NDEP Webinar Series

Food Insecurity and Its Impact on Diabetes Management:
*Identifying Interventions That Make a Difference*
Welcome

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Rural Alaska Community Action Program
FOOD INSECURITY: DEFINITIONS, MEASUREMENT, AND INTERVENTIONS
Definitions

• **Food security**
  – “access at all times to enough food for an active, healthy life” (1)

• **Food insecurity**
  – “whenever the availability of nutritionally adequate and safe foods or the ability to acquire acceptable food in socially acceptable ways is limited or uncertain” (2)
  – “household-level economic and social condition of limited ability to acquire adequate food” (3)

• **Hunger**
  – “an individual-level physiological condition that may result from food insecurity” (3)
  – “the sensation caused by involuntary lack of food” (4)

Measurement of Food Insecurity

• United States Department of Agriculture (USDA) has published information yearly since 1995
• Survey funded by the Economic Research Service (ERS) and conducted by the US Census Bureau
• Representative sample of US population
• Survey developed and extensively tested by experts from academia, government, and the private sector
### Measurement

- USDA Household Food Security Survey
- Food secure versus food insecure (low food security or very low food security)
Food Insecurity in the U.S.: 2015

Prevalence of food insecurity in 2015

Percent of households

- **Food insecurity (low and very low food security)**
  - Any time during year: 12.7%
  - Any time during 30 days prior to survey: 7.0%
  - Estimated average daily: 0.6 to 1.0%

- **Very low food security**
  - Any time during year: 5.0%
  - Any time during 30 days prior to survey: 2.9%

NA = Estimated average daily occurrence of food insecurity is not available because information was not collected on the number of days that less severe food-insecure conditions occurred.

Food Insecurity in the U.S.

Figure 3
Trends in the prevalence of food insecurity and very low food security in U.S. households, 1995-2015

Percent of households

*Any time during the year.

1Prevalence rates for 1996 and 1997 were adjusted for the estimated effects of differences in data collection screening protocols used in those years.


Food Insecurity in the U.S.

Percentage of households reporting each indicator of food insecurity, by food security status, 2015


Food Insecurity Rates are Higher in Some Groups Than Others
Food Insecurity at the County Level

Map the Meal Gap 2016. Feeding America. Available at: map.feedingamerica.org
Food Insecurity and Hunger: From the Perspective of Those Who Experience It

• Witnesses to Hunger (5,6)
  – Started in 2008 in Philadelphia
  – Research and advocacy project
  – Partnered with mothers and caregivers of young children who have experienced hunger and poverty
  – Photographs and stories

• A Place at the Table (7)
  – 2012 documentary on hunger in the US
  – Website has resources for community screenings, social media tools, hunger resources and fact sheets

(6) http://www.centerforhungerfreecommunities.org/our-projects/witnesses-hunger
(7) http://www.takepart.com/place-at-the-table/
Responses to Food Insecurity: SNAP

SNAP = Supplemental Nutrition Assistance Program

- Formerly called the Food Stamp Program
- Provides eligible families with funds to purchase food
- Aims: alleviate hunger and improve the nutrition and health of low-income people

Eligibility:

- Most households with gross income less than 130 percent of the federal poverty level (FPL)
- Other income, assets, and cost-of-living criteria also used
- Households may also qualify if some or all members participate in TANF or SSI, or general assistance
Responses: SNAP in 2015

• Nearly 2/3 of participants are children, elderly, or had disabilities
• 44% of participants lived in households with earnings (e.g., had jobs)
• Average household income 59% of the poverty line
Responses to Food Insecurity: WIC

- WIC = Special Supplemental Nutrition Program for Women, Infants, and Children
  - Federal grants to states for providing supplemental, nutrient rich foods, health care referral, and nutrition education to:
    - Low-income pregnant, breastfeeding, and non-breastfeeding postpartum women
    - Infants and children up to age five found to be at nutritional risk
  - Most states also include vouchers through WIC’s Farmers’ Market Nutrition Program
  - Eligibility: households with income at or below 185 percent FPL with a child age 0-5 and a pregnant or postpartum woman
Responses:
WIC

