An Evaluation of Attitudes Among the Navajo Nation Community Towards Increasing the Availability and Affordability of Healthy and Traditional Navajo Foods in Local Convenience Stores

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Scholarly Report submitted in partial fulfillment of the MD Degree at Harvard Medical School

Date: February, 2018

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Scholarly Project Title: An evaluation of attitudes among the Navajo Nation community towards increasing the availability and affordability of healthy and traditional Navajo foods in local convenience stores.

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Title: An evaluation of attitudes among members of the Navajo Nation community towards the availability and affordability of healthy and traditional Navajo foods in local stores

Purpose: American Indian (AI) communities experience a large number of health challenges, including higher rates of chronic disease compared with other populations in the U.S. Although many factors underlie poor health outcomes, limited access to healthy food has been identified as one of the key drivers of health disparities in rural AI communities. Small stores on the Navajo reservation often have limited healthy options, sold at higher prices compared to similar stores off the reservation. We sought to understand the perspective of local customers on the availability and pricing of healthy foods and traditional Navajo foods in local small stores.

Methods: We held three focus groups in the Navajo Nation chapters of Ramah, Blue Gap and Sheep Springs. A total of 27 community members who reported shopping at their local small store participated in the groups. Focus groups were conducted in English. Interviews were transcribed and coded according to themes, which were analyzed using standard qualitative techniques.

Results: Preliminary findings show that community members encounter barriers when shopping for healthy food locally. These barriers include cost, value and quality, freshness, limited variety, and low availability of healthy foods. There are mixed opinions on whether enough frozen foods are available in local stores and whether more frozen produce should be offered. Many participants feel that traditional Navajo food options in local stores are limited. There is interest in increasing offerings of Navajo foods and fresh produce, and concerns about higher costs of fresh produce.

Conclusions: The needs and concerns of community members must be taken into consideration to provide more healthy, affordable food for their communities. Linking retailers to local producers – including traditional Navajo foods – and finding ways to reduce costs to the consumer could be effective strategies to increase access to affordable, local healthy food. A better understanding of consumer perspectives will inform strategies to partner with community members and local retailers.
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GLOSSARY
AI: American Indian
CDC: Centers for Disease Prevention and Control
COPE: Community Outreach and Patient Empowerment
HMS: Harvard Medical School
NN: Navajo Nation
USDA: United States Department of Agriculture
WIC: Women, Infants and Children
INTRODUCTION

American Indian (AI) communities experience a large number of health challenges, including higher rates of chronic disease compared with other populations in the U.S. AI’s are more than two times as likely to be diagnosed with diabetes relative to the US average, (CDC, National Diabetes Fact Sheet, 2011) and rates of obesity are over 50% higher among AI’s compared to non-Hispanic whites (Barnes, 2010). Life expectancy among some AI communities is up to 5 years shorter relative to the rest of the U.S. (Devi, 2011). Although many factors underlie these poor health outcomes, limited access to healthy food has been identified as one of the key drivers of health disparities in rural AI communities (Pardilla, 2013).

Members of the Navajo Nation (NN)—an AI reservation spanning regions in NM, AZ and UT—experience notably high rates of food insecurity, greater than four times the national rate (Pardilla, 2013). The USDA has classified the majority of this region as a food desert (Dine Policy Insitute, 2014), meaning there are a “substantial share of residents who live in low-income areas that have low levels of access to a grocery store or healthy, affordable food retail outlet” (USDA Food Deserts, 2015). This population faces unique challenges to healthcare delivery and food access given the high levels of poverty (43%), unemployment (> 40%) and the rural landscape (Pardilla, 2013).

Barriers to food access in this rural setting include low-income, geographic access, the limited availability of food outlets on reservations, the limits of agricultural production, and the increase in fast food options (Gittelsohn, 2011). Geography requires many NN residents to travel upwards of 20 miles to reach a grocery store (Dine Policy Insitute, 2014). As a result, individuals in this region rely on local convenience stores for their food purchases (Dine Policy Insitute, 2014). In order to improve access to healthy, affordable and culturally appropriate foods in this region, a better understanding of the food landscape in local convenience stores is needed. This project was designed to contribute towards an ongoing evaluation of the food offerings in local convenience stores on the Navajo Reservation in NM.

Although limited food access has been identified as a major contributor to high rates of chronic disease among the members of the NN, little is known about how this access can and should be improved. Community Outreach and Patient Empowerment Program (COPE) is a non-profit organization and affiliate of Brigham and Women’s Hospital and Partners in Health. The organization is working to improve health outcomes in the NN through community-based outreach, strengthening local capacity, and increasing access to healthy foods. To inform the organization’s work, this project sought to understand how the offerings at local convenience stores on the NN reservation in NM might be adjusted to enhance
the availability of healthy food options.

