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Local public health under threat: Harassment faced by local health department leaders during the COVID-19 pandemic

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ARTICLE INFO	A B S T R A C T		
Keywords: Harassment Local public health Workforce Well-being	Background:Prior to the COVID-19 pandemic, local health departments (LHDs) faced several challenges including underfunding and understaffing. COVID-19 exacerbated these challenges and introduced new ones, including harassment of the agency, staff, and leadership. The objective of this study was to qualitatively un- derstand the experiences and impact of harassment faced by LHDs during the pandemic and provide recom- mendations to prevent future harassment.Study design:A qualitative study was conducted utilizing focus groups for data collection. Methods: LHDs were sampled from the 2022 National Profile of Local Health Departments (Profile) study to ensure diversity in LHD size. Four virtual focus groups were conducted in Fall 2022 with a total of 16 LHD leaders surveyed in Profile, who were still in their positions. Focus group transcripts were then coded by two independent coders and analyzed using thematic analysis.Findings:Four common domains arose from the data: aggravating factors of harassment, content and formats of harassment, protective factors, and effects on individuals and on the workforce. Conclusion: Findings suggest that harassment was pervasive with many forms and impacts on the LHD leaders and workforce overall. Recommendations are proposed for the local as well as federal partners because the public 		

Local Health Departments (LHDs) have been chronically underfunded [1], and under-staffed [2,3] for over a decade. Harassment against LHDs and their staff during the COVID-19 pandemic further weakened the public health system. Prior to the pandemic, rates of local public health harassment were minimal to non-existent.

The National Association of County and City Health Officials' (NACCHO) 2020 Forces of Change survey, fielded October 2020 to March 2021, found that three-fifths of LHDs reported harassment due to their COVID-19 response [4], reporting at least 1500 harassment experiences. Forms of harassment included negative social media messages, coordinated demonstrations online and in public, direct threats, and publicly broadcasting staff personal information (i.e., "doxing"). Qualitative work has shown that the behaviors were broader and ranged from villainization [5] to murder [6,7].

These attacks have serious consequences for an already distressed

public health workforce. In a recent study of over 26,000 public health workers, respondents reported negative health impacts, including depression (30.8 %), post-traumatic stress disorder (36.8 %), and suicidal ideation (8.4 %) [8]. In addition to these mental health impacts, harassment increases an individual's intention to leave their jobs, as well as the public health workforce altogether [9]. As of October 2021, more than 500 top health officials had left their jobs since the beginning of the pandemic, in part because of abuse and threats [10].

There are presently no robust causal models proposed for harassment across professions during the pandemic. However, harassment from the public in reaction to perceived violations of individual freedoms is consistent with psychological research on reactance, in which perceived threats to freedom result in cognitive, affective, motivational, and behavioral processes to regain those freedoms [11,12]. It is clear that many saw masking orders, business closures, and immunization

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requirements as an infringement on their individual freedom. Consistent with psychological reactance, individuals opposed COVID-19 response measures more and more as the pandemic wore on, sometimes by disobeying or voicing opposition to the requirements in protest.

In this paper, harassment and its impact as experienced by LHD leaders is explored and characterized, building off the existing quantitative work on LHD harassment at NACCHO. From these reports, strategies are proposed to protect LHDs from future threats so that they can continue to effectively serve their communities.

1. Methods

Focus groups were conducted by NACCHO in fall 2022¹ to explore the shared and distinctive experiences of U.S. LHD leaders who suffered harassment during the pandemic. Participants were sampled from 575 LHDs that responded affirmatively to NACCHO's 2022 Profile study question about agency, staff, or leadership experiences of harassment associated with the COVID-19 response.² LHDs meeting these criteria were sampled for diversity in geography (census region) and jurisdiction size (small, medium, and large).³ Recruitment included contacting LHD leaders still in their positions from the sample via email and phone. As originally designed, participants represented LHDs across population categories and census regions. See Fig. 1 for more details on the recruitment process.

A simplified focus group guide was provided to participants beforehand. Hour-long virtual focus group discussions were hosted and recorded. Two team members took notes throughout each session. One participant dropped out during the session due to internet instability but provided written responses to questions afterwards. The contact information for a free crisis line was shared with all participants during the focus groups to ensure individuals were emotionally supported.

