Food Insecurity in the US: What is the Health Cost?

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Two Questions

• Does food insecurity impact health in the US?
• If so, what are the economic implications?
• **Food security:** Access by all people at all times to enough food for an active, healthy life

• **Food insecurity:** Household-level economic and social condition of limited or uncertain access to adequate food
12.7% of U.S. Households by Food Insecure, 2016

- **Households with Low Food Security**: 17.5 million adults, 6.5 million kids (7.4%)
- **Households with Very Low Food Security**: 10.8 million adults, 703 thousand kids (4.9%)
- **Food Secure Households**: 87.7%

Source: Calculated by ERS, USDA, using data from the December 2016 Current Population Survey Food Security Supplement
Figure 3
Trends in the prevalence of food insecurity and very low food security in U.S. households, 2001-2016

Percent of households

Food insecurity
(including low and very low food security)

Very low food security

Coping Strategies to *Avoid* Hunger

- Eat low-cost foods
- Eat highly filling foods
- Small variety of foods
- Avoid food waste
- Binge when food is available

- Higher risk of obesity, diabetes, & other chronic disease
- Once chronically ill, poorer ability to manage illness
Does Food Insecurity Impact Health?

Adapted from Seligman and Schillinger, New England Journal of Medicine, 2010.
Food Insecurity is Cyclic & Episodic

- Variation is monthly, seasonal, & random
- Average 7 episodes per year
- Dietary intake fluctuates, particularly among mothers
Compensatory Strategies

Food Shortage
- Skipped meals
- Reduced caloric intake

Food Adequacy
- Avoidance of food waste
- Systematic overconsumption
- Shifts to energy-dense foods

Diabetes as a Model

Food Shortage
- Skipped meals
- Reduced caloric intake

Food Adequacy
- Avoidance of food waste
- Systematic overconsumption
  - Shifts to energy-dense foods

LOW BLOOD SUGAR

HIGH BLOOD SUGAR
Admissions for Low Blood Sugar Increase by 27% in Last Week of the Month for Low-Income Population

Seligman HK et al. Health Aff 2014;33:116-123
Two Questions

• Does food insecurity impact health?
  – Diabetes: high blood sugar, low blood sugar, admissions
  – Obesity, high blood pressure, heart failure, etc.

• If so, what are the economic implications?
Cost of A Health Care Visit for Low Blood Sugar vs. Food

- **Inpatient Admission**: $17,564
- **Emergency Visit**: $1,387
- **Outpatient Visit**: $394
- **Monthly Food Cost (Family of 4)**: $657*  

*Thrifty Food Plan

American Journal of Managed Care, 2011.
Resources for Food Insecure Households

- Federal Nutrition Programs
- Charitable Feeding System
- Informal Social Support
- Personal Income/Budget Shifts
Resources for Food Insecure Households

- Approximately 1 in 7 Americans (46 million people, $70 billion)
- Redeemable in every US county
- Average benefit $1.40/person/meal
- Very effective at reducing food insecurity, but 54% of households still food insecure
Admissions for Low Blood Sugar Increase by 27% in Last Week of the Month for Low-Income Population

Can Snap make a difference?

Seligman HK et al. Health Aff 2014;33:116-123
American Recovery & Reinvestment Act

Average monthly SNAP benefits per person, fiscal 1980–2015

Dollars


SNAP = Supplemental Nutrition Assistance Program.
$54 million averted

Emergency department and inpatient hospitalization costs *only* for commercially-insured adults between the ages of 19 and 64

Food Insecurity & Subsequent Annual Health Care Expenditures

NHIS-MEPS data adjusted for: age, age squared, gender, race/ethnicity, education, income, rural residence, and insurance.

$77.5 billion additional health care expenditures annually

Berkowitz, Seligman, Rigdon, Meigs, and Basu. *JAMA Int Med.* 2017
A SNAP Participant Incurs $1,400 Less for Health Care

Estimated annual per-person health care spending

- Low-income non-participant: $5,831
- SNAP participant: $4,421

Note: Health care spending includes out-of-pocket expenses and costs paid by private and public insurance, including Medicare and Medicaid.

Why Talk About Costs?

• Hunger safety net designed to feed people, *not to save health care costs*
  – Strong incentives for health systems to reduce costs
  – Cost is a “common currency” that may align sectors: tension between traditional role of public health, health care, and social safety net

• Documenting excess health costs may support programs
  – Programs can have an enormous impact
Three Questions

• Does food insecurity impact health?
  – Diabetes: high blood sugar, low blood sugar, admissions
  – Obesity, high blood pressure, heart failure, etc.

• If so, what are the economic implications?
  – Enormous, but we have effective strategies for response
Thank You!