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# THE PREVENTATIVE MEASURE

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Triannual Newsletter of the National Capital Area Environmental Health Association

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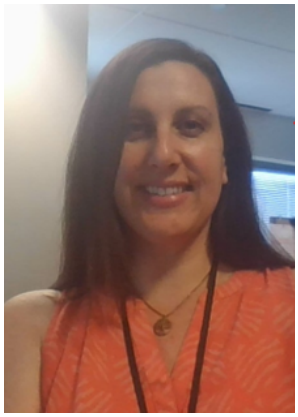
## 2021 BOARD

# President's Message



Happy Fall!

I hope this newsletter finds you and your family well. With the arrival of Fall, our upcoming annual Fall Educational Conference is fast approaching. I hope you will join us virtually Monday, October 25th for some educational presentations. Please RSVP through our website homepage, www.ncaeha.org, under announcements, in the middle left side of the page.

In addition to planning the Fall Educational Conference, the Board is beginning the process of planning for our 2022 Elections. Open for election are the positions of Secretary, Treasurer, DC Representative, MD Representative, VA Representative in addition to our currently vacant position of VP of Programs & Professional Advancement. Qualifications and duties of these positions are listed on our website homepage through our Bylaws link starting on page four. Please join us in making a difference within our profession! We encourage all members interested in serving or who have questions to please contact me and make submissions by close of business November 12th at NCAEHA.President@gmail.com.

Please remember to login to our website frequently to stay up to date on our announcements, job opportunities, store, upcoming events, publications as well as stay current with your membership. You can also follow us on Facebook, Instagram, LinkedIn and Twitter. Let me or any Board member know how we may better serve you. I look forward to seeing many of you virtually October 25th!

Best regards,

Julia Balsley, NCAEHA President

# Impact of COVID-19 on the United States Food Service Industry and Science-Based Strategies for Pandemic Preparedness

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*Conrad N. Hilton College of Hotel and Restaurant Management, University of Houston*

**ABSTRACT**
**Epidemiologists suggest that even as we deal with the current COVID-19 crisis, we also prepare for future pandemics. The purpose of this special report is to document the impact of COVID-19 on the food service industry, as well as provide strategies based on empirical evidence and suggestions for future preparedness. Studies have found a need for increased emphasis on specific arenas within the food service industry: 1) cleaning and sanitation of fomites such as doorknobs, menus, and table surfaces, 2) rigorous hand-washing and mask-wearing practices to decrease transmissibility of the virus, 3) effective ventilation within operations, and 4) empathetic leadership to enhance resiliency as food service operations across the country cope and work toward reopening. From the practitioner's standpoint, clear and effective communication is key for working with food service operations. The importance of social distancing and mask wearing has been documented using science-based evidence; however, the ways in which these measures are enforced in food service establishments vary across counties and cities within each state, leading to confusion and frustration. As we prepare for the next pandemic, having a rigorous plan to deal with different biological hazards across multiple organizational levels will help with preparedness and the speed of implementation.**

## Introduction

Public health experts and epidemiologists have been warning global leaders of the risk of a pandemic—not if, but when (de Jong et al., 1997; Gates, 2015). The coronavirus disease 2019 (COVID-19) pandemic occurred a little over 100 years after the 1918 influenza pandemic; however, experts warn that the next pandemic could occur in the next 20 years (Crespin, 2020). During a human-made or natural disaster, the world and communities come together to provide solidarity, support systems, and aid; however, in the absence of a crisis, there can be a failure to plan effectively for a future disaster (Crespin, 2020).

Planning for a pandemic is complex and involves global agencies (e.g., the World Health Organization), governments across the world, state agencies, local governments (cities and counties), industries, organizations, school districts, and universities, to name a few. Pandemic preparedness is a complicated, long, and expensive process requiring risk assessment skills for different types of hazards and a way for countries to work together as a cohesive unit against these potential hazards. Considering the impact on lives, number of deaths, loss of livelihood, and effect on every country's economy, however, a proactive approach in pandemic preparedness is vital. At the food service level, robust food safety training and retraining, leadership with a high emotional quotient, infrastructure, and a solid work culture are essential to success in the planning phase (de Freitas & Stedefeldt, 2020).

