INSTITUTE FOR HOMELAND SECURITY

A FRAMEWORK FOR UNDERSTANDING DISASTER-RELATED VIOLENCE AGAINST THE PUBLIC HEALTH WORKFORCE

Institute for Homeland Security

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Literature Scan and Analysis

Introduction

A March 23, 2022 letter addressed to U.S Attorney General Garland from Richard Pollack President and CEO of the American Hospital Association urged Garland's support in passing legislation to protect the 2 million nurses and other caregivers and 270,000 associated physicians from violence against healthcare workers.[1] He writes "Hospitals and health systems have long had robust protocols in place to detect and deter violence against their team members. Since the onset of the pandemic, however, violence against hospital employees has markedly increased — and there is no sign it is receding…Workplace violence has severe consequences for the entire health care system. Not only does it cause physical and psychological injury for health care workers, but workplace violence and intimidation make it more difficult for nurses, doctors and other clinical staff to provide quality patient care."[2]

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[1]" AHA Urges DOJ to Protect Health Care Workers from Workplace Violence | AHA." Accessed June 5, 2022. https://www.aha.org/lettercomment/2022-03-24-aha-urges-doj-protect-health-care-workers-workplace-violence.

[2] Pollack, Richard. "AHA Urges DOJ to Protect Health Care Workers from Workplace Violence | AHA." American Hospital Association. Accessed June 5, 2022. https://www.aha.org/lettercomment/2022-03-24-aha-urges-doj-protect-health-care-workers-workplace-violence.

Similarly, harassment and violence of public health officials (PHO) escalated during the COVID-19 pandemic to include backlash on social media, doxing, harassment, and even threats of violence against workers and their families.[3] Vice Dean for Public Health Practice and Community Engagement at the Bloomberg School of Public Health at Johns Hopkins, Joshua Sharfstein and colleagues, wrote "The present harassment of health officials for proposing or taking steps to protect communities from COVID-19 is extraordinary in its scope and nature, use of social media, and danger to the ongoing pandemic response."[4] The article goes on to point out that politicization, cognitive bias, and conflicting information are regular challenges during public health crises, such as the ongoing childhood vaccination resistance. Sharfstein argues that what is unique about the COVID-19 pandemic public backlash is a general decline in civility in public discourse, amplification on social media, and a wide-spread socio-economic crisis.[5]

While workplace violence is not a new phenomena to the public health workforce, it is one of the most serious threats to worker safety, retention, and ultimately the healthcare infrastructure in the United States.[6] Both the 2019-2022 National Health Security Strategy and the 2022 Annual Threat Assessment of the U.S Intelligence Community identify infectious disease as a threat with the potential for widespread economic, political, and societal disruption.[7] COVID-19 put an unprecedented amount of stress on the US healthcare system that caused a myriad of existing

[3] Mello, Michelle M., Jeremy A. Greene, and Joshua M. Sharfstein. "Attacks on Public Health Officials During COVID-19." *JAMA* 324, no. 8 (August 25, 2020): 741–42. https://doi.org/10.1001/jama.2020.14423. Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 741. https://doi.org/10.2105/ajph.2021.306649.

[4] Mello, Michelle M., Jeremy A. Greene, and Joshua M. Sharfstein. "Attacks on Public Health Officials During COVID-19." *JAMA* 324, no. 8 (August 25, 2020): 741–42. https://doi.org/10.1001/jama.2020.14423.

[5] Mello, Michelle M., Jeremy A. Greene, and Joshua M. Sharfstein. "Attacks on Public Health Officials During COVID-19." *JAMA* 324, no. 8 (August 25, 2020): 741–42. https://doi.org/10.1001/jama.2020.14423.

[6] Berlanda, Sabrina, Monica Pedrazza, Marta Fraizzoli, and Federica de Cordova. "Addressing Risks of Violence against Healthcare Staff in Emergency Departments: The Effects of Job Satisfaction and Attachment Style." *BioMed Research International* 2019 (May 28, 2019): 1. https://doi.org/10.1155/2019/5430870.,
Brain Colosi. "2022 NSI National Health Care Retention and RN Staffing Report." NSI Nursing Solutions, Inc., March 2022. https://www.nsinursingsolutions.com/Documents/Library/NSI_National_Health_Care_Retention_Report.pdf.

This study uses *public health workforce* to mean both public health workers (epidemiological and policy) and healthcare workers (clinical), including; public health leaders/officials, public health workers, physicians, nursing staff, home healthcare professionals, nursing home staff, and technicians.

[7]" National Health Security Strategy 2019-2022." Department of Health and Human Services, ASPR, n.d. 4-5 https://www.phe.gov/Preparedness/planning/authority/nhss/Documents/NHSS-Strategy-508.pdf.,
Office of the Director of National Intelligence. "2022 Annual Threat Assessment of the U.S. Intelligence Community," February 2022. 18. https://www.dni.gov/files/ODNI/documents/assessments/ATA-2022-Unclassified-Report.pdf.

issues to rise into the public view, including that of workplace violence. The national healthcare infrastructure depends considerably on the resiliency of state and local public health authorities.[8] Having a stable workforce that can confidently track the spread of infection and provide care at the local level is the foundation of that infrastructure which is essential to preventing and responding to future threats posed by infectious disease. Workplace violence and harassment poses a risk to the stability of the public health workforce and exacerbates the threat of infectious disease by creating a secondary or "shadow" disaster within the disaster.[9]

