

PEER-REVIEWED ARTICLE

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Assessing Employee Health Policies and Practices in Foodservice Establishments

ABSTRACT

The aim of this study was to investigate current practices in the food industry regarding the development and implementation of food safety management systems, with a focus on employee health policies. Specifically, this study assessed written employee health policies and practices that retail food establishments used to mitigate the risk of foodborne illnesses. Surveys were distributed, and 14% (76/538) of the surveys were returned by senior food safety leaders, representing 336,268 restaurant, grocery, and convenience store outlets. The majority of participants represented larger franchises or chains. Results showed most participants (98.4%) reported having written employee health policies, with most policies based on the U.S. Food and Drug Administration's Model Food Code and Annex. Most participants (98.3%) agreed that their employee health policy stipulated exclusions and restrictions for food employees based on their health and activities as they relate to diseases transmitted through food; however, fewer (87.7%) policies had provisions for removing such

exclusions and restrictions. The survey also revealed the use of novel approaches to promote handwashing and the frequency with which conditional employees are made aware of reporting requirements. Taken as a whole, the survey highlights opportunities to improve employee health policies and increase awareness of reporting requirements for employees in the retail food industry.

INTRODUCTION

Employee health and hygiene overview

Ill food handlers can transmit foodborne pathogens, including the most common norovirus, to customers that cause foodborne illness outbreaks (4, 35). To prevent the spread of pathogens and protect consumers, since 2005 the U.S. Food and Drug Administration's (FDA's) Food Code has included the following provisions regarding responsibilities: (1) employees are responsible for reporting their illness symptoms, diagnosis with, or exposure to, the illness to management; (2) employers are responsible for notifying regulatory authorities; (3) managers are responsible for restricting or excluding ill employees; and (4) permit holders

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are responsible for having an employee health policy (16). Although written health policies have been linked to effective mitigation of foodborne illness in retail food establishments (22), the formal development and implementation of employee health policies may be inconsistent. A study by Liggans et al. (16) found that 56.0% of fast-food restaurants and 70.7% of full-service restaurants had no employee health policies; however, there is limited research in this area and the research that does exist is primarily from restaurant operations, as in the Liggans et al. (16) study. Our study surveyed retail food operations including restaurants, grocery stores, and convenience stores (C-stores).

Despite having policies, employees may still come to work when they are ill. Carpenter et al. (4) found that approximately 60% of the employees who participated in their study responded that they had worked while ill. Another study suggested that 64.1% of managerial professionals were aware of employees' presenteeism (25) (presenteeism is a term used when workers come to work unnecessarily while sick) (2, 15, 27); however, only a few studies have been conducted on reducing sick employees' presenteeism (23). Managing foodservice employees' presenteeism is essential to ensuring food safety because the transmission of microorganisms through sick employees can pose a significant threat to public health (35). In addition, the presenteeism issue is closely related to sustainable human resource management and employee well-being (15, 28), eventually damaging the overall productivity of foodservice organizations (30). To address this matter, this study investigated the presence and contents of employee health policies in retail food operations, specifically restaurants, grocery stores, and C-stores.

Health

Concerns regarding employee health have a long history. Traditionally, employers considered employees' absence from work problematic and costly (30); thus, any form of absenteeism, including sick leave, has been monitored and controlled throughout all industries (12, 30).

Still, many foodservice entities impose punitive attendance policies on employees to prevent their taking sick leave or have no employee health policy (12, 16, 25, 30). Consequently, employees may risk termination if they have excessive absenteeism. Even if there are health policies, previous literature argued that there are obstacles that individuals face to taking leave. One major hurdle is financial concerns (4, 25). Once the employees are absent from work beyond their paid sick leave, their income is reduced; therefore, they may have no other choice but to come to work (29). Especially in the United States, where restaurant tipping is common, reduced shift hours for tipped employees can be an additional source of stress and deter employees from calling in sick (19). According to surveys and interviews conducted by multiple researchers, sick employees feel

guilty about leaving the workplaces short staffed and often link presenteeism to a good work ethic (25). To address this matter, some suggest that paid sick leave may help alongside a strong food safety culture (2, 16, 27).

