (PSAs) highlighting the dangers of smoking can be credited in the enormous decrease in smoking in recent years. Similarly, anti-obesity and health-related ads have been shown to have positive effects on health. An expansive review of literature done in 2014 revealed that marketing healthy foods in stores can positively influence consumers' behavior and that "the majority of customers are receptive to services or programs that have been designed to help them make healthy food choices" (Vukmirovic 2015). Conclusions such as these demonstrate the importance of capitalizing on retail marketing and advertising when aiming to positively impact the health of a community.

Project Participants

Diné Community Advocacy Alliance (DCAA)

Location: Navajo Nation
Award amount: \$15,000

Established in 2011, the Diné Community Advocacy Alliance (DCAA) is a grassroots organization that aims to increase the health and wellness of the Navajo people through promoting and supporting healthy food systems across the reservation. It utilizes local community health advocates to educate, engage and empower community members to take action against obesity, diabetes and other chronic health issues. DCAA was a core advocate in the 2014 passage of two landmark initiatives, known as the "Healthy Diné Nation Act," that remove taxes on fresh fruits and vegetables and and implements an additional tax on unhealthy snacks and sugar-sweetened beverages. These initiatives, the first of their kind on tribal lands and across the United States, demonstrate how DCAA has served as a catalyst for advancing the fight against chronic illness by promoting healthy food systems on tribal lands.

Project Description

Under the Aetna Foundation grant, DCAA used the local advertising market to increase its visibility and promote healthy eating and the Healthy Diné Nation Act. Its four objectives were: 1) post one to two billboards promoting healthy eating and purchasing, highlighting the healthy food law, 2) create one video featuring 15 community member interviews around healthy eating, 3) distribute 100 signs across the reservation to increase awareness of the





healthy food law and healthy eating, and 4) use the local newspaper to promote the healthy food laws and eating campaign.

Project Outcomes and Successes

Over the grant period, DCAA far exceeded its objectives and had the following successes:

- Two digital billboards located on major commuter routes posted for 14 days each, with a total combined play time of 78 hours and 20 minutes over a span of 35,145 plays.
- One 10-minute video featuring 15 community members, representing councils, schools and chapters from seven different locations across the Navajo Nation.
- Distribution of 300 signs, newsletters, stickers and other promotional items for visibility to 110 Navajo Chapters, exceeding its goal by 200%.
- Receipt of a formal commitment to the Healthy Diné Act from various retailers through a “letter of intent.”
- Two feature ads in the *Navajo Times* promoting healthy food laws and healthy eating, in both English and the Native language, reached an estimated 165,000 tribal citizens over a six-week period through 51,000 distributions.
- An increase in social media presence to over 997 Facebook followers.
- Establishment of a relationship with the tribal council and government that will allow for further partnerships.
- Two classes/activities were held for children; five classes/activities were held for adults

Cochiti Pueblo

Location: **Cochiti, New Mexico**
Award amount: **\$15,000**

Cochiti Pueblo is located in central/northern New Mexico, 22 miles south of Santa Fe. It is a non-gaming community known for its intricate pottery and storyteller figurines. Similar to many Native communities, farming has historically been a critical part of the tribe’s culture and livelihood. Across the reservation there are tribally-run retail locations distributing foods from various outlets, including local farms.

Project Description

Under the First Nations Aetna Foundation grant, Cochiti focused on impacting the tribal retail market through enhancing the local farming community. The goal of this project was to engage 10 new farmers in learning the traditional farming practices that are still used today, to promote the growing of traditional and healthy foods. Additionally, farmers were to receive continued support and farming materials from Cochiti as well as distribute part of their harvest to the Cochiti Elders Center.



Project Outcomes and Successes

Despite delayed initiation of the project resulting from variety of uncontrollable circumstances, Cochiti met all project objectives. It exceeded its goal of 10 farmers by 50%, engaging a total of 15 farmers who ranged from 16 to 68 years of age. This wide age range encouraged multi-generational learning as the older farmers mentored the younger ones in traditional farming practices and the younger farmers guided the older ones through the use of new farming technology. Cochiti further supported the farmers, purchasing seed packets, hand tools and 14 tillers to be shared among the group.



