



How Does Food Insecurity Relate to Food Purchase Behaviors in New Mexico?

Xiaoxue Li, Principal Investigator

Sarah Stith, Principal Investigator

Swarup Paudel, Graduate Research Assistant

Lawrence Rybarcyk, Undergraduate Research Assistant

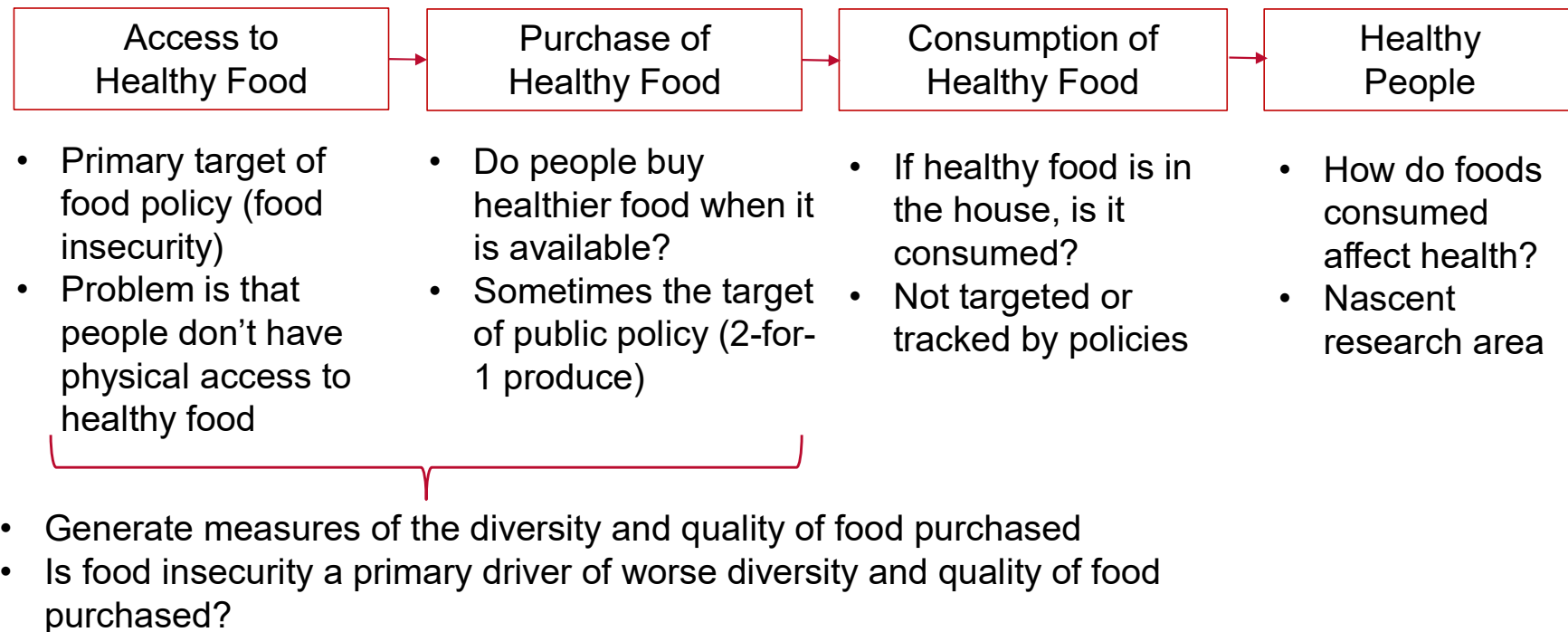
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Healthy Food \Rightarrow Healthy People



