School Nutrition Professionals' Employee Safety Experiences During the Onset of the COVID-19 Pandemic

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ABSTRACT

Objective: To explore the real-time personal/employee safety experiences and perspectives of school nutrition professionals ranging from frontline staff to state leadership across the US as they responded to the initial weeks of the coronavirus pandemic.

Methods: A cross-sectional survey was administered electronically March 31–April 20, 2020, to school nutrition staff, managers, directors, and state agency personnel. Descriptive statistics were calculated, and a thematic analysis of an open-ended item was conducted.

Results: School nutrition professionals (n = 504) from 47 states responded. Most (86.6%) reported that ensuring employee safety was somewhat or much more difficult during the pandemic, and they were unaware of an emergency plan. Themes from open-ended responses regarding employee safety concerns included, exposure and transmission risk, processes, and personal concerns.

Conclusions and Implications: Attention to the safety and concerns of school nutrition employees is vital for continuation of these programs during this pandemic and for future emergency situations.

Key Words: school nutrition, food insecurity, COVID-19 pandemic, child hunger, employee safety (*J Nutr Educ Behav* 2021;53:2–9.)

Accepted October 29, 2020. Published online November 5, 2020.

INTRODUCTION

Under typical circumstances in 2019, 4.8 billion school lunches and 2.4 billion school breakfasts were served to children through federally funded child nutrition programs.¹ These programs facilitate the provision of nutritionally balanced meals to children and are offered for free or at reduced prices on the basis of household financial eligibility criteria²; 74.1% of lunches and 85.1% of breakfasts were either free or reduced-price in 2019.¹ Child nutrition programs such as these exist to improve food security for children, and research has indicated that these programs contribute to diet quality and academic performance for children in food-insecure or low-income households.³ Food

insecurity in the US has declined somewhat since the 2007–2009 economic recession ended, however, food insecurity among households with children has persisted at higher than prerecession levels.³

In early March 2020, the coronavirus disease 2019 (COVID-19) outbreak began in the US.⁴ The pandemic has introduced challenges that complicate and possibly compound food security for children in the US. For example, many kindergarten–12th grade (K-12) schools closed their physical campuses in March, 2020⁵ thus eliminating immediate access to breakfast and/or lunch for many children. Furthermore, children whose households were previously food secure may have been negatively affected by the COVID-19 pandemic-

related surge in US unemployment, which rose to 14.7% in April 2020,⁶ the highest rate since 1948. Experts have projected the number of food-insecure children will total 12.4–18 million owing to unemployment and increased poverty rates related to the COVID-19 pandemic.⁷

On March 9, 2020, the US Department of Agriculture's Food and Nutrition Service began issuing waivers allowing sponsors to use the *Summer Food Service Program* or the *Seamless Summer Option* of the *National School Lunch Program* to serve meals in non-congregant settings,⁸ and many school nutrition leaders ramped up the distribution of emergency meals to meet the nutrition needs of their communities' children. As of March 27, 2020, 82% of public schools were providing students with a meal service.⁹ School nutrition programs have responded to other emergencies (eg, natural disasters) in the past,^{10,11} but the COVID-19 pandemic poses unique response challenges. One challenge is that social distancing mandates (individuals keeping 6 ft apart from each other) increase the difficulty of employees producing and distributing meals safely.¹²

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Conflict of Interest Disclosure: The authors have not stated any conflicts of interest.

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<https://doi.org/10.1016/j.jneb.2020.10.021>

Another challenge is that COVID-19 is affecting the entire country instead of a relatively contained region. Despite past disasters, many states are not accustomed to and may not have been ready for an emergency feeding situation of this nature, leaving schools in many areas with limited state guidance. For example, research conducted with school nurses showed that only 8.3% of schools had a foodservice biosecurity plan.¹³

The success of mitigating child food insecurity through school nutrition programs lies with those who work for and manage them. During the pandemic, most states have deemed school nutrition employees essential¹⁴ as governments have recognized the need to feed students who would not eat without emergency meals. Paraphrasing a recently published *Lancet* article, essential workers must be protected to protect the well-being of everyone.¹⁵ Currently, little is known about the experience of school nutrition professionals and leaders outside of media sources. The media can distort the public's vision of leaders during crises,¹⁶ making it important to explore the experiences of school nutrition professionals and leaders directly. The purpose of this study was to explore the real-time personal/employee safety experiences and perspectives of school nutrition professionals ranging from frontline staff to state leadership across the US as they responded to the initial weeks of the coronavirus pandemic.

