

Division of Diabetes Treatment and Prevention

Food Insecurity and Diabetes: What's the Connection?

Brenda Broussard (Presenter):

I'm Brenda Broussard. I'm a Registered Dietitian, Certified Diabetes Educator, and Independent Healthcare Consultant. I've been working in Indian health and diabetes at the Tribal, area, and national level for over 30 years. I'm the daughter of a mother who died of complications of type 2 diabetes and a sister of siblings with diabetes.

I thank Dr. Ann Bullock for suggesting today's topic, Food Insecurity and Diabetes. It's a complex issue. I will show you some of the research that makes the connection and suggest actions you can take in your practice.

I was fortunate growing up in south Louisiana, on a dairy farm. We had plenty of milk, chickens, eggs, fruits, and vegetables. We had pecan and fruit orchards and two to three vegetable gardens year-round. My dad hunted and fished, so we had wild game and seafood.

Ironically, it was not until graduate school studying public health nutrition that I experienced food insecurity. I came face-to-face with poverty, living mostly on red beans and rice, French bread, beignets, and instant coffee in downtown New Orleans, not the healthiest foods. Have you ever experienced hunger and food insecurity?

A few weeks ago, I saw this documentary: "A Place at the Table - One Nation. Underfed." It put faces on food insecurity in the U.S. It explains the consequences of food insecurity have on our economy, our souls, and our children's future. The film examines the issue of hunger in America through the lens of people struggling with food insecurity.

Rosie, a 5th grader, is shown on the upper right. She often has to depend on friends and neighbors to feed her and has trouble concentrating in school. She and her extended family live in a crowded house in Collbran, Colorado, a cattle ranching and community of a thousand people. In the film she said, "I struggle a lot in school and most of the time, it's because my stomach is really hurting. Sometimes, when I look at my teacher, I vision her as a banana and everybody in the class is like apples and oranges. And then, I'm like, 'Oh, great!'"

The bottom photo shows Barbie, a single Philadelphia mother, who grew up in poverty and is trying to provide a better life for her two kids. Even though she is employed, she doesn't have enough money to buy healthy food for her and her family. Interwoven with the stories are insights from experts including nutrition professor and author, Dr. Marion Nestle, physicians, Dr. Mariana Chilton, and Dr. Larry Brown, a food security activist.

Awareness is the first step. I'll describe the problem of food insecurity in our country and its connection to diabetes. Then I will share some resources including information on food programs, indigenous food coalitions, and snapshots of what's happening in Native American communities. And I will end the presentation with suggested actions you can take or affirm the actions you're already taking to improve food security in your community.

The U.S. is experiencing the most severe economic collapse since the Great Depression. Unemployment levels remain extremely high. Low-income families who have been



disproportionately burdened by the recession are struggling to make ends meet. The financial struggle often results in increased levels of food insecurity.

Here are some examples of what's happening in a household that's experiencing food insecurity. Well, a mom feeds herself less food so she can give her children enough food, so they don't go to bed hungry. Families buy highly processed foods, which are less expensive and more available than fruits and vegetables. Families on food assistance have foods for the first three weeks of the month and then run out at the end of the month. No doubt you've seen this in your clinic and in your community.

In 2006, USDA, the Department of Agriculture introduced new language to describe the ranges of food, severity of food security. Food security means access by all people at all times, to enough food for an active healthy life. Low food security includes reports of reduced quality, variety, or desirability of the diet. Very low food security includes reports of multiple indications of disrupted eating patterns and reduced food intake.

What's happened to food prices? Well, if you look at what's happened to the relative price of fresh vegetables and fruits, it's gone up by 40 percent since 1980, when the obesity epidemic began. In contrast, the relative price of processed food has gone down by 40 percent.

Dr. Marion Nestle explained in her popular book, "Food Politics", "So, if you only have a limited amount of money to spend, you're going to spend it on the cheapest calories you can get, and that's going to be processed foods." This has to do with our farm policy, which subsidizes big commodity producers of corn, wheat, and soybeans and does not subsidize fruits, vegetables, and whole grains.

In the documentary, "A Place at the Table", Kelly Meyer, eloquently describes the connection between food insecurity and chronic disease. The true costs she says of the way we produce and market these foods add to the hidden medical costs of diabetes and heart disease. It's a perfect storm of malnutrition, rising prevalence of diabetes, and a huge increase in the number of hungry families.

