

# Division of Diabetes Treatment and Prevention

## Healthy Corner Store: Work to Assess Produce Availability on Navajo Nation

**Emily Piltsch, PhD, MPH**

**Tufts University Friedman School of Nutrition Science & Policy**

Thank you so much, Kelli and Jan, and everyone out there throughout the country. I'm really excited to be here and I feel honored to share this work with you all. I'm hopeful that you'll find some similarities with what I'm sharing and that you might be able to apply what I've done in collaboration with an organization in Gallup, New Mexico, to your own setting and your own work. Thank you again for being here.

This presentation is titled "Manager and Consumer Perspectives on Fruit and Vegetable Availability and Purchasing at Navajo Nation Small Stores." While that's kind of a mouthful, I'm hopeful that I'll step you through the various components in a pretty logical way and there will be plenty of time for questions and discussions at the end.

But first of all, I'll start by sharing a little bit about myself and then I'll also share some background on my work in Navajo Nation. I grew up in Northern New Mexico and then have lived all over the country for school and work. I earned my Masters in Public Health Degree at University of North Carolina at Chapel Hill, and as I was introduced, I recently finished my PhD at Tufts University in Nutrition School in Boston. My passions really lie at the intersection of increasing access to healthy, affordable, culturally-appropriate food, and also promoting gardening and small-scale farming.

Since 2010, I have worked on a variety of food and nutrition projects on or near the Navajo Nation. Today, I'll be sharing an overview of some of the assessment works that I did for healthy stores initiative.

Now that you know a little bit about me, I'm interested to hear just a little bit about you all in terms of the primary work that you do in Indian Country. I'm curious if you primarily work more in a clinic setting, in a community setting, maybe a little bit of both or neither. I'm hopeful that I'll get some help in this polling. Excellent!

It looks like that a third of you all work in a clinic setting and close to half do some of both, about 10% in the community setting. A nice mix of folks and I appreciate you sharing this because I'll tailor what I say slightly in order to hopefully resonate with you all but I think getting a sense of at least the majority of you do a little bit of both, in the clinic and community. This might resonate with you in terms of how you could engage with various partners and possibly do some similar work if you haven't already. Thank you for that.

Regardless of what setting you work in, you're likely very aware of the complexities of working on obesity and diabetes prevention efforts. This diagram is just one visual of that complex web of



everything as they kind of swirl together and impact the individual in his or her ability to make healthy decisions.

In the end, there's not a one-size-fits-all solution to these challenges as you're very aware. Many resources exist to assess the assets and barriers to increasing access to healthy food. Here are just a couple of these.

And as with working on any public health challenge, it's important to try and understand the challenges based from multiple perspectives. Broadly speaking, this presentation provides background or context of the retail food environment in remote Navajo Nation in three ways. We'll refer to each as an objective or a component of this project.

In the first objective, we documented the food and vegetable availability across all small stores in Navajo Nation communities without grocery stores.

The second component focuses on the perspective of store owners and managers of a subset of those small stores where we did the inventory. The third objective hones in on the perspectives from customers at in a subset of those stores.

Funding from the U.S. Department of Agriculture and the Centers for Disease Control and Prevention supported this project. But the information in the presentation reflects the works that I did and not necessarily views of these agencies. Also, it's important to note that before any data collection occurred, approvals were obtained from the Navajo Nation Human Research Review Board as well as the Tufts University Institutional Review Board.

Over the next 40 minutes or so, I'll provide an overview and background for this project, and then we'll show the interrelation of the objectives. In the bulk of the presentation, we'll cover each of the objectives of the study specifying the focus or the population, the methods, and then I will highlight some of the results and conclusion of each. I'll then reflect on a couple of strengths and limitations of this work, and we'll provide some concluding remarks. I'm very excited and very interested to hear from you all at the end, and as I mentioned, there'll be plenty of time for that.

For some background on the Navajo Nation, and for some of you, you may be working and living in Navajo Nation, and if I end up saying anything incorrectly or you might have more up-to-date data than I do, I very much welcome you to share that. My email is at the end of the presentation, so please note that I am not an expert in your area. This is information that I had gathered over time and the data I had collected, again, working with community outreach and patient empowerment that I'll introduce a little bit more in a minute.

But from my knowledge of the background of Navajo Nation, it is rural and geographically isolated from many essential services. It expands Arizona, New Mexico, and Utah, and it's about the size of West Virginia. There are 110 chapters which are the Navajo geopolitical unit like cities and towns. Navajo Nation has a population of about 174,000 residents. It has extremely high rates of poverty and unemployment with one-third of residents not having electricity and running water.