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Underreporting and poor reporting structures make assessing the full extent of that risk difficult, but in recent years there have been national calls for action and some states, such as Texas, have proposed legislation aimed at protecting staff from violence.[10] In 2015, the state of Texas took legislative steps to address its own health infrastructure through House Bill 2696 which required the Texas Department of State Health Services to collect biannual data and produce a report on workplace violence against nursing staff known as the Workplace Violence Against Nurses Facility Survey.[11] The 2016 survey reported that verbal abuse and threats were the most commonly reported forms of violence, and that perpetrators were predominantly patients and family members.[12] The 2016 survey also recommended the following: Promote Safer Facilities, Encourage Nurse Staffing Committees to Consider Incidents of Workplace Violence, Encourage Reporting of Violent Events, and Establish and Maintain Ongoing Surveillance. The survey was conducted again in 2018 to focus on prevention and reporting, and found that despite the 2016

[8] Century, Institute of Medicine (US) Committee on Assuring the Health of the Public in the 21st. *The Governmental Public Health Infrastructure*. *The Future of the Public's Health in the 21st Century*. National Academies Press (US), 2002. https://www.ncbi.nlm.nih.gov/books/NBK221231/.

[9] Ramzi, Zhian Salah, Proosha Warzer Fatah, and Asghar Dalvandi. "Prevalence of Workplace Violence Against Healthcare Workers During the COVID-19 Pandemic: A Systematic Review and Meta-Analysis." *Frontiers in Psychology* 13 (2022). 5. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.896156.

[10] Bohra, Shannon Najmabadi and Neelam. "Half of Texas 'Nurses Experience Workplace Violence. A Texas Lawmaker Says It's Time to Protect Them." The Texas Tribune, February 9, 2021. https://www.texastribune.org/2021/02/09/Texas-nurses-workplace-violence/. Pollack, Richard. "AHA Urges DOJ to Protect Health Care Workers from Workplace Violence | AHA." American Hospital Association. Accessed June 5, 2022. https://www.aha.org/lettercomment/2022-03-24-aha-urges-doj-protect-health-care-workers-workplace-violence.

[11] Texas Department of State Health Services. "Workplace Violence Against Nurses Reports," February 28, 2022. https://www.dshs.texas.gov/chs/cnws/workplace-violence-reports.aspx?terms=workplace+violence.

[12]" 2016 Workplace Violence Against Nurses Survey." Publication #: 25-14922. Texas Department of State Health Services, December 2016. 4. https://www.dshs.texas.gov/chs/cnws/WorkforceReports/2016_WPVAN.pdf.

recommendations there was a decrease in hospital workplace violence policy.[13] The Texas Department of State Health Services Strategic Plan 2023-2027 has put a focus on public health data collection, though nothing specifically for violence against public health and/or healthcare workers.[14]

The Texas Public Health and Medical Emergency Management 5-Year Strategic Plan 2012 – 2016 named several challenges to achieving their strategic goals for preventing and responding to public health emergencies: 1) Funding, 2) Maintaining appropriate level of infrastructure, including personnel as well as systems and equipment resources, and 3) Sustained development and training of public health/medical staff, other personnel, and volunteers who will be available for emergency management functions.[15] Workplace violence may pose a threat to funding by adding the cost of workers compensation and additional resources needed to cover injured staff. It also jeopardizes the safety and retention of staff through injury, stress, and burnout which may threaten the maintenance of appropriate levels of staff. While none of the federal or state strategic plans or threat assessments included workplace violence against the public health workforce as a priority, the cascading impacts of escalating violence during a disaster response impact the ability to respond at all levels of government.

The purpose of this literature scan and analysis is to summarize existing evidence on disaster-specific characteristics and risk-factors to workplace violence against the broader public health workforce during the COVID-19 pandemic, and to make practical recommendations to homeland security practitioners and public health officials applicable at the state level. In the absence of state-level data on the full public health workforce, this study will draw upon national evidence, regional statistics, state policies, and local news reporting to make its recommendations.

Methodology

[13]" 2018 Workplace Violence Against Nurses Survey." Publication #: 25-1522. Texas Department of State Health Services, June 2019. 2. https://www.dshs.texas.gov/chs/cnws/WorkforceReports/2016_WPVAN.pdf.
[14] "Texas Department of State Health Services Strategic Plan 2023-2027 Part 1." Texas Department of State Health Services, June 2022. https://www.dshs.texas.gov/sites/default/files/legislative/2022-Reports/DSHS-Strategic-Plan-2023-2027-Part-I.pdf.
[15]" TEXAS PUBLIC HEALTH AND MEDICAL EMERGENCY MANAGEMENT 5-YEAR STRATEGIC PLAN 2012 – 2016." Texas Department of State Health Services, n.d. 13. https://dshs.texas.gov/TexasPHMStrategicPlan/.

Identification Process

The screening and selection of studies included in this literature scan were identified using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) checklist.[16] This was done to ensure the methods and results from this review were done through a transparent and evidence-based approach. Included studies were based on criteria described in Table 1.

Information sources were obtained through the Sam Houston State University library with keyword searches for "workplace violence" crossed with "pandemic." The unfiltered results contained many useful professional manuals and news articles, but this literature review is limited to scholarly peer reviewed academic journals for the purpose of identifying current research and research gaps on the topic. Results were also limited to articles published in English within the year range of 2020-2022 to focus on research impacted by the COVID-19 pandemic. The subjects were limited to healthcare workers and public health officials (including public health leaders/officials, public health workers, healthcare workers, physicians, nursing staff, home healthcare professionals, and technicians) in the USA to better understand what are the known of risk-factors and characteristics within the USA.

