

Understanding the National, State, and Local Landscape for Food Security

**Child Health Advances Measured in Practice (CHAMP) Learning Session
The University of Vermont Dudley H. Davis Center**

**Kofi Essel, MD, MPH, FAAP
Children's National Health System
The George Washington University School of
Medicine & Health Sciences
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Disclosures

- I have no relevant financial relationships to disclose or conflicts of interest to resolve
- I will discuss no unapproved or off-label pharmaceuticals



- Food insecurity describes “the limited or uncertain availability of nutritionally adequate and safe foods, or limited, or uncertain ability to acquire acceptable foods in socially acceptable ways.”
 - Core Indicators of Nutritional State for Difficult to Sample Populations, 1990
- Food Security is when “all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”
 - World Food Summit, 1996



Minnesota Starvation Study

Dan Miller during the twenty-fourth week of starvation, and during the recovery period. Miller's 24.5 percent weight loss was typical. *Courtesy of Henry Scholberg*



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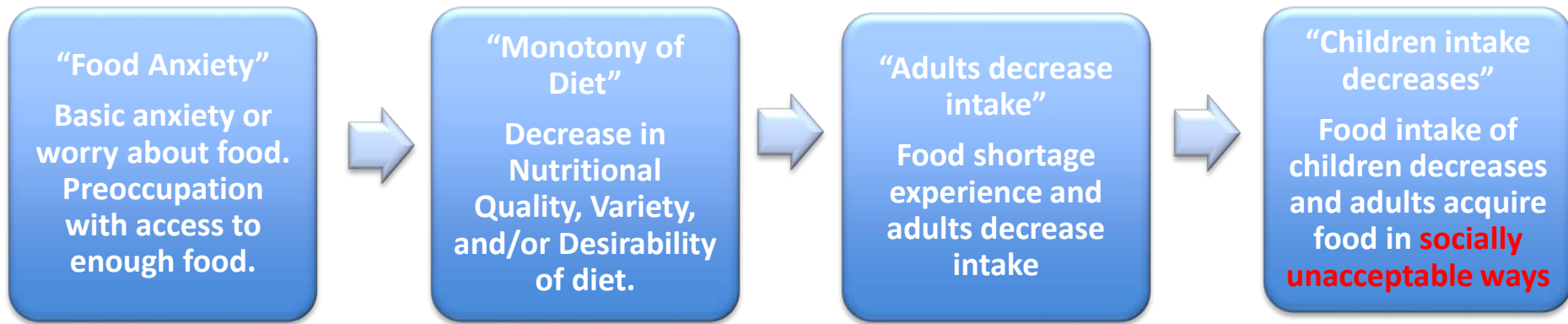
Minnesota Starvation Study

- In the 1940s, Conscientious Objectors of World War II volunteered for a starvation study.
- At the University of Minnesota, group of 36 men starved for 6 months in controlled settings, then refed.

- Increased **obsessions** with food
- Increased **social introversion, irritability, anxiety, anger, and depression**
- **Impaired concentration**, reduced alertness and comprehension, and poor judgment
- Increased **headaches and dizziness**



Lived Experiences of Food Insecure Households



A Conceptual Framework: Cycle of Food Insecurity & Chronic Disease



Households w/Children Coping Strategies:

- Buy inexpensive/unhealthy food (**83.5%**)
- Received help from family/friends (**61%**)
- Buy food dented/damaged packages (**55%**)
- Eaten food past expiration date (**55%**)
- Water down food/drinks to extend (**45%**)
- Sold or pawned personal property (**45%**)
- Grow food in a garden (**26%**)

Hunger in America, 2014

Adapted: Seligman HK, Schillinger D. N Engl J Med. 2010;363:6-9.



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HOW ARE CHILDREN AFFECTED?