There is incredible natural beauty and the lands are closely tied to religious and cultural heritage. Residents tend to live fairly spread out and also experience weather extremes ranging from hot and dry summers to cold harsh winters that impact transportation, mobility throughout the region, and also

potential for food production. Historical and cultural complexities provide context for how dispersed the population is.

Additionally, many assets exist on the Navajo Nation, from campaigns that promote Navajo heritage and the clanship system, dances, and bringing back traditional agriculture, to partnerships and institutions that are working to improve health in Navajo Nation. Including the Healthy Dine' Nation Act of 2014 colloquially termed Junk Food Tax which was the first of its kind in the U.S. and imposes a 2% tax on food and drink with no to minimal nutritional value.

Just prior to that legislation, another piece of legislation had been passed removing taxes on fruits, vegetables, water, and a limited number of other nutrients and foods. I won't be going into more detail about this, but simply provide it as context for the rest of the presentation.

Despite all of these assets, the Navajo people face an unprecedented food insecurity obesity paradox with the region having the highest rate of food insecurity of any community in the U.S. And while health data specific to the Navajo are not easily accessible, what is known is that 19% of American Indian youth and 39% of American Indian adults in New Mexico are obese and American Indians has over twice the U.S. average of youth type 2 diabetes. Alarming, death rate due to diabetes are the highest in American Indians compared to all racial or ethnic groups which you all on this call right now are very aware of.

To contextualize this work, you might have seen this image or something similar in the past. It's important to consider that there are many factors that influence the decisions we as individuals make, whether if the people we know, so that in our personal ring there or social networks, the organizations we're involved within of the environment in which we live, the stores and other opportunities that we have or don't have to access healthy food.

The broader community like the cultural values and norms as well as policies exist like that Junk Food Tax that I had mentioned.

And as I illustrated, diet-related diseases are a real concern on the Navajo Nation as they are likely in your own communities. A lack of access to healthy food is one of the many complex contributing factors to these health disparities.

Across Navajo, there are only 10 chapters that have grocery stores, and while these are the larger chapters, still, the majority of Navajo residents live in the more rural areas needing to travel upwards of 60 miles one way to a grocery store or a supercenter like Walmart, and that's making that trip only once or twice per month. These small stores are the closest retail spaces to many communities. But they also have limited healthy food that tends to be more expensive and often of lower quality than a grocery store.

Here is one example of a remote community, Counselor Chapter, which some of you might be very familiar with. It has a small store, but the closest grocery store on Navajo Nation is about an hour and a half drive away to Crown Point, and the closest supercenter is Walmart, one hour north to Farmington.

Now, I'm curious if clients or residents in the communities where you work have said that they have to travel far to buy healthy affordable food. I'll give you just a minute to share with me.

Thanks for sharing here. It seems like, yes many, or yes some are kind of the majority of you all. It's good to see that some of you responded with no, your clients or residents in the community don't have to travel far. But by large, many rural communities that I've visited I found said that gaining access to healthy affordable food is often far from where folks live."

So why do I focus on this access piece? Some of this might sound familiar to you. It has been established that the food environment influences those availability as well as diet. And in the U.S., consumption of fruits and vegetables is much lower than the recommendations putting the population at increased risk for overweight, obesity and diet-related diseases. And while we don't have this data for Navajo Nation specifically, it's likely safe to assume that they track similarly to the trend seen across racial and ethnic groups. So changing the food environment in Navajo Nation is one contribution to addressing the current, what we call, food justice challenges and also the associated health disparities.

In the summer of 2013, a collaborative project of the Centers for Disease Control and Prevention and the Navajo Division of Health documented food availability at the 13 grocery stores and a sample of 50 convenient stores in Navajo Nation and nine border town supermarkets. That study utilized a convenience sample and looked at a wide array of healthy and less healthy alternative food options and they did not document all the fruit and vegetable offerings. This study built on that previous work and we comprehensively assessed the fruit and vegetable options at all small stores in Chapters without grocery stores. Additionally, understanding the challenges and opportunity faced by store management and customers is critical to improving access and availability.

Thus, the components two and three were geographically bounded in the New Mexico region of Navajo Nation to potentially inform future collaborative supply chain efforts. By this I mean, perhaps multiple stores could purchase their fruits and vegetables collectively from one supplier in order to increase the volume delivered and decrease the price per item and pass that savings onto the shopper.

