B. Institutional Food Service-Nursing Homes

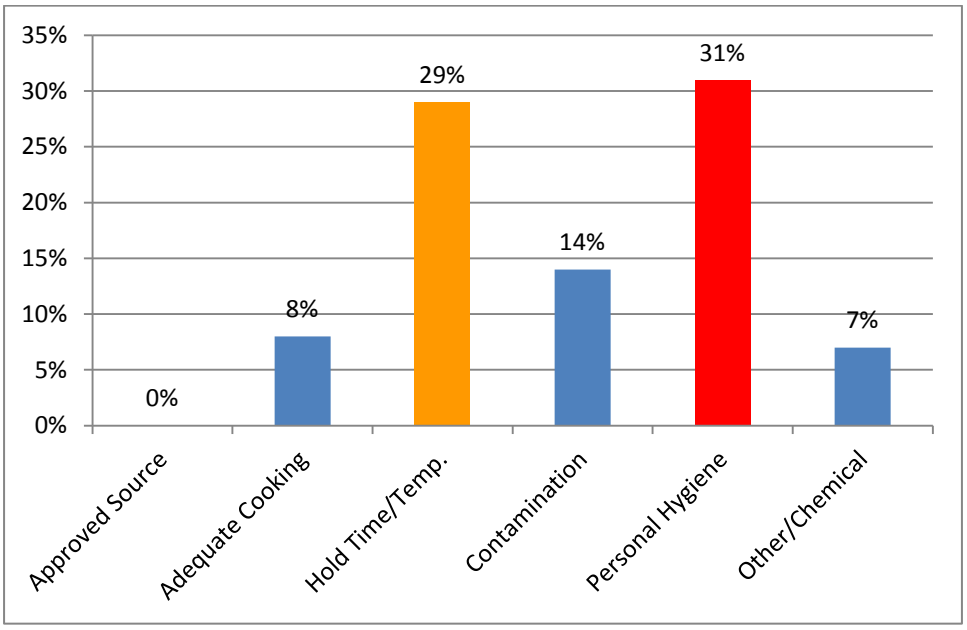
Introduction

For the 2010 Wake County baseline survey, 33 nursing home kitchens were surveyed. For the 46 possible individual data items on the survey instrument 807 observations were made at the 33 nursing home kitchens. See Appendix B for complete data related to nursing homes.

Certified food protection managers (55%): For this survey, a certified food protection manager had to be present, and possess a State-approved course certificate, in order to be marked IN compliance. A certified food protection manager was present at 18 of the 33 facilities (55% IN compliance).

Results and Discussion

Table NH-1: The following diagram represents OUT of compliance risk factors by category as a percentage of total observations.



The same data is shown in the table below with the actual number of OUT of compliance observations relative to the total number of observations (IN and OUT).

Foodborne Illness Risk Factor Risk Factor OUT of compliance:	Nursing Home Cafeterias		
	% OUT	# OUT observations	Total Observations
Food from Unsafe Source	0%	0	66
Inadequate Cooking	8%	11	140
Improper Holding/Time-Temperature	**29%**	**54**	**189**
Contaminated Equipment/Contamination	14%	23	162
Poor Personal Hygiene	**31%**	**60**	**194**
Other/Chemical	7%	4	56
Totals	19%	152	807

The foodborne illness risk factors needing priority attention are:

- Poor Personal Hygiene (31% OUT of compliance)
- Improper Holding/Time and Temperature (29% OUT of compliance)

Tables NH-2 and NH-3 show the breakdown of these risk factors into the specific individual data items on the survey instrument that need priority attention.

Table NH-2: ***Holding/Time-Temperature (29% OUT)***

Data Item	# OUT	Total Obs.	% OUT
Commercially prepared RTE, PHF date marked 10c	**16**	**31**	**52%**
Cold Hold 8a	**11**	**33**	**33%**
Proper Cooling Procedure (Cooked and cooled) 7a	**5**	**16**	**31%**
RTE prepared on site, PHF date marked 10a	**8**	**32**	**25%**
RTE, PHF discarded after seven days 10b	7	30	23%
Proper Cooling Procedure (Ambient and cooled) 7b	3	13	23%
Proper Cooling Procedure (Received and cooled) 7c	2	11	18%
Hot Hold 9A	2	21	10%

Items with ≥ 25%, with significant sample size, are shown in **bold.*

Date marking (Individual Data Items 10a, 10b, and 10c): Date marking of refrigerated ready-to-eat, PHF foods is an important food safety system component designed to promote proper food rotation and limit the growth of *Listeria monocytogenes* during cold storage. Discarding ready-to-eat, PHF that has remained in cold storage beyond the parameters described in the *FDA*

Food Code prevents foods with a harmful level of *Listeria monocytogenes* from being served. The importance of date marking of ready-to-eat, PHF is accentuated in the nursing home environment because the meals are primarily served to a highly susceptible population. North Carolina's current rules do not require date marking. During the 2010 Wake County survey, all three individual data items that address date marking ranked for the Improper Holding/Time-Temperature risk factor category.