[16] Moher, David, Alessandro Liberati, Jennifer Tetzlaff, Douglas G. Altman, and PRISMA Group. "Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement." *PLoS Medicine* 6, no. 7 (July 21, 2009): e1000097. https://doi.org/10.1371/journal.pmed.1000097.

Table 1-PRISMA Selection Criteria

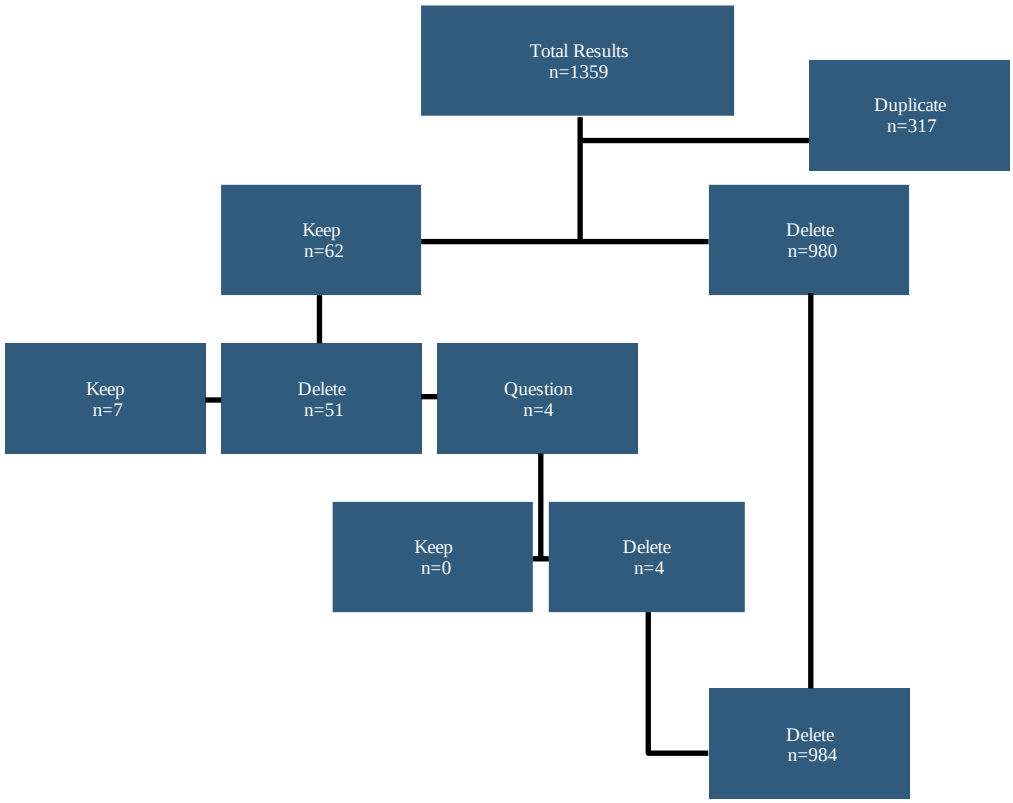
Criteria	Inclusion	Exclusion
Information Sources	Sam Houston State University Digital Library	
Search Strategy	Key word searches including the following key terms: *Workplace violence* and *Pandemic*	
Selection Process	Quantitative and qualitative research studies on violence and harassment of healthcare professionals and public health officials during the COVID-19 pandemic.	Research on professions outside of healthcare or public health. Research performed on topics unrelated to workplace violence or harassment. Research conducted prior to or after the COVID-19 pandemic (studies that compared rates of violence prior to the pandemic against rates during the pandemic were included).
Synthesis Method	Correlational review of risk-factors and characteristics of workplace violence and harassment from included articles performed by author.	
Population	Healthcare workers and public health officials	Workers from non-medical and non-public health fields.
Exposure	Type II: Violence by patients, clients, relatives, or community members served by public health officials.	Type I: criminal violence, Type III: worker on worker violence, and Type IV: Violence by someone with a personal relationship to the worker.
Outcome	Risk factors, characteristics, and impacts of violence	Outcomes for perpetrators,
Study Design	Case control studies, Randomized control studies, Systemic literature reviews	Practice Guidelines, Discussion pieces, Training modules, Editorials
Publication Type	Academic journal articles	News or journalistic articles, guidelines, commentary, conference proceedings
Publication Date	3/1/2020	Anything prior to March 1, 2020
Subjects	Hospitals, healthcare settings, and public health offices in the U.S.A	Hospitals, healthcare settings, and public health offices outside of the U.S.A

Screening Strategy

Search results were screened in three rounds by the author using the criteria described in Table 1. The keyword combination of "workplace violence" and "pandemic" yielded 1,359 articles. Of those, 1,296 were not included because they were either duplicates (316) or did not meet the qualifications for inclusion (980). Of the 62 remaining articles, 7 met the inclusion criteria, 51 more were deleted, and 4 were in question. In the final screening, the 4 in question were ruled out.

Throughout the screening stages the author independently reviewed the *KEEP* and *QUESTION* articles to determine their inclusion, followed by a high-level screening of the 51 *DELETED* articles for quality assurance.