I introduced COPE briefly before but I'll just say again here that this project was carried in collaboration with Community Outreach and Patient Empowerment or COPE, which is a non-profit organization working to eliminate health disparities in Navajo Nation. And while the organization's initial focus was on increasing the capacity of community health workers who provide home visiting care, professional care throughout Navajo Nation, there was a clear need for expansion to impacting the food environment.

In 2014, COPE received Centers for Disease Control and Prevention Racial and Ethnic Approaches to Community Health or REACH grant to focus on community clinic linkages and food justice issue. This work or my dissertation for graduate school contributed to and built upon REACH effort.

Here's one more question for you all. I'm curious if you or any of the team members or folks you collaborate with have worked on any project to increase access to healthy food in your local communities.

Okay. Thanks for participating. Well, I'll just give you another ten seconds and then I'll end the poll.

Thanks for those of you who participated. I'm just looking here. We only have about 60 participants which is about half of those of you on the line, which is fine and half of you said that, "Yes, you have, you or a team member have worked on a project like this." That's encouraging and I'm also looking

forward to hearing your thoughts on this work and any sort of strategies that you've used or ways that this work might resonate or not with your own settings. Thank you for participating and I'll go back to -- All right! So whether or not you worked on increasing access to healthy food, I do hope this presentation provides you some food for thought, if you will, about how to assess the food environment in your community.

This diagram shows the interrelation of the three objectives. So for COPE Healthy Stores Initiative, we called each of the 110 chapters to identify a complete list of all small stores across Navajo Nation. The first component of this work utilized store inventory data of the 71 stores that are located in chapters without grocery stores. Just to clarify, some of the small stores that were assessed for their for inventory do exist in chapters that have grocery stores, but we made the assumption that folks were most likely choosing to go to the grocery store rather than a convenience store if that was available.

And so, for my work in the dissertation and also in collaborating with COPE, we really decided that we wanted to hone in and look at the stores in the areas that were really the more extreme food deserts of where folks did not have a grocery store conveniently located to them.

So then, all owners of independent stores and managers of chain stores in the New Mexico region were invited to participate in an interview. I completed 22 interviews of either store owner or manager and that was the focus for the second objective. And then, a subset of those stores where the customer interviews occurred and 72 of those were completed.

Now, we're going into a little bit more detail on each of the three topics. The first objective is titled, "Availability and Healthfulness of Fruits and Vegetables Offered for Sale at Independently-Owned Regional and National Chain Small Stores in Remote Navajo Nation."

Informal discussions with store owners and managers indicated that ownership structure strongly informs the types of foods made available for shoppers. So understanding this relationship can inform future store intervention work. And thus, we had a hypothesis and we thought that there would be a significant difference in the fresh fruit and vegetable availability across the three types of stores.

This objective summarizes the fruit and vegetable availability at the 27 independently owned stores and that includes trading posts. You all might have trading posts in the communities where you live in and work, so essentially, they are general stores historically operated as centers for Navajo ranchers and artists to access the outside market. These stores now serve roles similar to that of convenience stores and gas stations.

This objective also includes the 28 regional chain stores that is where ownership is either on the Navajo Nation or in a bordering town. And then also, the 16 national chain stores like Shell or Giant.

Availability of fruits and vegetables was documented as a component of COPE's healthy stores initiative baseline work. So staff and community partners, we worked together to inventory all of the small stores across Navajo Nation and we collected those data on electronic tablets over a six-month period in 2015. We utilized a modified nutrition environment measurement survey to focus on availability and price of all fresh, frozen, and canned fruits and vegetables.

And for this work, we were most interested in the diversity of produce offered rather than if the stores had multiple varieties of the same type of produce. So I'll share a little bit more of what I mean there. For example, if a store had Granny Smith apples and Red Delicious apples, that was still considered one type of fruit. But if the store had apples and oranges then it had two types of fruits. And this will be important when I share summary of the data in a few slides.

We also documented the quality of fresh produce using a one to three scale. Data collectors were trained to assess all options of one produce type, say the basket of oranges. If more than half were seemed acceptable to eat, then a one or a high quality was documented. If less than half seemed edible, a three was given and if the oranges available for purchase were somewhere in the middle, a two was documented.

And in this objective, we summarized all produce availability to see what percent of stores met the Robert Wood Johnson Foundation Minimum Stocking Levels for small retail food outlets. And you may or may not be familiar with this. I'm happy to share the resource. These levels were determined by a panel of experts in food retail, nutrition, and obesity prevention. The panel reviewed and analyzed the information from a wide range of sources including peer review, scientific literature, recommendations and guidelines from the federal government and also existing requirements for retailers participating in programs like WIC.