Cold Holding at 41F (Individual Data Item 8a): Maintaining potentially hazardous food (PHF) foods under the cold temperature control of 41°F limits the growth of pathogens that may be present in or on the food and may help prevent foodborne illness. Temperature has significant impact on both the generation time of an organism and its lag period. Control of the growth of *Listeria monocytogenes* (*Lm*) is the basis for the cold holding temperature of 41°F. North Carolina's cold holding temperature requirement is 45°F.

Proper Cooling Procedure (Individual Data Items 7a, 7b, and 7c): Safe cooling requires rapid removal of heat from foods quickly enough to prevent the growth of spore-forming pathogens. Nursing home foodservice directors and managers need to ensure their practices and procedures are capable of rapidly cooling PHF. Item 7a represents those items that are cooled from a cooked state. Item 7b represents cooling from an ambient state (e.g., melons), and 7c addresses cooling after receiving food shipments. Rapid cooling is a risk factor that needs active managerial control.

Hot Holding (Individual Data Item 9a): Holding PHF at the proper hot temperature of 135°F is critical to preventing the growth of bacteria. Equipment, processes and monitoring procedures related to maintaining temperature control for PHF need to be assessed and corrective action should be taken, if necessary. Note the low number of OUT of compliance observations relative to the total number of observations.

Table NH-3: Poor Personal Hygiene (31% OUT)

Data Item	# OUT	Total Obs.	% OUT
Employee Health Policy 17a	**33**	**33**	**100%**
Proper Handwashing 13a	**10**	**32**	**31%**
Prevention of Hand Contamination 15a	7	31	23%
Handwash facilities (accessible) 16a	6	33	18%
Good Hygienic Practices 14a	4	32	13%

Items with ≥ 25%, with significant sample size, are shown in **bold.*

Employee Health Policy (Item 17a): The development and effective implementation of an employee health policy based on the provisions in the Food Code may help to prevent foodborne illness associated with contamination of food by ill or infected food employees. 100% of observations for this individual item at nursing home kitchens were OUT of compliance

with the Food Code specifications for a health policy. Current North Carolina rules do not require an employee health policy.

Proper Handwashing (13a): Handwashing is a critical factor in reducing fecal-oral pathogens that can be transmitted from hands to RTE food as well as other pathogens that can be transmitted from environmental sources. Many employees fail to wash their hands as often as necessary, and even those who do may use flawed techniques.

Prevention of Hand Contamination (Item 15a): Handwashing alone may not prevent the transmission of pathogens to foods via hand contact; therefore, preventing bare hand contact with ready-to-eat foods is a major control measure for limiting the spread of harmful bacteria and viruses from the hands to ready-to-eat food. Reinforcing the importance of preventing bare hand contact with ready-to-eat foods should be supported by a management system that includes proper employee training and monitoring of practices to identify to what extent procedures are being followed. North Carolina rules stress minimal bare hand contact but do not differentiate between RTE food and raw products, and do not fully restrict bare hand contact of RTE foods.

Handwash facilities (Item 16a): Hands are a common vehicle for the transmission of pathogens to foods in an establishment. Hands can become soiled with a variety of contaminants during routine operations. The transfer of contaminants can be limited by providing food employees with handwashing sinks that are properly equipped and conveniently located. Handwashing sinks that are blocked by portable equipment or stacked full of soiled utensils and other items, are rendered unavailable for employee use.

Good Hygienic Practices (Item 14a): Proper hygienic practices by food service employees minimize the possibility of transmitting disease through food. Employee practices such as eating, drinking and smoking in food preparation areas and working while experiencing persistent coughing and sneezing must be prohibited. Elimination of these practices will help prevent the transfer of microorganisms to foods and food contact surfaces.

Summary

Table NH-4: foodborne illness risk factor categories and individual data items in need of priority attention

Foodborne Illness Risk Factor in need of priority attention	Individual data items in need of priority attention with % OUT
Personal Hygiene (31% OUT)	**Employee Health Policy 17a (100% OUT)**
	Proper Handwashing 13a(31% OUT)
	Prevention of Hand Contamination 15A (23% OUT)
	Handwash facilities (accessible) 16A (18% OUT)
	Good Hygienic Practices 14A (13%)
Holding/Time-Temperature (29% OUT)	**Commercially prepared RTE, PHF date marked 10c (52% OUT)**
	Cold Hold 8a (33% OUT)
	Proper Cooling Procedure (Cooked and cooled) 7a (31% OUT)
	RTE prepared on site, PHF date marked 10a (25% OUT)
	RTE, PHF discarded after seven days 10b (23% OUT)
	Proper Cooling Procedure (Ambient and cooled) 7b (23% OUT)
	Proper Cooling Procedure (Received and cooled) 7c (18% OUT)
	Hot Hold 9b (10% OUT)

Items with ≥ 25%, with significant sample size, are shown in **bold.*