Figure 2: Decision Flowchart



Workplace Violence Against the Public Health Workforce

The literature scan of included articles will review relevant studies on workplace violence against the public health workforce during the COVID-19 pandemic in an effort to understand any pandemic or disaster specific characteristics and risk factors with the intention of developing better informed prevention efforts. This literature scan utilizes the definition of *violence* used by both the World Health Organization (WHO) and the Center for Disease Control (CDC), "the intentional use of physical force or power, threatened or actual, against oneself, against another person or against a group or community, which either results in or has a high likelihood of resulting in injury,

death, psychological harm, mal-development, or deprivation."[17] The reason for using this definition is because not only are WHO and CDC standards used throughout healthcare reporting structures. The National Institute for Occupational Safety and Health (NIOSH) defines *workplace violence* as, "violent acts (including physical assaults and threats of assaults) directed toward persons at work or on duty."[18] This focuses the definition of *violence* by tying it to a work location and/or performance. This is an important element to not lose when understanding the context of occupational violence because of how socio-economic pressures to not lose a job or advance in a job may influence how a person reacts (or does not react) to violence while at work and may impact reporting. The workplace also has an element of hierarchy between the worker and the patient, the worker and their supervisor/employees, or the worker and a person of more or less seniority that may also impact action or inaction to violence.

NIOSH classifies occupational violence into 4 categories to explore these relational dynamics further.[19] **Type 1 Criminal Intent**, refers to violence committed by a perpetrator with no prior relationship to the medical establishment or the employee. This category would include a nurse being robbed while walking out to their car in the garage at work, a home-care employee being the victim of a hit-and-run while going to a patient's home, or a public health official being randomly mugged while on their way to conduct a community survey. **Type 2 Customer/Patient**, is any violence or harassment that occurs between the patient or their family members and the provider or official. Unlike Type 1, the relationship is a motivating characteristic in Type 2 violence and can include violence or harassment by a patient, their family member, or, in the case of a public health worker, a community member impacted by public health policies. **Type 3 Worker/Worker** is violence between co-workers and can be expressed in a variety of ways including sexual harassment, bullying, intimidation, and even assault or homicide. There can also be a "lower on the food chain" element which in healthcare or public health settings might be between a doctor and nurse where seniority factors into the intimidation. Finally, **Type 4 Personal Relationship**, refers to violence in a workplace where there is a personal relationship between the perpetrator and the victim. This could include an abusive spouse following their partner to work and

[17]" Principles of Prevention Guide; Veto Violence." Center for Disease Control, n.d. https://vetoviolence.cdc.gov/apps/pop/assets/pdfs/pop_notebook.pdf.
[18]" Violence: Occupational Hazards in Hospitals.," June 30, 2020. https://www.cdc.gov/niosh/docs/2002-101/default.html.
[19]" Types of Workplace Violence | WPVHC | NIOSH." Accessed July 10, 2022. https://wwwn.cdc.gov/WPVHC/Nurses/Course/Slide/Unit1_5.

threatening them as well as their coworkers.[20] This literature scan will focus on Type 2 violence to examine the strained relationship between the general public (the client) and healthcare and public health workers during the COVID-19 pandemic as a potential risk factor.

Summary of Results

The academic literature on workplace violence against the broader public health workforce during the COVID-19 pandemic in the United States is minimal. Some studies indicated problems in reporting structures, and few studies included public health workers in their research. There was little Texas specific data to draw from, but a regional breakdown of physical and non-physical violence reported that the southern region, that included Texas, accounted for 25% of the total reports of workplace violence during the pandemic.[21]

More than half (71%) of the studies included in this literature scan reported an increase in violence against healthcare and public health workers during the pandemic, and the other 29% did not measure the prevalence of violence.[22] Among the studies that did examine violence during the pandemic, there was not one cause or risk factor for the increase, but rather a myriad of interconnected and compounding risk factors. One study that surveyed local health department officials identified five themes that provide a framework for understanding risk factors identified throughout the studies included in this literature scan.[23]

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[20]" Types of Workplace Violence | WPVHC | NIOSH." Accessed July 10, 2022. https://wwwn.cdc.gov/WPVHC/Nurses/Course/Slide/Unit1_5.

[21] Tiesman, Hope, Suzanne Marsh, Srinivas Konda, Suzanne Tomasi, Douglas Wiegand, Thomas Hales, and Sydney Webb. "Workplace Violence during the COVID-19 Pandemic: March-October, 2020, United States." *Journal of Safety Research* 82 (September 2022): 380. https://doi.org/10.1016/j.jsr.2022.07.004.

[22] McGuire, Sarayna S., Bou Gazley, Angela C. Majerus, Aidan F. Mullan, and Casey M. Clements. "Impact of the COVID-19 Pandemic on Workplace Violence at an Academic Emergency Department." *The American Journal of Emergency Medicine* 53 (March 1, 2022): 285.e4. https://doi.org/10.1016/j.ajem.2021.09.045. Ramzi, Zhian Salah, Proosha Warzer Fatah, and Asghar Dalvandi. "Prevalence of Workplace Violence Against Healthcare Workers During the COVID-19 Pandemic: A Systematic Review and Meta-Analysis." *Frontiers in Psychology* 13 (2022). 7. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.896156.Tiesman, Hope, Suzanne Marsh, Srinivas Konda, Suzanne Tomasi, Douglas Wiegand, Thomas Hales, and Sydney Webb. "Workplace Violence during the COVID-19 Pandemic: March–October, 2020, United States." *Journal of Safety Research* 82 (September 1, 2022): 376. https://doi.org/10.1016/j.jsr.2022.07.004. Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 742. https://doi.org/10.2105/ajph.2021.306649. Bellman, Val, David Thai, Anisha Chinthalapally, Nina Russell, Shazia Saleem, Val Bellman, David Thai, Anisha Chinthalapally, Nina Russell, and Shazia Saleem. "Inpatient Violence in a Psychiatric Hospital in the Middle of the Pandemic: Clinical and Community Health Aspects." *AIMS Public Health* 9, no. 2 (2022): 347. https://doi.org/10.3934/publichealth.2022024.