Responses to Food Insecurity

• School Meals Program
  – National School Lunch Program, the School Breakfast Program, Fresh Fruit and Vegetable Program, Special Milk Program

• Summer Food Service Program

• Child and Adult Care Food Program

• Food distribution
Responses: Community-Based Food and Nutrition Assistance

• Types:
  – Food pantries, food banks, churches
  – Soup kitchens

• Sources of food:
  – Local resources
  – Supplemented by the USDA through The Emergency Food Assistance Program (TEFAP)
    – 2015: TEFAP supplied 864 million pounds of commodities to community emergency food providers
# Responses: Nutritional Information

<table>
<thead>
<tr>
<th>Program</th>
<th>Information</th>
<th>Web Site</th>
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<tbody>
<tr>
<td>WIC</td>
<td>WIC food packages</td>
<td><a href="https://www.fns.usda.gov/wic/final-rule-revisions-wic-food-packages">https://www.fns.usda.gov/wic/final-rule-revisions-wic-food-packages</a></td>
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<td>SNAP</td>
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<tr>
<td></td>
<td>SNAP-Ed resources</td>
<td><a href="https://snaped.fns.usda.gov/">https://snaped.fns.usda.gov/</a></td>
</tr>
<tr>
<td>Summer Food Service Program</td>
<td>Finding summer meal programs in the community and meal content</td>
<td><a href="https://www.fns.usda.gov/sfsp/summer-food-service-program">https://www.fns.usda.gov/sfsp/summer-food-service-program</a></td>
</tr>
</tbody>
</table>

Innovative Responses

• Incentives for SNAP participants to purchase healthy items (8)
• Food “prescription” programs

Knowledge Check

Food insecurity in individuals with diabetes has been associated with:

a) hyperglycemia
b) hypoglycemic episodes
c) both
d) none
Food insecurity in individuals with diabetes has been associated with:

- a) hyperglycemia: 3.8%
- b) hypoglycemic episodes: 6.3%
- c) both: 88.7%
- d) none: 1.2%
Food Insecurity and Diet

- Energy-dense foods (refined grains, added sugars, fats) cheaper than nutrient-dense foods
- Lower quality diets are less expensive in general (9,10)
- Food insecurity associated with lower-quality diets, lower produce intake, and fewer healthy eating habits (11,12)

Food Insecurity and Diabetes

• Associated with diabetes (13)
• Among those with diabetes, association between food insecurity and:
  – Higher risk of poor glucose control, hyperglycemia (14,15)
  – More hypoglycemic episodes (16)

Screening for Food Insecurity in Health Systems

- Recommended by the American Academy of Pediatrics (AAP) (17)
- Recommendation from the American Diabetes Association (ADA) (18)
- Increasing focus on population health
  - Health systems/policy interest in addressing social determinants as a way to improve outcomes and reduce costs
- Multiple health institutions across the country instituting various screening measures

AAP Policy Recommendations for Pediatricians: November 2015

- 2-Question screening tool (19)
- Familiarize yourself with referral mechanisms
- Awareness of nutritional content of food offered in supplemental programs
- Awareness of associated vulnerabilities and risks with food-insecure households
- Educate medical students and residents
- Advocacy: Promote access/funding of programs (WIC, SNAP)
- Research to optimize access to high-quality, nutritious food

2-Question Screen Recommended by AAP

• Within the past 12 mos, I/we worried whether my/our food would run out before I/we got money to buy more. (Yes or No)

• Within the past 12 mos, the food I/we bought just didn’t last and I/we didn’t have money to get more. (Yes or No)
“Providers should assess social context, including potential food insecurity, housing stability, and financial barriers, and apply that information to treatment decisions.”

“Patients should be referred to local community resources when available.”

“Providers should recognize that FI complicates diabetes management and seek local resources that can help patients and the parents of patients with diabetes to more regularly obtain nutritious food.”

Consider risks of hypoglycemia in medication decisions
Finding Resources Near You

USDA National Hunger Clearinghouse Database of Emergency Food Site:

Finding Resources Near You

Need help finding healthy, free food in your community?

The WhyHunger Hotline helps those in need find local healthy food resources. Call between 9am-6pm, Monday through Friday, to speak with an advocate.