Data and Methods

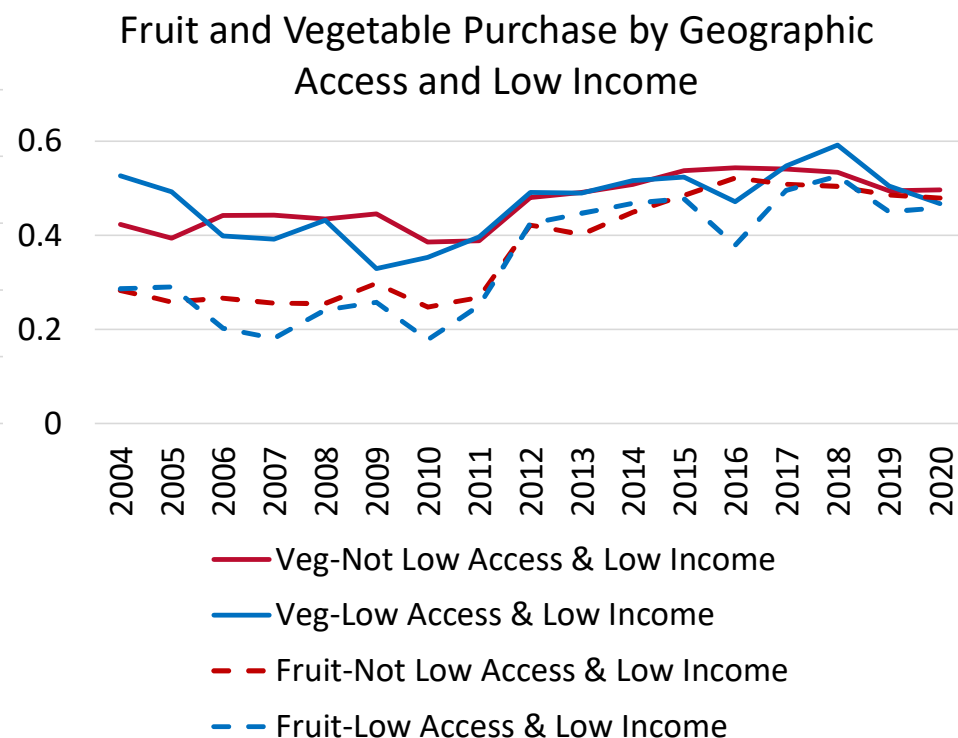
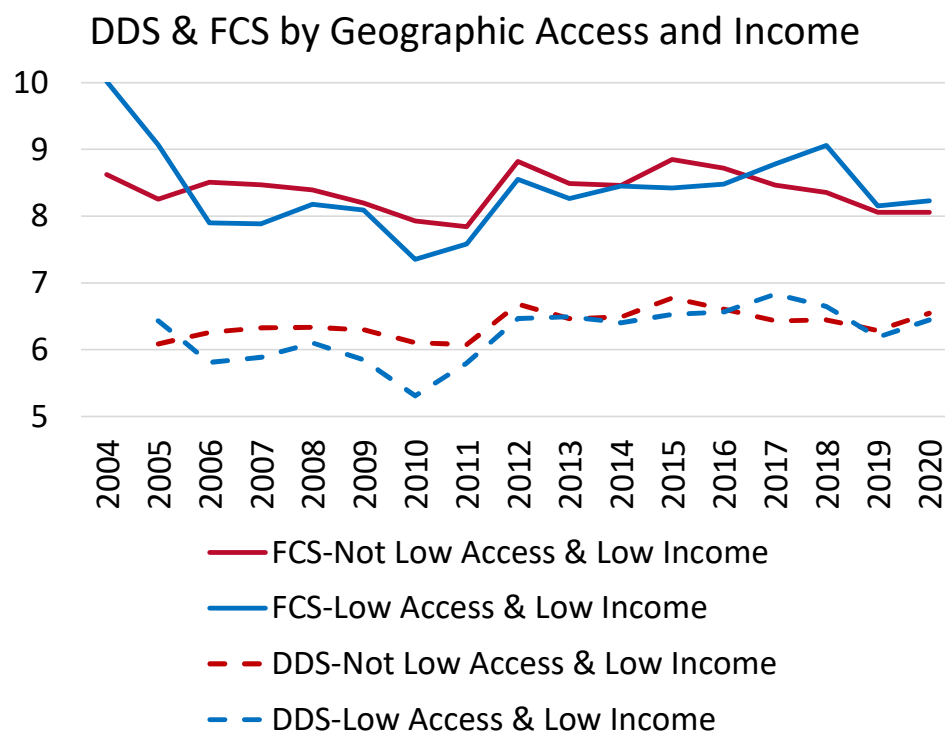
Measures of food insecurity

- USDA Food Access Research Atlas
 - At least 500 or 33% of population $>$ one mile from grocery store in urban areas; ten miles in rural areas
 - 20% poverty rate; median family income \leq 80% of statewide median (metro area)
- USDA Rural-Urban Commuting Area Codes: rural and urban areas