Hygiene: handwashing

Assuring safe food is the most important principle for the survival of food businesses and public health protection; thus, proper and frequent handwashing, elimination of bare hand contact with ready-to-eat (RTE) food, and food safety training programs have been implemented (10, 14, 22). Although the aforementioned practices play a critical role in preventing pathogen transmission, the exclusion of ill employees also has a significant effect on food safety protection (9, 10, 22). Other personal hygiene practices such as handwashing frequency and the elimination of bare hand contact with RTE food are important, but a primary route of food contamination remains the direct contact with the pathogens transmitted by ill or infectious employees (13, 22).

Considering the potential negative economic impact that foodborne illness outbreaks cause, managers are challenged with prioritizing costs related to food safety practices and revenue generation for the operation. Encouraging employees to use proper utensils to prevent bare hand contact with RTE food and to take enough time for proper handwashing, in addition to restricting sick employees from working, may be viewed as an additional expense to the operation. Negligence in food safety at the organizational level makes operations vulnerable in the long term to incur a higher occurrence of food safety issues (11, 35). One reason for failing to establish and maintain a food safety culture may be due to a conflict between food safety and cost reduction (11).

Food safety culture: attitude, values, and beliefs

To facilitate a food safety culture, managers may need to use their skills to urge employees to change their beliefs and behaviors (36). Common attitudes, values, and beliefs about food safety behaviors accepted in retail food organizations are known as food safety culture (11), and managers' food safety knowledge, attitudes, and commitment affect food safety culture in establishments (5, 13). In the food-handling environment, standards for safety should be higher than that of other industries and it is not sufficient to be content with solely fulfilling regulatory requirements (11, 26). Thus, the purpose of this research was to identify current practices concerning the development and implementation of food safety management systems (FSMSs) used in food establishments to minimize foodborne illness risk factors.

MATERIALS AND METHODS

The focus of this survey was employee health policies. To gather data, we created an online questionnaire and a pilot was tested. The questionnaire consisted of both open- and close-ended questions. After pilot testing and revision, the

questionnaire was distributed, in two installments, by using Survey Monkey® to members of organizations in retail food operations, including the restaurant, grocery, and C-store industries. Invitations to participate in the survey were sent via a large listserv.

Sample selection

The online survey targeted individuals in senior positions (i.e., directors, vice presidents, and senior vice presidents) and owners and operators who were responsible for food safety at retail food organizations. The anonymity of the participants and their respective brands was ensured. The targeted sample consisted of 538 participants, with 209 from restaurants, 168 from groceries, and 161 from C-stores.

Survey development

The project was initiated in December 2020, and food safety professionals from various trade associations, including the National Restaurant Association, the National Retail Federation Food Safety Task Force, the National Association of Convenience Stores, and the Food Marketing Institute, were involved in the survey development. Several versions of the survey were reviewed and vetted by industry experts, the Association of Food and Drug Officials, and the FDA to ensure the representation of all stakeholders and eliminate unintentional bias. The final version of the survey was approved in July 2021, and it was divided into four parts: (1) food safety culture, (2) employee health policy, (3) active managerial control, and (4) FSMSs. In total, 103 questions were included in the final survey. To minimize survey fatigue, the questionnaire was administered in two installments. Installment I consisted of parts 1 and 2 (61 questions) and installment II consisted of parts 3 and 4 (42 questions). The results from installment I part 2, pertaining to employee health policy (29 questions), are reported in this article; the results from other parts of the survey are published elsewhere (21).

Expert panel review and pilot test

Before conducting the pilot testing, an expert panel consisting of 10 professionals with expertise in food safety programs and enterprise leadership reviewed the questionnaire to ensure content and face validity. The panel provided feedback and suggestions that were incorporated into the final questionnaire.

To minimize respondent fatigue, some questions were revised by providing potential response options for selection, supplemented by an “other” category to capture responses not listed. To avoid any potential for social desirability and conformity biases, some questions were altered to ensure a consistent neutral tone.

Survey distribution

The electronic questionnaire was developed and distributed via Survey Monkey. The questionnaire was

designed to take each participant approximately 30 min to complete. It was important to address respondent fatigue, particularly in the case of lengthy questionnaires (1, 6); hence, the reason for distributing the questionnaire in two installments with a break between. Previous research has shown that offering incentives can motivate participants (8); therefore, to increase response rate, an incentive was offered (e.g., gift card).