Call the WhyHunger Hotline 1 800 5HUNGRY (1 800 548 6479)

Text your zip code to 1 800 548 6479

Search online at whyhunger.org/findfood
Thank You!
Monideepa Bhattacharya Becerra, DrPH, MPH, CHES

RELATIONSHIP BETWEEN FOOD INSECURITY AND HEALTH OUTCOMES
Food insecurity

Financial hardship/poverty

Stress

Chronic diseases

Obesity
Chronic Diseases

• Persistent, lasts 3 or more months
• Cannot be prevented through vaccination
• Cannot be cured by medication
• Do not disappear
• 88% of Americans 65 years or older have at least one
• Often attributable to lifestyle habits, including dietary behavior

Knowledge Check

Food insecurity is related to which of the following?

– Increased mental illness
– Decreased BMI
– Increased healthy dietary behaviors
– None of the above
Food insecurity is related to which of the following?

- Increased mental illness: 67.0%
- Decreased BMI: 6.4%
- Increased healthy dietary behavior: 4.7%
- None of the above: 22.0%
Food Insecurity and Diet

• Food insecure adults are less likely to:
  – Eat vegetables, especially females
  – Have fat avoidance behavior (replace high fat diet, avoid fat in restaurant food, etc.)

• Food insecurity has been associated with 24% and 142% higher average consumption of fast foods and soda, respectively, and 24% lower fruit intake among U.S. veterans (in California).

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3005628/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3005628/
Food Insecurity and Obesity

• In a 12-state study of 66,553 adults, food insecurity was related to 32% higher likelihood of being obese.

• In 810 pregnant women in North Carolina, food insecurity was related to being severely obese before pregnancy and with greater weight gain during pregnancy.

• Longitudinal study: food insecurity related to higher BMI among 2,400 patients.

Why Obesity? Not Just Diet

• Food shortage can lead to stress.
• Stress results in biological changes, such as visceral fat accumulation, cortisol release, and metabolic syndrome, leading to obesity.
• Obesity is associated with multiple chronic diseases.
Food Insecurity and Chronic Diseases

- NHANES: increased likelihood of hypertension (20%), hyperlipidemia (30%), and lab/exam confirmed diabetes (48%) among food insecure participants.
- NHANES: Food insecurity related to chronic kidney disease.
  - High = 20.3%, marginal = 17.6%, no = 15.7%
- Food-insecure children are at least 2X as likely to report being in fair or poor health and 1.4 x as likely to have asthma.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2806885/
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3952065/
http://content.healthaffairs.org/content/34/11/1830.abstract
Prevalence (%) of Serious Psychological Distress Among Low Income Hispanics and African-Americans in California

- **Food secure**: 2.67% (Hispanics), 5.28% (African-Americans)
- **Food insecure, no hunger**: 6% (Hispanics), 8.1% (African-Americans)
- **Food insecure, hunger**: 13.4% (Hispanics), 22.76% (African-Americans)

Hispanic CHIS study: https://www.cdc.gov/pcd/issues/2015/15_0334.htm
Food Insecurity and Diabetes

- Systematic review of North American studies: 1999-2004 diabetes rate in U.S. was 10.2% in food insecure households, compared to 7.4% in food secure households.

Diabetes rate

Mild food insecurity: 10%
Severe food insecurity: 16.1%

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2806885/
Food Insecurity and Diabetes

- Longitudinal survey in US: 50% higher risk of diabetes among food-insecure adults.
- Food-insecure adults are 2-3x more likely to have diabetes than other adults, even after controlling for risk factors such as income, employment status, physical measures, and lifestyle factors.
- More food-insecure pregnant women are at risk for gestational diabetes.