This table summarizes the number and percent of stores that offer any fresh, frozen, or canned fruits and vegetables. It looks like there's a lot of information here but I'll step you through it. You'll see there's vegetables, the fresh, frozen, and canned and then fruits fresh, frozen, and canned and I'm circling here over 75% of stores offered any of each type of produce except for the frozen fruit where only about one-third of stores offered any.

Looking at the availability broken down by store type, we found that more independently-owned stores offered fresh, frozen, or canned vegetables compared to the regional chain stores and the national chain stores.

And then the next circle here, the majority of all stores offered fresh and canned fruit, but few national chain stores offered any frozen fruits, as you'll see in between.

Now, this is an overview of the amount of fruits and vegetables available across all stores showing the least and most at any given store.

Here is the minimum amount, maximum shows the number of vegetables, fresh, frozen, and canned as well as the fruits, fresh, frozen, and canned and this is the amount that the source with the least amount of options had and the most amount, then this median is the number of items that half of the stores had and then we looked at independently-owned, regionally-owned, and then the national chains.

Stores have the greatest variety in fresh and canned vegetables with some stores offering as many as 12 different types of fresh or canned vegetable options. We were particularly interested in the number of fresh produce types offered and found that there was a range from zero to twenty types with independently-owned stores having a median of 11 type, regionally-owned having a median of eight types and the national chains offering a median of six and a half.

And when we tested our hypothesis that there is a significant difference in the fresh fruit and vegetable availability across the three types of stores, we did indeed find that. But we only found the difference between the independently-owned and the regional chain, a difference between the independently owned and the national chain, but not a statistically significant difference between the two types of chain stores.

Here are the fresh vegetable types offered by the most number of stores. They are in decreasing order of the percent that were deemed high quality. As you can see, most of the fresh vegetables offered were documented as being of high quality.

Among the fresh fruit types, while apples were available at the greatest percent of stores, you'll see in the middle column there, oranges were the type of fresh fruit where quality was deemed high at the most number of stores. So you'll see here, 38% of stores having of oranges of high quality although the apples and bananas weren't too far behind in terms of the percent of stores with food at that high quality.

Stores offer fresh produce in a variety of different units, as I'm sure you are all very accustomed to. The data collectors were instructed to document the price of single items, like one potato, an onion, or a tomato, and this was in order to enable comparison across the stores. If the stores did not offer produce types as a single item, the data collectors were instructed to record what was available, the unit and price of that unit.

So here we summarized the prices of fresh vegetables in the units most commonly offered. And while there's a lot of information here, one of the most important things is to take away is you'll see that there was a large range in prices for the same type of product across all of the stores for this minimum and maximum amount.

For example, the second line, a 10-pound bag of potatoes, at one store, it was offered for \$2.39 and at another store, it was \$7.25, and that's a huge difference.

Among the most commonly available fresh fruit types, we found a large range as well between stores charging the least and most for a given individual item. So you will see about 30 cents or so for any orange, apple, or banana at some stores and then, close to two dollars for one orange at another store.

Based on the Robert Wood Johnson Foundation Guidance for minimum level of fruits and vegetables stocking at the small retail food stores, we found that 35 stores or just under half that we assessed in our study met those guidelines at the basic level. And that is requiring four fruits and six vegetable types where up to two of each could be canned or frozen. And then, fewer stores, that is 15 or about 20% of the stores met the preferred stocking level guidance that required six varieties of qualifying fruits. Three of which could be canned or frozen, and eight varieties of qualifying vegetables where four could be canned or frozen. Here are three concluding thoughts contextualizing what we learned about availability of fruits and vegetables.

First, there was considerable range in the amount of fruits and vegetables type offered at small stores in remote Navajo Nation. The next steps could include looking into the dimension that could explain these differences and also working to understand, what enabled some stores to offer their produce for much lower cost than others.

Secondly, our hypothesis was supported. There was a significant difference in the fresh fruit and vegetable offering. So, in further research could investigate what, if any, impact this amount of differentials have on purchasing habits of the customers.

And finally, this inventory data should be viewed within the broader context of the multiple dimensions impacting healthy food access and purchasing in Navajo Nation with the specific recommendation to involve all relevant stakeholders including store owners, managers, and customers. It's also important to promote the fruits and vegetables that are already available in working to increase demand.

