



Environmental Health Department  
Occurrence of Foodborne Illness Risk Factors  
Risk Factor Study 2022



# Environmental Health Department

## Occurrence of Foodborne Illness Risk Factors

### Risk Factor Study Highlights 2022

### Background and Scope of Work

The Retail Food Safety Program of the Northeast Texas Public Health District (NET Health) is dedicated to improving food safety practices in Smith County, Texas, including various cities. NET Health aims for full compliance with the Voluntary National Retail Food Regulatory Program Standards and conducted a Risk Factor Study in July 2022, focusing on five foodborne illness risk factors. The study, completed in November 2022, identified areas such as improper hot/cold holding, inadequate cooking, contaminated equipment, poor employee hygiene, and food from unsafe sources. NET Health now has a baseline for measuring food safety trends and plans to conduct another Risk Factor Study by November 2027.

The Risk Factor Study aimed to achieve two things: first, identify and tackle immediate problems by making specific plans to reduce them, and second, examine how things change over time. This involves looking at data over a period instead of just one moment to understand trends related to factors that can cause foodborne illnesses.

The Risk Factor Study looked at information from four different types of industry segments and various kinds of facilities. It included restaurants, grocery stores, healthcare facilities, and schools. The specific places included are fast-food restaurants, full-service restaurants, delis in grocery stores, long-term care facilities, hospitals, and schools. There was a total of 202 facilities randomly surveyed during this study.

The following table contains the 19 data items observed during data collection. The first 10 items and #17 were considered as Primary Data Items directly linked to foodborne illness risk factors. The need for specific actions, grouped under "Primary Items (1-10)," applied to two or more types of places. Notably, Items 1, 3, 4, 5, 6, 7, and 8 needed special attention, whereas Item 10 was only a concern in one specific type of place. Additionally, among the "Other Areas of Interest Items (11-19)," Items 13, 14, 15, and 19 were seen in various types of places, while Items 11 and 16 required actions in less than two different types of places.

Poor Personal Hygiene	Other Areas of Interest
1. Handwashing	11. Handwashing Facilities
2. No Bare Hand Contact with Ready to Eat Food	12. Good Hygienic Practices
Contaminated Equipment / Protection from Contamination	13. Consumer Advisory
3. Protection from Contamination	14. Time Used as a Public Health Control
4. Cleaning and Sanitizing Food Contact Surfaces	15. Food Temperature Control & Sanitation
Improper Holding / Time and Temperature	16. Special Processes
5. Cold Holding of TCS Food	18. Toxic Materials
6. Hot Holding of TCS Food	19. Food Allergy Awareness
7. Cooling TCS Foods	
8. Date Marking RTE TCS Foods	
Inadequate Cooking	
9. Cooking Raw Animal Foods	
10. Reheating Cooked Foods	
Foods from Unsafe Sources	
17. Safe Sources	

## Study Result Highlights

### Employee Health Policies

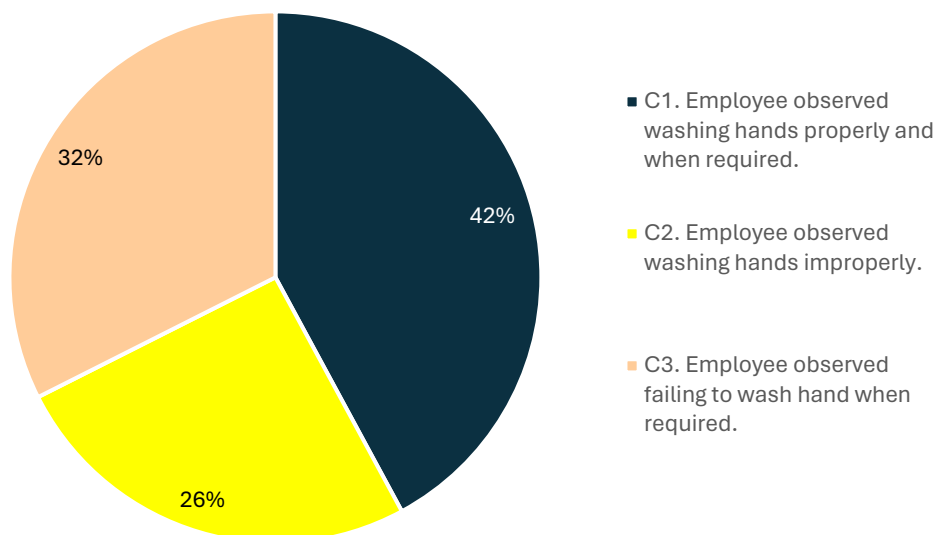
The Study's overall findings suggest that employee health policies were “no-policy, only partially developed or nonexistent”. However, in some situations wherein policies were fully in place, written communication was the primary method of conveying the employee health policies. Oral communication was used the very least.