Data analysis

Most of the questions on the survey were close-ended questions, but some required narrative responses to understand the participants’ intentions and opinions. The data from close-ended questions were analyzed using Excel and IBM SPSS 26, and descriptive information was summarized using frequencies and percentages. The qualitative data from the open-ended questions were manually coded by two independent and experienced researchers. Categories were created, and themes were derived based on the methodology proposed by Creswell and Poth (7) and Merriam and Tisdell (20). Intercoder reliability was assessed to establish the survey’s credibility according to the guidelines set forth by Creswell and Poth (7).

RESULTS

Demographics

There were 114 returned surveys and of those, 76 (14% response rate) were complete and represented 33 restaurant participants, 19 grocery participants, 20 C-store participants, and 4 others. In total, the sample represented 336,268 retail outlets. The majority of participants represented chain or franchised operations with >100 units. Participants and company demographics are shown in *Table 1*. A wide range was reported for the number of full-time employees that each participant’s business had; most of them (34.5%) reported that they had 10,000–99,999 employees. Regarding the number of food safety or quality assurance (QA) professionals, the majority (57.7%) had <10, whereas 32.4% had 10–99 and 9.9% had ≥100 food safety/QA professionals. The majority of the participants (74.2%) held a food safety managerial position of either manager or director. For tenure as a food safety professional, the largest percentage of participants had 10–19 years (34.8%), followed by 20–29 years (33.3%). Half of the participants (50.7%) indicated that they had professional credentials such as certified professional-food safety or certified food protection manager.

Employee health policy

The results showed that almost all of the participants (98.4%) reported that they had a written employee health policy (*Table 2*), with most policies based on the FDA’s Model Food Code and Annex. The industry segment breakdown for those that reported having written policies is as follows: restaurant was 100% (27/27), grocery store

TABLE 1. Profile of participants (N = 76)

	Frequency (n)	%
Type of business		
Restaurant	33	43.4
Grocery	19	25
C-store	20	26.3
Other	4	5.3
Type of operation		
Independent store	2	2.6
Chain	63	82.9
<100 units	16	25.4
100–999 units	28	44.4
≥1,000 units	19	30.1
Franchise	11	14.5
<100 units	1	10
100–999 units	2	20
≥1,000 units	7	70
Scope of operation		
Single state	8	11
Regional	25	34.2
National	13	17.8
International	27	37
No. of employees		
<1,000	11	19
1,000–9,999	16	27.6
10,000–99,999	20	34.5
≥100,000	11	18.9
No. of food safety/QA professionals		
<10	41	57.7
10–99	23	32.4
≥100	7	9.9
Job title		
Food safety managerial position	49	74.2
Supervisor/coordinator/expert	4	6.1
Manager	18	27.3
Director	19	28.8
Vice president	8	12.1
Other managerial position	14	21.2
Other	3	4.5

Continued on the next page.

TABLE 1. Profile of participants (N = 76) (cont.)

	Frequency (<i>n</i>)	%
Professional credentials		
Certified food protection manager	15	21.1
Certified professional – food safety	21	29.6
Registered dietitian	2	2.8
Other	18	25.4
None of the above	30	42.3
No. of years as a food safety professional		
<10	7	10.1
10–19	24	34.8
20–29	23	33.3
30–39	13	18.8
40–45	2	2.9

TABLE 2. Written employee health policy

	Frequency (<i>n</i>)	%
Written employee health policy (<i>n</i> = 63)		
Yes	62	98.4
No	1	1.6
Written employee health policy same for every unit (<i>n</i> = 62)		
Yes	59	95.2
No	3	4.8
Every unit required to maintain a written employee health policy (<i>n</i> = 62)		
Yes	54	87.1
No	8	12.9
Written employee health policy is based upon the FDA Model Food Code and Annex (<i>n</i> = 62)		
Yes	52	83.9
No	1	1.6
Partially	9	14.5

TABLE 3. Exclusions and restrictions for food employees

	Frequency (<i>n</i>)	%
Written employee health policy stipulates exclusion and restriction (<i>n</i> = 59)		
Yes	58	98.3
No	1	1.7
Written employee health policy includes removal of exclusions and restrictions (<i>n</i> = 57)		
Yes	50	87.7
No	7	12.6
Employees are required to do the following (<i>n</i> = 56):		
Report the symptoms of the six reportable FBIs to the person in charge	56	100
Report diagnosis as specified in the FDA Model Food Code to the person in charge	48	85.7
Sign an agreement to acknowledge their responsibilities as outlined in the written policy	45	80.4