METHODOLOGY

Survey Instrument

A 55-item survey instrument with both closed- and open-ended items was developed to explore the experiences of a convenience sample of school nutrition professionals. This article focuses on the employee experience of school nutrition professionals including 2 items about emergency plans, 5 items exploring the frequency of employee safety protocol implementation, and an open-ended item about employee safety concerns ("What are your greatest safety concerns for employees/volunteers [including yourself]?"). Various characteristics of the respondents and their work situations were measured, such as their current role in school

nutrition, the state and school districts they represented, if their position was deemed essential, and the length of time they had been providing emergency meals. Job satisfaction,¹⁷ work/life balance,^{18,19} and burnout²⁰ were also assessed. Job satisfaction was measured on a 5-point Likert scale ranging from 1 (very satisfied) to 5 (very dissatisfied).¹⁷ Similarly, the respondents were asked to rate their work/life balance by responding to the statement, "Currently, the balance between my personal and professional commitments is about right" on a 5-point Likert scale ranging from strongly agree to strongly disagree.^{18,19} Burnout was measured on a 5-category ordinal scale with any response above a 2 ("Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out.") indicating some level of burnout.²⁰ The instrument was expert-reviewed by school nutrition professionals (n=3) and another school nutrition program researcher before distribution for content and functionality. Brigham Young University's Institutional Review Board approved this study before data collection.

The respondents were initially presented with an informed consent statement delineating the purpose of the study, the voluntary nature of participation, the potential risks and benefits of participation, researchers' identity and commitment to confidentiality, and that the survey would take approximately 15 minutes to complete. The respondents choosing to participate indicated their consent to participate by clicking yes. To maintain a logical flow, the order of survey questions was not randomized, but potential bias was limited owing to the objective nature of most questions (such as service type, job title, etc). None of the questions were mandatory.

Data Collection

The survey was open March 31–April 20, 2020. All state directors were e-mailed an invitation and link to the Web survey. The survey was also posted as a sharable link and Quick Response code on Facebook (Facebook, Inc, Menlo Park, CA) groups entitled "Tips for School Meals That

Rock," "Build Up Dietitians – School Nutrition," and the Institute of Child Nutrition's account. The target audience of these Facebook pages is school nutrition professionals, and these pages were selected because of their wide reach (at the time they had 13,779; 528; and 3,945 members, respectively). The survey announcement encouraged respondents to share the survey link with other school nutrition professionals. This sampling process was used because it was the most direct way to access this population under the circumstances; other research about the coronavirus pandemic has used social media for recruitment.^{21,22} Responses ultimately came through the anonymous shareable link (n=510), invitation over e-mail (n=17), and from the Quick Response code (n=5); 30 responses were excluded because the respondents did not advance past the initial item. The average completion time was 12.38 minutes. The respondents were not required to participate and were not offered incentives or compensation.

Data Analysis

Descriptive statistics were calculated using SAS software (version 9.4, SAS Institute Inc, Cary, NC, 2013). A qualitative thematic approach was used to analyze responses (n=315) to an open-ended item that was: "What are your greatest safety concerns for employees/volunteers (including yourself)?" Two researchers with previous experience conducting qualitative analyses independently immersed themselves in the data by reading and rereading participant responses to begin brainstorming preliminary thematic coding categories. They then met to discuss their perceptions of the data and agreed on initial themes. Each theme was developed and defined in a code book, and then the researchers coded the data independently.²³ Next, intercoder agreement was calculated by hand (83%; number of coding agreements divided by total number of codes). All coding discrepancies were discussed, and researchers consulted the data as needed to develop a final coded document.

RESULTS

The final sample consisted of 504 respondents in a variety of roles ranging from state leadership to frontline school nutrition staff, with representation from 47 states (Alaska, Delaware, Hawaii, and Washington, DC were not represented). The most common role among the respondents was nutrition program director (42.9%; [Table 1](#)). The respondents who selected a state-level role or

other described their contribution to the pandemic response. State directors/personnel reported providing guidance for technical issues and new procedures/protocols, waiver submissions, application approvals, product procurement, and staff management. They communicated with the media and government officials and described themselves as leaders and advocates. Those who self-selected other as their role indicated a variety of responsibilities in

supporting school nutrition during the COVID-19 response and were most commonly dietitians, consultants, menu managers, and bookkeepers/clerks. Only 21.9% of the respondents were aware of an emergency plan, and those who were aware of the plan ranged in how they rated the effectiveness of that plan ([Table 1](#)). Other characteristics of the sample are shown in [Table 1](#).