### Handwashing Data Collection

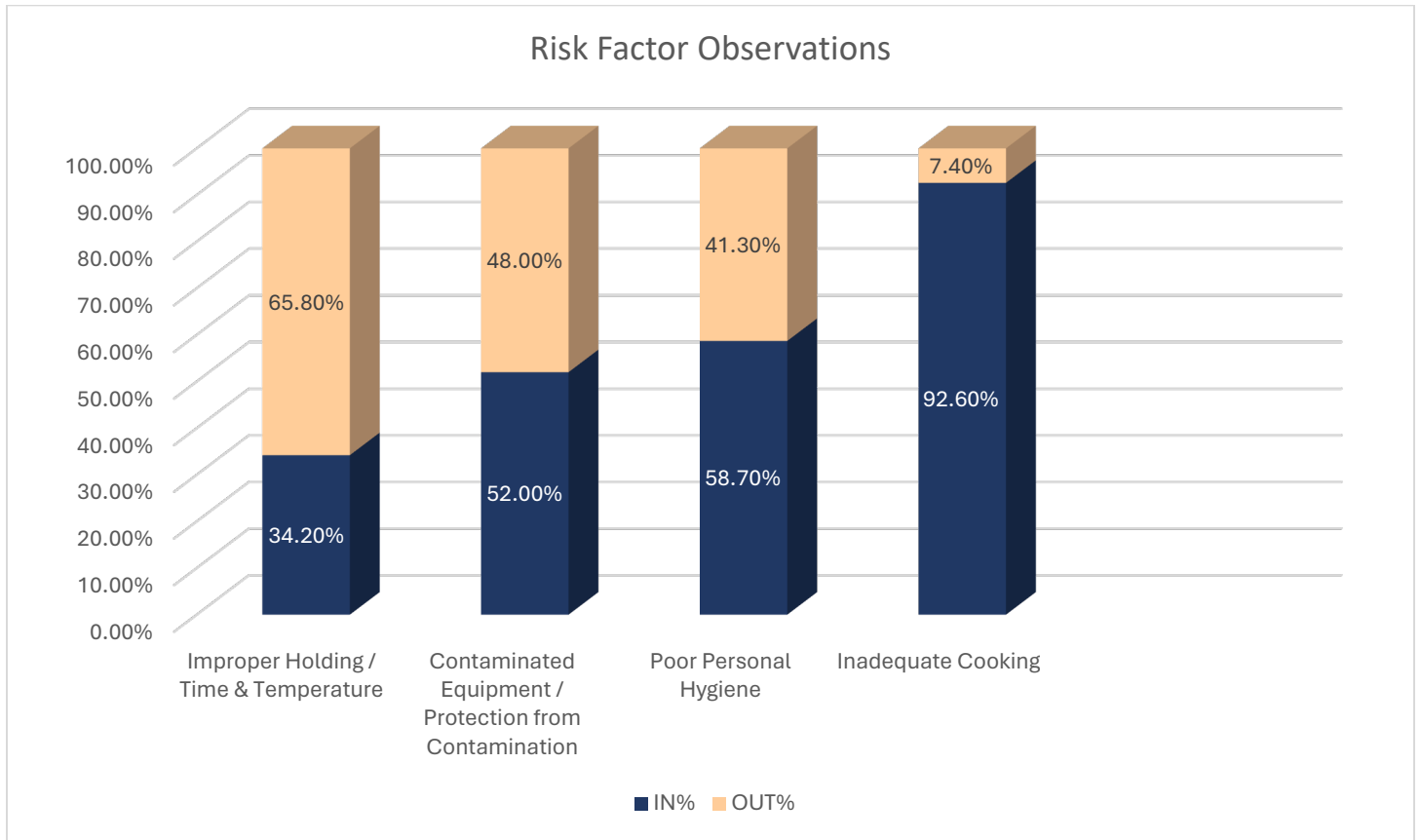
The data collector was responsible for tabulating occurrences of “proper handwashing,” “improper handwashing,” and instances where employees “failed to wash their hands” when necessary. Overall, the highest observation among all facility types was “proper handwashing when necessary” at 42%.