Specific aim:

1. To assess convenience store customers’ attitudes towards the offerings of healthy foods and traditional Navajo foods available in local convenience stores.

This project was novel in terms of its examination of food access issues for the AI population residing in NN in several ways. It sought to understand local attitudes and opinions regarding food options through community-engagement. In addition, the project has the potential to inform the design of future interventions aimed at increasing availability of affordable, healthy and culturally appropriate food options in the local community. Finally, the outcomes of this study can help to inform US food policy both in this region, and in other rural communities.

STUDENT ROLE

My role in the project was to develop the research question and methods in collaboration with my mentors, and carry out the data collection and analysis. In all of these steps, I had tremendous support and guidance from both my mentors and members of the COPE staff. While in Boston, MA, I worked to develop the study design and necessary study materials. I spent two months during 2015 in Gallup, NM, working at COPE to carry out the data collection portion of this project. Prior to conducting focus groups in local chapters, we were required to obtain approval from the local communities and chapter officials. We designed a project proposal detailing the aims of our project and the benefits for the local community. I attended the monthly chapter meeting with another member of the COPE staff in each of the communities that we held a focus group. At these meetings, we presented our project to the chapter officials where it was voted on by community members. Following approval, we recruited community members and held a focus group at a later date—often the next monthly chapter meeting. The focus groups were led by myself and another member of the COPE staff took notes. I completed the qualitative analysis along with another member of the COPE team, with guidance from my mentors. This project allowed me to gain experience with community-participatory research and qualitative research methods and analysis.
METHODS

Study Setting: The NN covers 27,000 square miles and spans NM, UT and AZ (Figure 1). NN is divided into local chapters, ranging in population from less than one hundred to several thousand (Navajo Population Profile 2010 U.S. Census Data). Each chapter has a local government, with monthly chapter meetings held to discuss and vote on local issues.

Study Design: This cross-sectional study used data compiled from three focus groups in three different chapters in NN -- Blue Gap, Ramah and Sheep Springs. These chapters were selected based on geographic location --we aimed to include different regions of NN, as well as avoid chapters that were in closer proximity to a large grocery store. Blue Gap has the largest population of the three chapters (1178) and located in the central agency of NN. Ramah is located in the eastern agency, has population of 1400, and is the closest in proximity to Gallup, NM of the three chapters. Sheep Springs is the smallest of the three chapters, with 801 inhabitants, and is located in the northern agency (NN Population Profile, US Census Data, 2010).

Study Participants: The focus groups were comprised of local convenience store customers and aimed to assess the opinions regarding the availability and types of healthy food options and traditional Navajo foods offered. Each focus group was limited to 8-10 people. Customers were recruited through several mechanisms. Sign-up sheets were distributed at the monthly chapter meeting following approval from the officials. In addition, fliers were posted at local community centers. In one chapter, a community member was helpful in helping to recruit other members through word of mouth. Leading up to the session, we called those members who signed up to participate to remind them of the event.

Eligible participants had to be a member of NN, reside in the local chapter, be 18 years of age or older, and report doing some shopping at a local convenience store. Demographic as well as information on shopping and transportation behaviors was collected from each participant through a survey given prior to the start of the discussion. Participants were provided with a small gift (worth $5) for their contributions.

Data collection and analysis: Trained individuals (LN, EP, MT) conducted each focus group using a semi-structured interview guide. Topics were organized around the following areas: perceptions of fruit and vegetable options, the cost of these food items in local convenience stores, and perceptions of traditional Navajo foods available at local stores. Notes were also taken during the session to provide context for the transcription process and help identify when the speaker changed. The focus groups were
recorded and transcribed by two members of the team (LN, MT). Because the sessions were carried out in English, no translation was necessary.

We used an inductive approach to carry out the coding of this data, whereby patterns were observed within each category and major themes were generated from these observations (Onwuegbuzie, 2009). The first stage was open coding, whereby the transcript data were divided into smaller subsections. These sections were then assigned a distinct code, and the codes were grouped into larger categories. In order to increase the reliability of the codes selected and decrease bias, two individuals carried out the coding process (LN, MT). The main themes were those that captured the content of each of these categories across all the focus groups.

This project received IRB approval from Harvard Medical School and the Navajo Nation Human Research Review Board prior to commencing.