[23] Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 743. https://doi.org/10.2105/ajph.2021.306649.

Five Themes Framework

Theme 1: Under recognized experience refers to the perception by public health officials that the public criticized and under appreciated their recommendations.[24] Their experience was also questioned when forces outside of their control forced decisions that lost them credibility with the public.

Theme 2: Under resourced infrastructure, or "Matchsticks and Scotch tape infrastructure," refers to local public health departments as being understaffed and underfunded.[25] In some cases county programs had to be combined which added to the existing strain, and many had to use outdated IT systems which delayed contact tracing.[26] The study also identified a high occurrence of harassment and substantial turnover in public health leadership positions which was not only a resource gap in itself, but further exacerbated the issue by losing those who could advocate for better resourcing.[27] Another study on workplace violence during the pandemic reported a similar issue of a lack of infrastructure by describing the additional stress to the non-public health workforce who were put into the position to perform job tasks that enforced unpopular mask mandates and social distancing policies without additional resources or training.[28]

Healthcare workers faced similar challenges with resources and infrastructure. A systemic review of workplace violence against healthcare workers during the pandemic found that in some cases the unmet needs of patients due to understaffing heightened risk to physical violence.[29]

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[24] Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 742. https://doi.org/10.2105/ajph.2021.306649.

[25] Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 742. https://doi.org/10.2105/ajph.2021.306649.

[26] Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 742. https://doi.org/10.2105/ajph.2021.306649.

[27] Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 742. https://doi.org/10.2105/ajph.2021.306649.

[28] Tiesman, Hope, Suzanne Marsh, Srinivas Konda, Suzanne Tomasi, Douglas Wiegand, Thomas Hales, and Sydney Webb. "Workplace Violence during the COVID-19 Pandemic: March-October, 2020, United States." *Journal of Safety Research* 82 (September 2022): 381. https://doi.org/10.1016/j.jsr.2022.07.004.

[29] Ramzi, Zhian Salah, Proosha Warzer Fatah, and Asghar Dalvandi. "Prevalence of Workplace Violence Against Healthcare Workers During the COVID-19 Pandemic: A Systematic Review and Meta-Analysis." *Frontiers in Psychology* 13 (2022). 5. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.896156. Bellman, Val, David Thai, Anisha Chinthalapally, Nina Russell, Shazia Saleem, Val Bellman, David Thai, Anisha Chinthalapally, Nina Russell, and Shazia Saleem. "Inpatient Violence in a Psychiatric Hospital in the Middle of the Pandemic: Clinical and Community Health Aspects." *AIMS Public Health* 9, no. 2 (2022): 352. https://doi.org/10.3934/publichealth.2022024.

Inadequate environments and overcrowded emergency rooms increased stress and frustration for healthcare workers, patients, and their family members which also increased the risk of violence.[30] Another study on inpatient psychiatric hospital care during the pandemic reported that the overwhelming shortage of beds and space for intensive care units created a cascading shortage for psychiatric hospital units that had to give up their beds to meet pandemic needs.[31] This meant that a greater number of unstable psychiatric patients and those seeking routine psychiatric care were waiting in emergency rooms which tied up emergency department resources and worsened the cycle of low resources, unmet needs, and aggression.[32] It was also reported that workplace violence delayed treatment, placement, and stunted best possible outcomes for patients.[33]

Theme 3: Villainization pertains to being demonized for being the public face of an unpopular policy that public health officials often did not have the authority to influence. This also ties back to the under recognized experience by policymakers that did not consult public health departments when creating or reversing pandemic policies like mask mandates and business closures.[34] A more general study of workplace violence cited public pandemic fatigue towards public health policies as increasing the risk of violence.[35] The World Health Organization defines pandemic fatigue as the, "demotivation to follow recommended protective behaviors, emerging gradually over time and affected by a number of emotions, experiences and perceptions."[36] Public

[30] Ramzi, Zhian Salah, Proosha Warzer Fatah, and Asghar Dalvandi. "Prevalence of Workplace Violence Against Healthcare Workers During the COVID-19 Pandemic: A Systematic Review and Meta-Analysis." *Frontiers in Psychology* 13 (2022). 3-5. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.896156.

[31] Bellman, Val, David Thai, Anisha Chinthalapally, Nina Russell, Shazia Saleem, Val Bellman, David Thai, Anisha Chinthalapally, Nina Russell, and Shazia Saleem. "Inpatient Violence in a Psychiatric Hospital in the Middle of the Pandemic: Clinical and Community Health Aspects." *AIMS Public Health* 9, no. 2 (2022): 348-349. https://doi.org/10.3934/publichealth.2022024.