Ten respondents stated they were not currently working to provide

Table 1. School Nutrition Foodservice Processes and Personal Experiences During Coronavirus Disease 2019 Pandemic Emergency Feeding Response (n = 504)

Variable	n ^a	%	Variable	n ^a	%
Current role			Previously aware of emergency plan		
State agency director	13	2.6	Yes	77	21.9
State agency personnel	9	1.8	No	274	78.1
Nutrition program director	214	42.9	Effectiveness of emergency plan		
Nutrition program manager	104	20.8	Extremely effective	10	13.3
Nutrition program supervisor	34	6.8	Very effective	19	25.3
Nutrition program staff	78	15.6	Moderately effective	25	33.3
Other	47	9.4	Slightly effective	13	17.3
Duration of providing meals			Not effective at all	8	10.7
<1 wk	2	0.5	Satisfaction with meal service		
1–2 wks	105	27.3	Extremely satisfied	186	50.5
3–4 wks	263	68.3	Somewhat satisfied	118	32.1
>4 wks	15	3.9	Neither satisfied nor dissatisfied	30	8.2
Service model(s) ^b			Somewhat dissatisfied	28	7.6
Meal pickup at schools (curbside)	326	62.5	Extremely dissatisfied	6	1.6
Delivery along bus routes	125	32.5	Student meal participation during school closures		
Pickup at other designated site	116	30.1	Significantly higher	45	12.4
Home delivery	97	25.2	Slightly higher	50	13.7
Meal pickup at schools (walk-in)	68	17.7	About the same	27	7.4
Other	1	0.3	Slightly lower	71	19.5
Approach to meal service			Significantly lower	171	47.0
One meal snack/at a time	13	3.4	Level of burnout		
One day's meals/snacks at a time	122	31.7	No symptoms of burnout	41	11.3
Multiple days' meals/snacks at a time	214	55.6	Occasionally stressed but not burned out	120	33.2
Other	36	9.4	Starting to burn out	124	34.3
Meals served during pandemic ^b			Consistently feel burned out	51	14.1
Breakfast	365	95.6	Completely burned out	26	7.2
Lunch	381	99.7	Job satisfaction		
Supper	13	3.4	Very satisfied	99	27.4
Snack	31	8.1	Satisfied	129	35.7
Other (please specify)	2	0.5	Neither satisfied nor dissatisfied	60	16.2
Frequency of adequate staffing			Dissatisfied	58	16.1
Always	149	40.5	Very dissatisfied	15	4.2
Most of the time	150	40.8	Personal and professional balance is right		
About half of the time	24	6.5	Strongly agree	43	11.9
Sometimes	28	7.6	Somewhat agree	76	21.1
Never	17	4.6	Neither agree nor disagree	44	12.2
			Somewhat disagree	102	28.3
			Strongly disagree	95	26.4

^aSample sizes vary owing to missing data and question branching; ^bResults will not add up to 100% because respondents were able to check multiple responses.

Table 2. Frequency of Employee Safety Protocol Implementation

Statements	Mean	SD	Response in % (n)				
			Never	Sometimes	About Half the Time	Most of the Time	Always
Social distancing between employees/volunteer during break times (maintaining 6+ ft of distance)	3.8	1.3	5.5 (17)	16.7 (52)	8.7 (27)	27.7 (86)	41.5 (129)
Social distancing between employees/volunteer during meal service (maintaining 6+ ft of distance)	3.7	1.2	5.6 (19)	18.4 (62)	8.6 (29)	36.8 (124)	30.6 (103)
Social distancing between employees/volunteer during meal production (maintaining 6 + ft of distance)	3.6	1.3	7.6 (26)	16.0 (55)	11.1 (38)	36.9 (127)	28.5 (98)
No contact meal handoffs with recipients (eg, placing meals in trunks or back seats rather than handed to a person)	3.5	1.5	14.0 (46)	18.2 (60)	7.0 (23)	24.9 (82)	35.9 (118)
Wearing masks	2.3	1.5	46.3 (154)	21.0 (70)	6.9 (23)	12.3 (41)	13.5 (45)

emergency meals because they (or someone close to them) were considered part of an at-risk group, their school was shut down, they were sent home, or they felt too unsafe or overstressed to work. Some (n=6) indicated their school/district was not providing meal service during the pandemic primarily because of staff safety concerns.