So, how big is the problem of food insecurity? Every year, USDA Economic Research Service conducts the Household Food Security Survey. This pie chart shows the food security status of U.S. households with children under age 18 in 2011. 79.4 percent were food secure, shown in orange. 20.6 percent or one in five households – again, one in five households were food insecure. It's further broken down, shown in green wedge; food insecurity among adults only in the households with children was just over 10 percent. And, just below in a red wedge, both children and adults were food insecure and 10 percent of households with children.

Well, what's happened in the past few years, more than 2011? This graph shows the prevalence of food insecurity in the U.S. from 1999 to 2008. I thank Kelli Begay for helping me capture many of these graphs onto the PowerPoint. After a stable prevalence for the past decades, the rate of food insecurity rose by 32 percent in 2008. This figure is from the paper, "Hunger and Socioeconomic Disparities in Chronic Disease" by Drs. Hilary Seligman and Dean Schillinger. They examined the data from USDA's Annual Household Food Security Survey. The prevalence of food insecurity, you'll see in the middle. In the Latino and Black households was over 25 percent and about 23 percent for total U.S. children.

What about the prevalence of food insecurity in Native Americans? "Native American children have about twice the levels of food insecurity, obesity, and type 2 diabetes relative to the averages of all U.S. children of similar ages". This statement is from the 2012 Report to Congress, "Addressing

Child Hunger and Obesity in Indian Country” prepared by Mathematica Policy Research for USDA. You can see where you can get the report online.

Two other papers describe the prevalence of food insecurity in Native American communities. This first one by Dr. Katherine Bauer and colleagues found the prevalence of almost 40 percent of families with kindergarten-aged children in Pine Ridge, South Dakota. Using national data from 2001-2004 current population survey, Dr. Craig Gunderson, found 28 percent of Native households with children experienced food insecurity compared with 16 percent of non-Native American households with children. It’s likely higher now since the recession began in December of 2007.

I’d like to thank Cecilia Kayano for sharing this photo and some of the others you’re going to see in this presentation.

When I think about food insecurity, my first thought is families not having enough food. Well, what’s vital for health especially diabetes management is not just food quantity but food quality; that is nutritional quality. In a recent Viewpoint in *JAMA*, Drs. David Ludwig, Susan Blumenthal, and Walter Willett wrote, “The challenge for low-income families in today’s modern food environment is not obtaining enough food but rather having dependable access to high-quality food.”

Think about your own community. Is this true for your patients? Efforts to encourage our patients to improve their diets and to eat more nutritious food presume that a wide variety of these foods are accessible to everyone. But for some, access to affordable and nutritious food may be limited. This has implications for the guidance we give to our patients, encouraging them to eat a healthy diet for diabetes. Even simple messages that I’ve heard myself, they’re like, “Eat more vegetables, lean meats, whole grains, less pasta, less potatoes and bread.”

Well, in Indian Country access to healthy food can be a challenge. This image shows the locations of food deserts and Indian Reservations in the contiguous U.S. Many reservations have significant food deserts, shown in orange, which are defined as low-income communities without ready access to healthy and affordable food. The reservation borders are shown in teal, and the overlap of the food deserts and reservation borders are shown in brown. You probably can find your community on the map unless you’re in Alaska.

Now, nutrition across the life course is now recognized as an important influence on adult health and chronic disease risk. For diabetes risk, it matters what happens to us as adults, as children, in the womb, to our parents, and even our grandparents. This slide is the thumbnail sketch from Dr. Ann Bullock’s web-based training, “The Effects of Early Life Experience on Diabetes Risk”. Here’s what she said, “For diabetes risk, our diet and exercise choices matter, but we have to remember that many people have access only to food with poor nutritional quality even if there’s plenty of calories.”

Also, stress and trauma that happens to us including the stress of not having enough nutritious food increases the risk for type 2 diabetes. Epigenetic mechanisms provide explanations of how the dietary exposures of grandparents or how the dietary exposures early in life can be determinant of later health outcome.

Dr. Barbara Laraia and colleagues studied whether an independent association exists between household food insecurity and pregnancy-related complications. Data from the Pregnancy, Infection and Nutrition, prospective cohort study were used to assess household food insecurity retrospectively using the USDA 18-item Core Food Security module among 810 low-income pregnant women who were recruited between 2001 and 2005, and they were followed throughout their pregnancy. 24 percent were from food insecure households, basically, one out of four.