- Physical Health Impacts
- Mental Health & Developmental Impacts
- Classroom Impacts



Physical Health Impacts

- **Poorer health** of Children and adolescents as reported by parents
- Lower bone mineral content in adolescent boys
- **Iron deficiency anemia** among young children and adolescents
- More stomach aches, frequent headaches, and colds among children
- Higher hospitalization rates among young children
- Higher numbers of chronic health conditions among children



Mental Health & Developmental Impacts

- Insecure attachment and less advanced mental proficiency in toddlers
- **Higher rates of developmental risk** among young children
- **Behavioral problems** among 3yo children
- Poorer psychosocial function and psychosocial development among school-age children
- Higher rates of **depressive disorder and suicidal symptoms** among adolescents
- More **anxiety and depression** among school-age children



Classroom Impacts

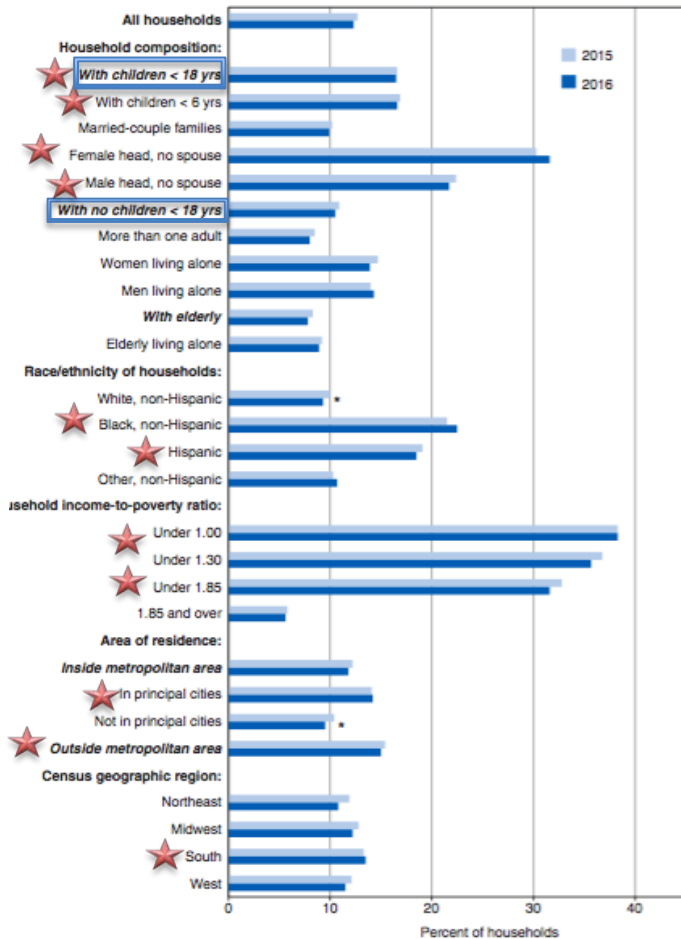
- **Impaired development of non-cognitive abilities** among school-age children
 - Interpersonal relations, self-control
- More “internalizing” behavior problems among children
 - Withdrawal or anxiety
- Lower math achievement and math progress in kindergartners
- **Lower math and reading gains** from kindergarten to third grade
- Lower arithmetic scores and higher likelihood of repeating a grade among children ages 6-11



Highest Risk



Figure 4
Prevalence of food insecurity, 2015 and 2016



*Change from 2015 to 2016 was statistically significant with 90-percent confidence ($t > 1.645$).
Source: USDA, Economic Research Service using data from U.S. Department of Commerce, U.S. Census Bureau, 2015 and 2016 Current Population Survey Food Security Supplement.

