Food Insecurity and Health Outcomes among Multigenerational Households

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Defining Food Insecurity

A household's food insecurity status is based on responses to 18 questions in the Core Food Security Module (CFSM)

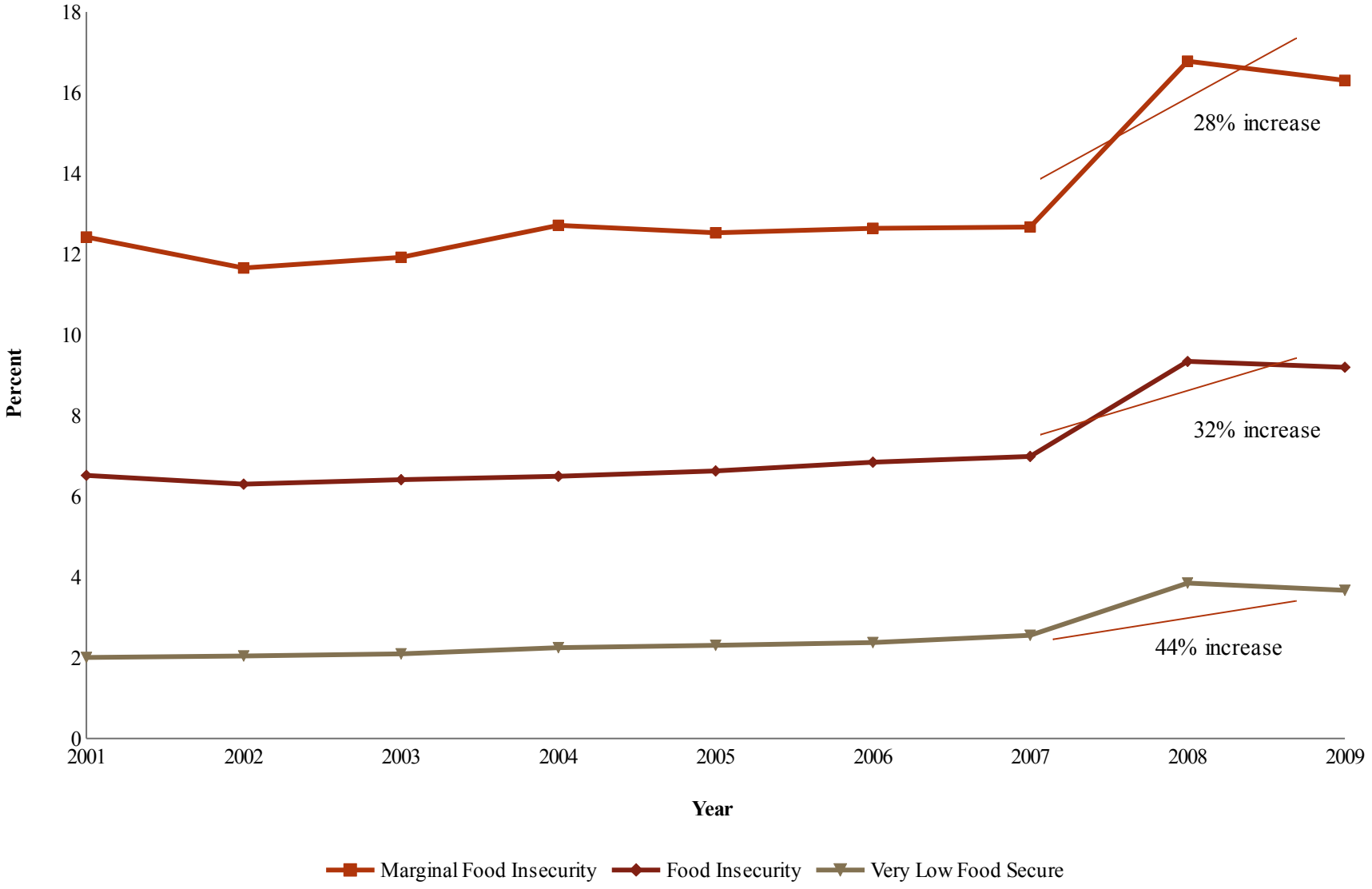
Examples of questions:

- "I worried whether our food would run out before we got money to buy more"
- "Did you or the other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food"
- "Were you ever hungry but did not eat because you couldn't afford enough food"
- "Did a child in the household ever not eat for a full day because you couldn't afford enough food"

Categories

- Food insecure if have 3 or more affirmative responses
- Very low food secure if have 8 or more affirmative responses
  - 6 or more for households without children
- Very low food security among children if have 5 or more affirmative responses to child-specific questions

Food Insecurity Rates for Persons Age 50 and Older



Multivariate Regression Models

Controlling for other factors food insecurity is more likely among older adults

- Living at or below the poverty line
- Without a high school degree
- Who are African-American or Hispanic
- Who are divorced or separated
- Who are younger
  - A 40-44 year old has a risk of marginal food insecurity that is 28 percent higher than a 60-64 year old
  - A senior over age 80 has a risk of marginal food insecurity that is 41 percent lower than for a 60-64 year old
- Who have a grandchild living in the household