RESULTS

A total of 27 individuals participated in the focus groups (9 in Blue Gap, 8 in Ramah, 10 in Sheep Springs) (Figure 2). Ages ranged from 21-69 years. The majority of participants were female (17/27) and almost all had completed high school, with 10 having completed an additional degree. All participants self-reported being the primary food shopper in their household. The number of people in each household varied—7/9 participants in Blue Gap had 5 or more people in the house; most participants in Ramah had between 1-2 members in the household; those in the Sheep Springs group ranged from 2 to greater than 5 members. The primary mode of transportation to the local store was either driving one’s own car or walking/ getting a ride from a friend. Most participants in Blue Gap reported driving their own car, with two reporting walking to getting a ride from a friend. The breakdown was similar in the Sheep Springs and Ramah groups, with nearly all participants reporting that they used their own car as the primary form of transportation.

The inductive coding process revealed six main themes that closely related to the main topic areas in the focus group guide. Within each theme we identified 2-3 sub-themes. We felt it was also important to capture the differences across the chapters, and a separate topic was included that captured these unique variations. The 6 main themes identified were the following:
1. Places that people get their food
2. Food shopping considerations related to affordability
3. Foods sold at the local store are often of lower quality than grocery stores
4. Attitudes towards shopping for fresh and frozen produce locally
5. Experiences of shopping for food locally
6. Chapter-specific findings

1. Places that community members get their food
   - Most food shopping is done at large grocery stores in border towns
   - People purchase some of their produce locally

Community members discussed leaving their local communities to buy their food at large grocery stores in border towns. However, many also acknowledged that they sometimes buy produce in their local chapter.

“Um [pause] they usually get the vegetables that are available there if I can’t find it at Pine Hill cause sometimes when I go to Pine Hill there is not, not any other vegetables there but maybe that’s when I go there and they don’t have any like close to weekends.”

Ramah community member

“When I was younger, what we would always do was maybe go out of town like once every two weeks. And go to like uh, like you know, a Sam's Club or whatever they have in Farmington or Gallup...and then just do like bulk shopping. And then come out here so that way we wouldn't have to go back and forth.”

Sheep Springs community member

2. Food shopping considerations related to affordability
   - People look for value/sales when buying food. This often means buying food outside of the community because they tend to get better value.
   - Prices at the local store are higher than prices outside of the community.

Community members were asked about reasons why they would or would not shop for food locally. All three chapters raised the issue of affordability as an important factor.
“I found that to eat healthy it costs a lot of money. It's more expensive than buying, what we grew up on like potatoes, tortillas, starch, a lot of starch and carbs…” 

Sheep Springs community member

“If you buy spam then it's like, 6 dollars...And if you go to Gallup it's 2.50.”

Blue Gap community member

Members discussed the importance of value when buying all types of food, saying that they tend to shop outside of the community because the value of what they are buying is better.

“...just because the cost is too high, and the food is not exactly, you know, what you would pay that much for, you know? It’s already wilted, like I said the potatoes over there are growing, like sprouting out of bags, and it’s 5 dollars for a bag of potatoes.”

Sheep Springs community member

3. Foods sold at the local store are often of lower quality than grocery stores

- There is a high availability and/or visibility of junk food at the local store.
- People shop for food at the local store for reasons related to convenience, for emergency items, travel costs, and to buy small items.

Participants emphasized the availability of junk food locally.

“You go down to the store here...you get bombarded with a whole aisle of potato chips...same with the soda and candy. Just like we can’t get to what healthy stuff they have there, cause as soon as you walk in, that’s all you see...and you go down to the store here--I’m sure other stores are like that on the reservation--but you get bombarded with, there's a whole aisle of potato chips--different variety, different kinds, flavors...”

Sheep Springs community member

Community members discussed the differences between the types of food available at the local store as compared to the larger grocery stores. Foods available locally were often of lower quality.
“So, whatever they throw out over there, they send it over here. Whatever they don’t want... we buy it over here.”

Blue Gap community member

“Quality” in these discussions referred to both the lack of freshness and the large availability of junk food. Customers acknowledge that despite these features of local food options, there were reasons to shop locally. These reasons included convenience, emergency items, the travel costs associated with going to a grocery store, and if they were looking to buy a few small items.

Focus group facilitator: “And what are your, your main reasons for shopping at that, at the Lewis trading post?”

Ramah community member: “Cause it’s close”

I think it's more like a convenience store. For like a quick thing of water, or a gallon of milk”

Sheep Springs community member

“Um, we try to go, like as soon as we run out sometimes, like eggs, eggs, or like, gallons of milk.”

