Conducting Infectious and Communicable Disease Education in Hospitality Organizations

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Abstract

Every day, employees in the lodging and hospitality industry are potentially exposed to bloodborne pathogens and other infectious diseases. Federally sponsored biosafety and infectious disease training sessions were conducted at two lodging sites in an effort to promote infectious disease primary prevention, as well as mitigation and management techniques in the hospitality industry in an effort to develop interdisciplinary connections between public health and hospitality. The trainings were positively received, but as this viewpoint reveals, further research, partnerships, and curriculum development is needed in this area for it to have long-term and impactful effects.

Keywords: Infectious Disease, Disease Education, Hospitality Organization, Training

Introduction

Continuously employees of the lodging and hospitality industry are responsible for providing guests memorable and comfortable experiences in thousands of global accommodation properties. Housekeepers and environmental services (EVS) personnel, in particular, play an instrumental role in these guest experiences. They clean guest rooms, common areas as well as recreational spaces, so that visitors experience a safe and enjoyable home away from home. However, while cleaning to ensure the safety of the guests, these personnel can simultaneously put themselves at risk of exposure to infectious pathogens (e.g., influenza, Escherichia coli), bloodborne pathogens (e.g., Hepatitis B, C), and/or uncapped needles, just like healthcare workers and biosafety professionals. Hospitality personnel also encounter soiled linens and terry, which may contain bodily fluids or microorganisms that may result in the acquisition of a secondary infection.

However, hospitality personnel are getting significantly less quality, evidence-based training compared to healthcare workers despite similar risks of exposure (Cohen, 2001; Poulston, 2008). This discrepancy is likely the result of mission differences and divergences in the culture surrounding health and safety between the hospitality and healthcare. Health practitioners, biosafety professionals, and some in public health are thoroughly trained on disrupting infectious disease transmission and reducing working exposures; an opportunity exists for hospitality professionals to be trained in a standardized manner as well. For example, those in the above-mentioned professions are trained to interrupt or break the “chain of infection” before disease transmission, a proactive approach (NIEHS Worker Training programs, 2018). With a more reactive approach, safety is usually part of a hospitality facility’s training curriculum, yet there is a deficiency in training in competent identification and handling of biohazards associated with infectious diseases beyond the requirements of the Occupational Safety and Health Administration Bloodborne Pathogens (BBP) Standard (29 CFR 1910.1030), which typically centers around Hepatitis B and human immunodeficiency virus for annual training and re-training; these pathogens will not be the only ones hospitality organizations encounter, as detailed below.
Hospitality organizations are businesses with financial and brand reputation liabilities if outbreaks occur, and no hospitality organization is exempt from such risks; even the largest and most profitable hospitality businesses are subject to outbreaks and their subsequent negative publicity. For example, The Walt Disney Company experienced a measles outbreak originating at its California Disneyland Resort in 2015, resulting in a large multi-state outbreak. These cases were linked to tourists visiting Disney parks during the bustling holiday season; with international travel at its peak, attendance was estimated at 24 million (Zipprich et al., 2015). While Disney CEO, Bob Iger, informed CNBC the company had seen no financial impact resulting from the measles outbreak, a report by the California Department of Public Health estimated the cost of this outbreak to California taxpayers to be upwards of $3.91 million (i.e. contact tracing, information dissemination); this sum does not account for indirect costs (i.e. lost work or school hours) (Fox, 2015; Harriman, 2015).

Literature Review

The majority of peer-reviewed literature written within the hospitality industry has centered on guest experiences, job satisfaction, and/or sustaining guest loyalty, and rightfully so, however, infectious disease acquisition is a growing risks for hospitality personnel that requires greater study (Lam, Zhang, & Baum, 2001; Mattila & O'Neill, 2003; Su, 2004). Past hospitality peer-reviewed literature has also had a limited focus on biohazard risks with scarce best-practices for employee exposure prevention and management. Available information published has mostly been reactionary, such as response to a severe acute respiratory syndrome outbreak in Singapore (Henderson & Ng, 2004) or a Norovirus-like outbreak at a Virginia hotel (Love et al., 2002). Moreover, past peer-reviewed literature on safety training in the industry primarily focused on safety in regard to hotel security or food handling, which is important, but has lacked the worker health and safety approaches or rationale (Chan & Lam, 2013; Enz & Taylor, 2002; Seaman & Eves, 2006).