Authors M.C. and J.R. coded the focus group transcriptions in NVivo [13] using an iterative and verification analysis process. Interrater reliability of the coded material was originally assessed (kappa = 0.71). Coders then met again and discussed areas of disagreement and adjusted coding, raising the interrater reliability (kappa = 0.81).

The research team participated in a sense-making session to build consensus on the findings and interpretation. The draft manuscript was sent to all participants to ensure findings were interpreted as intended and to approve the level of anonymity given to their identity. Participants made no changes.

1.1. Statement on ethics

The work from which this analysis arose was submitted for review to the Michigan Public Health Institute and received an Exemption with



Fig. 1. Recruitment process.

Limited Review (NACCHO-08.2022-N-08.2023) on 8/17/2022. All participants completed an online consent form either before or within the first 5 min of the focus group. All participants were informed about the possible risks during the informed consent process. For this study, the primary risk was re-traumatization. During the focus group, free national helpline information was provided to all participants.

2. Results

2.1. Demographics and LHD characteristics

Self-reported demographic data from the 2022 Profile study captured each LHD's top executive age, race and ethnicity, and gender identity. Three focus group participants were not the top executive and, therefore, are labeled "unknown" in Fig. 2.

Four key domains surrounding harassment emerged: direct and indirect aggravating factors, content and format, protective factors, and impact on the participants as well as the wider workforce. Visualization of the domains is in Fig. 3.

2.2. Aggravating factors related to harassment

Direct causes. Perpetrators of harassment specifically targeted LHDs and LHD staff after particular actions by the LHDs, participants reported. Participants attributed most harassment instances to community members' perceptions of COVID-19 response measures as violations of individual freedoms. Face mask and vaccination mandates were frequently cited as foci of opposition. Similar sentiments emerged in response to contract tracing initiatives; quarantine, isolation, and social distancing recommendations; recommendations or restrictions regarding children (e.g., school closures and vaccine recommendations); and business closure mandates. Conversely, delays in vaccine availability and perceptions of slow implementation of control measures were also cited. Another direct cause reported was a change in social norms that appeared to sanction harassment. Prior to the pandemic and even in the first few months of the response, participants did not experience the hostility that they experienced later in the pandemic.

Indirect causes. In addition to these direct causes, participants noted several indirect causes compromising LHD's capacity to deliver

¹ The research protocol was approved by Michigan Public Health Institute's institutional review board.

² The focus group sample was pulled on September 23, 2022, while Profile 2022 was still in the field. Thus, at the time of constructing the sample, 575 or 69 % answered "yes" to the question "Has your local health department, agency leadership, or any personnel within your agency experienced any harassment in response to COVID-19 between March 2020 and today?" However, the conclusion of the Profile 2022 survey found that 71 % (weighted) or 664 LHDs in the Profile 2022 responded yes.

³ Thirty-six respondents to the 2022 National Profile of Local Health Departments who indicated "yes" to the question "Has your local health department, agency leadership, or any personnel within your agency experienced any harassment in response to COVID-19 between March 2020 and today?" were randomly selected based on two strata: population size served (three levels: small[1], medium[2], and large[3]) and census region (Midwest, Northeast, South, and West) such that three LHDs were selected within each stratum. For example, there are three large Midwest LHDs, three medium, South LHDs, etc. Due to low-response rate to the initial two email invitations, an additional 18 LHDs using the same strata were added to the sample for the total of 52.

	#	%
Gender		
Female	11	68.75%
Male	2	12.50%
Gender not listed, please write in	0	0.00%
Unknown	3	18.75%
Race and Ethnicity		
Black or African American, Not Hispanic or Latino	1	6.25%
White, Not Hispanic or Latino	12	75.00%
Unknown	3	18.75%
Age		
18–34 years	0	0.00%
35–44	1	6.25%
45–54	4	25.00%
55–64	9	56.25%
65+	2	12.50%
Unknown	3	18.75%
Position Level at LHD		
Top executive	13	81.25%
Senior management	3	18.75%
Census Region		
Midwest	5	31.25%
Northeast	3	18.75%
South	3	18.75%
West	5	31.25%
LHD Jurisdiction Size		
Small (< 50,000)	4	25.00%
Medium (50,000 to 499,999)	6	37.50%
Large (500,000 +)	6	37.50%
LHD Governance Structure		
Local	14	87.50%
Shared local/state	1	6.25%
State	1	6.25%
LHD Jurisdiction Type		
City	2	12.50%
County	10	62.50%
Multi-city	2	12.50%
Multi-county	2	12.50%
Received Protections in Response to Harassment (more than one		
Local Entity	8	50.00%
State Entity	1	6.25%
Federal	0	0.00%
Other	0	0.00%
Did not receive any protections	8	50.00%