In adjusted models, living in a food insecure household was significantly associated with severe obesity. Women with a body mass index greater than or equal to 35 were at three times greater risk of reporting household food insecurity. Household food insecurity was also associated with greater gestational weight gain. Women from these households gain an average of 1.87 kilos or 4 pounds more. A 25 percent higher actual to recommended weight gain ratio and 2.76 times greater odds of developing gestational diabetes. If I had to pick one target group for intervention, it would be this group, girls and women of childbearing age and pregnancy. The diet of a pregnant mother may affect the development and disease risk of her children and even her grandchildren.

Dr. Hilary Seligman and colleagues examined data from the 1999 through 2004 waves of the National Health and Nutrition Examination Surveys of over 5,000 low-income adults. Even after adjustment for socio-demographic variables, adults having the most severe levels of food insecurity have more than twice the risk of diabetes of adults who have ready access to healthful foods. And, among adults with a known diagnosis of diabetes, 69 percent of food insecure and 49 percent of food secure adults were unable to achieve an A1C of less than or equal to seven percent.

As healthcare providers, we urge patients with diabetes or prediabetes to shift their dietary intake away from inexpensive carbohydrates and fats in favor of vegetables, fruits, lean protein, and low-fat dairy products.

USDA reports that weekly food spending in a food secure household is about \$50 per person as compared with only \$37 per person in a household that lacks such security. With \$13 less each week, it's difficult to shift dietary intake towards foods that are healthier choices for people with or at risk for diabetes while still maintaining caloric requirements.

During food adequacy, binge eating and reliance on calorically dense foods for dietary intake make blood glucose rise. During food scarcity, unreliable access to food can result in hypoglycemia. Drs. Seligman and Schillinger wrote in the July 1, 2010, issue of *New England Journal of Medicine*, "The inability to afford such food is one likely mechanism for the associations between food insecurity and an increase incidence of diabetes and poor glycemic control". From the same article, the authors illustrate this connection between food insecurity and diabetes, and other chronic conditions.

Starting at the top of the chart, food insecurity leads to constrained dietary options during food shortage alternating with food adequacy, which leads to weight changes and either hyperglycemia or hypoglycemia. The average food insecure household cycles through adequate and inadequate food supplies seven times a year. The authors wrote, "Cyclic food deprivation is associated with preferences for energy-dense foods, increased body fat and decreased lean muscle mass. Adults who anticipate future food scarcity also over consume during periods when access to food is reliable. These behavioral adaptations appear to be hardwired."

Stress impairs managing diabetes is leading to impaired self-management capacity, increased risk for health complications, and the need for more healthcare visits.

Now, two other sources listed here present evidence of why food insecure people are vulnerable to overweight and diabetes. High levels of stress due to financial and emotional pressures of food insecurity, low-wage work, inadequate and long distance transportation, poor housing, and other factors.

Mothers often restrict their own food intake to protect their children from hunger. Low-income communities have greater availability of fast food restaurants. They're exposed to disproportionately more marketing and advertising for obesity-promoting products that encourage the consumption of unhealthful foods. They have fewer parks; safe places to walk, and the communities frequently lack full service grocery stores and farmers markets.

Healthy food is often more expensive whereas refined grains, added sugars and fats are generally inexpensive and readily available. When available, healthy food, especially fresh-produce, is often of poorer quality and more expensive.

Here's another paper by Dr. Seligman. She's one of the leading researchers and clinicians in the area of food insecurity and its effect on health. She and colleagues administered a cross-sectional survey to a convenience sample of 710 patients with type 2 diabetes, who were receiving care from diabetes and safety net clinics in San Francisco and Chicago.

The more food insecure participants shown here in the light bar, than food secure participants shown in the black bar and more of them had poor glycemic control defined as an A1C greater than or equal to 8.5 percent. After adjusting for age, sex, ethnicity, income, education, tobacco use, body mass index, insulin use, and medication adherence, the mean or the average A1C was 8.55 percent amongst food insecure participants and 8.10 percent among food secure participants.

To prevent hypoglycemia related complication, providers taking care of patients experiencing repeated episodes of hypoglycemia often liberalize glycemic targets. This might represent an additional mechanism by which food insecurity might contribute to hyperglycemia.