Between these 15 farmers, 70% of the attempted 17 crops produced 1,500 pounds of fresh produce for community consumption. Any loss of yield was primarily due to drought and feral animals. Crops that produced large or multiple yields, such as squash and melons, were shared with the Elders Center. A secondary positive effect of sharing crops with the elders was the formation of friendships between the elders and the farmers.

Red Willow Center

Location: **Taos, New Mexico**

Award amount: **\$15,000**

The Red Willow Center (RWC) is a 501(c)(3) nonprofit organization located on the Taos Pueblo reservation in northern New Mexico. The center promotes the use of traditional farming and consumption of healthy foods through community education and advocacy. Its seasonal farmers' market sources from local farmers, providing the pueblo with a source of nutrient-dense produce that can also be purchased using benefits such as SNAP or WIC. Additionally, it offers value-added goods, featuring artisans from the pueblo and beyond.

Project Description

Under the First Nations Aetna Foundation grant, RWC aimed to enhance its farmers' market through increased marketing and offering additional value-added goods. It also planned to widen its reach in the community through promoting its tribal discounts at the market as well as the acceptance of SNAP and WIC benefits. Additionally, RWC focused on solidifying a formal partnership with the tribal casino, opening a new source of donations for RWC in exchange for organic farm-raised produce and other mutually-beneficial impacts.



Project Outcomes and Successes

Circumstantial setbacks lead to a delayed start in the RWC project. However, despite this, RWC was able to successfully meet all objectives.

- Marketing and operating materials were updated to include two marquee signs, business cards and recyclable customer bags. iPads and updated retail platforms were purchased, replacing more outdated methods.
- Affordability of healthy foods at the market was promoted through advertising RWC's accepted alternative payment forms and discounts (50% discount for tribal members and those paying with SNAP and WIC).
- 90% increase in market participation and sales (October - December 2018); 105 new customers purchased locally grown/made food and products.
- Market reach was expanded through the piloting of a winter afternoon market, reaching 23 people, 100% of whom agreed the afternoon market was beneficial to the community and increased the access to healthy and traditional foods.
- An additional 22 value-added products are now available at the market (availability determined by weekly demand). Purchase rates for value-added products increased by 60% from October - December 2018.
- A relationship between the Taos Mountain Casino and RWC further expanded RWC's reach. This partnership may result in a wood donation to RWC valued between \$2,700 - \$3,400 that will maintain RWC heating and greenhouses throughout the winter.
- 5,200 pounds of fresh produce was grown for community consumption.

Overall Project Outcomes and Observations

The goal of the Aetna Foundation grant was to address the issues of food deserts and diet-related diseases through increasing the retail availability of healthy and fresh foods in the targeted Native American communities. Using the larger context of the Ecological/Social-Ecological Model, it is evident how each project justified its approaches, aiming to address individual food habits through larger environmental initiatives. Furthermore, through the lens of the Ecological Model, it is evident how these approaches led to their eventual successes.