Source: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4218969/pdf/13668_2014_Article_104.pdf
Burden on Health Care Cost

• NHIS: dose-dependent relationship between food insecurity level and medication underuse.
  – Higher among ethnic minorities and those with multiple chronic diseases.
• NHIS: 1 in 6 patients with diabetes report food insecurity.
  – Related to reducing, delaying, or avoiding medication use due to financial hardship.
• One-third of diabetics [people with diabetes] visiting food banks/kitchens pay for medication before food

http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2015.302712
Food insecurity and Health Care Utilization-Diabetes

Emergency Department Use among Persons with Diabetes in California

<table>
<thead>
<tr>
<th></th>
<th>Food secure</th>
<th>Food insecure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Use</td>
<td>7.08</td>
<td>12.96</td>
</tr>
</tbody>
</table>

Limitations and Strengths

• Majority of studies are cross-sectional
  – Limits causal inference
• Measure of food insecurity is not consistent throughout literature
• Empirical evidence consistently demonstrates the negative burden of food insecurity (among adults and children)
Implications

• Programs such as SNAP help alleviate burden
• Hispanics are 4x less likely to participate in SNAP than non-Hispanic Whites, even if eligible
  – Lack of knowledge
  – Transportation
  – Stigma
  – Health care costs
• Promotores can provide community-based resources
Gary Ferguson, BS, ND

BRIGHT SPOTS IN ADDRESSING NUTRITION INSECURITY AMONG AMERICA'S INDIGENOUS POPULATION
1933 Dr. Weston Price travelled to remote Alaskan villages in the YK Delta

- “…examples of physical excellence and dental perfection such as has seldom been excelled by any race in the past or present.”
- “…strong rugged babies”
1st Generation of Children Born After Adoption of ‘Store Grub’

- Dental arch deformities
- Crooked Teeth
- Changed facial form

“We have few problems more urgent or more challenging than reversing these trends.”

Weston A. Price, 1939

https://price-pottenger.org/about-us/history
Helping Ourselves to Health: 
Addressing Factors that Contribute to Obesity 
Among Alaska Native People 

Tim Gilbert, MPH 
Desiree Bergeron RD, LD 
Gary Ferguson BS, ND 

This research was supported by the National Research Initiative of the USDA National Institute of Food and Agriculture, Grant #2007-55215-17923
Dietary Patterns and Nutritional Adequacy - Rural Yup’ik Women in Western Alaska

• The majority of women (90-100%) fell below the recommendations for dietary fiber, vitamin D, vitamin E and calcium. More than 50% of women fell below the recommendations for vitamin A and more than one-third were below for zinc, and vitamins C and B-6
• Store-bought foods, such as juices/pop and coffee, were the most frequently reported food items. Sweetened beverages and pop were the main contributors to energy, carbohydrate and sugar intake
• Traditional foods provided 34% of protein, 27% of iron, 23% of vitamin A, 21% of zinc, 6% of carbohydrate intake and <5% of total energy intake
Knowledge Check

Currently, what percentage of Alaska’s food is imported?

- 25%
- 50%
- 70%
- 95%
Currently, what percentage of Alaska’s food is imported?

a) 25% 9.2%
b) 50% 14.9%
c) 70% 54.2%
d) 95% 21.8%
136% increase in diabetes in Alaska Native people.\(^{(2)}\)
Congenital Sucrase-isomaltase Deficiency (CSID)

Researchers identify cause of gastrointestinal disorder affecting Inuit

ANDRÉ PICARD - PUBLIC HEALTH REPORTER
THE GLOBE AND MAIL
Last updated Monday, Dec. 01 2014, 6:48 PM EST

CPT1A Arctic Variant
Lower Prevalence of Impaired Glucose Tolerance and Diabetes Associated With Daily Seal Oil or Salmon Consumption among Alaska Natives

1. Amanda I Adler, MD, PHD,
2. Edward J Boyko, MD, MPH,
3. Cynthia D Schraer, MD and
4. Neil J Murphy, MD
“Let foods be your medicine”
-Hippocrates
MASLOW’S HIERARCHY OF NEEDS (INFORMED BY BLACKFOOT NATION (ALTA))

Western Perspective

First Nations Perspective

Huit, 2004; Blackstock, 2008; Wadsworth,
### Subsistence

**14-1**  
A resolution supporting protections, including a community fishing association, for Gulf of Alaska fishery dependent coastal communities from the North Pacific Fisheries Management Council as the Council develops the Gulf of Alaska trawl groundfish bycatch management program (rationalization program)

**14-2**  
Call for Alaska Native self-determination in the management of their hunting, fishing, trapping, and gathering rights and resources

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### 2014 AFN Convention Resolutions

