

# More than hunger pains: How food insecurity impacts the body

By Lenzy Krehbiel-Burton, Native Health News Alliance

TULSA, Okla. – The impact of regularly going without a nutritious meal goes beyond a growling stomach and a short temper.

“The best medicine in the world will not be effective if I’m treating an under-nourished child,” said Dr. Sandra Hassink, past president of the American Academy of Pediatrics. “For pediatricians, nutrition is health and it’s a core component of health.

“Good nutrition is chronic disease prevention.”

According to a journal article published by the American Academy of Pediatrics (AAP), both preschool and school-age children showed that chronic hunger and food insecurity are significant predictors of health conditions, even when taking other factors into consideration.

With chronically hungry children twice as likely overall to experience health problems, the AAP formally announced in October 2015 that it was recommending its members start screening children for food insecurity by asking two hunger-related questions and as needed, provide referrals to food pantries, local WIC offices and other community resources.

Nationwide, one in seven families experience food insecurity at any given point in a year. The rates are higher in Indian Country, thus increasing the risks for the physical effects that come with poor nutrition.

## Hunger’s effects on organs

The influence of not having regular access to healthy food can be felt at a young age through its effects on childhood brain growth and cognitive function.

Nutrient deficits at an early age can limit cell production, while shortages later on in childhood can inhibit a brain cell’s ability to grow and handle complex functions. Chronic hunger can also impact the brain’s chemical processes and can hamper communication between brain cells.

For example, iron, a nutrient often found in red meat and dark leafy vegetables, is necessary for developing not only motor skills in infancy and early childhood, but also the brain’s ability to process, learn and recall information.

Found in seafood and beef, zinc is a key component in the development of both the central nervous system and the enzymes needed to allow brain function.

“Children who are well-nourished early on have healthier brain development,” Hassink said. “They also tend to have higher IQs and stronger immune systems.”

That stronger immune system stems from regular, continued access to many of the same nutrients that facilitate brain development.

For example, a deficiency of zinc or iron can make it harder for the body to fight infection or produce T-cell lymphocytes, a form of white blood cells.

Additionally, one of the measures commonly taken to avoid hunger pains – relying on cheap, high calorie foods with little nutritional benefit – is not necessarily any healthier in the long run.

Virtually unknown in Indian Country until the 1950s, diabetes is now more than

Courtesy of the Citizen Potawatomi Nation

twice as common among American Indians and Alaska Natives as a whole than the general population.

Once known as adult onset diabetes, the incidence rate of Type 2 diabetes among Native American youth is now estimated at almost 50 diagnoses per year for every 100,000 teens – more than double that of any other group.

Multiple studies have shown a correlation between the disease and an increased intake of corn syrup and other refined carbohydrates, a common ingredient in many low-cost, shelf-stable, processed foods.

**“High quality food builds and supports health,” Hassink said. “You can’t build a healthy body if you don’t have high quality food.”**

Although it is not a direct cause, with higher levels of fat, sugar and salt in less expensive sources, there is also often a correlation between food insecurity and obesity, another chronic condition that disproportionately strikes American Indians and Alaska Natives, including one-third of indigenous children.



Courtesy photo by Lenzy Krehbiel-Burton

*Although commodity cheese is high in saturated fat, its higher quality cousins are a more nutritionally sound source of protein, calcium and vitamin A.*

For example, three ounces of commodity cheese has 330 calories and 90 percent of the recommended daily allowance of saturated fat.

Although it has 80 percent of the recommended daily intake of Vitamin A,

a single cup serving of canned commodity beef stew also accounts for almost 40 percent of an adult’s recommended daily sodium intake.

A single serving of Spam, which can be bought with SNAP benefits, has one-third of the daily recommended daily sodium intake and more than a quarter of the recommended daily intake of saturated fat.

Made with flour, salt, sugar and water and fried in either oil or lard, the average piece of frybread has about 25 grams of fat in it.

Dr. Jennifer Williams with the Oklahoma City Indian Clinic said the connection and its effects, while reversible through minor diet changes, are logical.

“This does seem counter-intuitive, but it really makes a lot of sense,” she said. “Weight gain is a pretty simple calculation. In order to gain weight, we must eat more energy than we expend.

“Weight gain is not at all related to nutritional needs.”

According to the Department of Health and Human Services’ Office of Minority Health, American Indians and Alaska Natives are 60 percent more likely to be obese than their non-Native neighbors. Obesity, in turn, carries additional health risks, including high blood pressure, high cholesterol and increased rates of stroke and heart disease.

## When calories alone aren’t enough

The physical impact of food insecurity and chronic hunger is also felt at the micronutrient level.

Speaking as part of a White House panel, Adam Drewnowski, the director of the University of Washington’s Nutritional Sciences Program, pointed out the stratification of American diets, with vitamin and mineral deficiencies showing up among families struggling to put nutritious food, especially fresh produce, on the table.

“Foods contain different amounts of calories per gram,” Drewnowski said. “The most energy-dense foods are the ones that are dry – fats, sugars and refined grains. They have the most calories, but not necessarily the most nutrients.

**“As we go from foods that are energy-dense to nutrient-rich, the nutrient-rich foods tend to cost more. When you think about calories per dollar, you realize that when you look at something like sugar, you can get 3,000 calories per dollar, but when you look at a fresh pepper, fresh spinach or other fresh, frozen or canned produce, you’re looking at 10-20 calories per dollar, maybe. If you only have \$2 or \$4 per day per person to spend on food, those foods are not going to be on the menu.”**

The most common nutrition deficiency internationally, iron deficiency anemia, is when the body does not get enough iron to allow it to produce hemoglobin. That in turn, limits the production of red blood cells, which means less oxygen is carried throughout the body and leads to body fatigue faster.

Over time, the heart’s additional burden of working harder to make up for insufficient hemoglobin can lead to cardiovascular problems, including arrhythmias and even heart failure.

According to a 2007 study conducted by researchers at the University of Kentucky, Native American and Alaska Native infants are at higher risk for iron deficiency anemia than white, Asian and Latino babies, thanks in part to the higher iron demands during pregnancy that are not always met.

## Who’s at risk?

According to the U.S. Department of Agriculture, as of 2014, an estimated 14 percent of all households are considered food insecure or struggling to consistently access adequate food.

Even higher rates of food insecurity are present among families with children, those headed by a single parent, families