TABLE 4. Employee accountability and awareness (N = 53)

	Frequency (<i>n</i>)	% ^a
Postings, reminders, and announcements	19	35.8
Employees acknowledgment by signing documents	26	49.1
Wellness check before shift	5	9.4
Monitored by third party	5	9.4
Responsibilities are reviewed on regular basis	17	32.1
Training and orientation	27	50.9
Reinforced by management	4	7.5

^aPercentages were calculated based on the number of participants who provided at least one answer (*n* = 53).

was 93.3% (14/15), and C-store was 100% (17/17). Most participants (98.3%) agreed that their employee health policy included exclusions and restrictions for food employees as they relate to diseases transmitted through food; however, fewer (87.7%) had provisions for removing such exclusions and restrictions (Table 3). Managers and food employees are made aware of their duties and responsibilities for the employee health policy through either training and orientation (50.9%) or via signing and reviewing employee acknowledgment (49.1%), followed by communication through postings, reminders, and announcements (35.8%) (Table 4). Table 5 presents information on how frequently and through what methods

communication occurs regarding employee health policy and reporting requirements. Of the 58 participants who reported means of communication with employees, the majority (74.1%) reported using establishment postings as the primary method of communication, followed by retraining or coaching (67.2%) and regular messaging (48.3%). Among the 54 participants who answered at least one question about communication methods, more than half (53.7%) responded that communication about employee health policy and reporting requirements occurred once a year (53.7%), whereas some participants (33.3%) cited other frequencies, such as postings, periodic communication, or as-needed communication.

TABLE 5. Method and frequency of communication

	Frequency (<i>n</i>)	%
Means of communicating with employees (<i>n</i> = 58)		
Retraining or coaching	39	67.2
Regular and routine messaging	28	48.3
Postings in the establishment	43	74.1
Team meetings or shift huddles	24	41.4
1:1 conversation between manager and employee	21	36.2
Other (e.g., wellness checks every shift, etc.)	11	19
Frequency of communicating to employees (<i>n</i> = 54)		
Weekly	1	1.9
Monthly	4	7.4
Quarterly	10	18.5
Semiannually	4	7.4
Annually	29	53.7
Other (e.g., posted, periodically, as needed, and unknown)	18	33.3

COVID-19 protocols in employee health policy

In terms of integrating coronavirus disease 2019 (COVID-19) protocols into the written employee health policy when given multiple-choice options of maintained separately, integrated fully into health policy, or integrated partially into health policy, more than half of the participants (61.8%) responded that they had COVID-19 protocols separate from their written employee health policy. Some participants (32.7%) reported integrating COVID-19 protocols into their existing employee health policy. Others indicated that they had combined some, but not all, elements of COVID-19 protocols into their employee health policies (5.5%).

Most effective elements and rationale of employee health policy

An open-ended question was asked regarding the most effective elements and rationale of the written employee health policy (Table 6). More than half of the participants (55.9%) reported that employees who are sick should refrain from coming to work or leave work and report their symptoms. Other key elements include managers monitoring employees in the workplace (17.6%); establishing action plans, procedures, and instructions for different scenarios (14.7%); providing written guidelines in an easily understandable format (14.7%); and addressing the benefits of the policy to both the organization and its customers, including

the reasoning behind the policy (14.7%). Percentages were calculated based on the number of participants who provided at least one answer (*n* = 34).

Least effective policy elements of employee health policy

Regarding the least effective elements and rationale of the written employee health policy (Table 6), some participants (20.7%) reported that the least effective elements were instructions for sick leave and close contact, behavior monitoring such as glove changing (17.2%), lack of understanding due to the wordiness of the written policy (13.8%), and employees still coming to work while sick because they believe they have to be at work (13.8%). Percentages were calculated based on the number of participants who provided at least one answer (*n* = 29).

