Effect of a Certified Food Protection Manager on Employee Food Safety Behaviors

in Rural Washington Counties

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Abstract
The Centers for Disease Control (CDC) estimates that each year roughly 1 in 6 Americans (or 48 million people) get sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases. (Scallan et al., 2011) The Food and Drug Administration (FDA) Report on the Occurrence of Foodborne Illness Risk Factors in Selected Institutional Foodservice, Restaurant, and Retail Food Store Facility Types (2009) found that the presence of a certified food protection manager correlated with higher compliance levels with food safety practices and behaviors than in establishments without a certified manager present. (U. S. Food and Drug Administration [FDA], 2009) In 2010, the Conference for Food Protection (CFP) was asked to consider modifying the FDA Model Food Code to require that at least one person in charge in each food establishment to be a certified food protection manager. (Julian, 2010) The issue was accepted by the CFP and the Supplement to the 2009 FDA Model Food Code requires food establishments to employ a certified food protection manager. (U. S. Public Health Service 2011) The purpose of this study was to determine if a violation trend similar to the 2009 FDA study is observed in food establishments located in northeastern Washington State. Review of results of food safety inspections performed in Northeast Tri County Health District over a five year period confirm that food establishments that employ a certified food protection manager have significantly fewer employee-related violations of retail food safety requirements than food establishments without a certified manager.
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**Background**

The northeast corner of Washington State, consisting of Ferry, Stevens, and Pend Oreille counties is rural area. (United States Department of Agriculture, 2010) The population density of the tri-county area is 10.5 persons per square mile compared with Washington State at 101.2 persons per square mile. (U. S. Census Bureau, 2010) Colville (population ~5000) is largest city in the tri-county area. (Northeast Washington Trends, 2011)

Chapter 246-215 Washington Administrative Code (WAC), Washington State Retail Food Code is a modification of the 2001 FDA model Food Code. Washington State is in the process of adopting the 2009 FDA model Food Code. The Washington State Environmental Health Directors expressed interest in modifying the 2009 FDA Food Code to require mandatory manager certification in the State of Washington. The Washington State Department of Health formed a committee to explore the issue. The committee determined the Department of Health could legally require manager certification but chose not to include mandatory manager certification in the Washington State Retail Food Code at the time of this rule revision for the following reasons.

Mandatory manager certification is not included in the 2009 FDA Model Food Code because the state delegates to Conference for Food Protection did not recommend that the FDA incorporate mandatory manager certification in the 2009 model retail food code. (U. S. Public Health Service, 2009) Unilateral adoption would have caused confusion across governmental jurisdictions and among the retail food
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industry. Additionally, because not all stakeholders currently support mandatory manager certification, proposing mandatory manager certification may have significantly increased the time and expense of the rule revision process.

Currently, the Washington State Retail Food Code requires employees in food establishments to obtain a Food Worker Card within 14 days of beginning work. The format of the Food Worker Card training varies from county to county. Since 1992, Northeast Tri County Health District has fulfilled this requirement by showing a 30 minute food safety video and then allowing participants to use notes taken while watching the video to complete a multiple choice test. A Food Worker Card is issued upon successful completion of the test. In February 2012, Northeast Tri County Health district began offering the Food Worker class in an on-line format, as well as in-person at the health district’s office locations. Though the Food Worker class may benefit food safety, the food safety information provided is basic and the test content and testing process is designed to maximize issuance of Food Worker cards.

The Washington State Retail Food Code requires a Person in Charge to be present during operation. The Person in Charge is usually the manager or owner of the food establishment. The Food Code requires Person in Charge to demonstrate food safety knowledge. Food Safety Knowledge can be demonstrated by any of the following: being a certified food protection manager, correctly answering relevant food safety questions posed during an inspection, or by the food establishment not having any violations during an inspection. The Food Code also requires the Person in Charge to provide food safety training to employees and ensure that all employees have valid Food Worker Cards.
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Currently, three food protection manager programs are accredited by the American National Standards Institute (ANSI) – Conference for Food Protection (CFP) Accreditation Program. The accredited food protection manager programs are offered by: 1) National Restaurant Association Solutions - ServSafe, 2) Environmental Health Testing, and 3) Prometric Inc. These programs provide a comprehensive training program, which educates managers on food safety issues, such as foodborne illness prevention, good personal hygiene, temperature control, cross-contamination, receiving, food storage, and facility sanitation. Managers also learn to take active managerial control of foodborne illness risk factors and how to provide ongoing employee training.

For this study, a manager that has been certified by an ANSI-CFP accredited certification program is considered to be a Certified Food Protection Manager.

Problem Statement

In many food establishments, the only food safety training the manager has received is the food worker card class. The food worker class only provides a baseline level of food safety education and does not provide specific training for managers about their role in the food safety system or how to provide food safety training to food employees. Situations arise in which managers expect that, because employees have food worker cards, workers know how to apply what they have learned in the food worker class to the actual work situation without receiving specific training. Employees that have not received food safety training specific to their job may be more likely to make errors in the food establishment that will increase the risk of unsafe food being served and increase the risk of foodborne illness to customers.
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Research Question

Does the presence of a certified food protection manager in a food establishment result in fewer violations related to employee food safety behaviors being cited during inspections?