The focus of this special report is to: 1)discuss the novel coronavirus (SARS-CoV-2) that caused the COVID-19 pandemic, 2)document the impact of COVID-19 on the food service industry, 3) discuss specific research and empirical evidence that can be applied to the food service industry, and 4) identify future strategies for the industry and practitioners.

## Effect of the COVID-19 Pandemic on the Food Service Industry

The food service industry comprises operations that serve meals and/or snacks for immediate consumption on site, also called food away from home (U.S. Department of Agriculture [USDA], 2020). These commercial food service establishments include full service and fast food restaurants, cafeterias, and caterers (Edwards, 2013; USDA, 2020). Some food service establishments are located in facilities that do not provide meals and snacks primarily (e.g., lodging, recreational facilities, and retail stores) (USDA, 2020). Full-service and fast food restaurants are the two largest segments of the commercial food service market and accounted for >73% of food-away-from-home sales in 2019 (USDA, 2020). Schools and nursing homes are classified as noncommercial food service establishments, also called institutional food service facilities (Edwards, 2013; USDA, 2020).

The National Restaurant Association (2019) reported that restaurants are the second largest private sector industry in the U.S. and provide jobs for 1 in 10 people in the U.S. The food service

industry is fiercely competitive and studies have demonstrated that approximately 30% of restaurants fail during their first year of operation (Parsaetal., 2005). The majority of employees within the food service industry are part-time, often female, students, and documented or undocumented immigrants (Edwards, 2013). There is an expectation of long working hours, low employee pay, and a high turnover rate (Edwards, 2013).

The food industry has been particularly affected by the COVID-19 pandemic and many food service operations around the country have absorbed the impact of COVID 19 by pivoting exclusively to to-go and delivery options (Bartik et al., 2020; del Rio-Chanona et al., 2020). At the beginning of 2020, 1 out of 10 working Texans had a job in the food service industry (University of Houston Hobby School of Public Affairs, 2021). One study surveyed 340 Texas-based restaurant and bar owners who owned a total of 1,342 establishments and employed 44,910 Texans as of March 1, 2020. The survey was conducted between April 8 and April 22, 2020. The self-reported results showed that 90% of owners said that sales dropped between March 23 and April 6, 2020. Almost 80% of the owners laid off some employees and 86% cut worker hours. Some owners (41%) closed one or more restaurants and 19% permanently closed one or more locations (University of Houston Hobby School of Public Affairs, 2021).

The restaurants that stayed in business pivoted to takeout and delivery options only. Eating and drinking places are the primary component of the U.S restaurant and food service industry, generating >75% of total restaurant and food service sales before the COVID-19 pandemic (National Restaurant Association, 2020). The National Restaurant Association (2021) reported that restaurant industry sales in 2020 were down $240 billion from previously expected levels and 110,000 restaurant locations were temporarily or permanently closed.

**Science-Based Strategies for the Food Service Industry Moving Forward**

**Risk of Transmissibility of SARS-CoV-2 Varies Depending on the Environment**

Even though the primary mode of transmission of SARS-CoV-2 is via respiratory droplets, WHO has determined that airborne transmission (smaller droplets and particles, often referred to as aerosol) of the virus does occur, particularly in enclosed spaces with poor air circulation (WHO, 2021d). Qian et al. (2020) studied case reports in 320 cities (including Hubei province) in China between January 4 and February 11, 2020, and identified 318 outbreaks with 1,245 confirmed cases. Outbreaks were highest in homes (79.9%), followed by public transport (34%). The authors concluded that sharing indoor spaces had the highest risk of SARS CoV-2 transmissibility. These results demonstrate that open-air restaurants and other businesses (such as outdoor farmers markets, open air gyms) could be less high risk for SARS-CoV-2 transmission than indoor spaces (Qian et al., 2020). The Centers for Disease Control and Prevention (CDC) investigated an outbreak in Guangzhou, China, where multiple families experienced COVID-19 symptoms after visiting a restaurant (Qian et al., 2020). The restaurant had 83 customers who became ill with COVID-19 between January 26 and February 10, 2020. The distance between each table was approximately 1 m (3 ft) and smear samples from the restaurant air conditioner were negative for SARS-CoV-2. The investigators concluded that the outbreak was due to droplet transmission. The researchers recommended increasing distance between tables and improving ventilation in restaurants to prevent the spread of SARS-CoV-2 (Qian et al., 2020). These studies demonstrated the impor tance of effective HVAC systems and reducing the number of diners in the dining room to maintain a 6-ft distance between tables.