All Facility Types



## Overall Risk Factor Results

The Risk Factor reports summarize the total percent of observations that are IN compliance for controlling foodborne illness risk factors across all facility types based on Foodborne Illness Risk Factor categories. This report includes only Primary Data Items 1-10 and four risk factor categories.

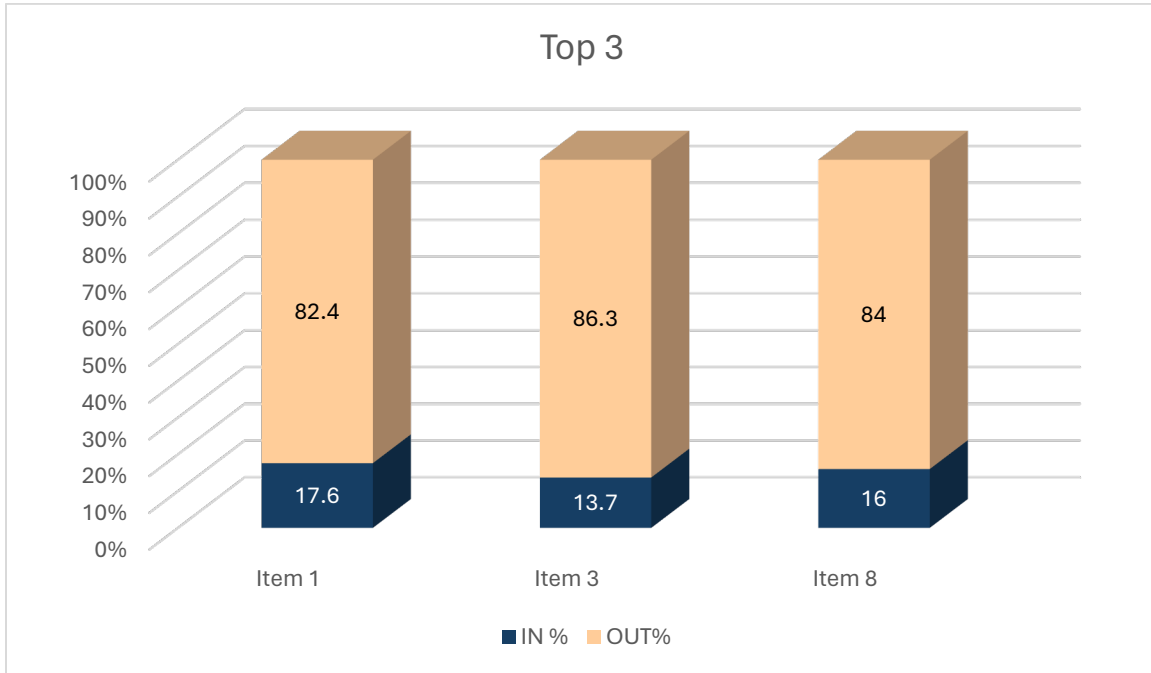


The risk factor showing the lowest percentage of compliant observations is "Improper Holding/Time and Temperature," at 34.20%. Following this is "Contaminated Equipment/Protection from Contamination," where 52% of observations are considered compliant. "Poor Personal Hygiene" and "Inadequate Cooking" have compliance rates of 58.70% and 92.60%, respectively. In terms of intervention, the priority is addressing "Improper Holding/Time and Temperature", "Contaminated Equipment/Protection from Contamination", and "Poor Personal Hygiene" observations fall under non-compliance.