[32] Bellman, Val, David Thai, Anisha Chinthalapally, Nina Russell, Shazia Saleem, Val Bellman, David Thai, Anisha Chinthalapally, Nina Russell, and Shazia Saleem. "Inpatient Violence in a Psychiatric Hospital in the Middle of the Pandemic: Clinical and Community Health Aspects." *AIMS Public Health* 9, no. 2 (2022): 348-349. https://doi.org/10.3934/publichealth.2022024.

[33] Bellman, Val, David Thai, Anisha Chinthalapally, Nina Russell, Shazia Saleem, Val Bellman, David Thai, Anisha Chinthalapally, Nina Russell, and Shazia Saleem. "Inpatient Violence in a Psychiatric Hospital in the Middle of the Pandemic: Clinical and Community Health Aspects." *AIMS Public Health* 9, no. 2 (2022): 352. https://doi.org/10.3934/publichealth.2022024.

[34] Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 742. https://doi.org/10.2105/ajph.2021.306649.

[35] Tiesman, Hope, Suzanne Marsh, Srinivas Konda, Suzanne Tomasi, Douglas Wiegand, Thomas Hales, and Sydney Webb. "Workplace Violence during the COVID-19 Pandemic: March-October, 2020, United States." *Journal of Safety Research* 82 (September 2022): 381. https://doi.org/10.1016/j.jsr.2022.07.004.

[36]" Pandemic Fatigue: Reinvigorating the Public to Prevent COVID-19." World Health Organization, 2020. https://apps.who.int/iris/bitstream/handle/10665/335820/WHO-EURO-2020-1160-40906-55390-eng.pdf.

frustration from maintaining adherence to restrictive policies that are removed and reinstated as infection rates fluctuate are targeted against the public facing leadership behind the policies.[37]

Healthcare workers experienced a similar type of villainization from the public, but their experiences centered around being perceived as "carriers" or "spreaders" of the virus.[38] In one extreme case, a nurse was punched in the face while riding a public bus in scrubs and a mask by a man who believed she was trying to infect him.[39] One survey of a local academic emergency department saw an increase in physical assaults by spitting and coughing on medical staff because of a generalized perception that bodily fluids could cause harm.[40] Villainization of public health and healthcare workers is tied closely to the politicization of pandemic response efforts.

Theme 4: Politicized public health, refers to reports of leadership turnover due to political pressure and conflict, and a misalignment between public health priorities and political messaging. This also ties back to the theme of an under resourced infrastructure for public health officials who had to tailor their recommendations to curry political favor to get resources.[41] It also intersects with the under recognized expertise by political leaders. Social media provided a platform for public backlash to impact public health and healthcare workers and their family members.[42] Workers were subjected to harassment campaigns, doxing, intimidation, and threats (including political threats) in the forms of direct messages and/or mob backlash.[43] Social media was also a propagator

[37] Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 738. https://doi.org/10.2105/ajph.2021.306649.

[38] Ramzi, Zhian Salah, Proosha Warzer Fatah, and Asghar Dalvandi. "Prevalence of Workplace Violence Against Healthcare Workers During the COVID-19 Pandemic: A Systematic Review and Meta-Analysis." *Frontiers in Psychology* 13 (2022).3. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.896156.

[39] ABC7 Chicago. "Man Attacks Nurse on CTA Bus After Accusing Her of Trying to Spread COVID-19," April 3, 2020. https://abc7chicago.com/cta-bus-attack-nurse-punched/6074852/.

[40] McGuire, Sarayna S., Bou Gazley, Angela C. Majerus, Aidan F. Mullan, and Casey M. Clements. "Impact of the COVID-19 Pandemic on Workplace Violence at an Academic Emergency Department." *AMERICAN JOURNAL OF EMERGENCY MEDICINE* 53 (March 1, 2022): 285.e4. https://doi.org/10.1016/j.ajem.2021.09.045.

[41] Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 742. https://doi.org/10.2105/ajph.2021.306649.

[42] Bellman, Val, David Thai, Anisha Chinthalapally, Nina Russell, Shazia Saleem, Val Bellman, David Thai, Anisha Chinthalapally, Nina Russell, and Shazia Saleem. "Inpatient Violence in a Psychiatric Hospital in the Middle of the Pandemic: Clinical and Community Health Aspects." *AIMS Public Health* 9, no. 2 (2022): 347. https://doi.org/10.3934/publichealth.2022024. Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 741. https://doi.org/10.2105/ajph.2021.306649.

[43] Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 741. https://doi.org/10.2105/ajph.2021.306649.

of misinformation related to COVID-19 mitigation efforts, which was only further confused by a misalignment of political messaging and public health priorities.[44]

Theme 5: Disillusionment, refers to the conflict some public health workers felt between being normal people with neighbors and families while also being the public face of an flawed pandemic response.[45] They also described a disillusionment with the public health mission verses reality, and a general lack of meaning or purpose in the face of their own personal losses, fatigue, and professional demands.[46] This last theme not only intersects with the above themes, but is also a consequence of the others. In several studies healthcare workers described exhaustion and fatigue, and in some cases burn out which led to turnover.[47]

Interventions

One study reviewed prevention intervention efforts for workplace violence.[48] The studies in this review included healthcare workers and hospital employees (along with other types of workers in separate studies) that trained for variety of interventions including better reporting, behavioral, environmental, and administrative strategy, CREW (Civility, Respect, and Engagement at Work) training, and violence prevention techniques.[49] Training on better reporting and data collection saw an increase in awareness and knowledge, but also increases in violence. Participants in the behavioral, environmental, and administrative strategies training reported a decrease in violent events. CREW training saw a decrease in Type 3 workplace violence. The other studies saw some decrease or inconclusive rates of violence.[50] Overall prevention interventions showed some

[44] Tiesman, Hope, Suzanne Marsh, Srinivas Konda, Suzanne Tomasi, Douglas Wiegand, Thomas Hales, and Sydney Webb. "Workplace Violence during the COVID-19 Pandemic: March-October, 2020, United States." *Journal of Safety Research* 82 (September 2022): 381. https://doi.org/10.1016/j.jsr.2022.07.004.