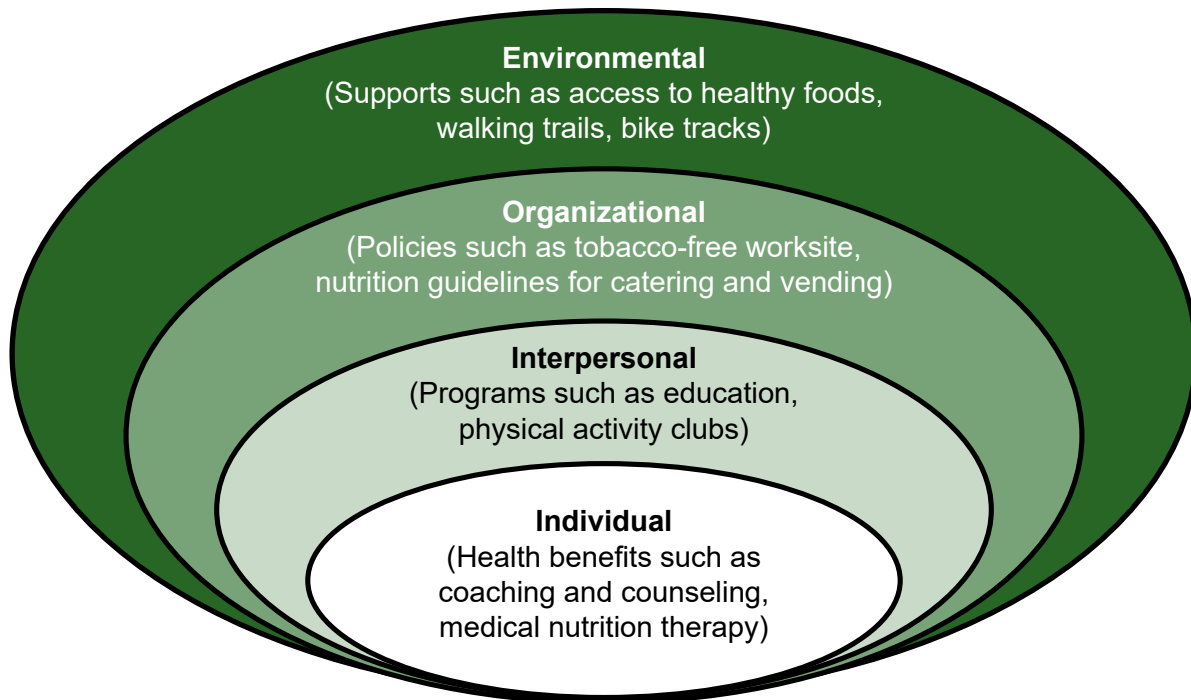


Figure 1. The Ecological Model - (Meador et al. 2016)

The Ecological Model “emphasize[s] the environmental and policy contexts of behavior, while incorporating social and psychological influences” and is based on the core concept “that behavior has multiple levels of influences, often including intrapersonal (biological, psychological), interpersonal (social, cultural), organizational, community, physical environmental, and policy” (Glanz et al 2008). The interaction of these factors can be seen in Figure 1. It was chosen for this report in order to highlight the complex pathways by which an increase in retail availability can impact food deserts in addition to the individual behaviors that often result in diet-related diseases.

Research has shown that environmental factors, such as promotion of healthy food options or advertising the availability of healthy foods, can impact individual food choices (Townsend et al. 2010 & 2011). Additionally, the U.S. Surgeon General’s report: “*Vision for a Healthy and Fit Nation*” (Office of the Surgeon General 2010), acknowledges that an individual’s choice to consume healthier food, thus combating diet-related diseases, can only occur in an environment where healthy food is accessible and affordable.

These findings support the approaches chosen by the three project participants. One program chose to influence the retail market by introducing a new farmers’ market closer to the community and promoting the market’s acceptance of SNAP and WIC benefits, and its inclusion of value-added goods and fresh foods. 100% of attendees of the market agreed with the statements “*a small market within the Pueblo Vicinity would benefit the community*” and that the market offers a “*friendly space to gather information*



Figure 2. Intervention Model

regarding community events.” These responses highlight how changes in the retail environment are used in tandem with interventions at the community and individual levels and demonstrate individual beliefs around the effectiveness of multi-level interventions (illustrated in Figure 2).

Each of these three projects was designed to make an impact on the individuals in the community through altering the community’s food retail environment, an approach that, more broadly, is rooted in the Ecological Model. The rest of this report uses qualitative data from interviews and final reports to identify the themes, evident across projects, that supported their success. It is through these themes that this report may help inform future programming for those aiming to address similar issues.