## Top Primary Data Items by Facility Types

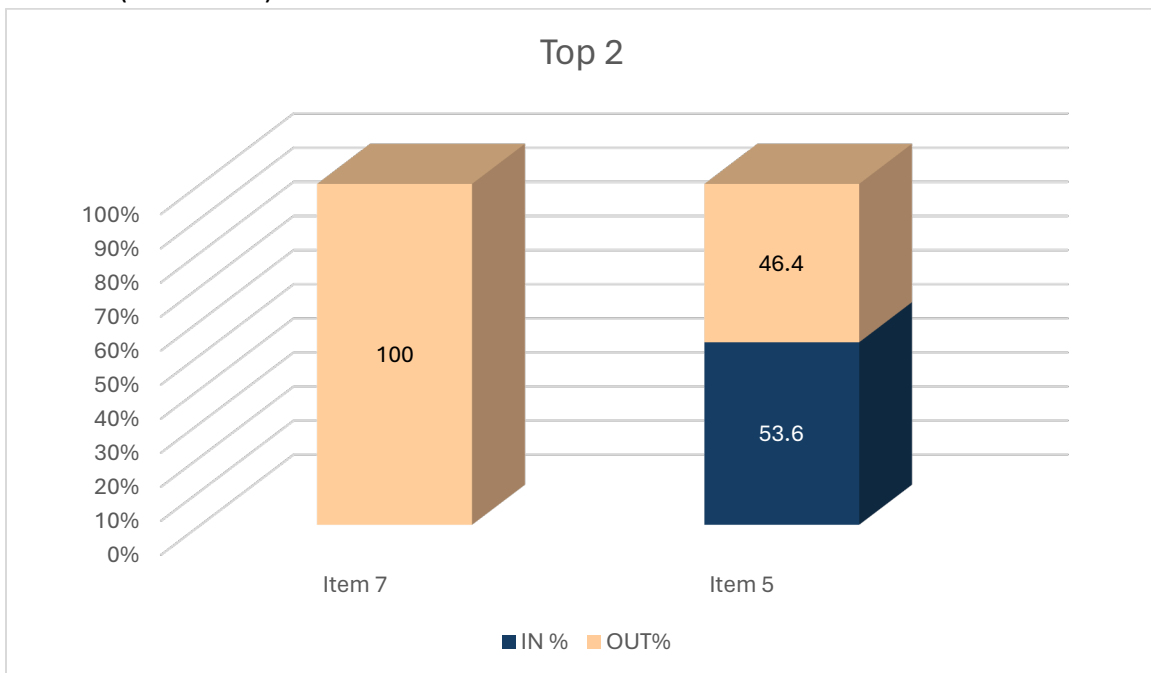
### *Full-Service Overall Results by Item*

The following chart illustrates the overall percentage results for top 3 Primary Data Items in full-service restaurants that need improvement/intervention: “Item 3 Protection from Contamination” (86.3% OUT) and “Item 1 Handwashing” (82.4% OUT), and “Item 8 Date Marking RTE TCS Foods” (84% OUT).