Econometric Specification

OUTij = f(FIi, GRi, FIi*GRi , **X**i)

j denotes a health outcome

- nutrient intakes
- diabetes
- general health
- depression
- ADL limitations

i denotes an individual

FI is equal to one if a household is food insecure, zero otherwise

GR is equal to one if a grandchild is present in the household, zero otherwise

X is a set of demographic variables

National Health and Nutrition Examination Survey (NHANES)

- Nationally representative
- Medical information collected by trained personnel
- Full set of questions from CFSM
- 1999-2008
- Used restricted use data set

Table 1. Comparison of Characteristics by Household Type

	Adult and child with 40 year age difference	Adult over age 40 and no children present	Adult and child with 50 year age difference	Adult over age 50 and no children present
Income/Poverty line	2.614	3.198**	2.172	3.149**
Race/ethnicity				
White	0.559	0.769**	0.501	0.795**
Black	0.199	0.098**	0.239	0.09**
Hispanic	0.186	0.087**	0.201	0.071**
Other	0.056	0.046	0.059	0.045
Marital status				
Married	0.625	0.642	0.435	0.637**
Never married	0.046	0.062*	0.046	0.045
Cohabitating	0.046	0.034	0.014	0.025
Separated or divorced	0.154	0.156	0.200	0.139**
Widowed	0.123	0.097	0.302	0.146**
High school graduate	0.664	0.799**	0.52	0.777**

Table 2: Comparison of Health Outcomes by Household Type

	Adult and child with 40 year age difference	Adult over age 40 and no children present	Adult and child with 50 year age difference	Adult over age 50 and no children present
Food Insecure	0.152	0.078**	0.167	0.061**
Diabetic	0.130	0.105*	0.19	0.139**
Self-Reports of General Health				
Excellent	0.093	0.101	0.084	0.097
Excellent or very good	0.326	0.402**	0.248	0.381**
Excellent, very good, or good	0.653	0.727**	0.599	0.710**
At least one ADL limitation	0.372	0.370	0.603	0.476**
Depression	0.050	0.040	0.038	0.040

Table 4: Comparison of Health Outcomes by Household Type for Food Insecure Households

	Adult and child with 40 year age difference	Adult over age 40 and no children present	Adult and child with 50 year age difference	Adult over age 50 and no children present
Food Insecure	1.000	1.000	1.000	1.000
Diabetic	0.169	0.154	0.233	0.224
Self-Reports of General Health				
Excellent	0.03	0.03	0.057	0.023
Excellent or very good	0.129	0.194*	0.138	0.154
Excellent, very good, or good	0.459	0.511	0.441	0.459
At least one ADL limitation	0.525	0.526	0.681	0.676
Depression	0.119	0.15	0.087	0.145*

Table 6: Comparison of Health Outcomes by Food Insecurity Status for Households with Grandchildren

	Food insecure – 40 year age difference	Food secure – 40 year age difference	Food insecure – 50 year age difference	Food secure – 50 year age difference
Diabetic	0.169	0.123*	0.233	0.181**
Self-Reports of General Health				
Excellent	0.03	0.105**	0.057	0.09
Excellent or very good	0.129	0.362**	0.138	0.27**
Excellent, very good, or good	0.459	0.692**	0.441	0.633**
At least one ADL limitation	0.525	0.345**	0.681	0.586**
Depression	0.119	0.038**	0.087	0.029**

Table 8: Effect of Food Insecurity, Grandparent Status, and Other Variables on Health Outcomes, 40 Year Age Gap

	Diabetes	Excellent health	Excellent or very good health	Excellent, very good, or good health	ADL limitations	Depression
Food insecure (FI)	0.092	-0.225	-0.223	-0.281	0.477	0.417
	(0.043)*	(0.076)**	(0.048)**	(0.041)**	(0.040)**	(0.053)**
Grandchild present	0.037	0.025	-0.033	-0.014	0.012	0.067
	(0.042)	(0.059)	(0.043)	(0.04)	(0.038)	(0.065)
FI* Grandchild present	-0.069	0.174	0.02	0.096	-0.204	-0.135
	(0.088)	(0.153)	(0.106)	(0.085)	(0.082)*	(0.114)

Table 10: Effect of Food Insecurity, Grandparent Status, and Other Variables on Health Outcomes, 50 Year Age Gap

	Diabetes	Excellent health	Excellent or very good health	Excellent, very good, or good health	ADL limitations	Depression
Food insecure (FI)	0.075	-0.193	-0.249	-0.252	0.492	0.285
	(0.051)	(0.098)	(0.063)**	(0.052)**	(0.050)**	(0.066)**
Grandchild present	-0.021	-0.01	-0.045	0.025	0.083	-0.143
	(0.056)	(0.091)	(0.063)	(0.056)	(0.052)	(0.096)
FI* Grandchild present	-0.083	0.4	0.199	0.122	-0.326	-0.05
	(0.117)	(0.204)*	(0.149)	(0.120)	(0.116)**	(0.171)

Concluding Remarks

- Inquiries about food insecurity status of seniors are important
  - Could even use a two-item screener
- Promote efforts to decrease food insecurity among seniors
  - Especially SNAP