

# FOOD INSECURITY & HUNGER IN THE U.S. NEW RESEARCH

FOOD RESEARCH & ACTION CENTER

CHILDREN'S HEALTHWATCH



**July 2014**

## **In This Issue: Reflections on Household Food Insecurity with Dr. Mark Nord**

Welcome to the third issue of Food Insecurity and Hunger in the U.S.: New Research, a periodical created by the Food Research and Action Center (FRAC) and Children's HealthWatch.

IN FOCUS for this issue is "Reflections on Household Food Insecurity: An Interview with Dr. Mark Nord." Dr. Nord is a leading food insecurity researcher in the US who, before his recent retirement, worked at the USDA Economic Research Service. From 1998 to 2013, Dr. Nord led the USDA team that produced the annual food security report. He also has written a series of important analyses of various aspects of food insecurity in the US. Find his USDA bio here: [www.ers.usda.gov/ers-staff-directory/mark-nord.aspx#.U706ryhCyx4](http://www.ers.usda.gov/ers-staff-directory/mark-nord.aspx#.U706ryhCyx4).

The NEW RESEARCH section highlights eight recent studies related to food insecurity, including studies discussing demographic trends, chronic disease, mental health, and the new WIC food package.

### **Brief Reader Survey**

Children's HealthWatch and FRAC would appreciate your confidential feedback on Food Insecurity and Hunger in the U.S.: New Research. This brief survey's results will help us develop future issues of this research newsletter to continue to meet the needs of our readers. Complete the 2-minute survey here: [https://docs.google.com/forms/d/1SR6K\\_cMt2hZuDeaPLFG596sz2b15gZ9MQvxyiWbMprl/viewform](https://docs.google.com/forms/d/1SR6K_cMt2hZuDeaPLFG596sz2b15gZ9MQvxyiWbMprl/viewform).



*We gratefully acknowledge  
the support of the  
ConAgra Foods Foundation  
for this periodical.*

## IN FOCUS

### **Reflections on Household Food Insecurity: An Interview with Dr. Mark Nord**

Mark Nord, PhD, is a sociologist with expertise in measuring and monitoring household food security. He has spent the last 19 years working on food security and poverty-related research at the USDA Economic Research Service, from where he recently retired. Dr. Nord sat down with FRAC and Children’s HealthWatch to reflect on his career and discuss food insecurity.

#### **How did you get started in food security research?**

In some ways, I stumbled into it, but I had been working in related fields. I worked internationally in poverty alleviation in Bangladesh from 1985 to 1990, overseeing programs there. In my doctoral work at Penn State, I focused on rural poverty and natural resources. Then I came to the Economic Research Service (ERS) at USDA to work on rural poverty. But, as laid out in the work agreement with ERS, I was supposed to check in on this thing that was being developed to monitor food security over at the USDA Food and Nutrition Service. I was to see if there was something that we at ERS could and should know about it as it might relate to rural poverty.

#### **What do you think is the biggest or most impactful achievement you had at ERS?**

In terms of the food security project, the most satisfying part was seeing it inform the policy discussion about the food and nutrition assistance programs, particularly the last couple of rounds of the Farm Bill. It's always kind of tricky to try to make any connection between scientific research and policy making. But, in my optimistic moments, I look back and think that people were at least citing the statistics, and using the statistics mostly appropriately. That was the original intent of the project - that it would inform policy discussions about the programs. I think, to some extent, it did do that.

#### **Thinking about the terms "hunger" and "food insecurity," how have those evolved over time in the way the public or policymakers talk about them? How do you think people interpret these words?**

At least "food insecurity" is beginning to be in the vocabulary of the people who work close to the issue - policy makers, committees, Congress, the advocacy communities, and so on. I think there's been some progress in that way. But it's difficult to communicate information coming out of a survey that asks particular types of questions in a way that the general public really understands. It's best to talk about food insecurity to the public in terms of the objective conditions that people are experiencing rather than let any label carry the weight of it.

#### **What are the public health or other consequences associated with food insecurity that you think are the most alarming or important?**

There are many undesirable consequences of food insecurity for children - none of them are things you would want your children or grandchildren to have. Many of these are included in a recent USDA report

on child food insecurity.

(See Appendix A of the USDA report - <http://www.ers.usda.gov/media/1120651/eib-113.pdf>.)