Most of the respondents (86.6%) indicated that it was somewhat or much more difficult to ensure employee safety during emergency feeding. The respondents employed various strategies to keep employees safe during the COVID-19 pandemic (Table 2). Social distancing (keeping a distance of 6 ft apart)²⁴ between employees/volunteers during break times was the strategy with the greatest percentage of respondents (41.5%) who reported always practicing it. Almost half (46.3%) reported never wearing masks at work.

The respondents described their concerns with employee safety during the emergency feeding response through open-ended comments (n=315) from which 3 themes emerged: exposure and transmission risk, processes, and personal concerns (Table 3). The respondents could contribute to more than 1 theme. The first theme was the fear or risk of exposure and/or transmission of coronavirus. This concern was elevated with descriptions of a lack of personal

protective equipment (PPE) at school nutrition sites. One professional wrote, “Food is being transported in workers’ vehicles, and vehicles are not being sanitized properly. Unless a worker brings their own sanitizing wipes or hand sanitizer, there is none provided. No masks as of yet, but we will have next week!” (nutrition program staff member, Maine). Others were concerned that either the community or other professionals were not following the recommended prevention guidelines, which could result in increased risk of exposure or transmission. One professional commented,

Staff is not used to social distancing and mitigation measures. This poses an issue when they're not being observed. It is my fear that if one person gets sick, they all will be sick. (nutrition program supervisor, North Carolina)

Another theme that emerged was concern with the processes including the administrative interactions, logistics, and protocols for serving emergency meals. For some, there was a feeling of distrust or lack of support from authority. School districts and state health departments were described as disconnected from the situation, apathetic, or uncaring. “I don’t trust that a school nurse understands and/or even cares about whether or not we are safe. They are

working from home and have no clue what we are up against,” wrote a nutrition program director from Texas. Another expressed concern that “no one seems to care about our safety” (nutrition program staff member, Idaho). Others worried about the limited resources (eg, staff, food, or other items) to meet the new approaches to meal service. One wrote, “We have no B-Team waiting in the wings, and all district staff is primarily already working from home” (nutrition program director, New York). Another cited concern for the funding of the program: “It is costing us considerably more than reimbursements will be” (nutrition program director, Georgia). Finally, within this theme, there were concerns related to the pandemic’s disruption of the operation’s regular routines and service setups. New practices were described as unsafe or created many contact points for virus transmission. The following comment showed the collective concerns:

It’s basically impossible to make the number of meals needed quickly and maintain a 6-foot social distancing policy. The forms USDA requires that we have to have the parents fill out defeats the purpose of the no contact hand-off at the curbside. Without volunteers I wouldn’t have the staff to provide the meals but

Table 3. School Nutrition Professionals' Experience During Coronavirus Disease 2019: Employee Safety Concerns (n = 315)