In the same study, Dr. Seligman found that almost half of the patients with diabetes were food insecure. They were more likely to report difficulty affording a diabetes appropriate diet because they shift their dietary intake toward inexpensive, calorically dense foods, which generally include a high proportion of refined carbohydrates, added sugars, salt and fat. The researchers also found that patients experienced higher emotional distress.

Episodes of food scarcity predisposed patients with type 2 diabetes to hypoglycemia. A study by Dr. Nelson and colleagues from an urban safety net hospital reported that 61 percent of patients with diabetes experienced at least one hypoglycemic reaction annually. Patients attributed a third of those episodes to the inability to afford food. Investigators reported that they first undertook this study because of clinical observations of inadequate food supply in some of their diabetic patients, leading to the discontinuation of insulin and hospitalization for ketoacidosis. Eight percent of the sample reported they had decreased or stopped taking their insulin because they didn't have enough to eat.

Managing medication regimens for food insecure patients with diabetes can be challenging. We need to design regimens, which can accommodate fluctuations in dietary intake and instruct patients in how they should manage their medications if they're unable to acquire food. This is similar to the way in which we counsel patients to manage their medications if they're unable to eat because they're ill or undergoing a medical procedure, or observing a day of fasting. Glycemic targets might need to be individualized to permit some degree of hyperglycemia with the goal of preventing hypoglycemia during food scarcity.

Health systems and clinicians should consider screening all patients with prediabetes or diabetes for food insecurity and settings where the prevalence of food insecurity is expected to be high. The USDA's Household Food Security Survey module asks 18 questions to describe ranges of food insecurity. Now, I'm not recommending we ask 18 questions but for you to consider two options. Here's the first.

"In the past months, was there any day when you or anyone in your family went hungry because you did not have enough money for food?"

Kleinman et al., used this question at the screening tool to detect hunger in families attending a neighborhood health center. Of the patients in a pediatric clinic, whose caregivers were administered this question, 78 percent of those who responded “yes” also reported being food insecure by the bigger 18-item scale. And, 84 percent who responded “no” reported being food secure.

Here’s another option. Thacker et al., recently validated these two items to identify families at risk for food insecurity in a low-income clinic population:

“Within the past 12 months, we worried whether our food would run out before we got money to buy more” and “Within the past 12 months, the food we bought just didn’t last and we didn’t have money to get more”. A response of “often true” or “sometimes true” to either item carries 97 percent specificity and 83 percent sensitivity for food insecurity.

You might be thinking Brenda, well; it’s hard to ask patients about hunger and food insecurity. Well, we screen for difficult issues now. We screen for depression, domestic violence, tobacco and alcohol use. Let’s have one or two food insecurity screening items in EHR.

What are some resources available to help improve diabetes care and address food insecurity? I will share information about emergency as well as federal government food assistance programs and then take a look at what’s happening in communities with SDPI programs, food policy councils, and indigenous food coalitions.

First, I will look at emergency food assistance. In 1980, there were 200 food banks. Today, there are well over 40,000. A sharp recession arrived to accelerate a long-term trend toward increasing unemployment and decrease in job security. This coincided with steep cutbacks in federal social spending, which aggravated a long-term decline in the purchasing power of public assistance.

Janet Poppendieck, author of “Sweet Charity”, discusses how the responsibility for feeding the hungry has been transferred to food banks and soup kitchens. What was once viewed as an emergency measure has become the norm, a way of life for almost 50 million people. Food banks and pantries in the U.S. have become what she calls “A secondary food system for the poor who can’t afford the food in stores”.

Andy Fisher, veteran activist in community food projects, argues persuasively why we need to move beyond the charity-based emergency feeding program. He said, “The number of poor and hungry is too big for the charitable food sector to handle. Forty-nine million people are food insecure. The charitable food sector would have to increase in size more than six-fold to even feed all of these people for a week every month.”

The 2012 Report to Congress “Addressing Child Hunger and Obesity in Indian Country” provides data on average monthly participation for each of the four major federal food assistance programs. The Food Distribution Program on Indian Reservations or Commodity Foods Program provides food packages to low-income individuals who did not participate in SNAP, formerly called the Food Stamps Program.

In 2011, the program had 77,641 participants. The top image is from Old Harbor, Alaska, Tribal Food Distribution Program and shows the foods that a household of three would receive. USDA has improved the nutritional quality of foods in the last decade. The food package now includes leaner meat, more fresh fruits and vegetables, and whole grain foods.

