

***Food Safety Compliance: A Comparison of
New Hampshire Restaurants Based on
Ethnic Cuisine Categorization***

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Background

- U.S. Census Bureau projects growth of minority populations will become majority in 2042
- Ethnic populations in New Hampshire increased 2.1% since 2000
- Food service industry employs highest proportion of foreign-born workers within U.S. industries (8)
- Americans consume average of 4.2 meals per person per week prepared in commercial setting (2)
- Safe food handling practices critical to prevention of foodborne disease transmission

Background (continued)

- In 2008, 52% of confirmed outbreak-related foodborne illnesses reported to CDC occurred from food consumed in restaurant or deli (4)
- 7% increase in foodborne outbreaks associated with ethnic foods between 1990 and 2000 (15)
- Ethnic restaurants cited for more Food Code violations (7, 14)
- Improper temperature control, cross-contamination, and employee hygiene (8)
- Correlate with FDA defined foodborne illness risk factors

Problem Statement

Restaurants that serve ethnic cuisine are increasing in New Hampshire and identification of specific behaviors and practices that are most often out-of-compliance with Food Code requirements will allow food safety professionals to improve the safety of foods prepared and sold at these establishments.

Research Questions

1. What violations are most often cited out-of-compliance in full service restaurants in NH?
2. Are there differences in compliance with the Food Code among restaurant types?
3. How do the cited violations correlate with the CDC-identified foodborne illness risk factors?

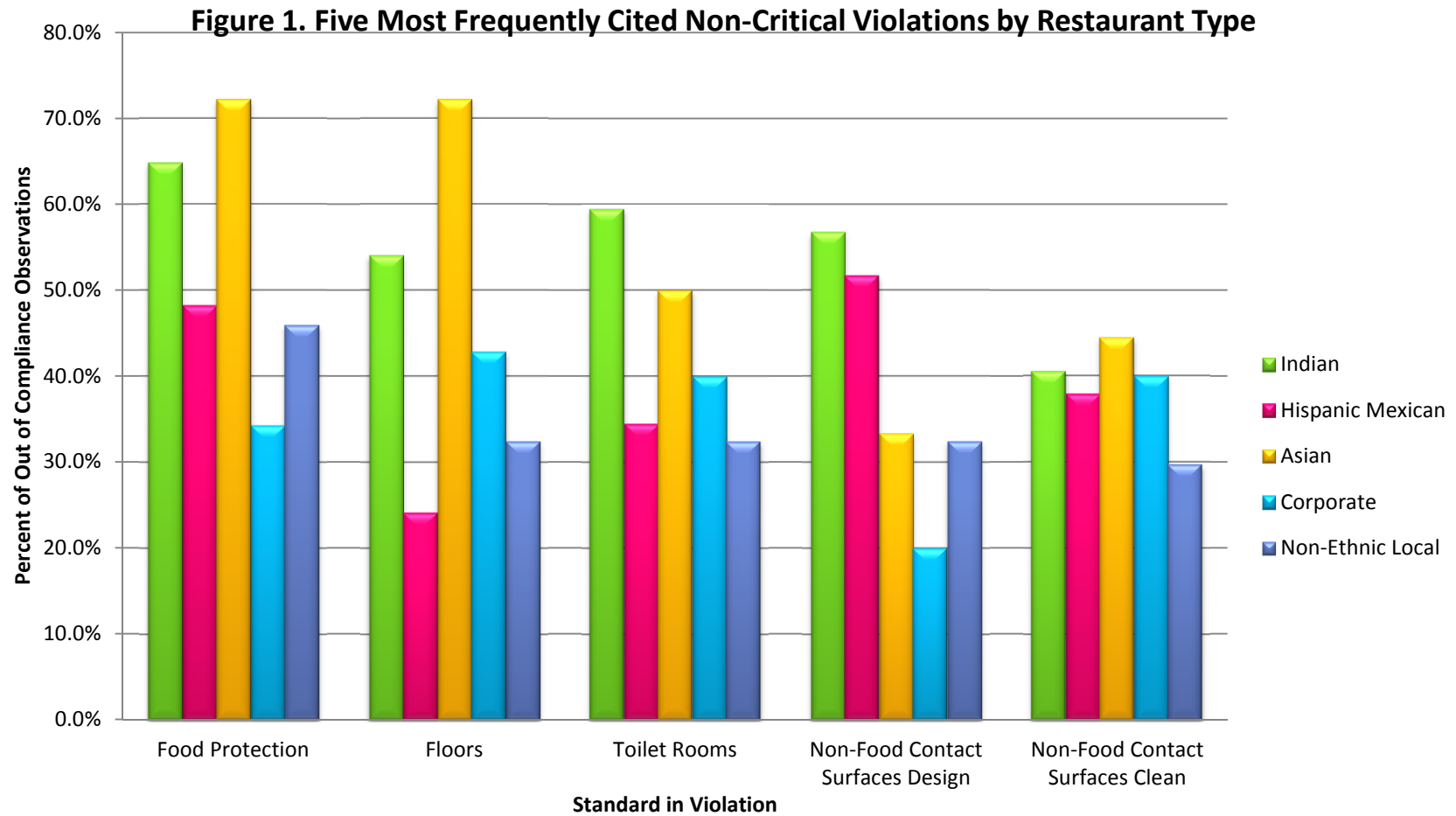
Methodology

- Secondary data analysis conducted using routine state inspection data collected January 2009 – December 2010
- Restaurants randomly selected from jurisdictions across the State (n = 35)
- Inspections performed using standardized forms that included 44 items (standards); 13 items designated as “critical”
- Data analyzed using Microsoft Excel