Methodology

A secondary data analysis was conducted of inspection reports for routine inspections conducted from 2006 through 2011. Inspection reports were obtained from Northeast Tri County Health District. All inspection and inspection reports were completed by the same inspector. All food establishments that require a certified food protection manager were included in the study. Food establishments requiring a certified manager included one full service restaurant, three quick serve restaurants, and one multi-department grocery store. Forty-five inspection reports of food establishments that require certified managers were reviewed. To identify a comparable number of food establishments not requiring a certified manager, a sample was selected from this category. Establishments were selected based on their similarity to establishments requiring a certified manager using characteristics, such as menu similarity, and franchise or corporate affiliation. Food establishments not requiring a certified manager included one full service restaurant, three quick serve restaurants and one multi-department grocery store. Forty-one inspection reports of food establishments that do not require a certified manager were reviewed. Inspection report data was analyzed for violations of the following employee practices-type retail food safety requirements:

- Hands washed as required
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Proper methods used to prevent bare hand contact with ready to eat foods

Raw meats below or away from ready to eat food

Proper cooling methods

Proper hot holding temperatures

Proper cooking temperatures

Proper cold holding temperatures

Results

Food establishments with a certified manager had fewer violations of all risk factors except for cooking temperature. The most significant differences were seen among violations related to the following risk-based requirements. The requirement “Proper methods used to prevent bare hand contact with ready to eat foods” was documented as a violation on inspection reports for 4.44% for establishments with a certified manager versus 12.20% of establishments without a certified manager. Documented violation of the requirement “Proper cooling methods used” was not cited for establishments with a certified manager but was documented on 5.88% of inspection reports of establishments without a certified manager. Violation of the requirement “Proper cold holding temperatures” was documented on 15.56% of inspection reports of establishments with a certified manager versus 24.39% of establishments without a certified manager. Further investigation revealed that the high incidence observed cooking temperature violations in establishments having a certified manager were due to problems with a specific type of cooking equipment being used by a corporate quick serve food establishment, as well as, failure by employees to properly follow company provided temperature monitoring procedures for this equipment.
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**Foodborne Illness Risk Factors Out of Compliance for Establishments With a Certified Manager vs. Establishments Without a Certified Manager**

![Bar chart showing the percent out of compliance for different food safety factors among establishments with and without certified managers.](chart)

**Foodborne Illness Risk Factors Out of Compliance for Different Types of Establishments With or Without a Certified Manager**

<table>
<thead>
<tr>
<th>Establishment Type with or without Certified Manager</th>
<th>Percent Out of Compliance</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Handwashing</td>
</tr>
<tr>
<td>Multi-Dept. Grocery With (n = 8)</td>
<td>0.00%</td>
</tr>
<tr>
<td>Multi- Dept. Grocery Without (n = 8)</td>
<td>0.00%</td>
</tr>
<tr>
<td>Quick Serve Restaurant With (n = 26)</td>
<td>3.85%</td>
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<tr>
<td>Quick Serve Restaurant Without (n = 25)</td>
<td>4.00%</td>
</tr>
<tr>
<td>Full Service Restaurant With (n = 11)</td>
<td>0.00%</td>
</tr>
<tr>
<td>Full Service Restaurant Without (n = 8)</td>
<td>0.00%</td>
</tr>
</tbody>
</table>
Conclusions

The presence of a certified food safety manager has a positive effect on the food safety behaviors of employees and results in fewer violations being observed during inspections. A limited number of food establishments in Northeast Washington have certified managers due to the limited availability of training programs. Regularly scheduled classroom training opportunities are not currently available. On-line training and exams are available; however the availability, cost, and quality of internet service vary in rural areas. The cost of on-line food protection manager certification ranges from $83.00 to $125.00. The cost associated with manager certification may create a competitive disadvantage between business willing to pay for manager certification and those that are not. Also the economic differences between the rural Tri-county area and Washington State, such as the per capita personal income ($27,931 in 2010 for Tri-county area vs. $42,570 in 2010 for WA), and the share of population living below the federal poverty rate (18.1% in 2010 for Tri-county area vs. 15.3% for WA), may make it more financially burdensome for individuals seeking manager certification. (Northeast Washington Trends, 2011)

Recommendations

Northeast Tri County Health District should explore the possibility of offering an accredited food protection manager certification program locally. Because Northeast Tri County Health District covers a large geographic area, the certification program could be offered at multiple sites to minimize the travel distance and cost for participants. A survey of local food establishment owners should be conducted to determine: awareness of existing manager certification programs, existing barriers to obtaining
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Manager certification for employees, interest in manager certification opportunities offered locally for their employees, and to gauge financial cost food establishments would be willing to incur for manager certification. The data generated by the survey would help Northeast Tri County Health District to determine if offering a manager certification program locally would be a viable option.

Further research should be conducted in other counties in Washington, including both urban and rural areas, to determine if food establishments with a certified manager have few violations related to employee behaviors than food establishments without certified managers. If the findings of this larger study confirm that employee practice violations are significantly less in retail food businesses with certified managers, the Washington State Retail Food Code should be amended to require that all food establishments employ a certified food protection manager.

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