Sheep Springs community member

4. Attitudes towards shopping for fresh and frozen produce locally

- The local stores have limited variety of fresh and frozen produce relative to the larger grocery stores and the quality and freshness of the produce is poor.
- There is interest in increasing the availability of fresh produce locally.

In discussing the availability of produce locally—either fresh or frozen—participants described the limited variety of produce at local chapter stores. In addition, the quality and freshness of the produce was poor.

“I notice that the only fruit they have is like apples. Oranges and bananas. That’s it.”

Blue Gap community member

“I haven't really seen any, like is there very many because, I don't, I didn't really notice any. I've gone in there for like, potatoes, but those are even...They're like little stems growing out of the bags. They're like re-growing new families.”

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There was a consensus among all groups regarding an interest in having greater availability of fresh produce locally.

5. Chapter-specific findings

Because of the distinct characteristics of each chapter, we identified unique observations and interests that arose in each focus group. These observations were included in the report that COPE provided to each chapter at the end of the project.

While many communities relied on one store for local shopping, Ramah was unique in their access to a farmer’s market and a greater number of local stores that sold produce. The community discussed not just a relatively greater amount of produce locally, but the offerings of organic produce as well. Also of note, some community members in the group discussed timing their shopping locally to the arrival of the produce as a way of increasing the freshness.

“Well we get our chips and like these kind we get them from El Morrow there’s a feed store there they buy organic”.

Ramah community member

“The trucks come in Saturday, try to get it on that day …they bring it in fresh, usually Monday”.

Ramah community member

In Blue Gap, there was a discussion around the desire to increase the availability of frozen produce locally. There was also a discussion of using WIC vouchers for produce. Group members also felt it was important to get a wider range of views on the topic of food access, and to seek out opinions from both younger and older generations.

“I notice that people buy fresh fruit with um, with their WIC now, too”. [In response to a question on why people purchase food locally]

Blue Gap community member
“I think, I think you should ask students...Like high school students or junior high students...And then, ask the seniors also--like, grandmas, in a senior center.”

Blue Gap community member

In Sheep Springs, participants discussed the school lunch program and a desire to increase the healthy food options for youth through healthier offerings and health promotion efforts. In addition, community members highlighted some generational differences around food purchasing.

“I think, um, the promotion of healthy food, like uh posters, signs, you know, showing um, families how to prepare food that's healthy for the children.”

Sheep Springs community member

“Nowadays the young mothers don't know how to shop for the native food or anything.”

Sheep Springs community member

A few members mentioned known barriers to selling fresh food locally, noting that the local store had previously tried to bring in fresh fruit but historically, the high cost meant this fruit did not sell. Others wondered whether the recently implemented junk food tax was also being applied to other food items sold at the local store. As far as supports for local produce, individuals noted that the proximity to the weekend flea market increases traffic in the local store. People also described the limited use of farmer’s markets in the area.

“And I'm not sure if they're putting to practice. Like, like for healthy foods, like for vegetables and fruits. They're not supposed to tax that... But people have been telling me that they've been taxing.”

Sheep Springs community member

“It's good to have all that there, the only thing is the cost wise, that's the problem.”

Sheep Springs community member

DISCUSSION

These discussions revealed shared themes of food shopping behaviors and perceptions across all three chapters, as well as important unique characteristics in each community. The key themes related to where community members...
access food, considerations that community members make when purchasing food, and the experience of shopping for food locally. While there were chapter-specific findings related to traditional foods, no common theme regarding this topic emerged.

In general, participants discussed doing most of their food shopping outside of the community at larger grocery stores. Considerations when buying food tended to relate to finding the best value, and as a result, people often buy food outside of the community because where they can get better value. Customers noted that the food sold locally was often of lower quality compared to food in border towns. When discussing quality, they described the greater amount of junk food, and the lack of freshness with regard to produce. The main reasons people seemed to shop locally were related to convenience, for emergency items, travel costs, and to buy small items.

In addition to the general themes that emerged from these focus groups, each chapter raised specific issues related to food access in their community. These ranged from locations that sold produce locally to the generational differences with regard to use of produce and traditional Navajo food. These discussions were useful in identifying some of the unique needs in each chapter, and were reported back to the communities at the end of the project.

Although some of these themes may be expected, the process of engaging the community on these issues was important both for further steps in research on food access issues in this region, and creating community partnerships.

