

# **bridging the gap**

Research Informing Policies & Practices  
for Healthy Youth

## Community differences in availability of prepared, ready- to-eat foods in U.S. food stores

Shannon N. Zenk, Lisa M. Powell, Leah Rimkus,  
Zeynep Isgor, Dianne Barker, & Frank Chaloupka

# Presenter Disclosures

Shannon Zenk

**The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:**

No relationships to disclose

# Background

- Foods prepared away from home (FAFH) are a significant part of Americans' diets
- FAFH sources extend beyond restaurants to stores
- Close proximity of FAFH sources may contribute to popularity
- Disadvantaged neighborhoods disproportionately exposed to fast food restaurants and other prepared food sources

# Purpose

As the first nationwide study of prepared food availability in food stores, examine associations between community characteristics and availability of healthier and less healthy prepared, ready-to-eat foods in stores

# Design and Sample

- Two years of cross-sectional, pooled data (2011-2012) from Bridging the Gap Community Obesity Measures Project
- School enrollment zones for nationally representative samples of public high school students
- >6000 food stores in 317 communities in 42 states (analytic sample 5,886 stores)

# Measures: Availability of prepared foods

- Bridging the Gap Food Store Observation Form
- 5 prepared foods
- Healthier:
  - Prepared vegetable salad or salad bar
- Less healthy prepared items:
  - Pizza
  - Hot dog/hamburger
  - Burrito/taquito/taco
- Other:
  - Cold sandwich

# Measures: Store type

- Supermarkets (n=620)
- Grocery stores (n=620)
- “Limited service” stores (n=4646)
  - Convenience stores (61%)
  - Also drug stores, specialty stores, liquor stores, dollar stores

# Measures: Community characteristics

- Racial/ethnic composition (ACS)
  - Majority black
  - Majority Hispanic
  - White
  - Other
- Median household income (tertiles) (ACS)
- Urbanicity (NCES)
  - Urban
  - Suburban
  - Rural



# Methods: Data analysis

- Outcomes dichotomized
- Binary logistic regression
- Each model estimated for full store sample and stratified by store type
- Estimated predicted probabilities calculated for contrasting communities of interest
- Sample weights applied

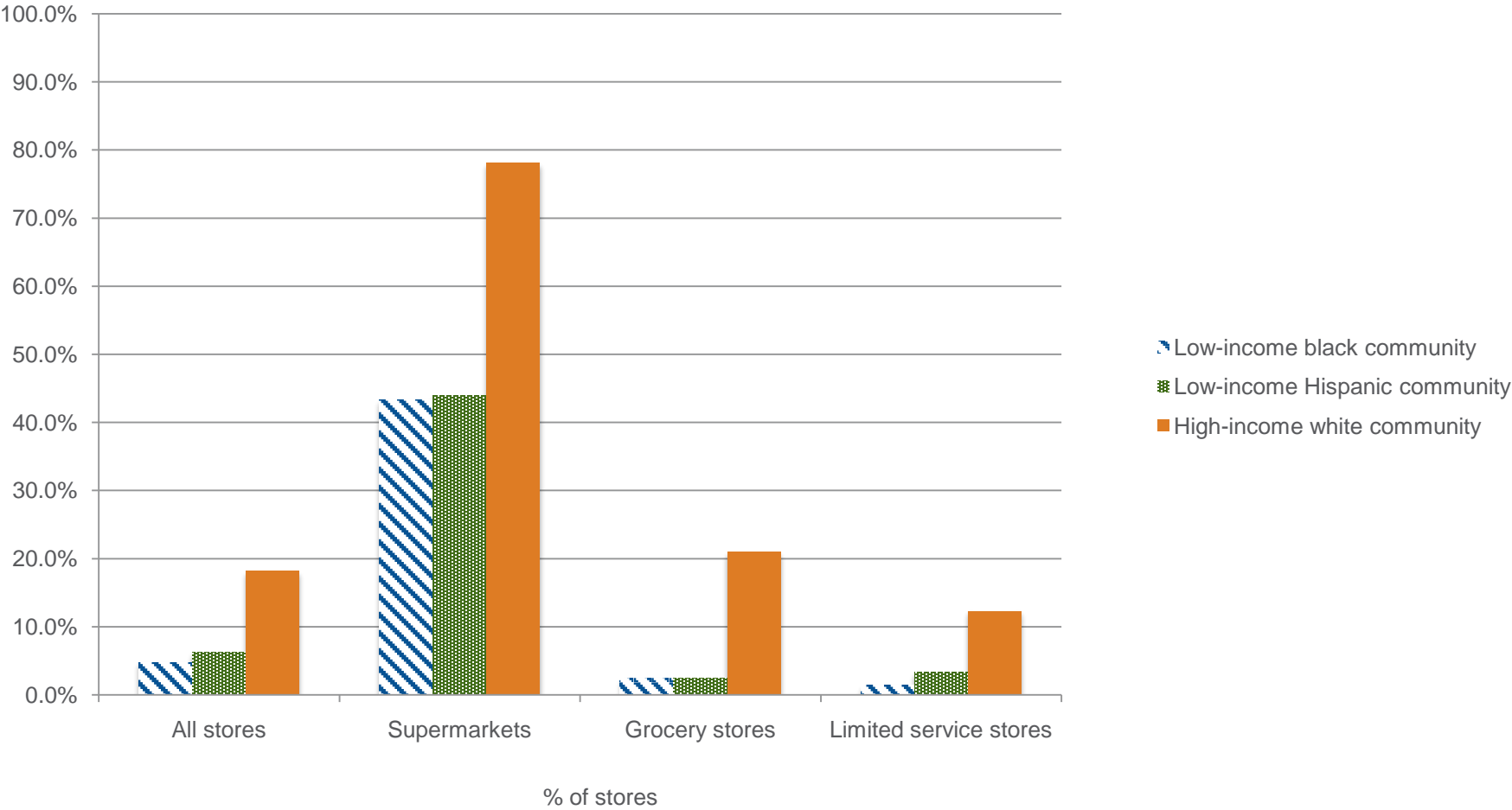
# Prevalence of prepared food in stores, %

