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

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Washington, DC
October 5th, 2017
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
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 Schoelberg*
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, than 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**

“Food Anxiety”
Basic anxiety or worry about food. Preoccupation with access to enough food.

“Monotony of Diet”
Decrease in Nutritional Quality, Variety, and/or Desirability of diet.

“Adults decrease intake”
Food shortage experience and adults decrease intake

“Children intake decreases”
Food intake of children decreases and adults acquire food in socially unacceptable ways

Nord, J Hunger Env Nut, 2013; Fram et. al, J Nutrition, 2011; Alaimo, Top Cli Nut, 2005
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
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

Coleman-Jensen, et. al, USDA 2013
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

Coleman-Jensen, et. al, USDA 2013
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

Coleman-Jensen, et. al, USDA 2013
Highest Risk
Figure 4
Prevalence of food insecurity, 2015 and 2016

- All households
- Household composition:
  - With children < 18 yrs
  - With children < 6 yrs
  - Married-couple families
  - Female head, no spouse
  - Male head, no spouse
  - With no children < 18 yrs
  - More than one adult
  - Women living alone
  - Men living alone
  - With elderly
  - Elderly living alone
- Race/Ethnicity of household:
  - White, non-Hispanic
  - Black, non-Hispanic
  - Hispanic
  - Other, non-Hispanic
- Household income-to-poverty ratio:
  - Under 1.00
  - Under 1.30
  - Under 1.85
  - 1.85 and over
- Area of residence:
  - Inside metropolitan area
  - In principal cities
  - Not in principal cities
  - Outside metropolitan area
- Census geographic region:
  - Northeast
  - Midwest
  - South
  - West

Note: Change from 2015 to 2016 was statistically significant with 90% confidence (p < 0.05).
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.

U.S. households by food security status, 2016

- Food-insecure households: 12.3%
- Households with low food security: 7.4%
- Households with very low food security: 4.9%
- Food-secure households: 87.7%

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

- Food-insecure households: 16.5%
  - Food insecurity among adults only in households with children: 8.5%
  - Food-insecure, children: 8.0%
    - Low food security among children: 7.2%
    - Very low food security among children: 0.8%
- Food-secure households: 83.5%

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

Prevalence of food insecurity, average 2014-16

THANK YOU!