Management's role and employee awareness of six reportable FBIs

In terms of management's role in notifying regulatory authority and monitoring hygiene behaviors (Table 7), almost all management (91.2%) confirmed that they are aware of the obligation to inform regulatory authorities in cases where a food employee is diagnosed with jaundice or one of the six reportable foodborne illnesses (FBIs) known as "The Big 6" pathogens: Norovirus, *Salmonella* Typhi, Shiga toxin-producing *Escherichia coli*, *Shigella* spp., hepatitis A, and nontyphoidal *Salmonella*. In addition, most managers

TABLE 6. Participants' beliefs about the effectiveness of written employee health policy

	Frequency (n) ^a	% ^b
Most effective policy (n = 34)		
If sick, don't come to work, leave work, report symptoms	19	55.9
What managers should look for, do, or monitor	6	17.6
Action plans, procedures, and instructions for each situation	5	14.7
Benefit to organization and customer	5	14.7
Updated or easy to understand guide	5	14.7
Personal hygiene requirement	4	11.8
Aligned with state and/or industry guidance and standards	3	8.8
Training and training guidance	3	8.8
Communicate policy	2	5.9
No barehand contact	2	5.9
Other (e.g., accessibility of the plan, accountability, wellness checks)	5	14.5
Least effective policy (n = 29)		
Instructions for sick leave and close contact	6	20.7
Behavior monitoring (e.g., glove changing)	5	17.2
Lack of understanding/cause confusion	4	13.8
Still show for work when sick	4	13.8
Personal hygiene monitoring	3	10.3
List and checkbox fatigue	2	6.9
Other (e.g., ability to enforce is limited, misaligned with Food Code)	4	13.8

^aMultiple responses by a participant could be provided to this open-ended question.

^bPercentages were calculated based on the number of participants who provided at least one answer.

(83.6%) have reported that they regularly observe the hygiene practices of their employees at least daily.

In relation to the knowledge of the six reportable FBIs and their symptoms, 32.7% of managers reported that all of their employees are knowledgeable about the six FBIs and 43.6% indicated that half of their employees are aware of them (Table 7). Of the remaining participants, 12.7% (n = 7) indicated that few employees knew and 10.9% (n = 6) indicated none of the options given and wrote in their answers (e.g., rarely, unknown).

Bare hand contact and handwashing

With respect to bare hand contact, more than half of participants (68.3%, n = 41) said that their employee health policy included guidelines prohibiting bare hand contact with RTE food. Of those who answered that it was not included (31.7%, n = 19), 10.5% said it was because their regulatory authority permits it.

Half of the participants (50.0%, n = 56) reported using novel approaches to promote proper handwashing, such as using timers, assigning designated handwashing leaders, having reminders through point-of-sale and public address systems, and monitoring through devices such as headsets and Apple watches (Table 8). Other approaches included camera audits, marking towels, and monitoring of chemicals. Based on the number of participants who provided at least one answer (n = 22), less than half of these participants (40.9%) described novel approaches related to frequency and timing of handwashing as well as the use of device or message reminders (40.9%); some identified active managerial control and leader involvement (31.8%) and the use of timers (27.3%) was a popular write-in response as well.

Many participants (42.2%) reported ensuring that handwashing is a priority by providing regular and ongoing training and education to their employees as well as reinforcing or coaching the proper steps of handwashing

TABLE 7. Management’s role and employee awareness of six reportable FBIs

	Frequency (<i>n</i>)	%
Management aware of responsibility to notify regulatory authority when an employee has jaundice or is diagnosed with one of the six reportable FBIs (<i>n</i> = 57)		
Yes	52	91.2
No	5	8.8
Frequency of managers monitoring of employee hygiene behaviors (<i>n</i> = 55)		
Continuously	27	49.1
Very frequently (throughout the day)	19	34.5
Frequently (several times a week)	2	3.6
Occasionally (at least once a month)	6	10.9
Never	1	1.8
Employee awareness about six reportable FBIs		
Employees know six reportable FBIs and symptoms	18	32.7
About half of the employees have knowledge about the six reportable illnesses	24	43.6
Few employees are knowledgeable about the six reportable illnesses	7	12.7
None of the above	6	10.9

(35.6%) (Table 8). Communication (28.9%) and strategically placed signage that is updated or changed regularly (24.4%) were also reported as important methods for prioritizing handwashing. Typified answers from the respondents revealed that employees receive training on proper handwashing procedures when they are hired and thereafter on a semiannual basis. Managers are continuously trained to monitor handwashing compliance. In addition, posters outlining handwashing policies are placed at hand sinks and throughout the kitchen. The percentages were calculated based on the number of participants who provided at least one answer (*n* = 45).

