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Title: Variation in Food Safety Inspection Associated with Local Health Department and Food Service Establishment Structural, Social, and Demographic Characteristics

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Variation in Food Safety Inspections Associated with Local Health Department and Food Service Establishment Structural, Social, and Demographic Characteristics

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Purpose

To describe variations in food safety inspections based on Local Health Department (LHD) and Food Service Establishment (FSE) structural, social, and demographic characteristics. LHD characteristics include structure, jurisdictional demographics, workforce size, and per capita spending. FSE characteristics include area level poverty, and size and type of establishment.

Background

Using the Foodborne Illness as a public health archetype, the Direct Observation of Local Public Health (DOLPH) study seeks to illuminate the structure, process, and outcome of the local health department (LHD) role in Foodborne Illness prevention, investigation, and intervention. Nationally, Foodborne outbreaks affect roughly 1 in 6 Americans (or 48 million people) each year; 128,000 are hospitalized; 3,000 die. In Ohio, 67 outbreaks reported in 2010 affecting 911 people in 28 of Ohio's 88 counties.

Methods

This comparative case study design utilizes a mixed methods approach, including:

- Direct observation protocol
- Pre and post inspection interviews
- LHD Profile
- RS Profile
- Ohio Annual Financial Report
- American Community Survey

Original data was gathered through direct observation of FSE inspections in 20 LHDs by 78 RS conducting over 520 inspections support by 7 academic public health programs. RS are observed during the conduct of food service establishment inspections, with a structured and validated direct observation protocol completed by trained student observers.

Social demographics used in this analysis:

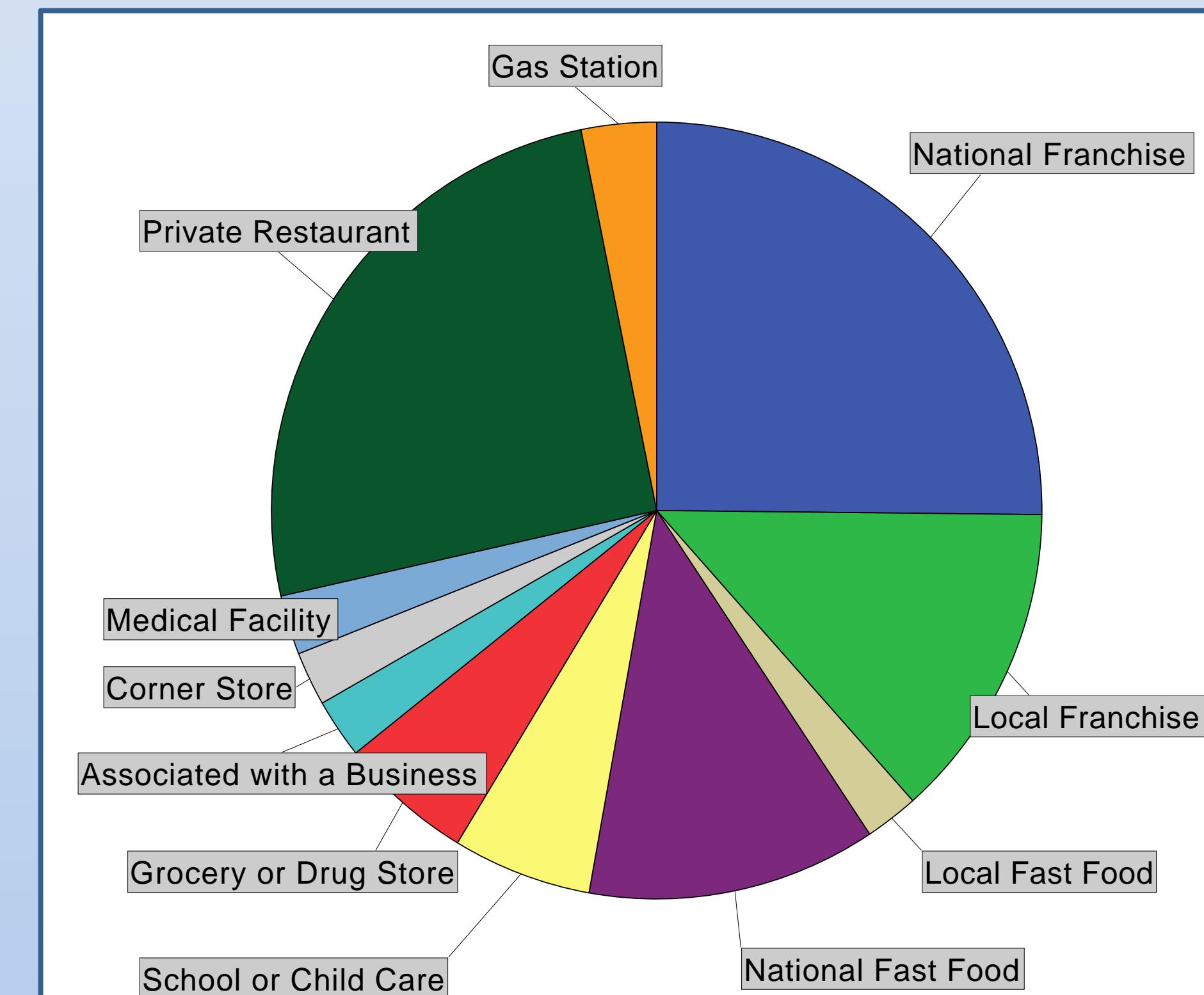
- Female Headed Household
- Residential Mobility
- High School Education or GED Equivalency
- Vacant Housing Units
- Household Access to Vehicle