Only within the last decade has there been a slow shift toward hotel readiness and training procedures in infection control and sanitation, including communal spaces (e.g., pools), highlighting more precautionary measures (Bilajac et al., 2012; Dippold et al., 2003). In particular cruise lines, have prioritized curbing the spread of infectious disease amongst its guests due to several highly publicized norovirus outbreaks, which resulted in negative financial repercussions and damage to the brand (i.e., Carnival Cruises) (Reuters, 2012). Hospitality organizations serving as the setting of infectious disease transmission and outbreaks can face legal ramifications for common vehicle spread, on sometimes literal vehicles, in which close-quarter environments are ideal for viruses to persist through, “environmental contamination and infected crew members that can serve as reservoirs for infection” (Babcock, 2007).

Public health concerns in the events management sector of hospitality have also been in the recent international conversation. The Zika virus outbreak at the 2016 Summer Olympics in Rio de Janeiro, Brazil, placed visitors and participants’ safety from the spread of vector-borne to human-to-human disease transmission in the global spotlight. Based on the severity of Zika in Rio de Janeiro, the World Health Organization and Centers for Disease Control (CDC) advised pregnant women and those family planning to avoid the city, thereby impacting the tourism and hospitality industry (Sims, 2016).
Widespread industry adoption of best-practice occupational health and safety measures for infectious diseases has not reached critical mass. Since cruise lines have similar operational commonalities as traditional lodging facilities, it can provide a roadmap for mitigation and management practices with prevention always preferred over treatment (Harris, Lopman, & O'Brien, 2010). Industry-specific and applied training is paramount to any effective employee training program, but in the hospitality industry, the guest experience has traditionally taken precedence over employee health and safety even though hospitality professionals serve as a line of defense in potential public health concerns. Water quality, environmental decontamination, infection control, and food safety are all connected to public health. The employee in the hospitality industry is not only at risk for exposure but is also the first line of defense for guests, colleagues, and the community. Given this intersectionality and the dearth of infectious disease training in hospitality, trainers from the Biosafety and Infectious Disease Training Initiative (BIDTI) conducted a series of training at two hospitality organizations in early 2018.

The Biosafety and Infectious Disease Training Initiative

BIDTI is a National Institute of Environmental Health Sciences (NIEHS) Worker Training Program (WTP) under Ebola Biosafety and Infectious Disease Response, which stood up in response to the 2014-2016 West Africa Ebola virus disease (EVD) outbreak (NIEHS WTP, 2018). NIEHS wanted to apply its long-established WTP to workers who are at risk for occupational exposure to infectious pathogens but do not have regular opportunities for high-quality, no-cost training.

During the Ebola outbreak, members of BIDTI had firsthand experience in United States EVD care and provided subject matter expertise on environmental decontamination, infection control, waste management, and proper personal protective equipment (PPE) techniques that allowed for the safe care of patients treated in the U.S. BIDTI has the aim to positively and meaningfully impact the health of communities by providing customized, practical hands-on health, safety training to mitigate and manage exposures to not only EVD but other serious infections for U.S. non-healthcare workers at elevated occupational exposure risk.

The ease of domestic and international travel also lends to the increasing exchange of emerging and re-emerging highly infectious diseases, along with a resurgence of common communicable diseases. Hospitality is no exception, given that hotel guests can be global citizens. While the focus of the hospitality industry will also be the guests’ health and experience, more attention should be paid to the roles the hospitality industry can play in protecting communities from an infectious disease outbreak.

Results and Discussion

BIDTI’s curriculum is comprised of three levels of training: Community, Awareness, and Operations; the level of training is contingent upon workers’ previous background with infectious diseases and the likelihood of exposure. Community-level training is used to cultivate awareness of infectious diseases of public health significance (IDPHS). Disease transmission and the environmental perseverance of organisms are reviewed during this introductory session as well. In the Awareness-level, participants delve into the content of IDPHS. Operations-level
training conveys thorough industry and career-specific training with elevated hands-on skills practice for workers more likely to be involved in emergency response. Both the Community- and Awareness-level training were used in the training discussed below.

**BIDTI Training Locations and Rationalization for Training**

The training was conducted to 95 employees in the spring of 2018 for a major hotel management company, which operates over 350 hotels in North America, at one of their upper-moderate lodging facilities and a large resort casino with over 600 guest rooms and several event spaces. One-hour community-level (CL) training was conducted for resort associates—which included EVS, housekeeping, security, and spa staff—and management for the hotel company. The three-hour Awareness-level (AL) training was delivered to management at the casino & resort. Training representatives from both organizations acknowledged the need for infectious disease prevention trainings, beyond BBP, and supported the delivery of customized training to their staff.