Highest Risk



Other High Risk Groups

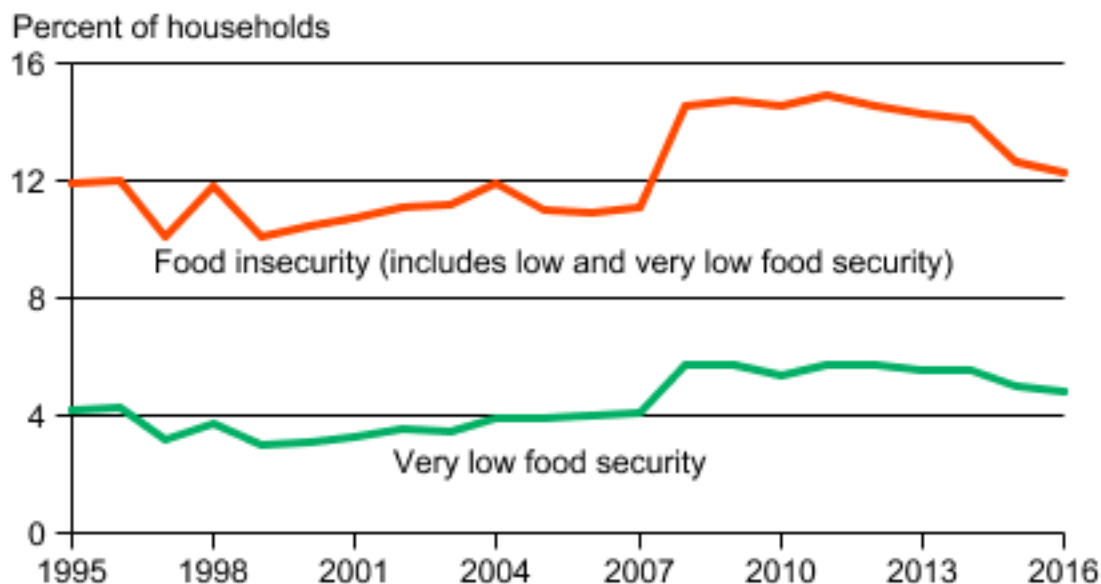
- Children of foreign-born mothers 3x more likely to experience very low food insecurity
- Households where parents use drugs
- Mothers are **moderately-severely depressed**
- Disability among adults
- Household with an incarcerated parent



NATIONAL TRENDS



Trends in prevalence rates of food insecurity and very low food security in U.S. households, 1995-2016

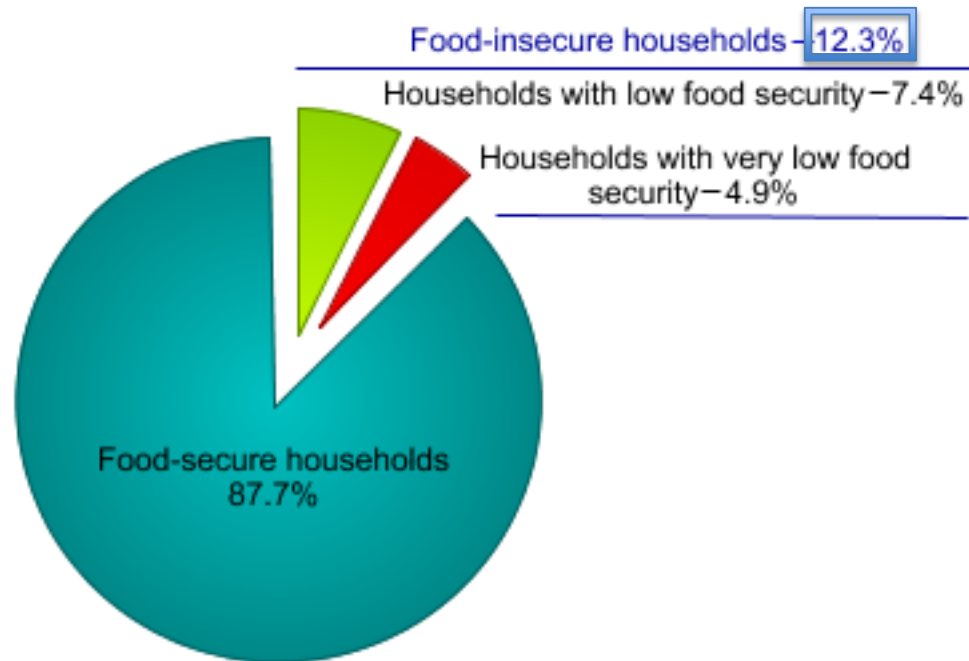


Note: Prevalence rates for 1996 and 1997 were adjusted for the estimated effects of differences in data collection screening protocols used in those years.

Source: USDA, Economic Research Service, using data from Current Population Survey Food Security Supplement.