Conditional employees

The findings revealed that more than half of the participants (61.1%) who have a written employee health policy reported that conditional employees are familiarized with the policy and its reporting requirements during preemployment interviews. Conditional employees are defined as those who have not yet started working, but who have an offer for employment. The Food Code (34) specifies that both current and conditional employees must “report information about their health and activities as they relate to gastrointestinal symptoms and diseases that are transmittable through food.” When looking at industry segment data, a higher percentage of grocery participants (75%) and C-store

participants (60%), compared with restaurant (50%) participants, reported that conditional employees were familiarized with written employee health policy during preemployment interviews.

Paid time off for illness

Regarding paid time off for illness (Table 9), more than half of the participants (61.8%) indicated that paid sick leave for non-COVID-related illnesses was offered. Among those who answered “Yes,” the majority (75.8%) reported that the incentive is a brand standard regardless of local requirements, whereas the remaining participants (24.2%) reported that it is only offered where the law requires it. Of interest is the breakdown by the industry segment, with the majority (52.2%) of restaurant participants indicating no paid sick leave. When sick leave was offered, all segments had the highest percentage, indicating it was a brand standard (*n* = 8, equaling 80% of restaurant participants; *n* = 7, equaling 77.8% of grocery participants; and *n* = 9, equaling 81.8% of C-store participants).

DISCUSSION

This research surveyed the content of employee health policies and different retail food stakeholders’ perceptions of employee health policy effectiveness in retail food business operations. Compared with previous research,

TABLE 8. Ways for ensuring handwashing and novel approaches

	Frequency (<i>n</i>)	%
Ways for ensuring employee handwashing (<i>n</i> = 45 ^a)		
Continuous training and education	19	42.2
Reinforce and coach	16	35.6
Communication	13	28.9
Signage strategically placed, updated, and changed out	11	24.4
Monitor and correction	11	24.4
Audit	9	20.0
Routine or habits	4	8.9
Standards and standard operating procedures	4	8.9
Set examples role and modeling	4	8.9
Benefit (e.g., share why it is important)	3	6.7
Adequate and accessible supplies	2	4.4
Use timers	2	4.4
Active managerial control	1	2.2
Novel approaches used to encourage handwashing (<i>n</i> = 56)		
Yes	28	50
No	28	50
Novel approaches for facilitating employee handwashing (<i>n</i> = 22 ^a)		
Focus on frequency and time of washing	9	40.9
Device and message reminders (e.g., public address systems)	9	40.9
Active managerial control and leader involvement	7	31.8
Use of timer	6	27.3
Innovative monitoring of compliance (e.g., headsets and Apple watches)	3	13.6
Promote awareness	3	13.6
Other (e.g., too numerous to name, being creative)	1	4.5

^aMultiple responses by a participant could be provided to this open-ended question.

this study found varied policy implementation. First, this research revealed that the employee health policies were well established and applied, particularly in the area of sick employee restrictions. Compared with Liggins et al. (16), the presence of a written employee health policy, first required in the 2005 FDA's Food Code, has become relatively common in recent years, particularly in multiunit operations, leading to the development of a more robust FSMS (33). Liggins et al. (16) found that 56.0% of fast-food restaurants and 70.7% of full-service restaurants had no employee health policy based on their data collected in 2012. However, our survey found 100% (*n* = 27) of restaurant participants indicated

they have such policies in writing. This may be indicative that there is a greater presence of employee health policies in participating restaurants compared with the Liggins et al. (16) study. We note that in our study, the majority of participants represented chain or franchised restaurants with >100 units; therefore, the presence of formal written health policy may be more common than in smaller, independent operations. Chains comprise multiple outlets and often have more resources and human resource management oversight to develop and monitor policies.