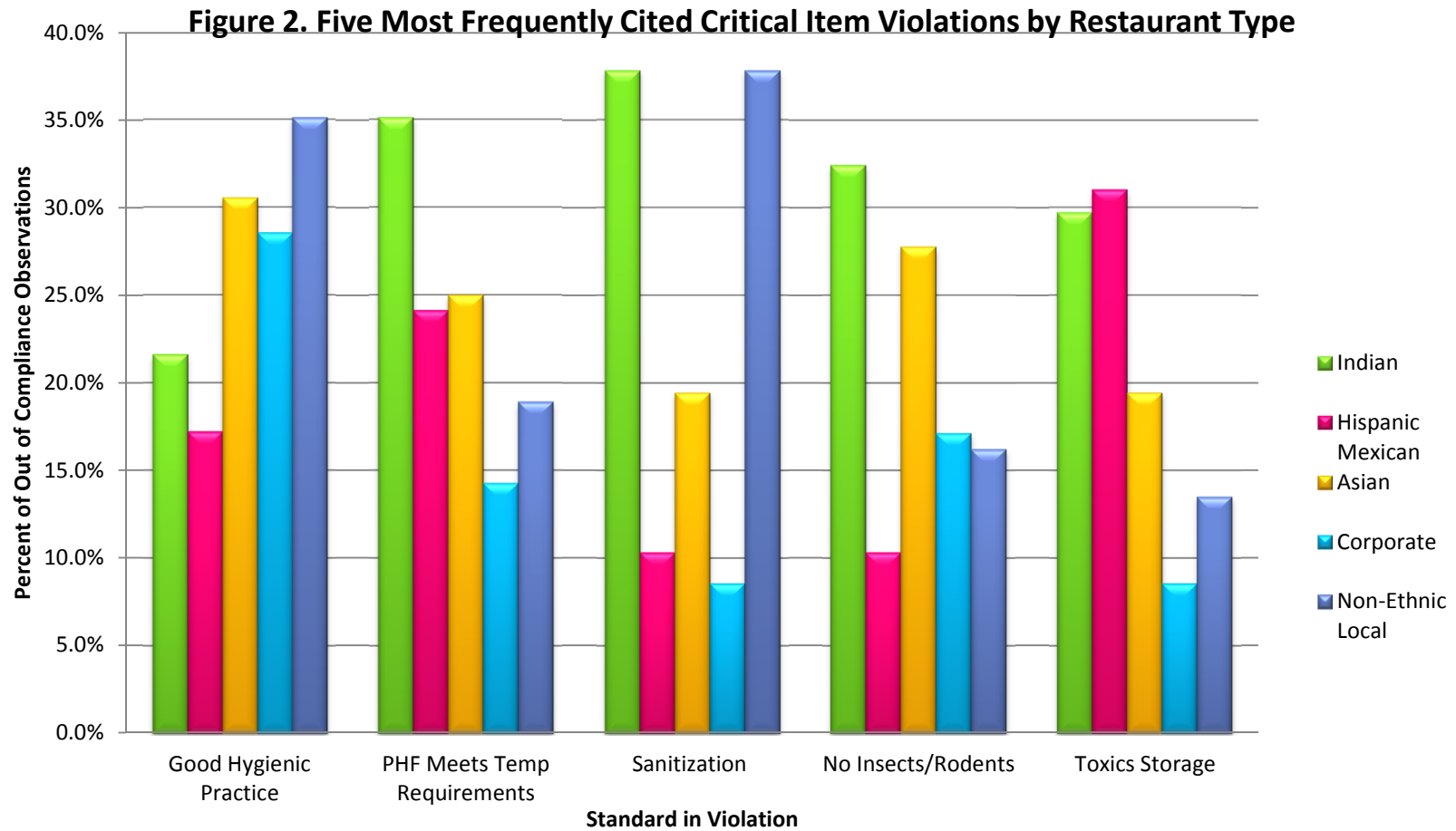
Study Population

- Full service restaurants that prepare and serve potentially hazardous food/drinks on premises and may also include takeout/delivery service
- Divided into 5 categories that represent the major restaurant types found across NH
 - Indian
 - Hispanic/Mexican
 - Asian (Chinese and Japanese only)
 - Corporate (chains/franchises)
 - Non-ethnic local