Theme	Response
1. Risk of virus exposure and/or transmission, n = 296 (94%)	Even with social distancing protocols on place, worried about contact with each other and contact with public. (nutrition program supervisor, California) We only have masks if we can provide our own. Being in close contact with hundreds of parents puts my own family at risk. (nutrition program manager, Minnesota) I'm concerned about leaving the house myself and if my staff are practicing social distancing. If not, they are putting all of us at risk. I'm very worried that someone will get sick. (nutrition program director, Wisconsin)
2. Processes, n = 113 (36%) Subtheme 1: Support	Also, it seems like it will take one of us to get sick before anyone thinks to stop meal service. My girls feel like no one but me cares about their safety because teachers, staff, bus drivers, and all other district employees are expected to stay home. We have been asked to only use nutrition employees, no volunteers outside our department and they will not allow bus driver to deliver because it's too risky. (nutrition program director, Tennessee) There are no district safety protocols or guidelines. The upper management hasn't taken the time to prepare these plans even when asked. (nutrition program manager, Colorado)
Subtheme 2: Resources	We don't have enough space in the kitchen to socially distance from each other. There are not enough people working. (nutrition program manager, New York) There are no volunteers, administrators, board members, teachers (noncertified staff) who want to work in food service. I actually only have myself and 2 lunch ladies left. (nutrition program director, Wyoming)
Subtheme 3: Production and distribution	Safe food handling procedures at time of curbside pickup. Some parent/guardian vehicle trunks/hatches are not operable to place meals inside. (nutrition program director, Missouri) Due to larger amounts of meals being prepared, and workload our kitchen is exposed to more people that are not trained in food service safety protocols, and it is challenging to train a high number of people in such a demanding time. The school is sending in other employees from different departments to assist in the workload, but it increases vulnerability as well with larger amounts of people in and out of our food prep area. (nutrition program manager, Utah)
3. Personal concerns, n = 70 (22%) Subtheme 1: High risk, low reward	Some of our employees don't even have health insurance—how will they cover medical need if something happens? They are getting hazard pay, but is it worth it? At what point do we choose feeding the kids over our own health? Feeding is an expectation and when can we call it quits without being blasted by the community? (nutrition program director, Texas) ...most of our staff are in the high-risk category being over the age of 60, yet on the front line... (nutrition program supervisor, Nevada)
Subtheme 2: Burnout, frustration, exhaustion	Difficult keeping morale up when most other staff in the district can work from home. Staff allowed to volunteer whether to come in or not making some days more difficult to prep with staff available (nutrition program director, Ohio) We are frightened, overworked, and frustrated. (nutrition program manager, Georgia)

having different volunteers every few days is scary. (nutrition program director, Arkansas)

The third employee safety theme included comments addressing personal concerns. Respondents described feelings of exhaustion,

fear, and stress. Personal concerns were often rooted in the perspective that working through the pandemic was a high-risk, low-reward situation. One professional expressed frustration with the low pay that many school nutrition professionals receive by writing, "It is frustrating that once

again, the lowest paid people in the school district are on the front lines putting themselves at risk to serve the children of our community" (nutrition program director, New Mexico). Others were concerned for themselves, their families, peers, or employees because of the risk factors

associated with severe illness. One respondent said, “I have a new baby and an immunocompromised son, but I feel I have no choice” (nutrition program staff member, Oklahoma). The respondents also commented on feelings of burnout and frustration. One wrote, “I feel as if I’m all alone but expected to do it all” (nutrition program director, Illinois). Other K-12th grade professionals were able to take a break, but the school meal system could not continue functioning if school nutrition professionals chose not to work. One nutrition program staff member felt that current work was, “physically harder and more stressful than a normal day” (nutrition program staff member, Utah).

Finally, the respondents were asked to report their level of burnout, personal/professional balance, and job satisfaction (Table 1). Approximately one third (34.3%) indicated that they were experiencing 1 or more symptoms of burnout. Most respondents indicated that they were experiencing some disruption in the balance between their personal and professional lives (54.7%). Finally, most respondents were satisfied or very satisfied with their current job (63.1%).

DISCUSSION

Overwhelmingly, the respondents indicated it was more difficult to keep school nutrition employees safe during the pandemic. In this study, only one quarter of the respondents indicated wearing a face mask most of the time or always. For context, this is likely to have changed since March/April with more state/community mask mandates and the call by the Centers for Disease Control and Prevention for all Americans to wear a mask on July 14, 2020.²⁵ As schools are reopening, school nutrition programs may provide masks to their employees and staff training to ensure that child nutrition professionals and students are safe. As school nutrition leaders develop and refine disaster plans, more attention is needed to ensure that school nutrition employees are prepared to act in the role of an essential worker and have necessary PPE. In a 2010 study

of essential workers (not including school nutrition employees), 62% reported having access to respiratory protection (N95 masks, surgical masks, etc).²⁶ As schools reopen their campuses over the next year(s), it is important for leaders to review emerging scientific evidence supporting the use of various forms of PPE and other mitigation practices as they develop policies that will keep school nutrition employees safe. This is especially important because essential employees are more likely to be able/willing to work when they feel they have appropriate protection. Providing PPE to employees may help maintain adequate staffing, which is important because without enough school nutrition professionals, many children would become or continue being food insecure during the COVID-19 pandemic.