Limitations:
This study has several important limitations. First, given that the focus groups were limited to three communities in NN, the results are not generalizable to the entire population. Second, focus groups were limited to English-speakers, reducing the representativeness of individuals, particularly the elders in the community. Finally, there may be selection bias in the customers who agree to participate in the focus groups—for example, individuals who are interested in expanding fresh produce options locally are more likely to participate in a discussion on this issue.

Future work:
This project further strengthened community partnerships around food access issues in NN. The project contributed to the knowledge of food shopping behaviors by directly engaging community members, including local chapter officials. Since the project, COPE has continued to work with community members and local retailers to expand knowledge and access to healthy, affordable food options.
Reflections:
In addition to gaining experience with qualitative research, this project allowed me to learn a tremendous amount about some of the unique challenges when conducting a project of this nature in NN, the process of community-based participatory research, and the complexity of food access issues in this setting.

Although limited in scope, the three focus groups required significant planning to complete the data collection within two months. The process of gaining approval for the focus groups was something I did not anticipate before arriving in Gallup, and made the timeline for the project longer than expected. With the help of another member of COPE, I presented at the local chapter meetings to first gain the approval of chapter officials to run the focus group. These meetings were held once per month, so missing the meeting meant delaying the focus group for several weeks. Since the meetings were a time when community members came to the chapter house, we chose to run the groups at these gatherings. However, using these chapter meetings required waiting another month to run the focus group. Although the system of presenting our project to the community meant a more lengthy process, this step proved to be extremely helpful in gaining the support and buy-in from the community. The support of COPE staff, many of whom have a long history of living and working in these communities, was a vital in allowing me to enter these discussions as an outsider.

The consideration of the unique cultural norms in this setting was an important component of this project. This was most clearly seen in the discussions around adhering to methods that were culturally appropriate. One example was the process of determining what to do with the focus group recordings after the project finished. Our initial proposal noted that we planned to delete the recordings. However, there was a question among the COPE staff as to whether deleting a human voice was a violation of Navajo belief systems. Upon the completion of the project, we talked to the NN Historic Preservation Department, who informed us that in this situation, it was not a violation of any religious or cultural belief to delete the recordings.

The project allowed me to gain greater understanding of the process of community-based participatory research. The methods of this project lent themselves towards direct community-engagement. Presenting the results back to the community at the end of the project allowed COPE to maintain these relationships in the community, and furthered these community partnerships.

Finally, the experience gave me a more firsthand view of the complexities of food access in this region. The process of driving 2-3 hours to the chapters underscored the extreme distances that individuals have
to travel to access border towns. Touring the local stores offered insight in the limited availability of food options. Talking with community member and store-owners, both in the discussion groups and during my time in NN, illuminated the complex array of factors contributing to these issues—economics, geography, history, cultural norms, personal preferences etc.

Conclusion:
This project revealed important themes regarding access to produce and traditional foods in three different communities in NN. Four main areas of interest emerged from these discussions. First, variations exist across chapter communities with regard to use of markets and farming/gardening, and availability and use of frozen produce. Second, the limited supply, poor quality and cost are primary barriers to shopping for produce locally. Third, the discussion demonstrated that interest is high across communities in increasing the availability of fresh produce locally, although the high prices of local products are a large concern for focus group participants. These discussions were valuable in generating a better understanding of existing patterns of shopping within the community and what customers value when selecting where they shop. A better understanding of consumer perspectives will inform strategies to partner with community members in the future.

ACKNOWLEDGEMENTS
Many individuals helped with this project. My mentors for this project were Dr. Sonya Shin and Dr. Emily Piltch. Dr. Shin is the associate director of COPE, an Associate Physician in the Division of Global Health Equity and Division of Infectious Diseases at Brigham and Women's Hospital (BWH), and an Assistant Professor of Medicine at Harvard Medical School (HMS). Dr. Shin and Dr. Piltch, allowed me to work with the COPE team and offered amazing support and guidance through every stage of the process. Carmen George and Memarie Tsosie, both members of COPE staff, assisted with presenting the project to the local chapters, taking notes during the focus group sessions and presenting the results back to the communities. Megan Townsend, a fellow HMS student and COPE intern, assisted with the coding process. Carmen George presented the results of this project at the NN conference. Funding was provided by the HMS Scholars in Medicine Office and the Harvard Center for Primary Care. Many thanks to all of these individuals, as well as the entire COPE staff for all of their help.
REFERENCES


Navajo Population Profile 2010 U.S. Census Data, Window Rock, AZ.


Figure 1. Map of Navajo Nation
Figure 2. Demographic data from participant survey

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