[45] Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 742. https://doi.org/10.2105/ajph.2021.306649.

[46] Ward, Julie A., Elizabeth M. Stone, Paulani Mui, and Beth Resnick. "Pandemic-Related Workplace Violence and Its Impact on Public Health Officials, March 2020–January 2021." *American Journal of Public Health* 112, no. 5 (May 2022): 742. https://doi.org/10.2105/ajph.2021.306649.

[47] Shapiro, Daniel, Cathy E. Duquette, Claire Zangerle, Amanda Pearl, and Thomas Campbell. "The Seniority Swoop: Young Nurse Burnout, Violence, and Turnover Intention in an 11-Hospital Sample." *Nursing Administration Quarterly* 46, no. 1 (January 2022): 60–71. https://doi.org/10.1097/NAQ.0000000000000502.

[48] Abeyta, Stephen, and Brandon C. Welsh. "Effects of Prevention Interventions on Violence in the Workplace: A Systematic Review and Meta-Analysis." *Aggression and Violent Behavior* 64 (May 1, 2022). https://doi.org/10.1016/j.avb.2022.101747.

[49] Abeyta, Stephen, and Brandon C. Welsh. "Effects of Prevention Interventions on Violence in the Workplace: A Systematic Review and Meta-Analysis." *Aggression and Violent Behavior* 64 (May 1, 2022). 5. https://doi.org/10.1016/j.avb.2022.101747.

[50] Abeyta, Stephen, and Brandon C. Welsh. "Effects of Prevention Interventions on Violence in the Workplace: A Systematic Review and Meta-Analysis." *Aggression and Violent Behavior* 64 (May 1, 2022). 5-6. https://doi.org/10.1016/j.avb.2022.101747.

promising results, but with a high degree of variability.[51] The review brings attention to the range of violent experiences felt by workers including psychological abuse, which is echoed throughout the above themes which identify non-physical forms of violence including harassment, threats, and social media attacks towards workers and their family members.[52] It also calls for policy that creates multi-model forms interventions for comprehensive approaches to preventing violence.

Prevention Strategy Recommendations

Building and sustaining trust between the public and those tasked with keeping them safe during a public health disaster is essential to mission success while also complicated by wide-spread fear, stress, and anxiety for all involved.[53] Developing strategies to prevent violence rely heavily on building public trust prior to an event that can prove beneficial during a crisis.

Below are three disaster-specific recommendations based on the evidence in the above literature review for developing effective prevention strategies: 1) create and sustain a unified front, 2) build and leverage social capital, and 3) collect workplace violence data on the broader public health workforce. Each have smaller recommendations for achieving the broader goals.

Create and Sustain a Unified Front

In the state of Texas, a public health disaster requires local health authorities, Texas Division of Emergency Management, Texas Department of State Health Services, and the Governor working together to declare a state of emergency and implement response and recovery functions.[54] Public health interventions may be authorized by the Texas government but get implemented through local public health departments and ultimately at the individual level. This creates a very long game of telephone that begins with state law makers and ends with the public and offers many opportunities for miscommunication or disagreement along the way.

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[51] Abeyta, Stephen, and Brandon C. Welsh. "Effects of Prevention Interventions on Violence in the Workplace: A Systematic Review and Meta-Analysis." *Aggression and Violent Behavior* 64 (May 1, 2022). 6. https://doi.org/10.1016/j.avb.2022.101747.

[52] Abeyta, Stephen, and Brandon C. Welsh. "Effects of Prevention Interventions on Violence in the Workplace: A Systematic Review and Meta-Analysis." *Aggression and Violent Behavior* 64 (May 1, 2022). 7-8. https://doi.org/10.1016/j.avb.2022.101747.

[53] Crosswell, Laura. Politics, Propaganda, and Public Health: A Case Study in Health Communication and Public Trust. Lanham, Maryland: Lexington Books, 2018. 39.

[54] Leah R Fowler J.D, ed. *Control Measures and Public Health Emergencies: A Texas Bench Book*. Health Law & Policy Institute, University of Houston Law Center: University of Houston Law Center, 2020. 15-16. https://www.law.uh.edu/healthlaw/HLPIBenchBook.pdf.

Dr. Peter Hotez, co-director of the Center for Vaccine Development at Texas Children's Hospital experienced the divergent messaging on mitigation efforts as the COVID-19 pandemic response evolved,

When we were losing 2,000 to 3,000 Americans a day, I think the mainstream public health and scientific communities were all on the same page. This was a devastating pandemic. This was a leading cause of death on a daily basis in the United States…Now, things have blurred a bit more. There's many different voices now as compared to that kind of duality or dichotomy. I think what you're hearing now is a spectrum.[55]

The previous section highlighted problems in communication that impacted worker safety. People process and act on information differently during a disaster, which may offer one explanation to the increase in violence and harassment of the public health workforce, and it is important to understand that messaging needs to be simplified, consistent, and unified.[56] This is a challenge during a pandemic when scientific information is evolving quickly, and politics and misinformation add to the chaos. Below are some recommended actions to take prior to response efforts in order to build a more unified front that eases public tensions and ideally reduces the risk to violence for frontline workers.