**Fomite Transmissibility**

It is estimated that most humans spend >90% of their daily lives indoors (Dietz et al., 2020). Hence, it is important to review potential risks of SARS-CoV-2 transmission from fomites, especially because previous studies have shown that the human CoV virus (a strain similar to SARS-CoV-2) can survive on various hospital surfaces for several hours (Sizun et al., 2000). In addition, occupant density in closed spaces can also cause accrual of microorganisms on fomites over time (Horve et al., 2020). Studies have shown that patients with COVID-19 can shed viral particles before, during, and after experiencing symptoms— and even when asymptomatic (Rothe et al., 2020). The viral particles can settle onto fomites and serve as a reservoir for further viral transmission (Ong et al., 2020).

While the primary mode of SARS-CoV-2 transmission is respiratory droplets, there is a possibility, albeit low risk, of virus transmission via surfaces. A study performed in a hospital setting demonstrated the presence of SARS CoV-2 RNA by testing items such as medical and exercise equipment, tablets, phones, and glasses (Santarpia et al., 2020). Studies have shown that SARS-CoV-2 can survive on surfaces such as plastic (3 days), glass (2 days), and aluminum (4 hr) and thus fomites could play a potential role in person-to-person transmission (Pastorino et al., 2020).

Previous studies have documented the effects of microbes' survivability and transfer from fomites (Stephens et al., 2019); research has been performed in food service settings that demonstrate the persistence of foodborne pathogens for up to 30 days on food service fomites such as laminated and paper menus (Sirsat et al., 2013). High-frequency touch areas (hot spots) in restaurant dining areas include menus, door handles/knobs, chairs, tables, and items that are placed on the table (e.g., ketchup and mustard bottles, salt and pepper

shakers). Mouchtouri et al (2020) collected environmental swab samples from a ferry boat during a COVID-19 outbreak, a nursing home, a long-term care facility (where asymptomatic cases of the disease were identified), and three COVID-19 isolation hospital wards. The samples were tested using real time reverse transcriptase polymerase chain reaction (real-time RT-PCR) and the results showed that SARS-CoV-2 was detected on swab samples taken from food preparation services and service areas within these locations. Hence, there is an increasing need for training and practice related to robust cleaning and sanitizing to reduce the risks, albeit low, associated with fomite contamination within food service operations.

**A Renewed Focus on Personal Hygiene**

A focus on effective cleaning and sanitation of fomites, effective social distancing practices, and mask wearing is required to reduce SARS-CoV-2 transmission risks for customers and employees. CDC has identified five risk factors that contribute to foodborne illness in food service and retail operations based on epidemiological outbreak data: 1) improper holding temperature, 2) inadequate cooking time, 3) contaminated equipment, 4) food from an unsafe source, and 5) poor personal hygiene such as inadequate handwashing and coming to work sick (U.S. Department of Health and Human Services, 2017).

CDC has reported multiple norovirus out breaks associated with restaurants where the cause of the outbreak was a food service employee coming to work in spite of having gastrointestinal symptoms (CDC, 2020); almost 58% of all foodborne illness are caused by norovirus and most of these outbreaks occur in a restaurant setting (CDC, 2018). These findings are especially challenging in an industry that mainly pays food service employees hourly wages, provides limited or no health insurance, and gives limited or no paid sick time (Gangopadhyaya et al., 2018). This scenario is exacerbated during a pandemic such as COVID-19 (Gangopadhyaya & Waxman, 2020). Food service managers can demonstrate the importance of staying home during an illness when employees receive benefits such as paid time off and health insurance. Policy changes and resources need to drive forward a cultural change that has a focus on employee welfare, rigorous handwashing, and safe food handling practices.

