



Princeton Board of Health

June 11, 2019

Monument Hall – East Meeting Room, Princeton, NJ 08540

Literature Review of Articles Discussing Restaurant Food Handlers and Influenza Vaccination, June 2019

In 2017, New Jersey had a total of 13,755 reported cases of Influenza (Type 2009 H1N1, Type A, Type H1, Type H3, Type B). In 2016, a total of 7,604 cases; in 2015, a total of 5,195 cases; and in 2014, a total of 4,839 cases. According to the United States Department of Labor, Bureau of Labor Statistics, food preparation and serving related occupations accounted for at least 307,540 jobs in New Jersey in 2018.

What Does the Literature Say?

1. Promoting Influenza Vaccination to Restaurant Employees.

Graves et al (2016) and the Guide to Community Services (2013) report that:

- Workplace-based vaccination programs are an effective strategy for increasing influenza vaccination rates among working-age adults.
- Employers' use of evidence-based promotion practices is associated with increases in employee vaccination levels.
- Workplace-based promotion of vaccination could help reach restaurant employees, which is important because of their low vaccination rates, frequent lack of sick leave, and exposure to the public.

Study Purpose: To evaluate an evidence-based workplace approach to increasing adult influenza vaccination levels applied in the restaurant setting.

Subjects: 11 Restaurants with 25+ employees speaking English or Spanish and over 18 years.

Intervention: Restaurants received influenza vaccination promotion materials, assistance arranging on-site vaccination events, and free influenza vaccinations for employees.

Results: Vaccination levels increased from 26% to 46% (adjusted odds ratio 2.33, 95% confidence interval 1.69, 3.22), with 428 employees surveyed pre-intervention, 305 surveyed post-intervention, and response rates of 73% and 55%, respectively. The intervention was effective across subgroups, but there were restaurant-level differences.



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2. Feasibility of Workplace Health Promotion for Restaurant Workers

Allen et al (2015) notes that:

- The restaurant industry employs a large population of workers who earn low wages and have no health benefits. Restaurants are the second-largest private-sector employer in the United States, employing more than 13.5 million people.
- Only 14% of restaurant workers have employer-provided health insurance, making restaurant workers difficult to reach through traditional health care interventions
- Restaurant workers are at greater risk for influenza

Study Purpose: Identify barriers and facilitators to promotion of influenza vaccination in restaurants

Subjects: Seventy people from the restaurant industry

Results:

- Participants said restaurants frequently require people to work when sick
- Owners said workers often won't mention when they're sick because they can't afford to miss work and that staffing shortages resulted in their inability to let workers stay home.
- Vaccination Barriers:
 - Owners' and English-speaking workers' belief that influenza vaccinations cause illness
 - Belief that vaccinations should be optional rather than mandatory
 - Belief that influenza vaccination is not necessary for young, healthy restaurant workers,
 - Belief that getting influenza is inevitable when working with the public.
 - For Spanish-speaking workers, the biggest barrier was being too busy working to get a vaccination
- Vaccination Facilitators:
 - The convenience of free, on-site influenza vaccination was the single most important facilitator to increasing vaccinations among restaurant workers.
 - Overall, owners were positive about offering vaccinations and saw it as a benefit that both workers and customers would appreciate.
 - Spanish-speakers generally thought of influenza as more serious than English-speakers
- Because myths about influenza vaccination (e.g. Causes sickness, only for the elderly) are common among English-speakers, providing on-site educational materials is crucial.
- Owners support influenza vaccinations because it could reduce absences and prevent staffing shortages.
- Health promotion interventions in restaurants should facilitate communication by providing materials and information in the native languages of all workers and by increasing owner awareness of worker perceptions.



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3. Influenza Vaccination Status and Attitudes Among Restaurant Employees.

Parrish et al (2015) reports that:

- Seasonal influenza is a serious disease in the United States.
- From 1976 to 2007, annual mortality from seasonal influenza ranged from 3,000 to 49,000 per year.
- The total economic burden imposed by influenza, including lost earnings, is estimated at \$87.1 billion annually
- Low vaccination rates may be due to prevalent beliefs that the seasonal influenza vaccine is not relevant for young healthy adults, is not effective and may have serious side effects (including actually infecting recipients with influenza)
- In 2009, more than 130 million Americans were food-service patrons each day. Increased vaccination rates among restaurant employees could protect millions of employees and patrons from influenza.

Purpose of Study: Assess influenza vaccination rates and attitudes among Seattle restaurant employees, to identify factors that could enhance the success of a restaurant-based vaccination program

Subjects: Seattle restaurant employees

Results: 428 completed surveys; response rate of 74%

- Attitudes toward influenza vaccination were categorized into 6 categories:
 - Relevance, effectiveness, side effects, convenience, cost, and norms
- Employees in Seattle have low vaccination rates against seasonal influenza
- Attitudes towards vaccination were more positive than expected, with previously vaccinated participants, and Hispanics reporting more positive attitudes than non-Hispanic whites
- Increasing influenza vaccination rates among restaurant employees could protect a substantial portion of the US workforce, and the public, from influenza.

4. Managerial Practices regarding Workers Working while Ill.

According to Norton et al (2015), surveillance data indicate that:

- Handling of food by an ill worker is a cause of almost half of all restaurant-related food-borne outbreaks
- Centers for Disease Control and Prevention (CDC) estimate one in six people become ill with foodborne illness annually, and 3,000 die.
- Other CDC data reveal that 68% of foodborne illness outbreaks are associated with food prepared in a restaurant or deli.
- Additionally, handling of food by an infected person or carrier of pathogens (i.e. an ill worker) is a contributing factor in 46% of restaurant-related outbreaks.



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Study Purpose: Collect descriptive data on restaurant policies regarding ill food workers, managerial practices regarding ill food workers, experiences of managers and workers working while ill, and to identify restaurant and worker characteristics associated with workers working while ill.

Subjects: Survey and interview data were collected from approximately 50 restaurants in California, Connecticut, Georgia, Minnesota, New York, Oregon, Rhode Island, and Tennessee.

Results:

- Restaurant policies concerning ill food workers do not follow FDA recommendations.
- Almost 70% of restaurant managers said they worked while ill
- When asked why they worked when ill, a third of managers said they felt obligated to work.

Other reasons cited were:

- Restaurant was understaffed or no one was available to replace them
- Felt symptoms were mild or not contagious
- Had special managerial responsibilities that no one else could fulfill
- There was non-food handling work they could do instead
- Would not get paid if they did not work or no sick leave policy

Public Health Implications

Influenza vaccination rates are low among adults 18-64 and below the levels recommended by the CDC. Workplace-based programs can increase influenza vaccination rates among adults in this age group, especially among restaurant food workers. These articles offer evidence that workplace-based vaccination programs can be successfully adapted to the restaurant setting with minimal resource investment. Improving physical and financial access to influenza vaccination increased vaccination levels across all restaurants. These studies also describe approaches to addressing disparities in vaccination levels and reaching previously unvaccinated workers across racial/ethnic groups. Any future interventions must take cultural, and linguistic factors into consideration.

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