SNAP is the Supplemental Nutrition Assistance Program. It offers food assistance in the form of debit cards that can be used to purchase items from authorized retailers. Based on data from March of 2009, over 800,000 Native Americans were SNAP participants.

The next one, WIC, is the Supplemental Food Program for Women, Infants and Children. It provides food packages to pregnant and postpartum women, infants, and children up to age five to meet their special nutritional needs as well as nutrition education, breastfeeding promotion and support, and referrals to healthcare and social service providers. There are over 200,000 WIC participants in Native communities. The National School Lunch Program has the widest reach in Indian Country at over 870,000.

SNAP has a well-established and highly successful infrastructure to reduce rates of food insecurity across the U.S. To the extent to which SNAP can encourage shifts in dietary intake toward healthy food alternative, it has the potential to improve health outcomes.

Secretary of Agriculture Vilsack said, “One of every two children in this country will be on food assistance at some point during their childhood.” “Half of all adults receive SNAP benefits at some time between the ages of 20 and 65 years.” This estimate comes from an analysis of 30 years of national data and it bolsters more other recent evidence on the pervasiveness of youngsters at economic risk. It suggests that almost everyone knows a family who has received SNAP benefits or will in the future.

Research has repeatedly demonstrated that two of the most detrimental economic conditions affecting a child’s health are poverty and food insecurity. Nevertheless, only about 75 percent of those who are eligible for the program, actually participate in and received SNAP benefits.

There are growing numbers of indigenous food coalitions. Food sovereignty, food security, and food policy councils are issues that are gaining momentum in Native communities. The Indian Health Service Nutrition Program is facilitating monthly calls of Nutritionists across Indian Country involved in these coalitions.

A quick look at just two tribes, the White Mountain Apache of Arizona developed a three-year strategic plan, a community-driven visioning project to promote broad-based nutrition and healthy foods access. The project is focusing on policy approaches; developing gardens in local schools, a youth and elders food waste program, and farmers market.

The Suquamish Tribe of Washington has an Indigenous Foods & Fitness Coalition with community engagement from all age groups. They conducted a community nutrition assessment and presented its findings on food security to the Tribal Council.

Community members, we know, are the experts when it comes to their own health needs. Community support for policy change is critical to its success. Food policy councils bring together stakeholders from diverse food related sectors to examine how the food system is operating and to develop recommendations on how to improve it.

The Alaska Food Policy Council works to strengthen Alaska’s food systems to spur local economic development, increase food security, and improve nutrition and health. Members of the Food Policy Council shared with me this week, a new report by Council of Athabascan Tribal Governments. The report is called “Survival Denied”. You can find it online if you do a search. It gives stories from people of the Yukon Flats or central Alaska, who rely almost exclusively on nature’s resources to feed their families; moose and caribou, salmon, birds and berries.

The first person accounts warn that their way of life in food security is being greatly challenged by competing interests of commercial fishing, corporate oil and gas extraction, and state and federal government. Representatives from the Food Policy Council gave presentations last December at the

Alaska Native Diabetes Conference at the session. I love their title: “Hunt. Fish. Grow. Pick.” I encourage you to take a look at their blog.

Shanna Moeder is a Registered Dietitian with Kodiak Area Native Association. She and others helped establish Summer Lunch Program for children funded by USDA. She told me, “Every day of the summer, anywhere from 25 to 110 kids eat a free lunch. For some, this was the only nutritious meal for the day or the only meal”.

The Store Outside Your Door project is a wellness and prevention initiative to promote the knowledge and use of traditional foods and traditional ways in Alaska. Dr. Gary Ferguson, Aleut physician, is the creator and sustainer of the website. You can see him and learn more by watching the YouTube video, GaryFerguson@TEDxAnchorage2012, where he talks about the concept of the Store Outside Your Door. The Alaska Native Tribal Health Consortium has lots of webisodes on their site.

Angela Valdez, Registered Dietitian, is the Diabetes Coordinator in Barrow. In a phone call a few weeks ago, she shared some of the exciting things happening in their community. She and others are active in the Alaska Food Policy Council. Just this past January, the SDPI Program sponsored a free fun day with 244 participants in a novel health fair; all of it interactive, including food demonstrations. Shown here is Tlingit Chef Rob Kineen making muktuk sushi at the event. He travels around the state with Alaska Native elders to create contemporary recipes out of traditional foods. Dr. Gary Ferguson, Alaska Native Tribal Health Consortium’s Director of Wellness and Prevention, supports the development of videos by Chef Kineen and others. He says, “It’s a way for us to demystify traditional foods and help young Alaska Natives and families live healthier.”

