

## INTRODUCTION

### MOTIVATION

- As a population group, seniors (aged 65+) are becoming more vulnerable, in part due to aging population.
- According to Bureau of Economic Analysis, U.S. seniors' savings rate today is about half of the personal savings rate in 1980s.
- 9% of all U.S. seniors are food insecure.
- What is food insecurity? (National Health Interview Survey)
  - In the last 30 days...
    - Worried about running out of food before having money to buy more
    - Ran out of food before having money to buy more
    - Could not afford to eat balanced meals
    - Cut size or skipped meals due to lack of money
    - Did not eat for a whole day due to lack of
    - Lost weight due to not having money for food
    - Felt hungry but did not eat due to not having money for food
- Food insecurity among U.S. seniors elevates health risks, such as
  - Having a heart attack
  - Developing asthma symptoms
  - Experiencing depression

### PREVIOUS WORK

- Existing research have found that characteristics associated with being food insecure in marginally housed adults include:
  - Low income
  - Being female
  - Having chronic health condition(s)
- Research gaps
  - Examining the association among senior food insecurity and a combination of chronic illnesses and functional activity limitations.
  - Using a rich dataset to account for income, health and health-related characteristics when analyzing senior food insecurity.

## RESEARCH OBJECTIVES

### OBJECTIVE 1

- To examine the role of income (measured by % of federal poverty guidelines) in food insecurity among U.S. seniors.

### OBJECTIVE 2

- To identify demographic, socioeconomic and health-related factors associated with food insecurity among U.S. seniors.

### OBJECTIVE 3

- To assess the association between being food insecure and the role of chronic illness and limitation in activity, while accounting for demographic and socioeconomic factors.

## METHODS

### SAMPLE

- National Health Interview Survey (NHIS), 2011 – 2014
  - 4-year pooled data
- N = 136,618
  - Not including observations with key missing information
  - N<sub>2011</sub> = 32,544
  - N<sub>2012</sub> = 33,961
  - N<sub>2013</sub> = 34,026
  - N<sub>2014</sub> = 36,087

### VARIABLES

Outcome Variable	Explanatory Variable	Control Variables
Food security status <i>0 = food secure</i> <i>1 = food insecure</i>	Poverty status <i>0 = above FPG 200%</i> <i>1 = at or below FPG 200%</i>	Demographics Socioeconomic status Health-related characteristics <ul style="list-style-type: none"> <li>Medicare coverage</li> <li>Weight status</li> <li>Chronic illness</li> <li>Functional limitation</li> </ul>

### ANALYSIS

- Descriptive statistics – weighted
- Logit – weighted

## RESULTS – cont.

### OBJECTIVE 3 – Prevalence of food insecurity in seniors by poverty level

Dependent Variable = Being food insecure	Weighted Estimate	SE	Marginal Effect
At or below 200% FPG	1.082***	0.072	0.0804***
Family size (all members)	0.214***	0.026	0.0185***
Family size (members aged 65+)	-0.699***	0.107	-0.0604***
Female	-0.058	0.065	-0.005
Married	-0.348***	0.099	-0.0295***
Race (reference = white)			
African American	1.040***	0.067	0.1112***
Asian	0.425**	0.147	0.0373**
Multiple Races	0.505*	0.228	0.0455
Hispanic	0.850***	0.079	0.0885***
BA or above	-0.833***	0.098	-0.0629***
Overweight or obese	0.021	0.112	0.0016
Chronic illness (reference = neither diabetes nor hypertension)			
Diabetes only	0.329	0.363	0.0208
Hypertension only	-0.016	0.167	0.0019
Both diabetes and hypertension	0.084	0.235	0.0246*
Having at least 1 functional activity limitation	0.733***	0.115	0.0713***
<i>Interactions</i>			
Overweight or obese + diabetes only	-0.216	0.277	0.0138
Overweight or obese + hypertension only	-0.014	0.144	0.0015
Overweight or obese + diabetes + hypertension	0.076	0.188	0.0271*
Diabetes + functional limitation	0.097	0.35	0.0345
Hypertension + functional limitation	0.104	0.161	0.009
Diabetes + hypertension + functional limitation	0.289	0.211	0.0526***