I think it's worth noting that food insecurity doesn't occur by itself. Anytime that there's food insecurity, there are probably also a lot of other types of material hardships going on in the household, such as bad housing, a bad neighborhood, and other things like that. We just happen to be measuring food insecurity. It is not always clear that the problematic outcomes we find associated with food insecurity are caused by food insecurity or by the co-existing conditions. If your cure for hunger is improving such livelihood situations in general, it doesn't matter which of the conditions caused the problematic outcomes. But if you want to know to what extent outcomes can be improved just by improving food security, then you need to sort out the causal connections more carefully. If the real problem is housing, healthcare, or the neighborhood, and you try to solve it with food, you may only be partially successful in seeing a reduction in food insecurity.

**How do you see “low food security” (as opposed to “very low food security”) as a state that's harmful to people, is serious, and is something we need to pay attention to?**

First of all, the language is working a little against us here in that the very word "insecurity" sounds like you're measuring something like worry or anxiety. In terms of what we measure in the survey and classify as food insecurity, you should really call it "experienced food inadequacy." That's really what we're measuring. Inadequate in quality - usually, rather than quantity - but realized food inadequacy. This is not just worry about food. In terms of whether low food security is a severe condition and whether it's a condition anybody should be worried about, almost all of the outcomes research that's published is published at the food insecure versus food secure break, so it would include households that are in this condition of low food security. Meaning, all of the bad outcomes that have been documented - both for adults and children, but especially children - we see with both low food security and very low food security. In fact, a lot of those outcomes are beginning to be seen even in those that say "yes" to one or two questions, who we still classify as food secure.

**In terms of the measurement, are there countries that have taken up the USDA measure and adapted it for their own uses?**

There's been a considerable amount of work already internationally in adapting the USDA's Household Food Security Survey Module. But as you get into the international sphere, you become much more aware that the USDA module is only one way of thinking about food insecurity. There's also production instability in countries, and trade arrangements, and other factors; and other ways of thinking about food insecurity, measured malnutrition, and things like that. But the experiential measures of food insecurity are becoming more a part of the tool bag of researchers, policy officials, and statistical agencies in other countries.

The first country after the US that really has food insecurity deeply imbedded in their system as part of their monitoring is Brazil, and it has played an important role. Mexico is about at that stage as well. They are using an adapted USDA module in a number of major national surveys and recognizing food insecurity as one of their suite of indicators of poverty. Canada has adapted the module in some health surveys. Another 10-15 countries in Latin America have adapted the USDA module either in a major survey or are looking at adapting it. The work in Latin America has been perhaps the most notable because they share a common language, except for Brazil. Therefore, they were able to develop a common food insecurity measure, requiring very little adaptation, and use it throughout the region. And it does appear that these other countries are measuring the same thing that we measure in the US.

Food insecurity in Canada is about one-third lower than in the United States. And among households with children, it's about one-half lower. Part of the message, it seems to me, that comes out of that is it doesn't have to be this way.

**What signs of improvement do you see in the policy related to food insecurity?**

I think the fact that there's increased attention in the public dialogue on income inequality is a hopeful sign. Because that's getting closer to the point at which you really begin to affect the kind of economic change that then reflects into food security.

There are two pieces that are important for addressing food security. One is the economic side - general improvements in the economy, especially the kind of changes or improvements in the economy that lower unemployment at the bottom for the least employable. The other piece is a robust safety net. Something that became obvious out of the welfare reform of the late 1990s was that the revised system would serve people better than the old system if they were in the system on a very short-term, transitional basis, because they could mix welfare and work. However, this reformed system may not serve very well for people with long-term disabilities - not necessarily even documentable disabilities, but low capacity who need assistance over the long-term. Recent ERS research on food insecurity in households with adults with disabilities has underscored this weakness in the safety net. Research led by Alisha Coleman-Jensen shows somewhere between 35 and 40 percent of households with very low food security have an adult with a disability in the household.