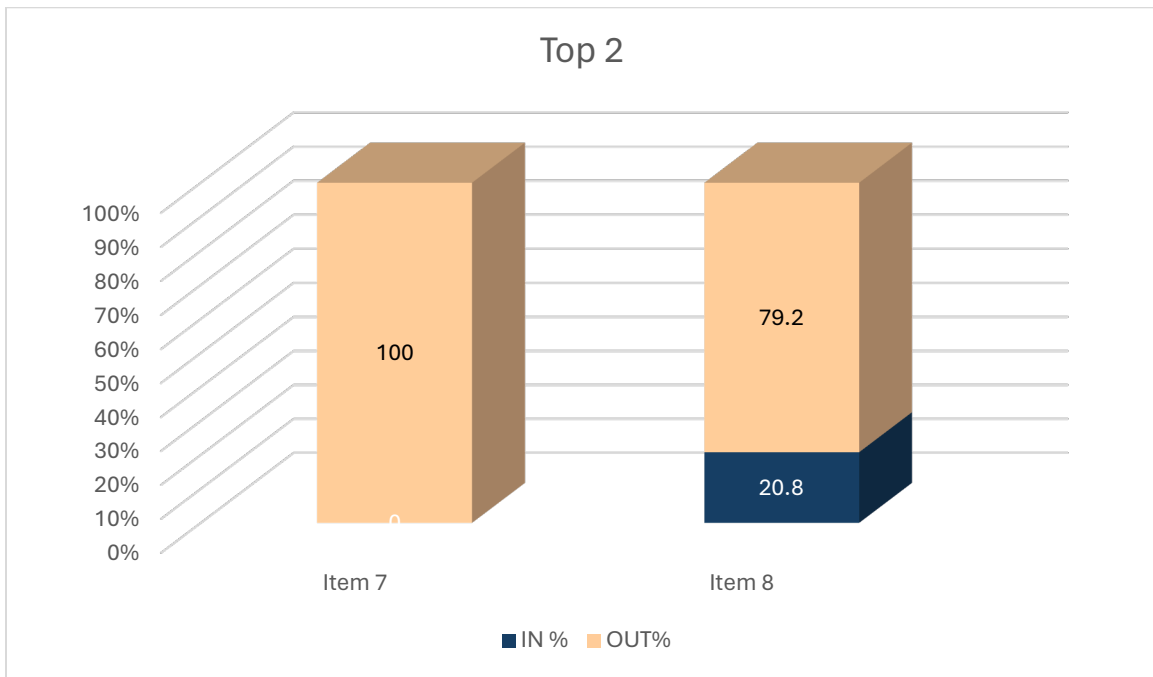
### *Fast Food Overall Results by Item*

The following chart illustrates the overall percentage results for top 2 Primary Data Items in fast food restaurants that need improvement/intervention: “Item 5 Cold Holding of TCS Foods”(46.4% OUT) and “Item 7 Cooling TCS Foods” (100% OUT).



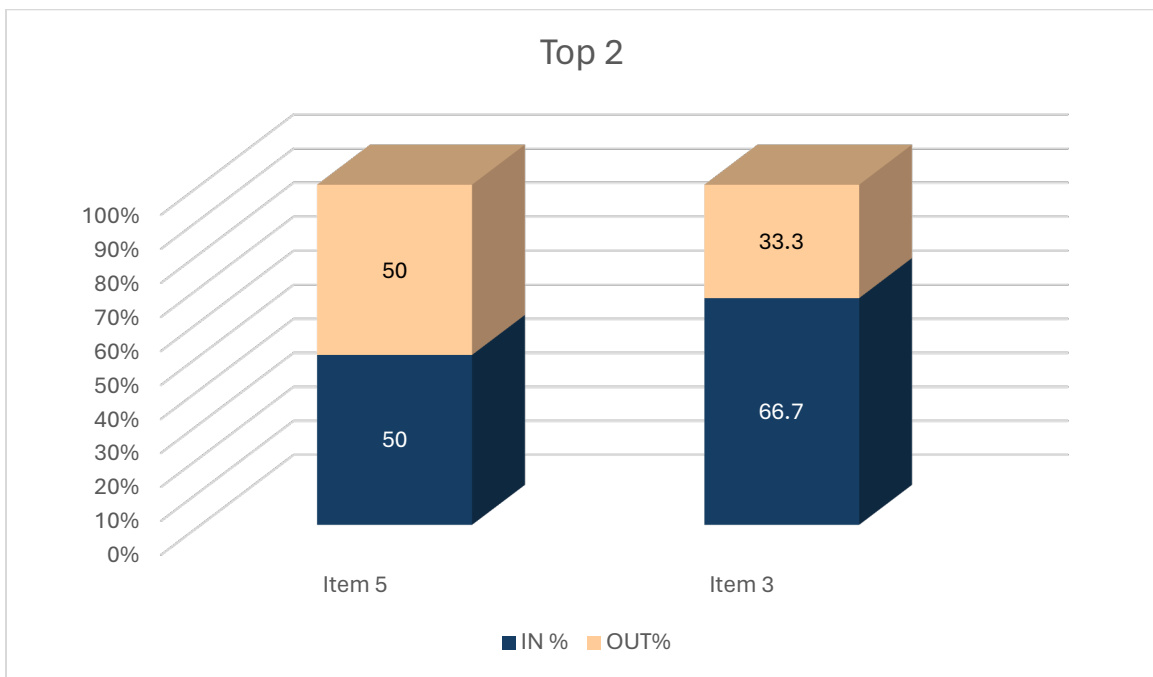
### Health Care – Long-Term Care Facility Overall Results by Item