U.S. households by food security status, 2016

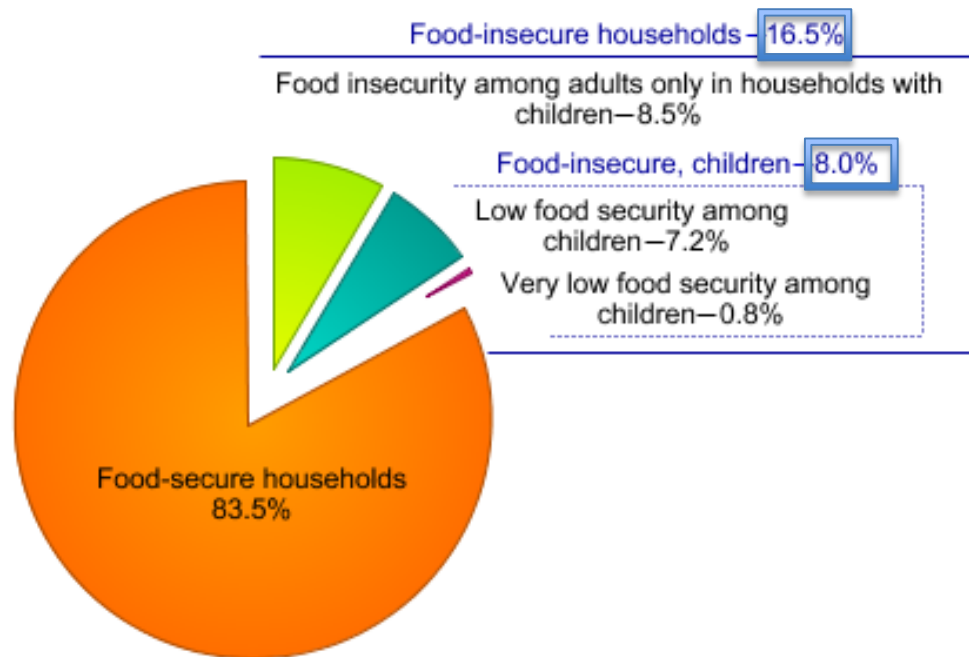


Source: USDA, Economic Research Service, using data from the December 2016 Current Population Survey Food Security Supplement.



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U.S. households with children by food security status of adults and children, 2016



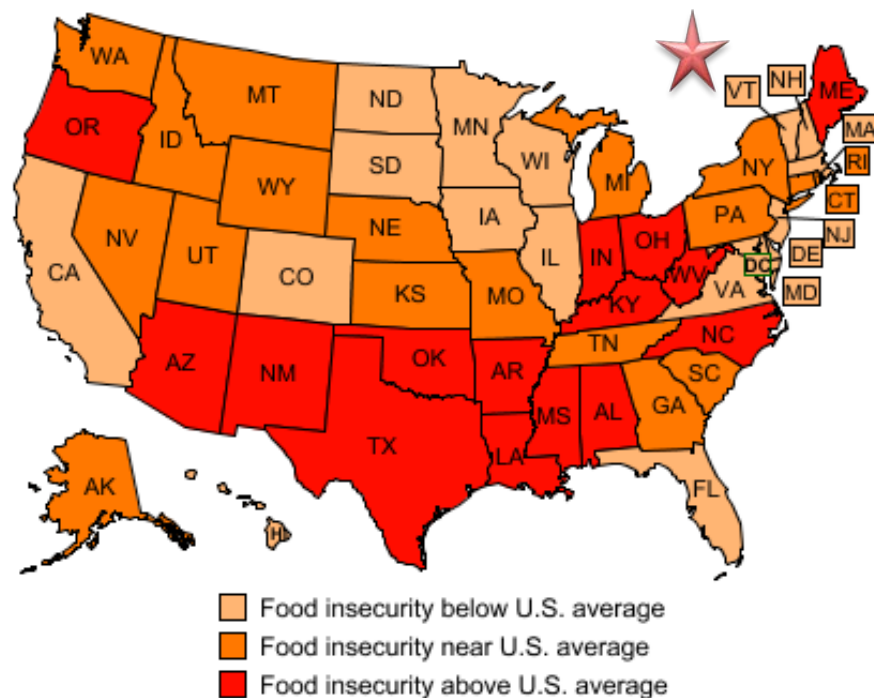
Note: In most instances, when children are food insecure, the adults in the household are also food insecure.

Source: USDA, Economic Research Service, using data from the December 2016 Current Population Survey Food Security Supplement.



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Prevalence of food insecurity, average 2014-16



Source: USDA, Economic Research Service, using data from the December 2014, 2015, and 2016 Current Population Survey Food Security Supplements.



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THANK YOU!



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