**Effective Leadership**

Leadership with high emotional intelligence—defined as the capacity to be aware of, control, and express one's emotions, as well as handle interpersonal relationships judiciously and empathetically—is essential to pandemic preparedness and resilience building. As we prepared for the next wave of COVID-19, the worldwide insurgence of new and more infectious SARS-CoV-2 variants (Ali, 2020; Osterholm et al., 2021), and future pandemics in the next few decades, the focus on safe food practices through the flow of foods (from receiving to service) is essential to good working conditions, a positive work culture, employee well-being, and public health (de Freitas & Stedefeldt, 2020). Food service employees who work during a pandemic often do so for financial reasons, even at the risk of placing themselves and their loved ones at risk of infection. Individuals (e.g., chefs, managers, operation owners) who lead with empathy and use science-based resources to train their employees contribute to food safety effectively, and by listening to their employee opinions and suggestions, will be key to building resilience in the work culture (de Freitas & Stedefeldt, 2020).


**Conclusion**

According to FDA, food and food contact surfaces are not a source of transmission for SARS-CoV-2 (FDA, 2021); however, WHO released a document on March 30, 2021, stating that SARS-CoV-2 has been found to persist in cold chain and frozen food products in China and on products and packages from other countries that supply food to China (WHO, 2021a). Additional research and surveillance data are needed to determine the efficacy and transmissibility of SARS-CoV-2 in these environments.

Three SARS-CoV-2 variants were identified in the U.S. in January 2021 and the B1.1.7 variant (also known as the UK variant) was demonstrated to be highly transmissible and infectious (Osterholm et al., 2021). It is important to continue to follow common sense and science-based public health measure such as mask wearing and social distancing as global vaccination efforts ramp up. A commonsense and science-based strategy is particularly important during a pandemic to 1) save human lives and reduce the burden on hospitals and healthcare professionals, 2) effectively jump-start the economy and prevent the need for another shutdown, and 3) keep food service and other businesses open and thriving.

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# THE YEAR IS ALMOST OVER, TIME TO RENEW YOUR 2022 MEMBERSHIP!

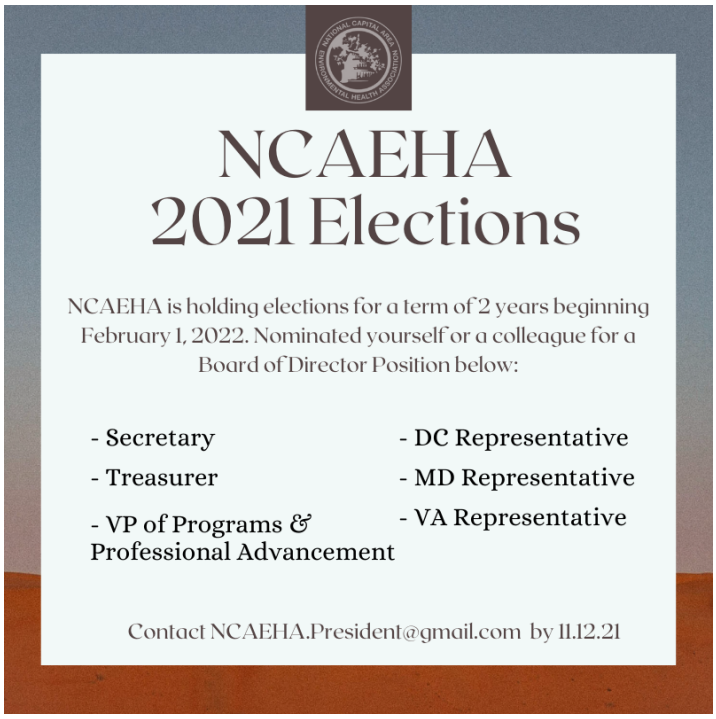
## BENEFITS OF MEMBERSHIP:

- **Be a part of a local association in the DC, MD, and VA area that is focused on environmental health (EH)**
- **Network with other local EH professionals in academia, industry, government, private sector, and other areas**
- **Advance your career by pursuing a credential or certification with our discounted annual courses like the REHS, CP-FS, CPO, and more**
- **Gain more knowledge and/or earn up to 15 Continuing Education hours per year by attending our nearby Educational Conferences**
- **Enjoy a good time with your EH colleagues and build new connections at our social events**
- **Recognize an EH professional by nominating them for an award or scholarship**
- **Pursue local EH employment opportunities with easy accessibility through our announcements**
- **Stay updated through our newsletter, website, and social media and announcements on other events, trainings, webinars, and more**

**Memberships expire on December 31, 2021.**
**Regular Membership Renewal: $20.00**
**Student and Silver Membership Renewal: $5.00**

Membership Renewal may be completed online at **www.ncaeha.org** by simply logging onto your profile and click the RENEW button! Payments are accepted online via credit card.

## Upcoming Elections and Announcements




### 2021 ELECTIONS

Our Board of Directors is comprised of volunteers from Washington DC, Virginia, and Maryland. This is your chance to take a greater part in the EH field! Showcase your leadership skills and work alongside a great team! If you are interested in participating on the board, please send an e-mail to NCAEHA.President@gmail.com by Nov. 12, 2021.

*Also seeking Elections Committee volunteers! Email NCAEHA.President@gmail.com if interested!*

### IT'S SWEATER WEATHER

Represent NCAHEA in a comfortable hooded sweatshirt this fall and winter season! Discount available for current members! Visit our NCAEHA Store at ncaeha.org/store for sizes and availability.


## 2021 NCAEHA Board Contact List

Julia Balsley: **ncaeha.president@gmail.com**
Nicole Gragasin: **ncaeha.vp.membership@gmail.com**
Kendra Washington: **ncaeha.secretary@gmail.com**
Lanita Carpenter: **ncaeha.dc.rep@gmail.com**
Joe Morin: **ncaeha.md.rep@gmail.com**
Amanda Coletti: **ncaeha.va.rep@gmail.com**
Jeanine Flaherty: **ncaeha.industry@gmail.com**

# 2021 VIRTUAL EDUCATIONAL CONFERENCE AGENDA

MONDAY, OCTOBER 25, 2021
9:00am - 2:00pm (via Zoom)

NATIONAL CAPITAL AREA ENVIRONMENTAL HEALTH ASSOCIATION

*Please click on the Zoom link provided in your email to access the Conference.*
*3.5 hours of Continuing Education Credits will be granted for full attendance.*

| | |
|---|---|
| **9:00AM - 9:05AM** | **WELCOME / OPENING REMARKS**<br>JOSEPH MORIN, NCAEHA MD REPRESENTATIVE |
| **9:05AM - 9:50AM** | **AMTRAK PUBLIC HEALTH, KEEPING PUBLIC HEALTH ON THE RIGHT TRACK**<br>MAXINE-LINTHICUM DAVIS, AMTRAK |
| **9:50AM - 10:35AM** | **OVERVIEW OF FOOD SAFETY ADVISORY COUNCILS**<br>BOB CUSTARD, ENVIRONMENTAL HEALTH LEADERSHIP PARTNERS, LLC |
| **10:35AM - 10:45AM** | **BREAK** |
| **10:45AM - 11:30AM** | **Q&A SESSION ON THE CICADA BROOD "X" EMERGENCE**<br>ANDY LIMA, ENTOMOLOGIST, FAIRFAX COUNTY HEALTH DEPARTMENT |
| **11:30AM - 12:30PM** | **LUNCH BREAK** |
| **12:30PM - 12:45PM** | ***NEHA UPDATES**<br>CDR JAMES SPECKHART, MS, USPHS, REGION 8 VP- NEHA |
| **12:45PM - 1:30PM** | **FDA EMERGENCY OPERATIONS CENTER DURING COVID**<br>CDR JAMES SPECKHART, MS, USPHS, REGION 8 VP- NEHA |
| **1:30PM - 1:45PM** | **SPECIAL ANNOUNCEMENTS/CLOSING REMARKS**<br>JULIA BALSLEY, NCAEHA PRESIDENT<br>JOSEPH MORIN, NCAEHA MD REPRESENTATIVE |

**Agenda subject to change.*