	All stores (n=5886)	Super- markets (n=620)	Grocery stores (n=620)	Limited service stores (n=4646)
Any prepared food	48.5	90.1	35.6	45.7
Prepared salads	15.0	74.5	16.2	9.2
Less healthy prepared items	26.6	25.3	17.0	27.6

# Prepared salad availability

- Overall no associations with urbanicity
  - Among supermarkets, odds in a rural community were 0.49 times the odds in a suburban community.
- Overall odds were lower in both black community (OR 0.23) and Hispanic community (OR 0.34)
  - Among supermarkets, odds were 0.29 and 0.30 in black and Hispanic communities, respectively.
- Overall low-income community had 0.58 times the odds of a high-income community
  - Difference only significant for limited service stores

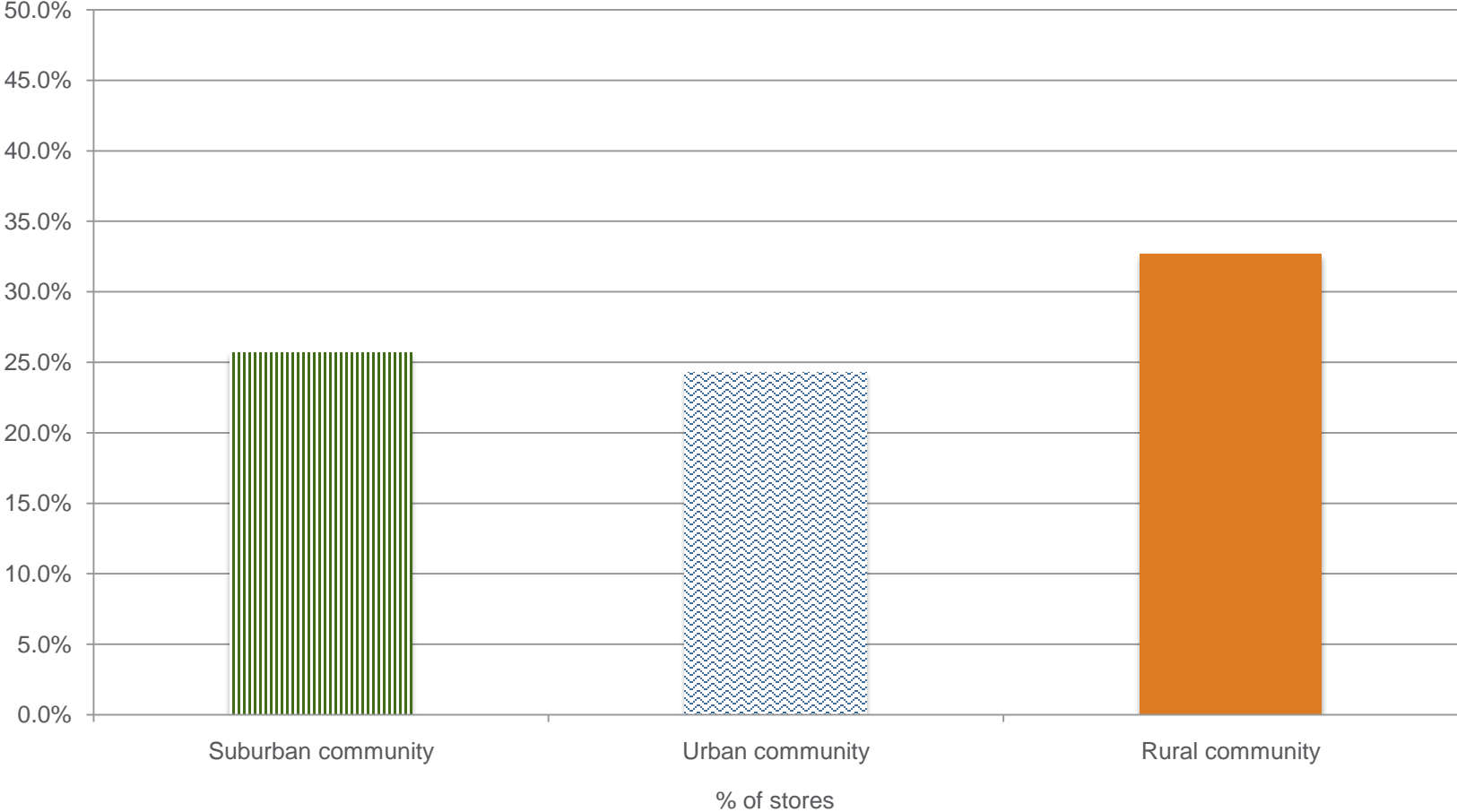
# Predicted probabilities of prepared salad availability



# Less healthy prepared food items

- Overall odds of a rural store were 1.43 times higher than a suburban store.
  - Pattern held when stratified by store type
- Overall odds in black community were 0.47 times the odds of a white community.
  - When stratified by store type, significant for supermarkets (OR 0.04) and limited service stores (0.43)
- Overall no association with community income level
  - Among grocery stores, odds of low-income community were 0.25 times the odds of a high-income community.

# Predicted probabilities of **less healthy item** availability



# Summary

- Nearly half of stores carried at least one of the prepared foods we assessed.
- Rural supermarkets and stores in low-income, minority communities were less likely to offer **prepared salads**.
- **Less healthy prepared food items** were common, particularly in rural communities.

# Implications

- Studies focused on traditional fast food restaurants likely underestimate exposure to prepared, ready-to-eat foods, especially in rural areas.
- Efforts to reduce exposure to unhealthy fast food may have limited success if prepared foods within stores are ignored



# Implications

- Only 9.2% of limited service stores and 16.2% of grocery stores offered **prepared salads**.
- Small and limited service store interventions needed to improve availability of healthier options for prepared foods, in addition to packaged foods

# Implications

- Stores in black communities were less likely to carry prepared foods than those in white communities.
- In black communities, odds for carrying **prepared salads** were generally **half** the odds for carrying **less healthy prepared food item**.

# Limitations

- Small number of items; thus, conservative
- Patterns of community differences may change with inclusion of additional items
- Assumptions about which prepared foods are healthier and less healthy
- Prepared food prices were not measured

# Conclusions

- **Less healthy prepared foods** are commonly available, especially in rural communities.
- Ability to opt for **prepared salads** is limited, especially in rural supermarkets and stores in low-income, minority communities.
- Need to improve healthfulness of prepared food offerings