The Barrow SDPI Program collaborates with Cooperative Extension Service to provide basic cooking classes, food demonstrations in the grocery store, tradition gardens, and food preservation classes.

Now, SNAP recipients in the lower 48 states have to make do with \$31.50 a week per person. Is that enough? Could you do it? Angela and her team experienced taking the Food Stamp Challenge. Now, the average SNAP benefit in Alaska is a bit higher. It’s \$42 a week, but it’s not near enough for rural residents.

According to the North Slope Borough, the cost of living in Barrow is 278 percent higher than living in the lower 48. It gives participants a view of what life can be like to live on a SNAP budget for one week.

Now, the team found that they had to make some difficult food shopping choices. It meant fewer foods, mostly cereal, pasta, grains, and starchy vegetables. She described it as “Mostly, a vegetarian meal plan because we simply could not afford meat on the SNAP budget.” She told me that one of her clients suggested that to make it work, she had to find a hunter to get a caribou leg.

While living on a SNAP budget for just a week can’t come close to the struggles encountered by low-income families week after week and month after month; it does provide those who take the challenge with greater understanding. If you want to take the challenge, you can find the tool kit at the Food Research & Action Center site shown in this slide.

In many cases, the SNAP benefits received are too low to allow families to purchase enough nutritious food and to feed their families healthy meals on a consistent basis. Most households report that their benefits don’t last the entire month. Many are forced to turn to food pantries and soup kitchens. One way to increase the monthly food allotment that SNAP provides, because it’s simply isn’t enough to carry families on a healthy diet through to the end of the month.

CDC's Native Diabetes Wellness Program is funding 17 tribal programs using traditional foods in type 2 diabetes prevention. The program is funded by SDPI. For example, the Eastern Band of Cherokee Indians project focuses on developing farms and school systems, community and school gardens, and farmers markets to increase availability and access to local and traditional foods.

Here's a photo of a Pueblo family shopping at MoGro, the Mobile Grocery. The photo on the right shows the temperature-controlled truck that travels to the Pueblos to provide access to healthy affordable foods in communities that currently lack access due to the physical location or cost. It's available in five New Mexico Pueblo communities and there's no cost to join. All forms of payment are accepted including SNAP debit cards, cash, and credit to purchase over 200 products on the truck.

More than 50 percent of all adults in Tohono O'odham Nation of Arizona have type 2 diabetes, and Type II diabetes in youth is on the rise. Why is this happening? There are many theories. One theory is the rapid change from traditionally farmed and desert-harvested Native foods to a more mainstream diet including highly processed foods.

Since 1996, the organization, Tohono O'odham Community Action itself has been dedicated to creating a healthy, sustainable and culturally vital community for the nation's 28,000 members. This year, the group received the farmers market promotion program grant to help foster the production of traditionally farmed food such as tepary beans. The grant will help support a farm equipment and tool lending program and organize and implement a series of "fresh sales" where growers and wild food harvesters will be able to sell their products directly to the public.

The Lummi Nation of Washington through its tribal college has a traditional plants and foods project. Since 2010, 25 participating families receive a weekly box of seasonal produce. Participating families also attend monthly cooking classes where they learn about the many different foods they receive, they share new recipes, and they cook together.

If you want to learn more about food insecurity in the U.S., here are four resources. The 2012 Report to Congress, there are two middle ones are publications from National Academies Press. One is on food insecurity and hunger and the next one, "Understanding of Food Insecurity Paradigm", and the USDA publication looking at food deserts.

The Division of Diabetes has a resource, "My Native Plate" and an "Educators Tip Sheet" that addresses the emotions and stress and food insecurity. Both are available as downloads from the Division's website.

Our country is prosperous; one where everyone should be food secure. We all have a role to play in ending food insecurity in America. Many of you are already taking action. Many of us contribute to emergency food providers, and that's a start. But the heavy lifting is being done by federal programs.

This is achievable by ensuring that parents and others work and get paid enough to support a family. And by strengthening the federal food assistance programs that work like SNAP, School Nutrition Programs, and WIC. These are key strategies to end food insecurity.