The themes identified are as follows:

1. Individual empowerment via education
2. Importance of culture and tradition
3. Strength-based approaches - utilizing existing resources

Increasing Impact-Sharing Knowledge

Education is widely accepted as a beneficial and necessary factor in impacting individual and community behavior change. Research has shown that, even when individuals experience limited access to resources, receiving information on nutrition and healthy food habits can change their food choices (USDA 2017).

The three programs involved in the Aetna Foundation grant designed interventions that operated under the guidelines set by the Ecological Model, that individuals’ behaviors could be impacted through altering the environment around them. Part of these alterations included an educational component targeting individuals and their food choices. The table below illustrates how this was accomplished and the impact that was seen:



Project	Mode of Transmission	Message	Desired Effect	Observed Effect
DCAA	Informational signs, newspaper articles, community health advocates	Healthy food laws and regulations, benefits of eating healthy foods for an individual's well-being	Increase knowledge and compliance with healthy foods laws by retailers; Increase individuals' knowledge of laws and healthy food choices	<p>"We have been able to recruit more community health advocates, more Navajo chapter participation."</p> <p>"Our growth ... has escalated by creating quality information..."</p>
Cochiti	Sharing of knowledge between farmers	Traditional farming practices, teaching of best practices to less-experienced farmers, using farming as a source of self and community sufficiency	More productive yields → increased availability of healthy foods	"It has helped strengthen our already close-knit community. Some of the more experienced farmers openly shared their knowledge with some of the first-time farmers so that they may succeed."
Red Willow	Marquee, word of mouth, food tasting, cooking demonstrations	Payment types accepted, tribal discount; availability of new products, promotion of market, how to cook/eat foods	Increase market attendance, increase awareness of affordability, increase people's willingness to purchase new foods	"For years RWFM has been a success in the greater Taos community, but we saw a disappointing tribal member participation ... We now see high tribal member participation [and] regular customers that didn't previously know about us."

Table 1. Increasing Impact Through Transmission of Knowledge

The importance of education and sharing knowledge is evident in the three projects. By providing education, the programs were not only able to increase the impact their objectives had, but also increase their visibility within the community and beyond; *"We have received inquiries and interests from Indigenous communities worldwide to address unhealthy foods, from municipalities on legislative wording on our bills, and from tribes on how to work with community members to implement the laws and policies."*



Culture and Tradition

The importance of using culturally relevant interventions in programs geared toward the Native American community has long been accepted. Research has shown that the use of culture is a significant factor in mitigating issues of substance abuse and enhancing individual resilience (SAMHSA 2015).

The initiatives identified by the three project participants all focused on the inclusion of tradition and culture. In addition to maintaining their traditional farming practices, Cochiti farmers learned traditional wisdom from their elders, *“as harvests were given out [to the elderly] there was always stories of how they used to farm with their parents and grandparents, aunts, uncles and locations of the family field.”* Often, it is through elders that Native communities pass down the tradition, culture and values that maintain the integrity of their tribes. How these programs fostered cultural connections and the impacts of them are illustrated in the table below.

Project	Cultural Vector	Example	Demand for Tradition and Culture	Implications
DCAA	Language	Incorporating language into signage	“Unhealthy processed foods industry dominates the advertisements across the Navajo Nation, limiting access to community members to post quality information regarding our healthy traditional food efforts.”	“Growing access to have the right to share quality information about food sovereignty is what is critical to addressing the food swamp on the Navajo Nation.”
Cochiti	Traditional Foods	Harvesting of traditional crops such as melon and chiles; sharing farming methods and coaching younger farmers	“As a pueblo people, we come from an oral tradition so all of our information and farming techniques are shown and taught to each other ... everyone is not stingy with their knowledge and [they are] eager to share with each other.”	“The passing down of traditional farming practices to the younger generation ... as a whole [will] provide better food to our community members.”