Fig. 2. Participant demographics and affiliated LHD characteristics.

their scope of work and linked to harassment. National and state agencies did not include LHDs in decisions that affected their communities, which made LHDs appear to be ill-prepared and/or incompetent. Moreover, due to the lack of a unified approach, participants felt that LHDs were not often notified of top-down decisions of local, state, and national leaders or were given minimal time to prepare to implement those decisions.

"It was hard to keep up with everything that they [national leaders] were changing. We dealt with the same thing on the state level ... my wife was watching press conferences, providing information ... so that we knew what to say when we would get phone calls on the stuff that was being said by the elected officials."

The public expected LHDs to understand the complexities of guidelines and enforce them, but LHDs did not have proper knowledge or time to do so.

Another aggravating factor was cultural context, including politicization of a professional field that had not previously attracted significant public notice. Public health decisions became the focus of political parties, which caused a divide within communities and may have motivated some harassment. Participants noted that perpetrators were diverse and spanned the political spectrum; they identified elected

"You don't go into public health because you're going to get rich or you're going to be famous... So, for people to say you're killing our kids or you're hurting our kids... there comes a time where you can't filter it out anymore and it gets into your psyche and your soul."

"[]] was often threatened by my board of supervisors that - to the point that they threatened my personal safety if I didn't allow golf courses to be opened. Also, threatened to be terminated if I didn't do what they wanted me to do.'

"The nursing staff that I do have, they took it pretty hard. I mean they're geared to helping and saving lives, and to have someone tell them that they're killing people doesn't sit well in terms of their mindset."

"The epidemiologist doing the contact tracing ... was beat up so bad on phone calls, not just hung up on - but called all sorts of names - and you do that as your primary job for a year and a half ... We diverted him to a different job for a while, but he was so traumatized he left public health."



"Police officers are by far some of the groups least likely to be vaccinated and perhaps least likely to be fully supportive and I never had anything but absolute professionalism and sort of support around all of these issues every single time."

> "One thing that was very good here is that our mayor and, for the most part our governor too, very much co-owned every decision. So, I think we saw a lot of politicians around the country only wanted to own the happy news. . And we made a decision from very early on that we would co-own this."

"I also had people at my house attempting to break into my house. I was attacked at the grocery store. I was mailed white powder. I was mailed feces. I also had police outside - undercover police officers at my residence and guards posted outside my office due to the threats.'

harass the staff more than prior to COVID.'

different direction. Really? We just talked to you. Literally 15 minutes later. So, then that makes us look like we have no idea what we're doing. We don't know what's going on. And I think that that undermined us so that people then disrespected us."

Fig. 3. Caption: Direct quotes from participants are included in this figure to offer additional context to select findings. The reality of the harassment in response to COVID-19 that many of LHD staff endured is disturbing. For the sake of the research, quotes have not been edited to be more palpable for readers. However, it is important to note that the data shared may be emotionally difficult or disturbing to read. The orange denotes categories within domains that describe the harassment instances targeting local public health leaders, and the teal denotes categories within domains that describe approaches to addressing harassment and supporting local public health leaders. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

officials, both local and state, as one group that harassed LHDs and staff. Some of these perpetrators were also the LHD leaders' supervisors, undermining their work.

Finally, funding capacity-lack of, delays, and restrictions on use—was an aggravating factor. Some funds were restricted to certain activities and could not be re-allocated to address the community's specific needs. The chronic underfunding and slow or non-existent COVID-19 response funding inhibited LHD's ability to effectively respond to the pandemic and thus, LHDs could not meet the public's expectation to quickly respond to events.

"If we had the right funding and the right supports, I think it would have been a little bit easier for us to turn on a dime and actually deal with the COVID issue or any public health threat."

