

**Wake County 2010 Baseline Survey:**  
***Report on the Occurrence of Foodborne Illness Risk Factors***

**I. Background**

Wake County Government's Food Lodging Institution Section protects the public health through the enforcement of State rules and regulations enacted for safe and sanitary construction and operation of regulated food service establishments. Nearly 3,000 regulated food service establishments currently operate in Wake County, increasing by 12% since 2007.<sup>1</sup> These facilities generate approximately \$140 million in food and beverage sales each month.

***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. North Carolina rules are based on previous versions of the U.S. Food and Drug Administration (FDA) Food Code, although North Carolina has not adopted the Food Code. However, the State of North Carolina has proposed to regulate food service establishments based on the 2009 FDA Food Code by reference with subsequent amendments starting in 2012.

In anticipation of this possible regulatory change Wake County Government's Food Lodging Institution Section enrolled in the FDA Voluntary Food Regulatory Program Standards (Program Standards) in 2008<sup>2</sup>. The purpose of the Program Standards is 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.

In 2010, as part of the Program Standards, Wake County completed a survey to assess the frequency of foodborne illness risk factors in food service establishments. The survey identified risk factors based on the 2009 FDA Food Code, and provides a baseline assessment of the occurrence of foodborne illness risk factors in the County's regulated food service establishments. The survey serves two purposes:

1. To identify risk factors in priority order and develop strategies to reduce their occurrence.
2. To evaluate trends over time to determine whether progress is being made toward reducing the occurrence of foodborne illness risk factors.

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<sup>1</sup> Facility count includes: restaurants, food stands, mobile food units, pushcarts, private/public school lunchrooms, elderly nutrition sites, limited food services, and nursing home kitchens.

<sup>2</sup> <http://www.fda.gov/Food/FoodSafety/RetailFoodProtection/ProgramStandards/>

With this information, the County will direct attention to the risk factors that are most frequently observed in food service establishments, and implement programs to reduce or eliminate the frequency of the risk factors.

## **II. Baseline Survey Approach**

The baseline survey evaluated 458 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

To assess risk factors, Wake County staff used a combination of direct observations at each restaurant and responses from restaurant management and food preparation staff. For each of the nine facility types, the number of items recorded as non-compliant with the current FDA Food Code was recorded. Each facility type's priority risk factors (those OUT of compliance) are reported in Section III of the report.

## **III. Survey Findings**

The findings of the baseline survey of risk factors in Wake County establishments were found to be similar to the findings of previous national FDA risk factor studies<sup>3</sup>. The 2010 Wake County baseline survey identified the following risk factors as the most commonly observed that were OUT of compliance:

- Improper holding/time and temperature
- Poor personal hygiene

Section III of the report identifies specific risk factors by facility type that need priority attention. Currently North Carolina food rules do not identify cold holding, datemarking, and employee health policy as it is identified in the 2009 FDA Food Code.

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<http://www.fda.gov/Food/FoodSafety/RetailFoodProtection/FoodborneIllnessandRiskFactorReduction/RetailFoodRiskFactorStudies/default.htm>

**Improper holding/time and temperature** was the risk factor found to be most often out of compliance. The highest percentage of OUT of compliance values were most commonly associated with:

- Improper cold holding of potentially hazardous food (PHF) (Item 8a) and
- Inadequate date marking of refrigerated ready-to-eat PHF (Items 10a, 10b, and 10c).

**Poor personal hygiene** was the risk factor with the second highest incidence of OUT of compliance values. The OUT of compliance values were most commonly associated with:

- Non-compliant employee health policy (Item 17a) and
- Improper handwashing (Item 13a).

Based on the baseline survey findings the following risk factors should be targeted for priority education and outreach:

Individual Data Item from the baseline survey	Risk Factor Category	Percent OUT of compliance with 2009 Food Code
Employee health policy	Poor personal hygiene	90% (item 17a)
Datemarking ready-to-eat PHF	Improper holding/time and temperature	42% (item 10a) 56% (item 10b) 56% (item 10c)
Cold Holding at 41°F	Improper holding/time and temperature	52% (item 9a)
Proper cooling procedure for cooked foods	Improper holding/time and temperature	35% (item 7a)

The survey also collected data on certified food protection managers in Wake County, using North Carolina criteria. This data has not been analyzed at this time. The data are available for future analysis to compare the effectiveness of onsite certified food protection managers in reducing or eliminating risks factors that contribute to foodborne illness.

The detailed findings of the survey are presented in Section III of this report.

#### **IV. Recommendations**

The results of the 2010 baseline survey indicate that many of the risk factors observed in Wake county food service establishments are not currently regulated by the North Carolina rules. The North Carolina Department of Environment and Natural Resources has been working with stakeholders to adopt the 2009 Food Code by reference with subsequent amendments to better address risk factors identified as OUT of compliance and to remain current with national food protection standards. The State's current plan is to adopt the Food Code effective July 2012.

Moving forward, Wake County staff recommends that food service operators in the county ensure that they have active managerial control over the risk factors that contribute to foodborne illness outbreaks. In addition, Wake County recommends that staff ensures that their inspections, education and enforcement activities are targeted toward the reduction and elimination of risk factors that contribute to foodborne illness. Continued participation in FDA's Program Standards will provide guidance for identifying those risk factors that should be given priority for inspection, education and enforcement.

The common goal for industry and regulatory agencies is to protect public health by reducing or eliminating risk factors that contribute to foodborne illness.