Dr. Nord recently published two papers on some of the topics covered in this interview:

- “Prevalence of U.S. Food Insecurity is Related to Changes in Unemployment, Inflation, and the Price of Food” <http://www.ers.usda.gov/publications/err-economic-research-report/err167.aspx#.U80zGLG5Jhc>
- “What Have We Learned from Two Decades of Research on Household Food Security?” <http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9098355&fileId=S1368980013003091>

## NEW RESEARCH

### ***Demographics of Food Insecurity***

#### **High levels of household food insecurity on the Navajo Nation**

Navajo households have the highest prevalence of food insecurity ever reported for a US population, according to a study published in the journal *Public Health Nutrition*. From food stores and other community locations, 276 members of the Navajo Nation were randomly selected and agreed to participate in the study. Participants reported on household food security, nutrition, and demographics. Seventy-seven percent of participants lived in a food insecure household; of them, 29 percent were food insecure at the child level. The study also found that those with lower nutrition knowledge (e.g., nutrition label knowledge and recognition of high-fat foods), who were less confident in their ability to prepare healthy foods, or who perceived healthy food to be more expensive and inconvenient, were significantly more likely to be food insecure. Similar to other populations, low educational attainment (particularly lack of higher education), unemployment, underemployment, and younger age were all significantly associated with increased food insecurity. The study also examined body mass index (BMI) and its association with food insecurity, but there were no significant differences in the incidence of

food insecurity based on BMI category (i.e., normal weight, overweight, and obesity). The authors concluded that given these extraordinarily high rates, strategies for reducing food insecurity in the Navajo Nation should include increased availability and affordability of healthy foods, programs and assistance to address poverty and unemployment, and nutrition education to help increase demand for healthy foods.

Pardilla M, Prasad SS, Gittelsohn J. High levels of household food insecurity on the Navajo Nation. *Public Health Nutrition*. 2014;17(1):58-65.

<http://dx.doi.org/10.1017/S1368980012005630>

### **Food insecurity among veterans of the US wars in Iraq and Afghanistan**

US veterans of the wars in Iraq and Afghanistan have high rates of food insecurity, according to a study published in the journal *Public Health Nutrition*. The study used Veteran Affairs (VA) records to randomly select veterans who served in Iraq or Afghanistan since October 2001 and had at least one out-patient health care visit to the Minneapolis, MN VA healthcare system. Eight hundred and sixty-five veterans participated in the study and reported on household food security, health behaviors, and demographics. Twenty-seven percent of respondents lived in a food insecure household, and 12 percent of respondents were very low food secure; these numbers are 15 and 7 percentage points higher than the averages in Minnesota, respectively. In analyses adjusting for social and demographic variables, veterans who were married (compared to single), had higher incomes, had fewer children, or got more hours of sleep per night, had increased odds of being food secure. On the other hand, veterans who perceived their health as fair or poor (compared to excellent) or used tobacco every day (compared to never) had increased odds of being food insecure. The authors suggested that future work should focus on reducing unemployment among veterans by connecting them with jobs that pay a livable wage along with access to food assistance to improve food security.

Widome R, Jensen A, Bangerter A, Fu SS. Food insecurity among veterans of the US wars in Iraq and Afghanistan. *Public Health Nutrition*. 2014; [Epub ahead of print].

<http://dx.doi.org/10.1017/S136898001400072X>

### **When working is not enough: food insecurity in the Canadian labor force**

Labor force participation does not eliminate food insecurity among Canadian households, based on a study published in *Public Health Nutrition*. Using the Canadian Community Health Survey 2007-2008, researchers examined factors correlated with food insecurity among a nationally representative sample of 41,802 households whose main source of income was from employment or wages.

Compared to primary earners in food secure households, those in food insecure households were significantly more likely to report working multiple jobs and to report higher job stress. Canadian households reliant on primary earners with less education and lower incomes were also significantly more likely to experience food insecurity. In addition, increasing income independently decreased the odds of food insecurity among households, as did having multiple earners in the household. The authors concluded that because income is a significant factor affecting the odds of being food insecure, policies that address employment conditions and earnings levels and variability, particularly among lower-educated workers, should be considered to help buffer workers from food insecurity.

McIntyre L, Bartoo AC, Emery JCH. When working is not enough: food insecurity in the Canadian labour force. *Public Health Nutrition*. 2014;17(1):49-57.

<http://dx.doi.org/10.1017/S1368980012004053>

## ***Mental and Physical Health***

### **Socioeconomic status, food security, and dental caries in US children: mediation analyses of data from the National Health and Nutrition Examination Survey, 2007-2008**

Children living in households with low or very low food security were significantly more likely to have untreated dental caries (tooth decay or cavities) than children whose households were food secure, according to a study in the *American Journal of Public Health*. The study used data from the National Health and Nutrition Examination Survey (NHANES) and focused on clinical dental caries data from children ages 5 to 17. The authors found a significant negative relationship between socio-economic status (SES) and the presence of untreated caries among children, such that higher SES was related to lower prevalence of caries and, conversely, lower SES was related to higher prevalence of caries.