Issues with funding prevented the implementation of mitigating activities, threatened the public's opinion of LHDs, and possibly extended or worsened the pandemic timeline.

2.3. Content and format of harassment

Participants shared that harassment was directed at the individual and LHD. Both at an organization and at an individual level, challenging public health authority, was the topic of most harassment. At the individual level, participants spoke about receiving death threats, including of being lynched or shot. There were some personalized attacks targeting participants' homes through protests, attempted break-ins, and vandalism. In addition, participants cited prejudiced attacks about an LHD leader or staff member's identity or other demographic

characteristics. This included threats of and/or actual defunding of the LHD, threats to and/or actual termination of LHD staff, and legal action (e.g., suing the LHD).

These attacks occurred verbally and in writing via demonstrations, interruptions at local meetings, mailed packages and letters, emails, and over the phone.

"I also had people at my house attempting to break into my house. I was attacked at the grocery store. I was mailed white powder. I was mailed feces.'

Fewer participants mentioned experiencing physical violence, but some individuals were pushed or shoved in public. While harassment was frequently perpetrated through social media platforms, participants spent less time talking about this compared to other harassment, possibly because it was comparatively normalized. However, participants underscored that these instances were damaging to staff morale, especially staff working in communications and other areas that frequently encountered this harassment.

2.4. Protective factors against harassment

Allies. Participants named LHD allies at the local, state, and national levels that helped to ease tensions. While many participants named local elected officials as perpetrators, the opposite was also true; participants cited city and county councils, mayors, and governors as LHD supporters. In addition, participants named community members, law enforcement, and other local agencies as allies.

Mitigating activities. Participants also discussed activities that

mitigated harassment. They shared that community education, such as through regular briefings with community members as guidelines about the response evolved, helped to address limited knowledge about public health. Another helpful activity was outreach focused on rebuilding trust between the LHD and community members, such as through meetings with community champions and building intentional new partnerships.

Implemented protections. To protect staff, participants most frequently mentioned having security detail at the LHD building or the individual's home. In some cases, the LHD staff member had police escorts. Additionally, LHDs adjusted their approach to social media by either limiting or preventing comments on posts or only responding with evidence-based information. Other protections offered to staff included contracted mental health counseling, investigation and prosecution of harassment cases, hazard pay, creation of a ghost email or phone number for the public to use, and flexed staffing models to cover roles encountering frequent harassment.

2.5. Effect of harassment

On individuals. Participants highlighted that the harassment affected them both personally and professionally. Participants felt emotional and mental fatigue from enduring the intensity and persistence of the harassment. They avoided public spaces and social media in fear of suffering harassment and even fearing for their children's safety.

"I was afraid that because of my position, my kids might be targeted. I have colleagues across the state that their kids did face bullying in school because of their positions. I had one colleague whose dogs were poisoned."

Professionally, participants mentioned a rising tension between a desire to keep their job and to do the job due to their supervisors/elected officials making demands misaligned to their public health expertise. In addition, LHD leaders considered it part of their job to protect their employees. For example, leaders asked staff to transfer calls from angry community members to themselves to redirect threats.

On the workforce. Like the effect on individuals, participants underscored harassment's negative impact on their staff's mental health and wellbeing, which led to burnout. They also mentioned attrition from quitting, early retirements, and, in some cases, peers in neighboring areas were fired due to not complying with anti-public health demands of their boards/leadership.

3. Discussion

This study is among the first to qualitatively examine LHD leaders' experiences with pandemic-associated harassment and its impact on the workforce across the U.S. There are many nuances to these experiences, but the data highlighted some common themes. The content and format of harassment was as severe as individuals receiving death threats, protests at and vandalism of participants' homes, and threats targeting their job security. These forms of harassment discussed in the focus groups (i.e., doxing, protests) align with NACCHO's prior survey data and other literature noting similar harassment against LHD leaders [1,5, 14]. Overall, the harassment of LHDs had dramatic and lasting negative impacts on staff and, in turn, the local public health system.