The following chart illustrates the overall percentage results for top 2 Primary Data Items that need improvement/intervention in health care – long-term care facilities: “Item 7 Cooling of TCS Foods” (100% OUT) and “Item 8 Date Marking RTE TCS Foods” (79.2% OUT).



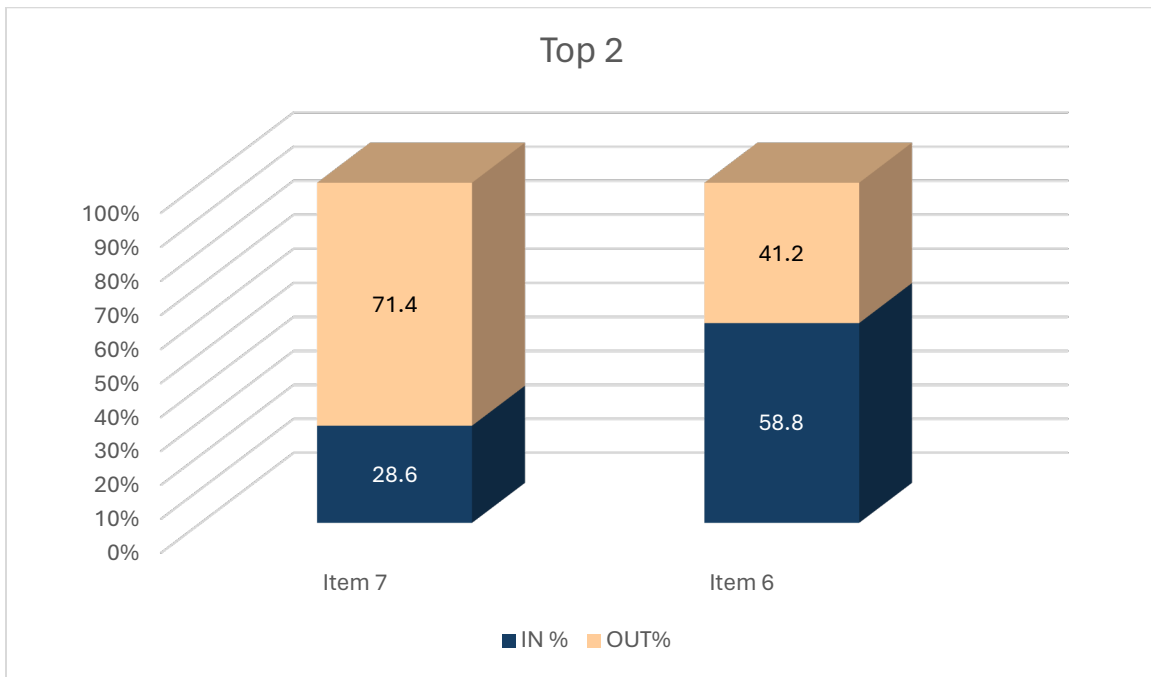
### Health Care-Hospital Overall Results by Item

The following chart illustrates the overall percentage results for top 2 Primary Data Items in health care - hospitals that need improvement/intervention: “Item 3 Protection from Contamination” (33.3% OUT) and “Item 5 Cold Holding of TCS Foods” (50% OUT).