Results

Inspection Behavior by Female Headed Households*

- RS use of humor
- No shaking hands
- Less food safety education during inspection
- PIC less engaged
- Less improvement planning
- Less food safety education at check out
- Less food safety education
- Concerned about future problems
- More citations
- More critical violations

Type of Food Service Establishment



Inspection Behavior by Residential Mobility*

- PIC expresses uncertainty
- PIC interrupts
- RS interrupts
- RS Jargon
- Fewer questions elicited
- Concerned about future problems
- More citations
- More critical violations

Inspection Behavior by Households Without a Vehicle*

- RS use of humor
- RS interrupts
- Less food safety education during inspection
- Less food safety education at check out
- Interpersonally difficult inspection
- More verbal corrections

* All at P<.05 level

Results

Inspection Behavior by Families Below Poverty Level*

- Lower RS uncertainty
- RS use of humor
- PIC interrupts
- RS interrupts
- No shaking hands
- Less food safety education during inspection
- Less improvement planning
- Less food safety education at check out
- Less food safety education
- Fewer questions elicited
- Interpersonally difficult inspection
- Hand on the doorknob syndrome
- More verbal corrections
- More critical violations

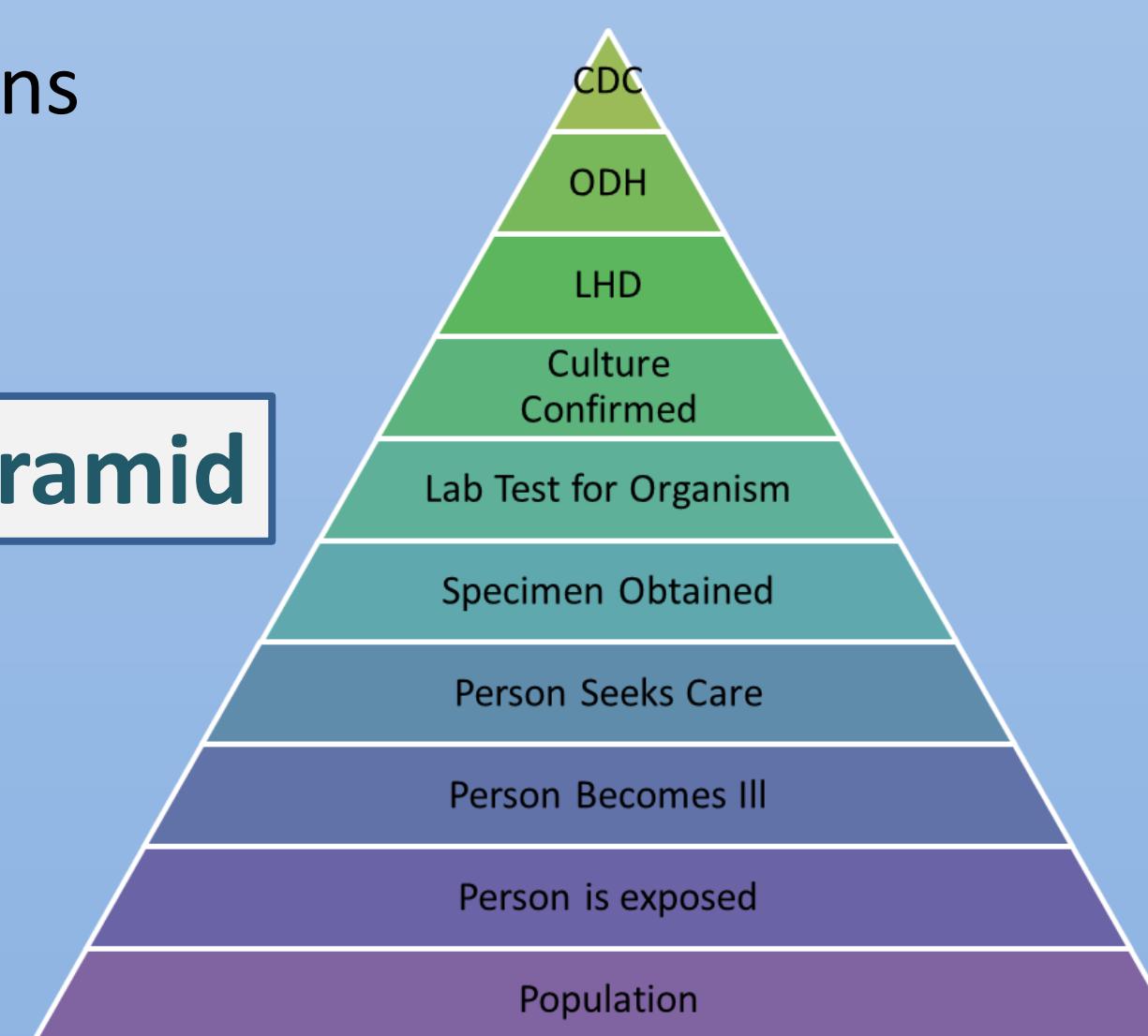
Inspection Behavior by High School Education*

- PIC expresses uncertainty
- RS jargon
- PIC stalls RS
- Less check in time
- Less food safety education during inspection
- Less advice during inspection
- Less improvement planning at check out
- Less food safety education at check out
- Concerned about future problems
- More citations
- More critical violations

DOLPH Data Correlated with Vacant Housing Units*