Participants reported direct and indirect aggravating factors, which facilitated or did not prevent harassment towards LHD staff and organizations. Direct aggravating factors of harassment highlighted by LHDs included actions taken by LHDs that were perceived to violate individual freedoms such as mask and vaccine mandates; quarantine, isolation, and social distancing recommendations; business closure mandates; and changes in social norms that sanctioned harassment. Aligning with research around psychological reactance, which has been associated with anti-mask attitudes [15], harassment targeting LHDs during the pandemic may also have been attempts to regain those freedoms. While this offers a possible explanation for the psychological process of harassment perpetrators, it does not excuse or justify it.

Indirect aggravating factors of LHD harassment included a nonunified approach to decision making and a lack of coordinated communication among national, state, and local agencies; politicization of public health; limited community member awareness of public health; and limited LHD funding.

Social norm shifts during the pandemic, including those relevant to the harassment highlighted in these focus groups, were notable in several ways. The public health crisis was politicized so that opposition or support of COVID-19 mitigation strategies became a way to signal one's partisan leanings, and politicians' words impacted health behaviors of their supporters. For example, one study found that individuals exposed to messages of Donald Trump saying he supported mask wearing were more likely to endorse mask wearing than neutral messaging from the former president [16]. In addition, social norms changed regarding the acceptability of harassing public health officials during the pandemic; in one survey, the share of adults who believed harassing health officials over business closures increased [17] over a nine-month period during the pandemic. This is consistent with focus group participant observations that harassment became more normalized in comparison to before the pandemic [18].

A non-unified decision making and messaging approach between federal, state, and local authorities was an indirect aggravating factor related to harassment; this resulted in uncertainty among both the LHD staff and the public about the efficacy of protection actions and future of the pandemic. The U.S. public's trust in science has fallen since the beginning of the pandemic [19], and uncoordinated messaging could further exacerbate unease. Through coordinated communication during a public health crisis and utilizing one voice, compliance with public health recommendations may increase without eroding trust [20,21].

At times, elected officials, boards of health, and city/county councils were perpetrators of harassment. In some jurisdictions, these parties had supervisory authority over LHDs, putting public health leaders in a position to comply with demands against their expert judgment or risk being fired; this undermined LHDs from the public's perspective. In contrast, other participants underscored that these same groups were LHD allies. Consequently, the harassment crisis is complex, with varying experiences specific to locality.

3.1. Recommendations

There are many policy and practice solutions for preventing and responding to harassment against LHDs; they require coordination across the public health system, buy-in from multisectoral partners, and implementation before the next public health emergency. This study underscored a few key recommendations for local, state, and federal entities.

First, elected leaders at all levels of the government should prioritize protections against threats directed at public health officials and provide security details as warranted.

Local recommendations. At the local level, governmental agencies should view harassment as a serious offense and have mechanisms in place to hold offenders, including elected leaders, responsible. This includes seriously investigating threats or incidents as well as prosecuting when warranted. In addition, local agencies should develop or expand their plans for timely mental health services for staff and should create, codify, and widely communicate protections for staff.

State and federal recommendations. State and federal agencies should implement plans for direct and timely communication during public health emergencies in coordination with LHDs; this would allow time for LHDs to prepare properly and involve localities in the decisionmaking process. Top-down decision making is often made without context of the community that will be impacted by those decisions; because of this, local representation in the development of guidance is necessary to allow for tailored approaches aligned with the diverse need in communities across the U.S. Perhaps even more importantly, a unified

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approach and network to messaging public guidance must be developed. LHDs cannot find out about new guidance, ordinances, or regulations from other local, state, or federal agencies on the news or from a resident calling the agency and asking for interpretation of that guidance; this erodes trust in the public health system and increases the vulnerability of LHD staff to further victimization.

Additionally, timely and flexible funding that passes directly to local jurisdictions should be increased, as participants highlighted that disease-specific funding forced LHDs to be reactive to emerging threats, which may have ultimately led community members to distrust the system. This can be in the form of disease-agnostic funding, such as national grants that help enhance capabilities, infrastructure, and equity overall. These recommendations ensure LHDs can operate most effectively during emergencies. However, without these supports many LHDs were put in difficult positions, which may have caused or exacerbated harassment.

Additionally, the passage of laws to protect LHD staff should be considered. In 2020, the Network for Public Health Law surveyed states on criminal statutes against harassment of public health officials and employees; results suggested that only 34 states have any such protections [22]. Some laws were limited to penalties for threatening serious bodily harm or impeding performing job duties. These may not necessarily penalize doxing or harassment at a public servant's home when not performing public duties, which were mentioned as forms of harassment by participants.