Measuring the quality of food purchased in a week: NielsenIQ Homescan panel data

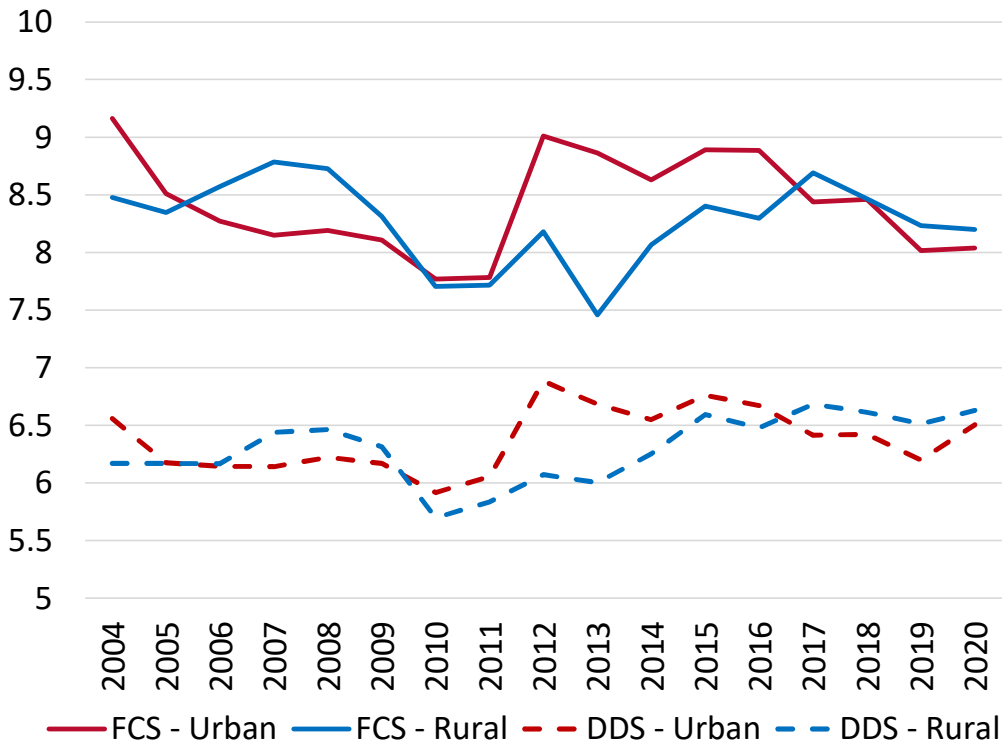
- Dietary Diversity Score (FANTA - USAID): sum across 12 or 14 food groups
- Food Consumption Score (World Food Program): weighted sum across 9 food groups
- Any fruit purchase and any vegetable purchase (fresh, frozen, or canned)
- Sample: 1,100 New Mexico households 2004-2020 \Rightarrow 201,624 household-by-week observations

Food Insecurity = Unhealthy Purchasing?