- RS use of humor
- PIC interrupts
- RS interrupts
- Less food safety education during inspection
- Less food safety education at check out
- PIC less cooperative
- More verbal corrections

Burden of Illness Pyramid



Results

Pertinent Negatives

- PIC humor
- Heart sink inspections
- Observed conflict
- Positive feedback
- Feedback given negatively
- Address by name or title
- Introduces self
- Technically difficult inspection
- RS satisfied with inspection
- Check out time
- PIC/RS Thank you

Discussion

Key Findings

- Its not just what we do that matters, but how we do what we do
- Substantial difference in structure, process and outcomes of food safety inspection based on area level social determinants of health of FSE location
- More problems in disadvantaged neighborhoods noted but less education
- Both PIC and RS behavior is different Less apparent connection between RS and PIC
- Difference present for multiple metrics of disadvantage, most impressive for poverty
- While many inspection behaviors are significantly different in disadvantaged communities, other significant behaviors do not differ

Strengths

- Good inter-rater reliability
- Combine original research with publicly available data
- Decreased error variation

Limitations

- Convenience sample
- Novel methodology for Public Health requires replication
- Student observer influence RS actions (reported at 7%)

Conclusion

While RS generally demonstrate outstanding food safety inspection skill technically and interpersonally, there is a meaningful difference in FSE located in disadvantaged neighborhoods. Efforts are needed to enhance RS cultural competence and confront these differences

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