In addition, low and very low food security both were associated with a higher prevalence of untreated dental caries among children. The authors consider a variety of mechanisms to explain this relationship: inadequate food resources, whether through constrained financial resources or limited access to healthy food, can reduce the nutritional quality of purchased food; eating small amounts of food frequently to stretch food supplies may increase carbohydrate exposure; and, food insecurity could be a sign of social inequality and biological stress, which have been linked to caries. Suggested approaches to reduce the prevalence of untreated caries among vulnerable children include: improving the food environment, ensuring food quality and choice for low-income communities (including through programs like SNAP and WIC), offering nutrition education that targets healthy choices for physical and oral health, and reinforcing preventive oral health behaviors (e.g., dental visits, fluoride use).

Chi DL, Masterson EE, Carle AC, Mancini LA, Coldwell SE. Socioeconomic status, food security, and dental caries in US children: mediation analyses of data from the National Health and Nutrition Examination Survey, 2007-2008. *American Journal of Public Health*. 2014;104(5):860-864.

<http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2013.301699>

### **Relationships between housing and food insecurity, frequent mental distress, and insufficient sleep among adults in 12 US states, 2009**

Both housing insecurity and food insecurity were associated with psychological distress and frequent insufficient sleep among adults, according to a study in *Preventing Chronic Disease*. The researchers analyzed data from 12 states in the 2009 Behavioral Risk Factor Surveillance System. Among the 68,111 respondents, 26.4 percent reported insufficient sleep, 28.5 percent reported housing insecurity, 19.3 percent reported food insecurity, and 10.8 percent reported frequent mental distress.

Frequent insufficient sleep was significantly greater among those who reported housing insecurity or food insecurity than among those who did not, respectively, 37.7 percent versus 21.6 percent and 41.1 percent versus 22.9 percent. Further, frequent mental distress was significantly greater among those reporting housing insecurity (20.1 percent versus 6.8 percent) and food insecurity (23.5 percent versus 7.7 percent) than those who did not. Based on previous findings that insufficient sleep and psychological distress related to housing insecurity and food insecurity are associated with worse mental and physical health, the researchers concluded that potential improvements in housing and access to healthy food may reduce housing insecurity and food insecurity and improve physical and mental health outcomes.

Liu Y, Njai RS, Greenlund KJ, Chapman DP, Croft JB. Relationships between housing and food insecurity, frequent mental distress, and insufficient sleep among adults in 12 US states, 2009. *Preventing Chronic Disease*. 2014;11:130334.

[http://www.cdc.gov/pcd/issues/2014/13\\_0334.htm](http://www.cdc.gov/pcd/issues/2014/13_0334.htm)

### **Effect of food insecurity on chronic kidney disease in lower-income Americans**

Food insecurity is linked with chronic kidney disease among lower-income Americans, especially among those with either diabetes or hypertension, based on findings from a recent study in the *American Journal of Nephrology*. The study used two data sets to examine the link between food insecurity and chronic kidney disease: 1) national data from 9,126 lower-income participants in the National Health and Nutrition Examination Survey (NHANES); and 2) urban data from 1,239 lower-income participants in the Healthy Aging in Neighborhoods of Diversity across the Life Span (HANDLS) study set in Baltimore. In the age-adjusted national analyses, rates of chronic kidney disease were 20.3, 17.6, and 15.7 percent among those who were food insecure, marginally food insecure, and food secure, respectively. After accounting for sociodemographic differences and smoking status, food insecurity was associated with significantly greater odds of chronic kidney disease in the national sample, but only among those lower-income Americans who also had either diabetes or hypertension. A similar, but non-significant, trend was observed among lower-income Americans with either hypertension or obesity in the urban sample. The authors conclude that clinicians could use a simple screening question (e.g., “have you had to skip meals because there wasn’t enough money?”) to identify individuals for further follow-up who may be food insecure and, therefore, possibly at increased risk for chronic kidney disease.