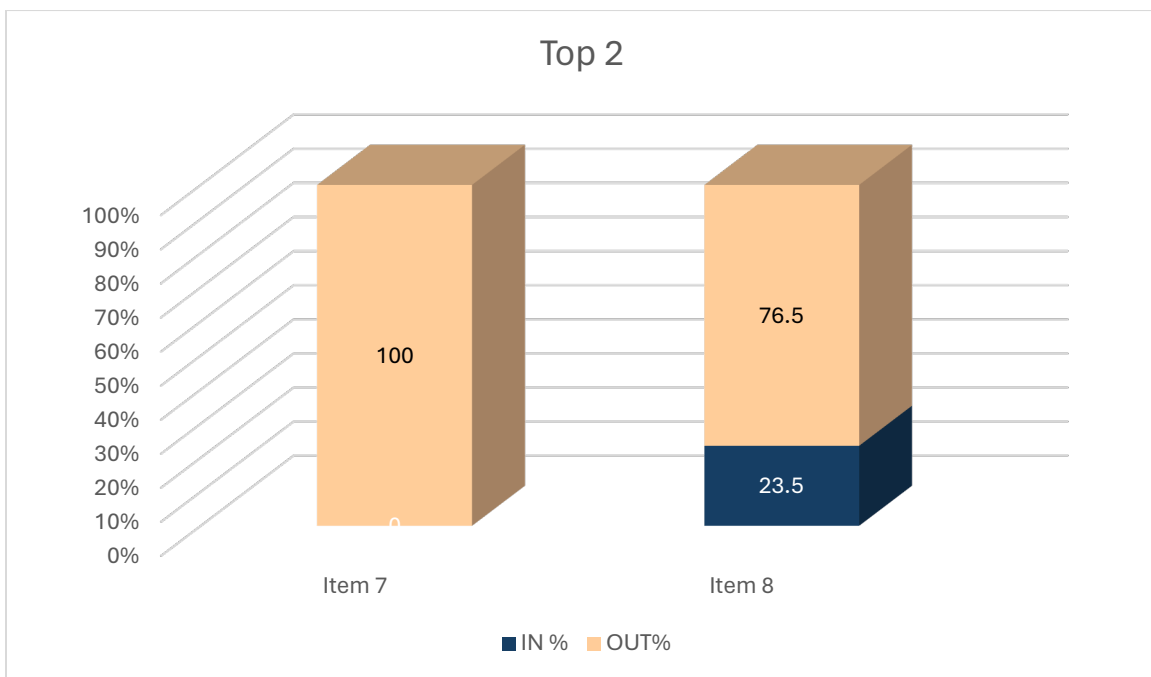
### Retail Food Store-Deli Overall Results by Item

The following chart illustrates the overall percentage results for top 2 Primary Data Items in retail food store – deli. that need improvement/intervention: “Item 6 Hot Holding of TCS Foods” (41.2% OUT) and “Item 7 Cooling of TCS Foods” (71.4% OUT).



### School Overall Results by Item

The following chart illustrates the overall percentage results for Primary Data Items in schools that are in need of improvement/intervention : “Item 7 Cooling of TCS Foods” (100% OUT), and “Item 8 Datemarking RTE TCS Foods ” (76.5% OUT).



## Intervention Strategies Summary

One of intervention strategies chosen for promoting food safety is to provide education through visual means. By utilizing visual aids, such as posters or infographics, key food safety messages can be communicated in a clear and engaging manner. These visual tools can highlight important practices, such as proper handwashing techniques, safe food handling procedures, and the importance of maintaining clean and sanitized food preparation areas. Additionally, the distribution of guidance documents, such as pamphlets or fact sheets, can offer detailed information on food safety best practices and guidelines. By emphasizing the public health significance of implementing proper food safety techniques through visual education, individuals are more likely to understand and adhere to these practices, ultimately contributing to the prevention of foodborne illnesses and promoting overall community health.

## Conclusion

Implementing proper food safety techniques is crucial for safeguarding public health and preventing the spread of foodborne illnesses. Adhering to established guidelines, such as thorough handwashing, safe food handling, and maintaining sanitary food preparation environments, significantly reduces the risk of contamination and the transmission of harmful pathogens. By emphasizing the importance of these practices, not only do we protect individuals from falling ill due to unsafe food consumption, but we also contribute to broader public health objectives. A community that prioritizes and implements proper food safety measures experiences fewer instances of food-related diseases, leading to a healthier population overall. Ultimately, the collective adoption of proper food safety techniques positively impacts public health, creating safer and healthier communities.

The full report is available on NET Health's website at [www.mynethealth.org](http://www.mynethealth.org)