Results—Q1 and Q2

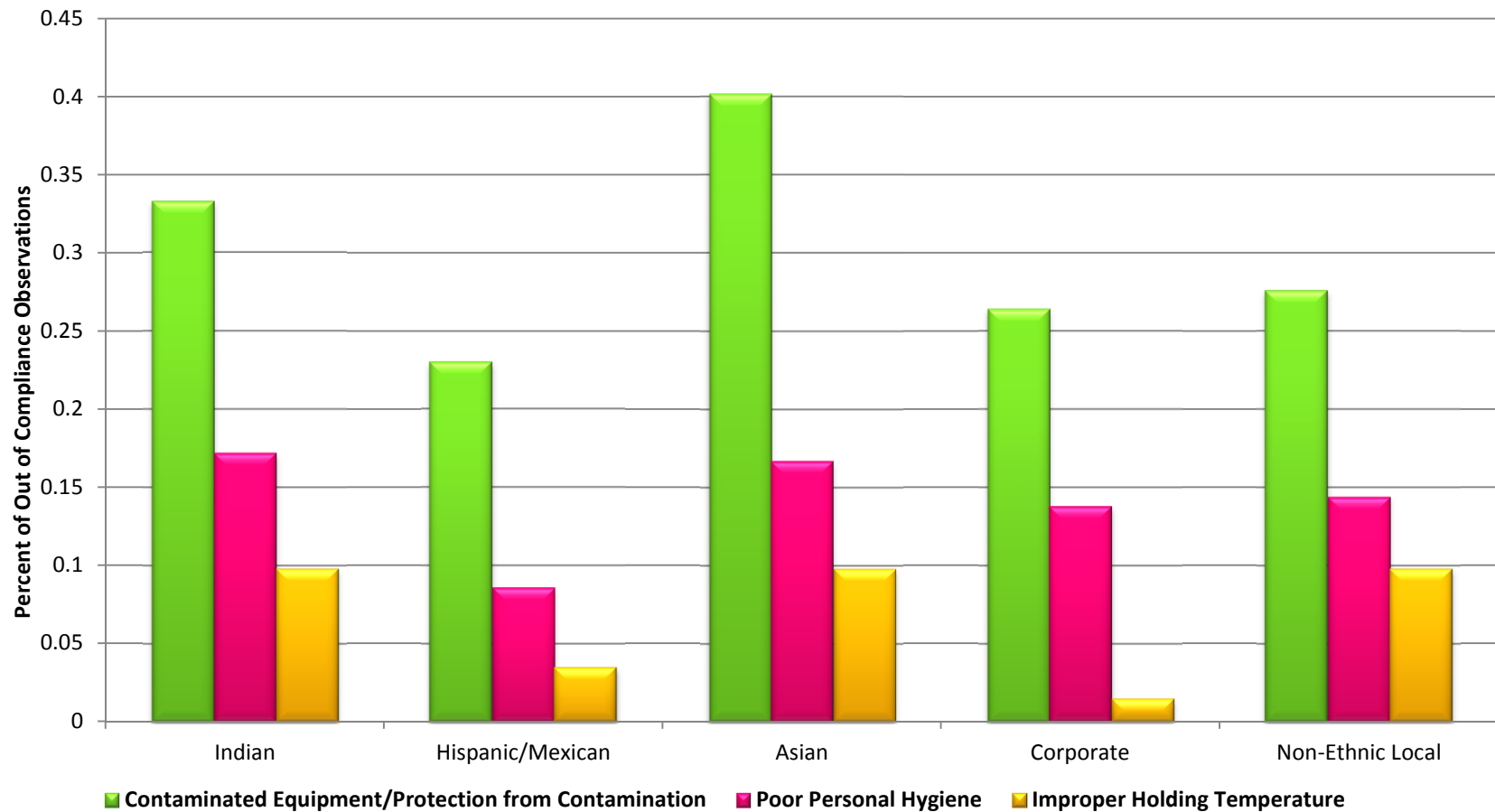


Results—Q1 and Q2 (continued)



Results—Q3

Figure 3. Foodborne Illness Risk Factors by Restaurant Type



Conclusions

- Most common violations cited in ethnic restaurants:
 - Food protection from contamination
 - Poor personal hygiene
 - Improper temperature control
 - Overall operational/sanitization conditions
- Lack of hand washing and good hygienic practice problematic across all restaurant types
- Issues with sanitization observed with equal frequency in Indian and non-ethnic local facilities
- When correlated with foodborne illness risk factors, issues with contamination cited with greater frequency regardless of ethnic preference

Recommendations

- Educate restaurant owners/managers of importance of food safety training for all employees.
- Encourage food service worker attendance at food safety education workshops.
- Develop repository of food safety training resources in languages other than English for use state-wide by regulatory agents and food service workers to support educational efforts and increase workers' understanding of the need for it.

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Questions?