3.2. Limitations

This study is not without limitations. Of the 52 LHD invited to participate, only 40% responded to the invitation and 30% participated. The focus group participants were not racially representative of the field, and thus might not reflect experience of all those who faced harassment, in particular minority groups that were targeted (e.g., Asian Americans) [23].

Furthermore, these data only capture experiences among LHD senior officials, which may differ from other LHD staff. Only current LHD leaders were included; individuals who had left their agency during the COVID-19 pandemic were not represented in the data collection. While not all who left the workforce experienced harassment, some likely did. Lastly, due to the limited sample size, comparison of participant's experience based on demographics, geographic and political context, nor type of COVID-19 response was analyzed. To better understand the nuanced experiences of harassment, these are avenues of future research.

3.3. Implications for policy and practice

- Local, state, and federal stakeholders of the public health system need to take a more coordinated approach in both public health decision making and messaging to the public, but also in protecting local health department leaders against threats. This could include federal government agencies developing communication plans that incorporate local perspectives, state agencies providing security detail at local health department locations, and local agencies offering mental health services for staff.
- Mechanisms need to be in place locally to quickly investigate and prosecute instances of harassment targeting local health department leaders, regardless of the political positioning of the offender.
- Local health departments need to be proactively supported in their response to public health emergencies—ultimately helping to build trust within their communities. Federal agencies should offer timely, flexible, and disease-agnostic funding opportunities directly to local jurisdictions.

4. Conclusion

Harassment against LHDs due to their COVID-19 pandemic response has occurred in a variety of forms, from online villainization to direct physical threats. In addition, this harassment has been exacerbated by politicalization, normalization of violence, and disjointed COVIDrelated messaging. Not only does harassment have serious negative impacts on the health and well-being of individual LHD leaders and staff, but it also severely affects the local public health system by harming the workforce at large. Local, state, and federal partners and lawmakers must address the ongoing and future harassment targeting the LHD workforce to protect and strengthen the public health system.

Declaration of competing interest

None of the authors of this manuscript have a conflict of interest.

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References

- [1] A.M. Barry-Jester, H. Recht, M.R. Smith, Underfunded and under Threat: Pandemic Backlash Jeopardizes Public Health Powers, Leaders. 2020, 15, AP NEWS (Associated Press, December, 2020. https://apnews.com/article/pandemics-public -health-michael-brown-kansas-coronavirus-pandemic-3ae3c9e4eba38a61198 95a4c3686d53e.2020Dec15.
- [2] V.A. Yeager, The politicization of public health and the impact on health officials and the workforce: charting a path forward, Am. J. Publ. Health 112 (5) (2022 May) 734–735, https://doi.org/10.2105/AJPH.2022.306744.
- [3] De Beaumont Foundation, Staffing up: Workforce Levels Needed to Provide Basic Public Health Services for All Americans (Research Brief), 2021, October. https:// debeaumont.org/wp-content/uploads/2021/10/Staffing-Up-FINAL.pdf. (Accessed 4 September 2023).
- [4] K. Hall, K. Brees, T.C. McCall, M.C. Cunningham, A.A. Alford, Forces of Change: the COVID-19 Edition, National Association of County and City Health Officials, Washington, DC, 2020. https://www.naccho. org/uploads/downloadable-resources/2020-Forces-of-Change-Th e-COVID-19-Edition.pdf; 2022. (Accessed 4 September 2023).
- [5] J.A. Ward, E.M. Stone, P. Mui, B. Resnick, Pandemic-related workplace violence and its impact on public health officials March 2020-January 2021, Am. J. Publ. Health 112 (5) (2022) 736–746, https://doi.org/10.2105/AJPH.2021.306649.
- [6] E. Hunter, S. Dhapkodar, T.C. McCall, A.A. Alford, R.V. Burke, In conversation: exploring the impacts of health official harassment. [Oral Presentation], in: National Association of County and City Health Officials Preparedness Summit, 2023. Atlanta, GA.
- [7] R.V. Burke, A. Alford, L. Chiari-Keith, S. Dhapodkar, E. Hunter, T.C. McCall, A. S. Distler, A qualitative analysis of public health officials' experience in California during Covid-19: priorities and recommendations, Front. Public Health (2023) 11, 10.3389/fpubh.2023.1175661.
- [8] J. Bryant-Genevier, C.Y. Rao, et al., Symptoms of depression, anxiety, posttraumatic stress disorder, and suicidal ideation among state, tribal, local, and territorial public health workers during the COVID-19 pandemic — United States, March–April 2021, MMWR (Morb. Mortal. Wkly. Rep.) 70 (26) (2021 Jul 7) 947.
- [9] T.C. McCall, A.A. Alford, M.C. Cunningham, K. Hall, J. Royster, The role of harassment in the mental well-being of local public health professionals and its relationship with an intent to leave their organization during the COVID-19 pandemic, J. Health Manag. 29 (Suppl 1) (2023) S45–S47, https://doi.org/ 10.1097/PHH.00000000001655.
- [10] M. Baker, D. Ivory, Why Public Health Faces a Crisis across the U.S. The New York Times, 2021 Oct 18. https://www.nytimes.com/2021/10/18/us/coronavirus -public-health.html.
- [11] J.W. Brehm, A Theory of Psychological Reactance, Academic Press, New York, NY, 1966.
- [12] C. Steindl, E. Jonas, S. Sittenthaler, E. Traut-Mattausch, J. Greenberg, Understanding psychological reactance, Z. Psychol. 223 (2015 Dec) 205–214.
- [13] QSR International Pty Ltd, NVivo, QSR, Burlington, Massachusetts, 2020.
 [14] M.M. Mello, J.A. Greene, J.M. Sharfstein, Attacks on public health officials during COVID-19, JAMA 324 (8) (2020) 741–742, https://doi.org/10.1001/ jama.2020.14423.
- [15] S. Taylor, G.J. Asmundson, Negative attitudes about facemasks during the COVID-19 pandemic: the dual importance of perceived ineffectiveness and psychological reactance, PLoS One 16 (2) (2021 Feb 17) e0246317. Sc.