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

## RESULTS

### OBJECTIVE 1 – Prevalence of food insecurity in seniors by poverty level

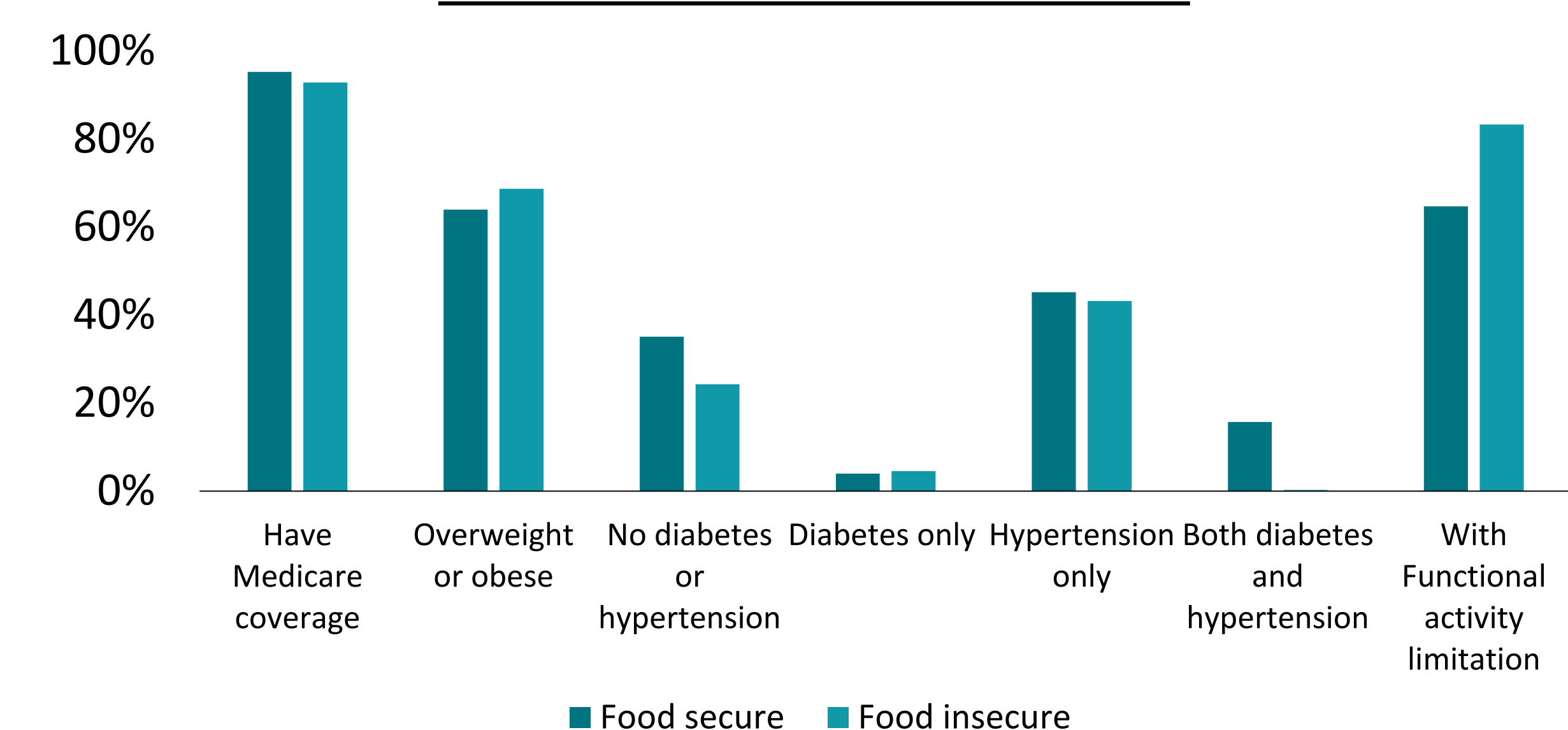
	FPG 200% or below		Above FPG 200%	
	Proportion	SE	Proportion	SE
Food insecure	5.04%	0.16	1.04%	0.066

### OBJECTIVE 2 – Demographic, socioeconomic and health characteristics of U.S. seniors by food security status

#### Demographics and SES Characteristics



#### Health-related Characteristics



## IMPLICATIONS FOR OUTREACH

### VULNERABLE GROUPS AMONG U.S. SENIORS

- Living on low income, with chronic conditions and/or functional limitation

### RECOMMENDATION

- For seniors with chronic conditions and/or functional limitation, clinics that they regularly visit may serve as a contact point for assessing food insecurity and referring seniors to local food resources.