**14-6**  
To support the swift enactment of regulations governing the procedures for the Federal subsistence board to determine rural/tribal community status under Title VIII of the Alaska National Interest Lands Conservation Act

**14-41**  
Subsistence rights priority over commercial and sports uses for fish and game

**14-42**  
Protection of Alaska Native traditional resource management practices

**14-43**  
Re-establish indigenous subsistence rights in Alaska
Prenatal and Postnatal Flavor Learning by Human Infants

Julie A. Mennella, PhD, Coren P. Jagnow, MS, Gary K. Beauchamp, PhD

ABSTRACT

Background. Flavors from the mother's diet during pregnancy are transmitted to amniotic fluid and swallowed by the fetus. Consequently, the types of food eaten by women during pregnancy and, hence, the flavor principles of their culture may be experienced by the infants before their first exposure to solid foods. Some of these same flavors will later be experienced by infants in breast milk, a liquid that, like amniotic fluid, comprises flavors that directly reflect the foods, spices, and beverages eaten by the mother. The present study tested the hypothesis that experience with a flavor in amniotic fluid or breast milk modifies the infants' acceptance and enjoyment of similarly flavored foods at weaning.
Traditional Foods Infant Feeding

Patti Kanayurak and her boy Connor (Barrow, Alaska). Photo used with permission.
Traditional Food Guide

For Alaska Native Cancer Survivors

Alaska Native Tribal Health Consortium Cancer Program
**FIREWEED NUTRITION INFORMATION**

Fireweed is an excellent source of Vitamins A & C, and a good source of fiber.

**FIBER**
- MAN
- WOMAN

**VITAMIN A**
- MAN
- WOMAN

**VITAMIN C**
- MAN
- WOMAN

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**HEART FRIENDLY**
- Fat free
- Very low in sodium

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**NUTRITION INFORMATION**

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<thead>
<tr>
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<th>Per serving - 1 cup: raw</th>
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<tbody>
<tr>
<td>Calories</td>
<td>24</td>
</tr>
<tr>
<td>Protein</td>
<td>2 g</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>3 g</td>
</tr>
<tr>
<td>Fat</td>
<td>0</td>
</tr>
<tr>
<td>Calories from fat</td>
<td>0 %</td>
</tr>
<tr>
<td>Saturated fat</td>
<td>NT*</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>3 g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>NT*</td>
</tr>
<tr>
<td>Sodium</td>
<td>28 mg</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>3146 IU</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>55 mg</td>
</tr>
<tr>
<td>Iron</td>
<td>1 mg</td>
</tr>
</tbody>
</table>

*Not Tested*
Iron

Country food is good for you and your family

How many hotdogs?
Comparison of Berries

![Bar graph showing the ORAC score (uMTE/g) of various berries. The graph compares the antioxidant capacity of different berry types, with Lingonberry having the highest score of 203, followed by Highbush Cranberry at 174, and Blue huckleberry at 111. Other berries listed include Pomegranate (Lower 48), Crowberry, Dwarf Blueberry, Red Bearberry, Bog Blueberry, Alaska Blueberry, Wild blueberry (Lower 48), Northern Black Currant, Nagoonberry, Kinnikinnick, Red Raspberry, Bog cranberry, Cloudberry, Cult. blueberry (Lower 48), Red currant, and Watermelon berry, with scores ranging from 29 to 19.](chart.png)
Decolonizing Healthcare
www.youtube.com/anthcstoreoutside
Traditional Foods Programs and Map

Traditional Foods Partners

- Nooksack Indian Tribe
- Confederated Tribes of Siletz Indians
- United Indian Health Services
- Indian Health Care Resource Center of Tulsa
- Ramah Navajo School Board
- Tohono O’odham Community Action
- Aleutian Pribilof Islands Association
- Southeast Alaska Regional Health Care Consortium
- Red Lake Band of Chippewa Indians
- Standing Rock Sioux Tribe
- Sault Ste. Marie Tribe of Chippewa Indians
- Santee Sioux Nation
- Potawatomi Nation
- Eastern Band of Cherokee Indians
- Catawba Cultural Preservation Project


CDC Native Diabetes Wellness Program
TRADITIONAL FOODS PROGRAM

The goal of the Traditional Foods Program is to promote the use of traditional foods as part of a healthy diet and for overall well-being.