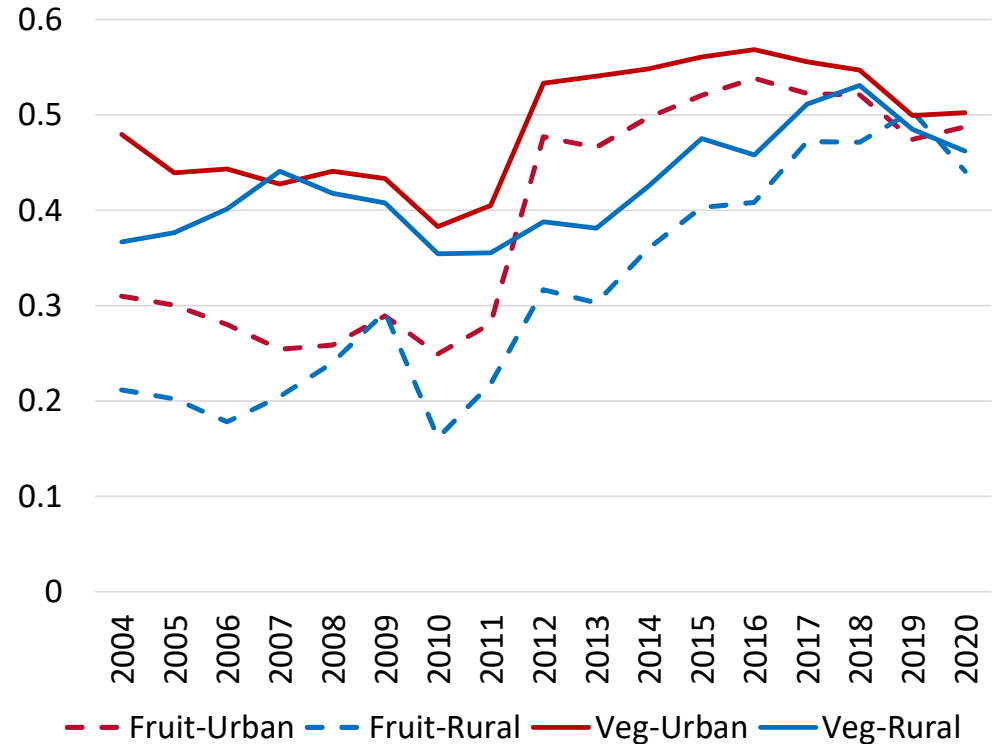


Does Food Insecurity = Unhealthy Purchasing?

FCS & DDS by Urban/Rural Status



Fruit and Vegetable Purchase by Urban/Rural



Regression Results

Results control for month and year, demographics (education, income, hh size, race, child present, female-only hh head, male-only hh head), robust SEs

Living in a “Low Access” food desert

- No statistically significant association with diversity in food purchasing
- Associated with reduced vegetable and fruit purchases

Living in a “Low Access and Low Income” food desert:

- No statistically significant effect on DDS or vegetable and fruit purchases
- Associated with increased FCS

Living in a “Rural” area:

- Associated with reduced diversity in food purchasing (DDS & FCS) and reduced fruit and vegetable purchase

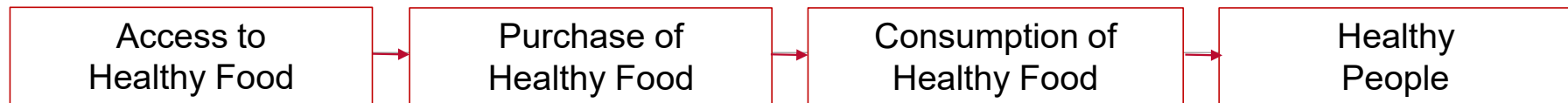
| | DDS | FCS | Vegetables | Fruit |
|---------------------------|----------------------|----------------------|----------------------|----------------------|
| Low Access | 0.031 (0.023) | 0.010 (0.035) | -0.025*** (0.004) | -0.026*** (0.003) |
| R-squared | 0.060 | 0.052 | 0.035 | 0.077 |
| Low Access and Low Income | -0.037 (0.029) | 0.096** (0.044) | 0.008 (0.005) | -0.005 (0.004) |
| R-squared | 0.060 | 0.052 | 0.035 | 0.076 |
| Rural | -0.089*** (0.026) | -0.186*** (0.039) | -0.064*** (0.004) | -0.073*** (0.004) |
| R-squared | 0.060 | 0.053 | 0.038 | 0.081 |
| Variable Mean | 6.43 | 8.51 | 0.51 | 0.43 |
| Observations | 180,054 | 196,044 | 194,023 | 193,958 |

State and month FE, demographic controls (education, income, hh size, race, child present, hh head, robust SEs)

Challenges and/or Caveats

- DDS and FCS measures designed for consumption behavior in developing countries, not purchase behavior in the US
 - Dietary diversity still important in the US
- Weekly measures may not capture longer term purchasing behaviors of more durable foods
 - Future versions will use biweekly measures
- Does food purchase proxy for food consumption?
 - Would a consumer repeated buy food they do not consume?
 - Food purchases brought home omit other food sources, e.g., restaurants, home-grown fruits and vegetables
- Sample who participate in NielsenIQ Homescan data collection may not be representative of those with worst food access, no surveys conducted on tribal lands

Conclusions/ Policy Implications



- Rural/urban stronger determinant of diversity in food purchasing and fruit/vegetable purchase than income- and store-based measures
 - Next Year: What effect do rural transit systems and dollar stores have on food purchase quality in rural NM?
- Policy implications:
 - Targeting food access (increase supply of healthy food available) most common policy approach
 - Increasing food access does not necessarily increase purchase of healthy foods
 - Policymakers should consider measures to increase demand for healthy foods and decrease supply and demand for unhealthy foods
 - School vending machine restrictions, 2-for-1 produce purchases (“Double Up Food Bucks”)
 - April 2024: First USDA limit on added sugars in school breakfasts and lunches
 - Find ways to track consumption, health outcomes

Thanks!
ssstith@unm.edu