BIDTI facilitators used several pedagogical techniques during the sessions, including traditional lecture and active-learning techniques. Recent pedagogical research has promoted the use of active-learning techniques in hospitality programs in educational settings for adult learning and training. There are numerous benefits from active-learning, such as student empowerment, providing an interactive and more comfortable atmosphere, and creating an environment for enhanced critical thinking; the overall benefit is enhancing job preparedness and knowledge (Armstrong, 2003; La Lopa, Elsayed, & Wray, 2018; Lashley & Barron, 2006).

**Select Evaluation Data**

Evaluations are distributed after every training BIDTI delivers so that the program’s curriculum evolves, positively, based on trainee feedback and recommendations for improvement. According to the University’s Institutional Review Board (IRB), no IRB was required for the analysis of these evaluations. Demographic data were not collected and questions based on the NIH were formed. Questions the agency were interested in the knowledge were asked to participants. Based on the evaluations from both sites, post-training, at both the Community- and Awareness-level, the training was positively received. At the CL, 95 evaluations were completed. CL evaluations consist of 12 statements rated on a 5-point semantic differential scale (Excellent to Poor) and 3 questions that permit open-ended qualitative feedback. After the one-hour training, 94.73% either marked ‘Strongly Agree’ or ‘Agree’ that the training had prepared them to better recognize infectious disease hazards on the job and 94.68% strongly agreed or agreed that it had also taught them how to better prepare to safely respond to infectious disease events on the job (Table 1).

All (100%) of the CL trainees rated the course as either “Good”, “Very Good” or “Excellent” at explaining infectious diseases of public health significance, and highlighting specific diseases and/or issues to discuss more in-depth means of transmission, prevention, and personal safety measures to take (i.e. norovirus, bed bugs, influenza). All, also marked “Good”, “Very Good” or “Excellent” at understanding the importance of education on diseases transmission and the environmental persistence of organisms, as well as identifying basic
methods they as workers can implement to protect themselves from infectious disease scenarios and identifying potential ways they might be exposed (Table 2).

**Table 1.** Community-level Training for Resort Associates (n = 95)

<table>
<thead>
<tr>
<th>Evaluative Question</th>
<th>Strongly Agree/Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training assisted in the recognition of infectious disease hazards on the job</td>
<td>94.73%</td>
</tr>
<tr>
<td>Training prepared participants how to safely respond to infectious disease events on the job</td>
<td>94.68%</td>
</tr>
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</table>

**Table 2.** Community-level Training for Resort Associates (n = 95)

<table>
<thead>
<tr>
<th>Evaluative Question</th>
<th>Good/Very Good/Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to explain infectious diseases of public health significance</td>
<td>100%</td>
</tr>
<tr>
<td>Ability to highlight specific diseases and/or issues to discuss more in-depth means of transmission, prevention, and personal safety measures to take (i.e. norovirus, bed bugs, influenza)</td>
<td>100%</td>
</tr>
<tr>
<td>Understood the importance of education on diseases transmission and the environmental persistence of organisms, as well as identifying basic methods they as workers can implement to protect themselves from infectious disease scenarios and identifying potential ways they might be exposed</td>
<td>100%</td>
</tr>
</tbody>
</table>

Open-ended comments that appeared more than once included: The importance of wearing disposable gloves more frequently or at all, how to properly don and doff disposable gloves to prevent cross-contamination, better hand hygiene (duration and technique), and being more aware of their actions in their work environment. Nearly 90% (87.64%) of trainees stated they had high or moderately high comfort levels in sharing information they learned that day with co-workers, family, and/or friends (Table 3).

At the AL, 65 evaluations were completed. AL evaluations consist of 28 statements rated on a 5-point semantic differential scale and 3 questions that permitted open-ended qualitative feedback. Similar to the CL, after the two-hour training, 90.23% either marked ‘Strongly Agree’ or ‘Agree’ that the training had prepared them to better recognize infectious disease hazards on the job (Table 4).
Table 3. Community-level Training for Resort Associates (n = 95)

<table>
<thead>
<tr>
<th>Evaluative Question</th>
<th>High/Moderately High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort level in sharing information learned material with co-workers, family and/or friends</td>
<td>87.64%</td>
</tr>
</tbody>
</table>

Table 4. Awareness-level Training for Resort Associates (n = 65)