The Unangan (E)/ Unangas (A) historically depended on foods from the sea; seal, sea lion, whale, fish and tidal foods provided the majority of nutrients in the diet. Birds, plants, caribou, and later reindeer in some communities, were also important sources of food. All of these foods continue to be used today and are supplemented with store-bought foods.

Traditional foods must be celebrated. Traditional foods, harvested from the land and sea, are an essential part of our lives and culture and have been for thousands of years. Many traditional values are expressed through the harvesting and preparation of local food: the importance of sharing, respect for elders, helping and taking care of others, not being greedy, and taking care of the land, air and water, to name a few.

Traditional foods provide nutritional, health, sociocultural, spiritual, and economic benefits to individuals and communities of the Aleutian and Pribilof Islands. The harvesting, preservation and preparation of traditional foods have been a vital part of Unangan (E)/ Unangas (A) life from time immemorial.
http://www.foodisourmedicine.org
Issue Three is now available:

Order Now!

Native Foodways Magazine...
- Tells the stories of Native farmers & gardeners... fishers & hunters... foragers & wildcrafters... chefs & home cooks.
- Shares the inspiring community efforts to preserve traditional foods & vibrant cultural food traditions.
- Explores beautiful artistic expression related to food.
- Provides recipes and resources for cooking healthy & tasty meals.
- Documents the impact of national & global food policies on Native communities.
- Showcases the fiction & poetry of food as a cultural expression.
- Promotes Native food sovereignty.

Premiere Issue

Issue #2

http://www.nativefoodways.org
The Muckleshoot Tribe is spreading traditional food through schools
Categories: Lead Story, News

The Muckleshoot Indian Tribe is making sure traditional foods are part of many of the meals it serves. Six kitchens across the tribe – including in schools and elder facilities – adopted new protocols to encourage the use of traditional foods.

The Muckleshoot Indian School is using the protocols to designate at least one day a week for traditional foods. The introduction of traditional food has been a learning process for both the kitchen staff at the school and the school community, said Shawn Saylor, the school kitchen coordinator.

The Muckleshoot school kitchen began introducing traditional foods soon after the protocols were in place four years ago.
Eliminating food deserts

Extreme poverty and the loss of traditional foods have caused many Native Americans to suffer from inadequate diets and have led to widespread, chronic health problems.

http://seedsofnativehealth.org
81%  
81% of Native Americans adults are overweight or obese.  
(Source: American Indian Health Survey, 2014)

15.9%  
15.9% of Native Americans suffer from type 2 diabetes, more than double the number of Caucasians.  
(Source: American Diabetes Association, 2012)

24%  
More than 24% of Native American households are below the federal poverty line, compared to 15% of the U.S. population as a whole.  
(Source: PEW Research Center, 2014)
The doctor of the future will give no medicine but will interest his patients in the care of the human frame, in diet and in the cause and prevention of disease.

~Thomas Edison
We are free to be who we are – to create our own life out of our past, and out of the present. We are our ancestors. When we heal ourselves, we also heal our ancestors – our grandmothers, our grandfathers, and our children. When we heal ourselves, we heal Mother Earth.

~Dr. Rita Pitka Blumenstein
Please submit your questions through the chat box.

Q&A
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- This program has been approved for CNE, CEU, CECH and CPH credit.

- To receive credit:
  - Complete the activity
  - Complete the Evaluation at [www.cdc.gov/TCEOnline](http://www.cdc.gov/TCEOnline)
  - Pass the posttest with 60% at [www.cdc.gov/TCEOnline](http://www.cdc.gov/TCEOnline)

- No fees are charged for CDC’s CE activities.

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TTY 1-(888) 232-6348 or visit www.cdc.gov/info.
To order resources, visit www.cdc.gov/diabetes/ndep.

Michelle Owens-Gary
MOwens1@cdc.gov
770-488-5014
Thank you!
The information, views, and opinions contained on this presentation do not necessarily reflect the views and opinions of the Centers for Disease Control and Prevention, the National Diabetes Education Program or its partners.