Implementing employee health policies has proven to be important in enhancing FSMSs in the foodservice industry

TABLE 9. Paid time off for illness by industry segment

	Restaurant (n = 23)		Grocery (n = 13)		C-store (n = 16)		Other (n = 3)		Total (n = 55)	
Offer paid sick leave for non-COVID-related illness										
	n	%	n	%	n	%	n	%	n	%
Yes	11	47.8	9	69.2	11	68.8	3	100	34	61.8
No	12	52.2	4	30.8	5	31.3	—	—	21	38.2
	Restaurant (n = 10)		Grocery (n = 9)		C-store (n = 11)		Other (n = 3)		Total (n = 33)	
If paid sick leave is offered for non-COVID, how is it offered										
	n	%	n	%	n	%	n	%	n	%
Only where required by law	2	20	2	22.2	2	18.2	2	66.7	8	24.2
Brand standard everywhere, no exceptions	8	80	7	77.8	9	81.8	1	33.3	25	75.8

(30). Also, it is noteworthy that most of the foodservice entities notified their employees about the sick employee policies on a regular basis and actively put the employee health policy into practice. According to data analyzed by Hoover et al. (14) from 2014 to 2016, 65.8% of restaurants applied sick employee policies and excluded ill employees based on their symptoms. In a more recent study (22), managers who had an outbreak between 2017 and 2019 were interviewed. Among the interviewed managers, 62.4% (n = 387) reported they had formal written policies and 85.5% (n = 620) of managers indicated that their policy included restriction or exclusion of ill food workers (22). Considering the percentage of managers who are aware of their responsibilities for excluding ill employees and reporting to a regulatory authority, the manager’s role in employee health may be more visible than before, particularly given the focus on health with the COVID pandemic. Because the effectiveness of restricting sick employees has been shown to be the one of the most critical factors in preventing foodborne illnesses, relevant policy presence and implementation appear improved in recent years (9, 14, 22).

The current survey provided insight into compliance with Food Code guidelines. Although the managerial role of excluding sick employees is adequately embraced, this survey reveals that there may be opportunities for further health policy improvements by including when restrictions are removed so that employees and managers alike have a clear understanding of when they may return to work. Managers who do not know requirements may permit foodservice employees who no longer have symptoms, but may still be carrying pathogens, to return

to the workplace prematurely. Meanwhile, customers would still be at risk of foodborne illness. In this sense, preventing ill employees from working while sick, or not lifting exclusion restrictions too soon, is imperative to prevent the spread of foodborne illness.

A majority of participants indicated that their employee health policy includes provisions for no bare hand contact with RTE food. Participants also noted several novel approaches that they used to encourage handwashing and monitor handwashing practices. Taken together, these practices illustrate managerial commitment is required to effectively ensure employee hygiene behaviors (5, 9). This highlights the importance of comprehensive employee health policies, monitoring proper handwashing practices, and avoiding bare hand contact with RTE food as key components of a well-developed FSMS.

In conclusion, this study analyzed the current status of employee health policies in retail food businesses. Although the manager’s role has been well acknowledged compared with previous research results, this research can provide two takeaways for both employees and managers: (1) For employees, their responsibility and cooperation still need to be emphasized; employees are ultimately responsible for reporting illness and exposure to their managers. Without this clear and open communication, managers are limited in their ability to supervise each employee’s health, exposure to illness, hand hygiene, and other food safety-related behaviors. (2) For managers, frequent communication to employees regarding health policy with consistent reinforcement is needed to protect consumers from becoming ill.

This survey contains limitations and reveals future research opportunities. First, 38.9% of participants reported that preemployment interviews with conditional employees did not cover written employee health policies and reporting requirements. This implies that opportunities exist to improve communication of employee health policy with conditional workers. Future research can provide a more holistic view and assess the policy effectiveness accurately by filling the gap of employee health policy implementation among conditional employees.

Second, the research participants were limited to retail food establishments including restaurants, grocery stores, and C-stores in the United States. The majority of participants represented larger franchises or chains; thus, research findings should be carefully viewed when applying them to different contexts (e.g., catering operations or small independent operations). Future study could supplement this research outcome by enlarging the sample, including smaller operations, or including different geographic locations and contexts.

And third, this survey relied on self-reported data. Self-reporting answers about policy and practice related to food safety and ensuring consumer safety may have influenced participants to provide socially desirable responses (24). Although the participants' desire to provide socially

acceptable answers cannot be controlled on the researchers' end, the research team collaboratively developed the survey questions to reduce possible bias. Also, the survey items were reviewed by 10 external experts before distribution to eliminate potential confusion, thereby allowing this research to obtain relatively clear answers from the research subjects. Nevertheless, future research can further reduce the inherent bias by collecting data in different ways, such as collecting another round of data from the participating companies' employees who are affected.

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