J. Royster et al.

- [16] D.G. Young, H. Rasheed, A. Bleakley, J.B. Langbaum, The politics of mask-wearing: political preferences, reactance, and conflict aversion during COVID, Soc. Sci. Med. 298 (2022 Apr 1) 114836.
- [17] R.J. Topazian, E.E. McGinty, H. Han, A.S. Levine, K.E. Anderson, R. Presskreischer, C.L. Barry, US adults' beliefs about harassing or threatening public health officials during the COVID-19 pandemic, JAMA Netw. Open 5 (7) (2022 Jul 1) e2223491, https://doi.org/10.1001/jamanetworkopen.2022.23491.
- [18] T.L. Cherry, A.G. James, J. Murphy, The impact of public health messaging and personal experience on the acceptance of mask wearing during the COVID-19 pandemic, J. Econ. Behav. Organ. 187 (2021 Jul 1) 415–430, https://doi.org/ 10.1016/j.jebo.2021.04.006.
- [19] B. Kennedy, A. Tyson, Americans' Trust in Scientists, Positive Views of Science Continue to Decline, 2023 14 Nov. https://www.pewresearch. org/science/2023/11/14/americans-trust-in-scientists-positive-views-of-

science-continue-to-decline/Pew Research Center. (Accessed 15 November 2023).

- [20] L. Clarke, C. Chess, R. Holmes, K.M. O'Neill, Speaking with one voice: risk communication lessons from the US anthrax attacks 1, J. Contingencies Crisis Manag. 14 (3) (2006 Sep) 160–169, https://doi.org/10.1111/j.1468-5973.2006.00491.x.
- [21] M.W. Seeger, Best practices in crisis communication: an expert panel process, J. Appl. Commun. Res. 34 (3) (2006 Aug 1) 232–244, https://doi.org/10.1080/ 00909880600769944.
- [22] The Network for Public Health Law, Legal Protections for Public Health Officials, 2020, November. https://www.networkforphl.org/wp-content/uploads/2020/11/ 50-State-Survey-Legal-Protections-for-Public-Health-Officials.pdf;.
- [23] M.G. Findling, R.J. Blendon, J. Benson, H. Koh, COVID-19 Has Driven Racism and Violence against Asian Americans: Perspectives from 12 National Polls, Health Affairs Forefront, 2022.