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Project	Cultural Vector	Example	Demand for Tradition and Culture	Implications
Red Willow	Marquee, word of mouth, food tasting, cooking demonstrations	Payment types accepted, tribal discount; availability of new products, promotion of market, how to cook/eat foods	Increase market attendance, increase awareness of affordability, increase people's willingness to purchased new foods	"For years RWFM has been a success in the greater Taos community, but we saw a disappointing tribal member participation... We now see high tribal member participation [and] regular customers that didn't previously know about us"

Table 2. Implications of Culture and Tradition

Due to the short grant period, the true importance of using culture and tradition, and how this impacts the outcomes in these interventions cannot yet be seen. However, all project participants reported learning significant and impactful lessons as a result of being involved - *"We have learned that our tribal food markets are not very well represented in the marketing environment."*

Strength-Based Approach - Utilization of Existing Resources

Strength-based approaches are widely used in public health interventions. Opposite of deficit-based programming that focuses on developing interventions through the identification of negative traits and issues, strength-based approaches "work with the assets already existing in individuals, communities and institutions to support the conditions for health." (Foley et al 2013)

In addressing their retail environments, the three project participants focused on using of the existing resources within communities to carry out their objectives. This approach, as illustrated in the table below, had clear positive impacts and benefits.



Project	Resource	Method of Utilization	Intended Benefit	Additional Impacts
DCAA	<i>Navajo Times</i> newspaper	Advertisement of healthy food laws and healthy eating	“The average distribution of the newspaper each week was about 17,000 ... reaching about 165,000 Diné tribal citizens on the Navajo Nation.”	“We have strengthened our partnership with <i>Navajo Times</i> ... [it is] willing to be of more assistance and providing more support than we [originally] intended.”
Cochiti	Local Elders Center	Food distribution	Farmers reduced food waste by sharing harvest with center and the elders received nutritious foods	“What helped the most was the look of happiness from elders when we were distributing the harvest. Those smiles and memories attached to them were more than enough to motivate farmers to continue doing what they were doing.”
Red Willow	Taos Mountain Casino (TMC)	Formal partnership	Additional marketing opportunity and possible sales relationship to source fresh produce from RWC	“She [Casino GM] spoke of their [TMC’s] interest and desire to ensure an ongoing relationship with the Farm... On behalf of TMC, asked whether anything was needed, or if there was any way they could assist us [RWC], simply ask”

Table 3. Benefits of Utilizing Local Resources

As seen in the table above, using a strengths-based approach and building interventions using what is currently available in the community can have wide-reaching benefits. Through identification and engagement with local resources, programs have the opportunity to form relationships with community organizations and partners that may positively contribute to their organization in the future. Additionally, investing in local resources when carrying out programming can result in strengthening the community as a whole. One program manager, when asked about new collaborations, reported their engagement with the local language center, stating “*We were able to have Keres Children’s Learning Center be a part of this grant ... It will be wonderful when the children are able to grow their own food.*”



Conclusion

The Need for Holistic Programming in the Effort to Change Food Environments

Improving the health of Native communities through food requires holistic interventions that address the entire food system. This report highlights three innovative programs that are impacting their communities by changing their local food retail environments. This report identified three key themes that contributed to the success of these programs. The sharing of knowledge was found to be a core factor in effecting individual change and creating a healthier food environment. Integration of culture and tradition was shown to be a vital aspect of a successful program, specifically when focusing on Native American populations. Last, the use of a strengths-based approach where the programs are able to build off of the existing resources in their community were found to have immediate benefits and as well as broader positive impacts. Under the broader scope of the Ecological Model, this report found that interventions involving multiple levels of influence, ranging from individual to organizational, have the more profound impacts on changing the retail market and affecting change at a community and individual level - *“The most helpful concept is that community members are the center of the market and this needs to [be] emphasized as we are the consumers and co-producers and producers. The intersectionality of tribal food markets and the communities are critical to linking the advertisements, quality information, and visibility of our traditional food systems, and the consumers and producers so that we can create and/or revitalize our food system to a stronger, more productive, and healthy sustainable one.”*





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