Now, objective two focused on the opinions of store owners and managers regarding the types of food that they offer. This objective focused in the New Mexico region of Navajo Nation. Among the 29 stores in Chapters without grocery stores, all owners of the independently-owned stores and managers of the regional and national chains were called and invited to participate in an interview. We utilized interview guides from other studies and tailored them with input from COPE staff and partners to ensure that the information gleaned would be useful for problematic and policy work. We asked background questions of the participants in his or her store, most popular items sold, perceptions about their customers and the community, and also the support and barriers that they have to stocking healthy food.

I conducted 23 interviews at the store locations between April and July 2016. In appreciation for their time, I provided each individual a fruit and vegetable basket and encouraged free use of the basket in displaying their own produce at their cash register. I read all the questions out loud and wrote responses into a paper-based interview form. And then, I entered all of the data into an Excel spreadsheet.

Out of the 22 completed interviews, six were store owners of independently-owned stores and 16 were managers of the regional or national chains. All stores accept SNAP and about 75% of the stores accept WIC. According to the individuals I interviewed, almost all the stores do carry some fresh fruit and slightly few carry fresh vegetables.

We asked who makes the decisions about the products offered in the store. About half said that he or she makes the decision about the product offering and about one-quarter said that someone else makes the decision, like the chain's corporate office or an owner of the regional chain and that the decisions are made based primarily on what customers want and will buy.

The interviews revealed that the most popular items sold at the stores were snacks, drinks, and hot prepared food. And among the fruits and vegetables available at the stores, the folks I interviewed said that the most commonly purchased are these that are outlined here.

When asked why the store carries the produce that they do, 50% of the store owners or managers said that there is demand for the product even though it's not what it used to be. Though 40% mentioned WIC or the Navajo Nation Junk Food Tax are requiring the items. About one-third said simply to increase healthy habits, and decrease health issues in the community. About a quarter said that they provide a convenience to the community and that's why they supply the items.

We dug in a little bit more about the perceptions that store owners and managers have about their customers and the community more generally. The majority felt that their store plays an important role

in increasing fruits and vegetables in the community and that their customers often suggest new items that they would like stocked, and that they felt that their customers look for fresh or frozen fruits and vegetables in the store.

When asked if they would like to offer more types of fresh fruit and vegetables, the majority said, “Yes,” but that the primary limiting factor is their perceived low demand of customers.

And participants shared a variety of additional challenges that they face, including the fact that many fresh fruit and vegetable types have short shelf life and that the store takes a loss if the items don't sell. Commonly among managers, this is not their decision to make, and even if it were, they are limited by the availability of suppliers offering. Storeowners said that they would like to offer more if they saw explicit need in the community, so essentially, if the demand increased.

One participant stated that, “Whatever people would want to try. Another suggested item he was willing to offer that have longer shelf life, such as Romaine lettuce or chili peppers.”

Two-thirds of participants said that they are interested in purchasing produce from local Navajo farmers. Store owners said that they would simply need to learn who has the produce available and that the product would need to be of high quality and reasonably priced. Store managers reiterated that they do not make the decisions about products that are offered in the stores but some were interested in thinking through what it would take to encourage their upper management to pursue such partnership.

So much can be gleaned from the interviews with the store owners and managers. Three highlights include that while there is perceived low demand, we do know that there is a real need for produce availability close to home. Due to low population density, there are real challenges in offering high quality produce at competitive prices. So we recommended exploring this disconnects further through clearly communicating to shoppers the willingness of store owners and managers to respond to shopper's request. And in tandem, it's really important to engage all relevant stakeholders in culturally appropriate dialogue. Additionally, support could be provided to store management in pursuing produce sourcing in creative ways such as where food is already moving within Navajo Nation.

Now onto the third component. Little is known about the views of customers at these small stores on Navajo Nation. This objective focused on documenting the barriers to and facilitators of purchasing fruits and vegetables at a subset of the small stores.

One research assistant and I interviewed a total of 72 shoppers outside of nine small stores in the New Mexico region of Navajo Nation. Stores were considered for participation if the owner or manager had participated in an interview in the second part of the study and also if they gave permission for the shopper interviews to be conducted. All participants were over 18 years old. They had to reside on Navajo Nation and they could not be pregnant or breastfeeding because it was assumed that if you're pregnant or breastfeeding, your diet might be different than other shoppers and that could not be generalized to other populations.