<table>
<thead>
<tr>
<th>Evaluative Question</th>
<th>Strongly Agree/Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training assisted in the recognition of infectious disease hazards on the job</td>
<td>90.23%</td>
</tr>
</tbody>
</table>

Over 80% (82.25%) felt they had learned either a fair amount or great deal of knowledge pertaining to infectious disease exposure control plans and 78.69% felt comfortable applying and adapting exposure control plans for their place of work when asked on a five-point semantic differential scale that ranged between “Gained a great deal of knowledge about the content” to “Did not gain any knowledge about the content.” At the AL, a demonstration and exercise for appropriate donning and doffing of disposable gloves and a disposable N95 filtering facepiece respirator were conducted. Over 80% of trainees (81.25%) felt they had gained a fair or great deal of knowledge on PPE selection (Table 5), and nearly all (99.99%) stated they had a good, very good or excellent ability to describe how work practice controls can reduce the risk of exposure as a result of the training (Table 6).

Table 5. Awareness-level Training for Resort Associates (n = 65)

<table>
<thead>
<tr>
<th>Evaluative Question</th>
<th>Fair Amount/Great Deal of Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge pertaining to infectious disease exposure control plans</td>
<td>82.25%</td>
</tr>
<tr>
<td>Knowledge on PPE selection</td>
<td>81.25%</td>
</tr>
</tbody>
</table>

Table 6. Awareness-level Training for Resort Associates (n = 65)

<table>
<thead>
<tr>
<th>Evaluative Question</th>
<th>Good/Very Good/Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to describe how work practice controls can reduce the risk of exposure as a result of the training</td>
<td>99.99%</td>
</tr>
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Conclusion and Implications

Overall, these infectious and communicable disease training, with a focus on biosafety and prevention, in the highlighted hospitality sites were positively received. Leadership and training coordinators that scheduled the training indicated the value of this education, even if it was not a mandatory requirement. Furthermore, it appeared these leaders were excited to be partnering with a public health institution on a topic that could have a great impact on the organization’s public image. Formation of these types of relationships will be instrumental in developing this area of safety within the industry; incremental change in SOPs to take an all-hazards approach would also be beneficial.

A concerted effort must be made to get more leaders in the industry to understand the value of infectious disease training to the preservation of the hospitality industry, as the impacts of an infectious disease outbreak have a short-term business but also long-term business ramifications and brand implications. Infectious diseases are a threat to the viability, sustainability, and profitability of the hospitality industry and the prevention of exposures to both the workers and guests are beneficial to the longevity of these organizations. Academics focused on hospitality organizations and in public health should see opportunities for collaboration.

When it comes to training hospitality employees on the spread and mitigation of infectious disease, it tends to take a reactionary approach. After said events occur, impacted organizations offer refresher training and public commitment to rectify the issue. All too often, hospitality trainings focused on infectious disease are brief, included in packed employee orientation material, and are not often reinforced so retention of knowledge and skills is likely low. The training conducted detailed in this report focused on not only the organizational impact but how infectious disease caught at work can be brought in the home.

The end goal would be for hospitality professionals to be competent in preventing and mitigating infectious disease transmission they are likely to encounter. Moreover, a robust, easy-to-follow, and standardized industry-specific training system must be developed. Hotels, restaurants, cruise ships, and events have more commonalities than not. Credentialing in this area is a must for hospitality services. Emery et al. (2016) argue, “Credentialing within a professional organization is often considered a tangible demonstration of the highest level of competency within one’s field,” and this is a direction the industry should continue exploring.

There were limitations to the trainings. The trainers’ ability to impact long-term or sustained behavioral, workplace and/or policy changes is unknown because this was a short, one-time training at the organization. In an ideal scenario, there would be refresher courses. However, due to time constraints—an economic loss for the business when employees are not working—we fit in as much relevant, knowledge-level appropriate information in the time allotted. The intention is that exposure to the concepts will stimulate individuals to think more about how they can protect themselves in the workplace.

In the future, trainers should ensure that these types of resources are available beyond this program. Development of free, online learning modules/platforms could be a sustainable option so they can be accessed at the employee’s convenience, and reduce the interference with the workday. We have already created one such online learning module and plan to expand our efforts and encourage our colleagues in hospitality and tourism research to join these efforts. Daily, millions of people engage in leisure activities. They go out to eat, travel to foreign lands,
stay in hotels, and attend large events. Participating in these activities can be done so more safely and healthily, manner, with a proactive approach.

References


