

EXECUTIVE SUMMARY

Wake County 2020 Risk Factor Study: *Report on the Occurrence of Foodborne Illness Risk Factors*

I. Background

Wake County Government's Food Lodging sections (FL) protect the public health through the enforcement of North Carolina's rules and regulations enacted for safe and sanitary construction and operation of regulated food service establishments. There are more than 3,700 regulated food service establishments currently operating in Wake County, an increase of 33% since 2010.

In 2010, as part of the Program Standards, Wake County completed an initial study to assess the frequency of foodborne illness risk factors in food service establishments. The survey identified risk factors based on the most recent FDA Food Code at the time. The 2010 survey provided the baseline assessment of the occurrence of foodborne illness risk factors in the County's regulated food service establishments. Wake County staff completed similar studies in 2015 and 2020 to provide a comparison of foodborne illness risk factors and to measure the effectiveness of their intervention strategies over the period.

I. FDA Voluntary Food Regulatory Program Standards

In Wake County, the regulation of food service establishments is based on the North Carolina Rules for Food Service Establishments. In 2012, the State of North Carolina adopted a food code based on the 2009 FDA Food Code. Wake County Government's Food Lodging sections enrolled in the FDA Voluntary Food Regulatory Program Standards (Program Standards) in 2008. The goal of the Program Standards is to reduce risk factors associated with foodborne illness, and to provide a national benchmark for:

- Retail food program managers to evaluate their own programs; and
- Regulatory agencies to improve and build upon existing programs.

II. 2020 Risk Factor Study

The 2020 risk factor study evaluated 465 randomly selected food service establishments representing nine different types of facilities. The survey focused on food preparation practices and employee behaviors most frequently reported to the Centers for Disease Control and Prevention (CDC) as contributing to foodborne illness outbreaks. The contributing risk factors are:

- Food from unsafe sources
- Inadequate cooking
- Improper holding/time and temperature
- Contaminated equipment/prevention of contamination
- Poor personal hygiene

During the study, Wake County staff talked with managers and made 9,786 observations of practices at 465 kitchen facilities. For each of the nine facility types, evaluators evaluated compliance with the 2013 FDA Food Code.

III. Survey Findings

The 2020 Wake County risk factor survey identified that overall, the percentage of IN compliance observations in five risk factor categories improved from the 2010 baseline risk factor study as shown in the chart below.

Risk Factors IN compliance	AVERAGE		
	2010	2015	2020
Food Source	95%	96%	98%
Inadequate Cooking	91%	94%	95%
Improper Holding	57%	65%	75%
Contamination	87%	88%	86%
Personal Hygiene	82%	90%	92%
Other items of interest			
Certified Food Protection Manager Present	42%	72%	64%
Employee Health Policy	10%	17%	66%
Food Allergy Awareness	NA	NA	18%

*Employee Health Policy compliance improved from 2010 to 2015 (10% to 64%) based on the 2009 Code; however, when compared with the 2017 Code, there was only 17% compliance (non-typhoidal Salmonella)

Overall, compliance has improved since 2010 in most CDC risk factor categories. From 2010 to 2015, we saw more facilities complying with the requirement to have a Certified Food Protection Manager (CFPM) present; however, the rate of compliance fell in 2020. This could be attributed to the relaxation of the CFPM requirement during the COVID-19 pandemic. Although presence of CFPMs and compliance with employee health policy are not risk factors, compliance with these items of interest may attribute to overall improvement in the CDC risk factors.

In 2020, the most commonly observed OUT of compliance risk factors were:

- Improper Holding (25% out of compliance)
- Protection from Contamination (14% out of compliance)

For the improper holding risk factor category, the most common individual OUT of compliance survey items were:

- Time as Public Health Control (Item 9d) (45% out of compliance)
- Improper cold holding of potentially hazardous food (Item 7a) (36% out of compliance)

Based on the survey findings the following individual items, within a risk factor category, should be targeted for priority education and outreach:

Individual Data Item from survey	Risk Factor Category	Percent OUT of compliance with 2009 Food Code
Time as Public Health Control (Item 9d)	Improper Holding	45%
Cold Hold (41°F) (item 7a)	Improper Holding	36%
Hot and Cold Holding (Item 8b)	Improper Holding	33%
Food contact surfaces (item 11a)	Contamination	28%

Food allergen awareness and education were introduced to the 2017 FDA Food Code; however this regulation has not been added in the North Carolina code. As expected, the study found very low compliance with food allergy awareness with 82% of observations for awareness being OUT of compliance.

V. Recommendations

The common goal of industry and regulatory agencies is to protect public health by reducing or eliminating risk factors that contribute to foodborne illness. The study indicates there has been significant improvement over the ten-year period in most risk categories and shows that improper holding remains the most concerning risk factor. Wake County should use the study to develop interventions that address priority OUT of compliance categories and the following specific items:

- Cold Holding – Continue to focus on cold holding compliance, particularly in the restaurant sector (full service and fast food facilities.) Develop print materials to distribute at routine inspections. Provide temperature measuring devices to distribute to facilities.

- Time as a Public Health Control (TPHC) should be considered in situations that could effectively eliminate cold holding non-compliance. Educate staff to use the NC Code Enforcement Strategies Manual which has the tools for TPHC and risk control plans.
- Employee Health Policy – Develop programming to address compliance with Employee Health Policy, especially in the retail sector (delis, meat markets, seafood markets and produce departments.) Distribute employee health materials periodically.
- Food Allergen Awareness and Training – Develop educational materials that support Wake County operators and consumers. Distribute materials to operators.

The County's active participation in the FDA's Program Standards will provide guidance for identifying risk factors that should be given priority for inspection, education, and enforcement. To keep up with the latest science and public health interventions, Wake County should advocate for food policies that are current with the latest FDA Food Code.