The data collection took place between July and September 2016. Interviews were very brief and they took between five and ten minutes and we provided a fruit-infuser water bottle as a thank you and also to encourage more drinking water.

The survey was developed based on other studies including a tool for a USDA-funded food security project in the northeast region. We also incorporated input from co-staff and partners to ensure utility by local advocacy effort. Here are some of the topics that we asked about and then we also asked some demographic questions shown here.

Just before conducting the interviews, we documented all fruits and vegetables that were on the shelves in order to provide context when framing the purchasing habits of the shoppers. Among the nine stores where the interviews were conducted, there was a real range of produce offering.

So similar to the charts I showed before, in this one, I show the type of produce, the number of stores with any that you'll see here, number of stores with any. The numbers found at stores with the least number of canned, fresh, and frozen. The maximum number found and also the amount found by the middle by half of the stores. You'll see here that half of the stores offered nine or more canned items, eight or more fresh items and six or more frozen, but I'm happy to go into detail at the end.

Participants in the interviews who participated in the interviews were between 23 and 88 years old with an average age of 58 years. About 60% were female and a little over half were employed. There was also a wide range of educational attainment. While the majority of participants had electricity at home, 15% did not and 44% worried at any time in the previous months that they would have enough food to feed their families. And half of participants had someone in their household participating in a Federal Assistance Program.

Participants traveled an average of 17 minutes between home and the small store where interviews took place with some folks traveling as much as 60 minutes one way. The majority of participants drove themselves as their primary mode of transit. About two-thirds of participants said that they do most of their food shopping at supercenters like Walmart. Still, close to half shop at the small stores two or more times per week. The most common reasons reported for shopping at the small store were convenient for gas and for a snack or drink. The items most commonly purchased at the small store were snack, staples and soda.

We asked participants if they had purchased any fresh, frozen, or canned fruits or vegetables at the small store the day of the interview or in the previous week. And as you'll see here, only four participants had purchased any produce at the small store the day of the interview and one-third had purchased any in the previous week. When asked what would encourage them to purchase any or more produce at the small store, the answers ranged from greater variety of produce, more stocking of healthy food in general, better pricing and placement of produce in the store, and also more advertising of the produce that's offered. It's important to note that about 20% of participants did not know if the store sold any fresh fruits or vegetables.

I'll leave you with three concluding thoughts specific to our study on customer perspective. A key finding of the study was that almost half of participants shopped at the small store at least two or more times per week. This indicates that the small store setting is an important space for reaching rural population, and that perhaps, even a place for promoting purchasing, cooking, and consumption of healthy food.

Second, fairly low budget strategy for stores to undertake would be to promote the fruit and vegetable options that currently exist at the store. While simply knowing that the store sell fruits and vegetables does not guarantee shoppers will purchase it, promoting the fruits and vegetables that stores already offer could be a meaningful step in increasing opportunities for purchasing.

And while shoppers at the small stores do not perceive these food outlets as places to purchase fruits and vegetables, a more labor-intensive but worthwhile consideration for store owners is to reorganize at least some sections of their stores to highlight the healthy options and work to augment community perception.

So in the interest of time, I'll go through the strength and limitations very briefly. First of all, the initial component of this documented all fruits and vegetables offered at all the small stores in remote Navajo Nation and that's the first time that this type of work has been done. And then the second and third were geographically bounded which could really aid in figuring out some supply chain interventions that could occur in the future.

A couple of limitations to point out that the inventories were only done at one time point, so they don't necessarily reflect offerings year round and that the consumer surveys did end up being a convenient sample and so, they can't necessarily be generalized to the whole Navajo Nation.

Now, three take home messages to leave with you from integrating the three objectives. First, offering high quality, affordable fruits and vegetables in remote areas is a challenge for both of the supply and demand vantage point. The organization COPE on Navajo Nation and others throughout the nation can provide resources and best practices to communities working to address these issues. Finally, we recommend thinking creatively about where food moves in remote regions.

For example, where these rural school districts purchase their food, and could small do stores partner with these entities to lower cost and pass that savings on to customers?

So few practical implications just in terms of the dissemination of these results that I've shared the findings and some of the discussion with various entities within Navajo Nation and I'll be sending a mailing to the store owners and managers that participated. Also, presented at a couple of national conferences and I'm preparing some manuscripts in collaboration with COPE.

It was promising that some community leaders were requesting these results to assess with wellness center proposals. I'm hopeful that at least one idea or concept from this presentation might be useful in bringing back to your own work or your part in this context. There are many people to thank who assisted with this project and made it possible.