As K-12 schools are reopening with new service styles and locations of consumption (eg, classrooms, gymnasiums, outdoor areas, etc), it is important to recognize that approximately 40% of the respondents reported no contact handoffs were only occurring half the time, sometimes, or never in the early phase of the pandemic. In addition, only approximately two thirds of respondents reported they could social distance during breaks, meal service, and production either most of the time or always. Managers and supervisors who create employee work schedules may consider adjusting or staggering normal routines for meal preparation/production and employee breaks to help make social distancing the default during those activities. For all processes, the safest option needs to be practical enough for employees to comply with as they manage their workloads and interact with students. This will not only keep employees safe but will help school nutrition programs remain sufficiently staffed to protect the children they serve from food insecurity and hunger that could lead to reduced immune response and developmental/psychological harm.²⁷

The themes that emerged from the open-ended data revealed how school nutrition professionals felt about their safety while working during the pandemic. More than 90% of those who responded to the open-

ended item highlighted their concern about the risk of virus exposure and/or transmission while at work. This concern aligns with findings from a 2010 survey of essential workers in New York (n = 1,103) who indicated they were concerned about being exposed to a potential pandemic influenza at work (74%), in the community (70%), and at home (53%).²⁶ School nutrition professionals expressed safety concerns owing to a lack of PPE (despite high community exposure) and the difficulty of maintaining social distancing practice among staff, volunteers, and recipients. The comments highlighted concern that some school nutrition staff with chronic health conditions or without health insurance are especially vulnerable in this situation. In the 2010 New York essential workers study 51% of the workers reported that they would not be able or willing to work for their usual shifts during a pandemic.²⁶ A low level of concern for infection risk was positively associated with employees’ willingness and ability to work. Data from the present study show that despite the sudden transition to essential employee status, many school nutrition professionals are still working even though there are perceived risks (all but 10 respondents reported working during the pandemic). The pandemic presented serious personal and safety implications for school nutrition professionals.

Despite concerns for safety, inadequate resources, and many other challenges, school nutrition professionals have maintained a positive outlook. Even with most respondents not feeling adequate professional/personal life balance and most feeling at least 1 symptom of burnout, most were extremely satisfied with the meal service they have been able to provide and were satisfied with their current jobs. With the extension of emergency meal waivers until June 30, 2021, that will help reduce food insecurity among children during the continuing pandemic,²⁸ school nutrition professionals are still responding creatively to change, doing more than their typical pre-pandemic routine, and assuming the health risks associated with COVID-19. As schools are reopening and

waiver extensions expire, it is important to recognize the added responsibility school nutrition professionals have borne that has allowed continued feeding during the COVID-19 pandemic.

This study had limitations. There was heterogeneity in school nutrition services across states, urbanicity, and impact of COVID-19 on communities, thus these results may not be generalizable owing to the sampling method used for this study. The cross-sectional design of this study captured the experience of respondents at approximately 1–4 weeks into emergency feeding (95.6%), which was both a strength and a weakness.

IMPLICATIONS FOR RESEARCH AND PRACTICE

Understanding the unexpected experiences and challenges of emergency feeding during the COVID-19 pandemic could help administrators and government officials create appropriate resources and guidelines as the current pandemic evolves in the US and as they prepare for other future emergency situations. In addition, information from this study could also be used to help school nutrition professionals understand the employee experience as they create emergency plans for future infectious disease outbreaks as recommended by the Centers for Disease Control and Prevention.²⁹ Most schools have a written emergency plan, but less than half have plans for biological events,¹³ such as COVID-19. Few respondents in this study knew if their program had an emergency plan, and the perceived effectiveness broadly varied. Because this study captured the experience of respondents at approximately 1–4 weeks into emergency feeding, other research may explore how the experience changes over time for school nutrition professionals as the pandemic and the US' response evolves. In addition, the researchers could not probe further about the stated experiences because of the methodology; future research could include interviews or focus groups to learn more about the lived experience of these professionals

responding to the COVID-19 pandemic. The experiences with COVID-19 have demonstrated that a pandemic is a unique emergency with its own challenges. These data support that emergency plans can be improved to include strategies to better protect school nutrition professionals and provide adequate PPE. Increasing preparedness for future biological events will ideally allow school nutrition professionals to minimize child food insecurity while experiencing fewer obstacles than they have with COVID-19.

ACKNOWLEDGMENTS

The authors thank the Institute of Child Nutrition for sharing this survey link with social media followers.

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