Crews DC, Kuczmarski MF, Grubbs V, et al. Effect of food insecurity on chronic kidney disease in lower-income Americans. *American Journal of Nephrology*. 2014;39:27-35.

<http://www.karger.com/Article/FullText/357595>

### **Coping Strategies**

#### **“You just have to build a bridge and get over it”: low-income African American caregivers’ coping strategies to manage inadequate food supplies**

Low-income African American women caring for small children employ a variety of proactive and reactive strategies when coping with and avoiding food shortages, according to a study published in the *Journal of Poverty*. Of the twelve low-income families who participated in this qualitative study, many reported that at least some of the time they did not have enough to eat. The study focused on four broad categories of coping strategies that the women used when faced with inadequate food supplies: food-provisioning, food-consumption, social-network, and institutional strategies.

All families monitored food prices and sales, and used multiple stores to get the best prices. Ten of the twelve families, including some who reported having no food shortages, were enrolled in SNAP and uniformly spoke positively about the role of SNAP in helping them meet their families’ food needs. However, fluctuations in SNAP benefit amounts (over time due to various SNAP rules and changes in family circumstances) had both a physical toll on the amount of food they could purchase and an impact on the families’ emotional well-being.

Compared to families who did not experience food shortages, families with inadequate food supplies were more likely to report using social-network coping strategies (i.e., asking kin, significant others, friends, and neighbors for assistance) and food-consumption coping strategies (i.e., eating less, stretching leftovers, and rationing). These families also deployed more coping strategies overall – both

proactive and reactive – but despite these efforts still had to manage inadequate food supplies. Families with adequate food supplies, on the other hand, relied more heavily on food-provisioning strategies (i.e., using coupons and buying family packages) as well as institutional strategies (i.e., using SNAP and WIC). They also used social-network strategies, but had economically better-off relatives who could help them without any expectation of reciprocity.

To help families cope with inadequate food supplies, the authors suggested reducing barriers to receiving SNAP and WIC, better publicizing community food resources, and reinforcing proactive nutrition education strategies while teaching key shopping and budgeting skills.

Jarrett RL, Sensoy Bahar O, and Odoms-Young A. “You just have to build a bridge and get over it”: low-income African American caregivers’ coping strategies to manage inadequate food supplies. *Journal of Poverty*. 2014;18:188-219.

[http://www.tandfonline.com/doi/abs/10.1080/10875549.2014.896306?journalCode=wpov20#.U4\\_yl\\_ldWSo](http://www.tandfonline.com/doi/abs/10.1080/10875549.2014.896306?journalCode=wpov20#.U4_yl_ldWSo)

### **Federal Nutrition Programs**

#### **The influence of the WIC food package changes on the retail food environment in New Orleans**

The availability of healthy foods improved in small WIC and non-WIC stores after the introduction of the new WIC food package, according to a study published in the *Journal of Nutrition Education and Behavior*. The study examined 93 small stores in New Orleans, 27 of which were WIC-authorized, before and after the 2009 revision of the WIC food package. Small stores were defined as those stores with less than one million dollars in annual sales. The new food package, among other changes, offers more whole grains, lower fat milks, fruits, and vegetables to program participants. This study examined these food categories in 2009 and 2010 through in-store observations.

Among WIC stores, availability of whole wheat bread and brown rice, and the variety of fresh fruit significantly increased from 2009 to 2010. In that same time frame, fresh fruit and brown rice availability also both significantly increased among non-WIC stores. In statistical models that accounted for store size and neighborhood characteristics, WIC stores were more likely than non-WIC stores to improve the availability of lower fat milks, whole wheat bread, and brown rice after the introduction of the new WIC food package. However, when accounting for these factors, there was no difference between WIC and non-WIC stores in terms of fresh fruit or vegetable availability. WIC stores, on average, also had larger improvements in the number of fresh fruit varieties and in shelf space dedicated to vegetables compared to non-WIC stores in the statistical models. Overall, the wide reach of the WIC program, along with positive effects of the new food package demonstrated here and in other emerging studies, suggests an important role for WIC in improving neighborhood food environments.

Rose D, O'Malley K, Dunaway LF, Bodor JN. The influence of the WIC food package changes on the retail food environment in New Orleans. *Journal of Nutrition Education and Behavior*. 2014;46:S38-S44.

<http://www.jneb.org/article/S1499-4046%2814%2900056-6/abstract>