Recent policy changes and initiatives in federal nutrition assistance programs have focused on healthier meal options, easier access for those in need that supports broader lifestyle interventions of the family, school, or community level to reduce or prevent food insecurity and chronic health conditions. USDA is in the process of implementing the changes included in the "Healthy Hunger-Free Kids Act" by improving the WIC program, expanding support for breastfeeding. The School

Lunch Nutrition standards have been strengthened as shown in this sample before and after picture, more fruits and vegetables, less fat and salt.

The new nutrition standards have been a point initiative of First Lady Michelle Obama's Let's Move! initiative, which was introduced in Indian Country in May of 2011. Several provisions of the Act have a potential to increase access to school meals. It extended the reach of after school programs in low-income areas to serve healthy meals and snacks in all 50 states. Previously, it was only in 14 states.

Hunger rises in the summer as children lose access to school meals. Tribal governments, schools, and non-profit organizations can help by serving meals and snacks through the Summer Food Program. I've seen this program in action at Winnebago Tribe of Nebraska. The Tribe operates Kids Café serving nutritious snacks and lunches for children as part of their SDPI-supported Summer Youth Fitness Program.

Every person, every action makes a difference. I'll offer 10 action steps.

First, screen patients for food insecurity. Screen patients with diabetes, both to tailor treatment decisions and to identify increased risk of hypoglycemia.

Target pregnant women, women of childbearing age, infants, and young children. The 1000 days between a woman's pregnancy and her child's 2nd birthday offer a unique window of opportunity to shape healthier futures. By focusing on improving nutrition for mothers and children in the 1000-day window, we can help ensure a child can live a healthy life and can help families and communities. Refer patients to the WIC program and to Registered Dietitians for food security assessment and to develop a healthy meal plan that works for them and their family.

Provide food assistance information to patients, clinic staff and community members. Social Workers, Community Health Representatives, and others on your team can provide a list of local resources for food assistance. Help people sign up for food assistance. It's not easy to apply. There are lots of hurdles one must jump for an average of just \$125 a month in food.

Work with Tribes to expand access to federal food programs. Find out the rate of participation in your community, for example, WIC and SNAP. In some states, participation ranges from 50 to 90 percent of SNAP eligible people. Only one in three eligible children across the country receive school breakfast.

Work with community champions to create and strengthen food policy groups and coalitions such as those that I mentioned in Alaska, the White Mountain Apache Community Visioning Project in Arizona, and Suquamish Community Project in Washington.

Volunteer. Many of us already donate time and resources to increase food security in our community. Organize a healthy food drive. Enlist the help of family, friends and coworkers.

Keep informed about Tribal, national, and state legislation. There are deep cuts happening right now with the Sequester and you know about this, the nine percent cut in Indian Health Service, which also affects Tribes, and urban programs that has to be absorbed in the remaining seven months of this fiscal year.

Further, there are cuts proposed in federal nutrition programs in the 2013 Farm Bill. These programs include WIC, the Food Distribution Program on Indian Reservations, and SNAP. I've listed three websites here that provide current information on pending legislation. The Food Research & Action

Center or FRAC.org, FeedingAmerica.org, and Share Our Strength Organization at NoKidHungry.org.

Advocate for food security. Your voice is powerful. There are many ideas of how to participate in the policy making process. Search for advocacy tool kits to help you and your team with elected leaders and the media.

Finally, what might seem strange, but help a person become smoke-free. Commercial tobacco use is a strong risk factor for food insecurity and diabetes complications. What action can you take today?

I've described the problem of food insecurity in the U.S. and in Native American communities and its connection to diabetes. I've shared information on food assistance programs, indigenous foods coalitions, and snapshots of what's happening in Native American communities. I've offered 10 action steps for you to consider.

This is the message of the documentary, "A Place at the Table". It's playing now at select theatres but you can view it online or On Demand. This slide shows the link to the trailer. I watched it with my family on Amazon Instant Video for \$7 for a 48-hour rental.

And I tell you, I keep thinking about Rosie, the 5th grader in rural Colorado, who is struggling of hunger. We know that people can't begin to think about their future if their biggest worry is how they're going to feed their family today. When families have enough healthy food, we take away that worry so they can just focus on finding a better job, doing well in school and ultimately, building a better life for themselves and their children.

Thank you.