

Obtaining Efficiencies in Food-Borne Illness Protection for Residential, Health Department-Licensed, and Non-Licensed Entities

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Background

Severe storms, natural disasters, and other emergencies resulting in extended periods of power loss can negatively impact public health as it greatly increases the likelihood of food-borne illnesses resulting from the consumption of food products held in refrigerators or freezers at improper temperatures. Food products used or served during emergency responses present additional challenges as many of the products may have risk factors often associated with food-borne illness outbreaks.

This project was stimulated by an actual emergency event that occurred in Northern Kentucky. On the afternoon of Friday, March 2, 2012, a level three (EF3) and a level four (EH4) tornado with estimated speeds between 136 and 200 mph hit the northern portion of Grant County and southern portions of Kenton County (Figure 1).

Health Department Registered Sanitarians identified and quarantined adulterated (temperature-abused) food products meant for public consumption at existing licensed facilities and issued enforcement notices. The Northern Kentucky Health Department determined that education was needed in temporary shelters involving food preparation as observation revealed that well-intended volunteers lack the appropriate knowledge for a safe response.

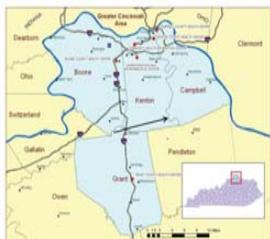


Figure 1. Map of Northern Kentucky. The arrow shows the estimated path of the tornadoes.

Purpose

By developing, consolidating, and disseminating operational procedures and guidelines for safe food preparation and storage, the public can benefit from increased protection from improperly prepared and held food, health department-licensed facilities will have a better understanding of food code requirements and expectations, and residents and non-licensed entities will be better positioned to assist their fellow citizens during emergency situations.

Methods

Guidelines were created using best practices and information obtained from the 2005 Food & Drug Administration (FDA) Food Code and the Kentucky Cabinet for Health and Family Services Food Safety Branch. Procedures were developed as one page, easy-to-read documents emphasizing important concepts in a bullet point format (see handouts). Elementary information regarding the science of why procedures are necessary was included to assist the reader in the understanding of the rationale for such a protocol. Further, for a sense of ownership, the guidelines stressed an explanation of the importance of the individuals role in reducing the risk of food-borne illnesses to fellow community members, and emphasizing the information provided was an aid to assist them.

Results

Guidelines for Food Service and Retail Food Establishments During Power Outages

Licensed facilities such as restaurants and retail food establishments now have easy access to information available detailing the concerns and consequences of power loss and the steps necessary to aid in the prevention of temperature-abused products from reaching their customers. The procedure guides the user in assuring a safe food environment by providing comprehensive information on ceasing operation, monitoring and recording times and temperatures, when and how to properly discard unsafe food products, and the cleaning and sanitizing of surfaces that may have come in contact with adulterated food. Additionally, the guide expresses the fact that the owner/operator is ultimately responsible for maintaining food products in a wholesome condition, thereby reducing the chances of a food-borne illness to their customers. Water emergency operational procedures are also included.

Food Preparation Guidelines for Non-Licensed Entities During a Disaster Response

Emergency food relief organizations play a central role in disaster relief. Those impacted by extended periods of power loss depend on such organizations for basic necessities, including prepackaged and prepared food products. A guide for emergency food relief organizations and workers is now available addressing food source, holding and cooking temperatures, cleaning and sanitizing schedules, and proper hygienic practices. The guidelines open with a brief dialog describing how the importance of following safe practices to reduce further harm when assisting those in need can understandably be lost in the recovery efforts. Furthermore, it is explained that one of the roles of the health department is to take steps that enable recovery to move forward without placing additional health risks to volunteers or those in the community and the guidelines are to assist the reader in reducing the risk of a food-borne illness to those who need their help. As an aid for those preparing food in a non-commercial kitchen, temporary food permit guidelines can be used to assist in structure requirements.

Residential Guidelines for Food Safety During a Power Outage

It is necessary for residents to understand how food becomes unsafe to consume. By incorporating safe food handling practices into their homes, residents can, if necessary, modify their current beliefs and behaviors to minimize risk. Information promoting food safety will enable residents to learn and meet the food safety standards of those found in food service establishments. This will provide a platform to educate and serve as a reminder that food safety is a shared responsibility, thereby decreasing associated food safety risks at home.

Discussion

The one-page guideline handouts will be available on the health department's website, in the health department's monthly food safety course for restaurant employees, and through social media. The Northern Kentucky Health Department collaborates with major grocery retailers and other governmental agencies during all emergencies to provide much needed information to the community. As information is distributed in training sessions, or used in the event of a real emergency, feedback from users will be solicited and changes may be adopted for improved effectiveness.

When extended periods of power loss occur, food-borne illness protection for the community is vital. Reducing the likelihood of a food-borne illness outbreak eliminates the need for health department resources to be redirected to address a very preventable situation.

With a protocol in place for the licensed facilities and community-friendly guidelines available for residents and non-licensed entities, the public will benefit from increased protection from improperly prepared and held food. Additionally, we anticipate compliance will increase and food waste may be reduced.

Requirements and recommendations were developed through best practices and the 2005 FDA Food Code. Therefore, the procedures are limited to that particular code or regulation. Furthermore, health departments or health districts may have local ordinances that may supersede the guidelines, placing additional limitations on the procedures. However, the information provided details basic food safety principles and practices that may be universally recognized with limited revision.

References

- Centers for Disease Control and Prevention. (2013). Food safety. Retrieved April 14, 2013, from <http://www.cdc.gov/foodsafety/facts.html>
- Finch, C. & Daniel E. (2005). Food safety knowledge and behavior of emergency food relief organization workers: Effect of food safety training intervention. *Journal of Environmental Health*, 67(9), 30-34.
- Northern Kentucky Independent District Health Department. (2012). 2011-2012 Annual report: Environmental health and safety. Retrieved February 20, 2013, from <http://www.nkyhealth.org/mx/hm.asp?id=enreport>
- Kentucky Cabinet for Health and Family Services Food Safety Branch. (2013). Retrieved October 23, 2013, from <http://chfs.ky.gov/dph/info/phps/food.htm>
- Kosa, K. M., Cates, S. C., Karns, S., Godwin, S. L., Coppings, R. J. (2012). Are older adults prepared to ensure food safety during extended power outages and other emergencies?: Findings from a national survey. *Educational Gerontology*, 38(11), 763-775.

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