1. *Improve the Relationship between Public Health and Policy Makers*—Politicians and public safety entities are inextricably tied, as seen in the requirements for an emergency declaration in Texas. This tie also causes strain between public health response efforts that may improve health while simultaneously impede upon civil liberties, and the politicians who may be blamed for that loss of liberty without getting any credit for the response success by voters.[57] This is not a new tension, nor is the harassment of public health workers that follows.[58] The desire to exclude politics from disaster response is understandable, but impossible considering politicians allocate funding for much of the public health workforce and the myriad of preparedness and response efforts.[59] This also does not give politicians credit for the delicate balance they must find

[55] CNN, Jacqueline Howard. '"Powerful Division 'among Public Health Leaders over How to Pivot Covid-19 Messaging." CNN. Accessed September 25, 2022. https://www.cnn.com/2022/09/06/health/public-health-covid-messaging/index.html.

[56]" CERC Corner - Processing Information during a Crisis," November 30, 2018. https://emergency.cdc.gov/cerc/cerccorner/article_120216.asp.

[57] Brown, Lawrence D. "The Political Face of Public Health." *Public Health Reviews* 32, no. 1 (June 2010): 161-162. https://doi.org/10.1007/BF03391596.

[58] Brown, Lawrence D. "The Political Face of Public Health." *Public Health Reviews* 32, no. 1 (June 2010): 160. https://doi.org/10.1007/BF03391596.

[59] Council on Foreign Relations. "Public Health Is Always Political | Think Global Health." Accessed September 25, 2022. https://www.thinkglobalhealth.org/article/public-health-always-political.

between the protection of civil liberties and needed response efforts. The solution is not as simple as asking politicians to think like scientists or act out of their own best interest (after all, they are trying to keep their jobs just like everyone else in a disaster). It is recommended to integrate public health officials and politicians more deeply prior to a disaster through targeted efforts that bring both sides together to focus on a shared desired end state and to educate both sides on the priorities and constraints of the other.[60] This is an old challenge that will not be easy to address, but is one worth endeavoring to improve upon regardless of past outcomes.

2. *Leverage Non-Governmental Private Partnerships to Communicate with the Public*—leveraging new partnerships outside of government to communicate messages that echo public health goals may further the public perception of a unified front between government, public health, and the private and non-profit sector. The private sector may also offer broader networks and technology to disseminate messaging further and faster.[61]

3. *Include Social Listening in Communication Planning*—Cognitive bias and misinformation created a challenge for the public health workforce that sometimes resulted in harassment and violence.[62] Communication plans that include a process for acquiring and evaluating public feedback may create better messaging that addresses problems caused by misinformation. Social listening on social media is the regular and systemic aggregation, filtering, and monitoring of conversations and public discourse in a combination of traditional media and digital media. Social listening may help public health and emergency management agencies detect and mitigate misinformation as it spreads during a disaster, but does require resources for monitoring and mitigation. As mentioned in the previous section, during a disasters resources are sparse and infrastructure gets overtaxed which may provide more opportunities to partner with private sector and non governmental entities to augment media monitoring capabilities. In 2020, UNICEF developed a Vaccine Misinformation Management Field Guide which outlines a 4 step

[60] Brown, Lawrence D. "The Political Face of Public Health." *Public Health Reviews* 32, no. 1 (June 2010): 171. https://doi.org/10.1007/BF03391596. Hunter, Edward L. "Politics and Public Health—Engaging the Third Rail." *Journal of Public Health Management and Practice* 22, no. 5 (September 2016): 436–41. https://doi.org/10.1097/PHH.0000000000000446.

[61] Sarah Cunard Chaney, Peter Benjamin, and Patricia Mechael. "Finding the Signal through the Noise." World Health Organization, 2021. 5. https://www.gavi.org/sites/default/files/2021-06/Finding-the-Signal-Through-the-Noise.pdf.

[62] Mello, Michelle M., Jeremy A. Greene, and Joshua M. Sharfstein. "Attacks on Public Health Officials During COVID-19." *JAMA* 324, no. 8 (August 25, 2020): 741–42. https://doi.org/10.1001/jama.2020.14423.

cycle of 1) Preparation, 2) Listen, 3) Understand, and 4) Engage which may be helpful for practitioners designing communication plans with social listening.[63]

Build and Leverage Social Capital

This study focused on Type 2 violence between patients/clients and workers. In the case of the public health workforce, this could be patients but must also include the general public. Building social capital may offer a low resource solution for mitigating violence, but is also a challenge during public health emergencies that mandate social distancing and closure of public spaces.[64] Social capital refers to the multiple resource benefits that come from being a member of a social network.[65] Leveraging those benefits may lessen the strain on resources mentioned in Theme 2 by acting as a force multiplier for public health efforts.[66]

1. *Build Stronger Social Capital within the Public Health Workforce*—Designing a violence prevention strategy that includes building social capital within and across health facilities and local health departments may help to build psychological resiliency during a disaster to trauma caused not only by the disaster itself, but also trauma caused by workplace violence and harassment.[67] This includes creating more transparent communication flows between levels of management, creating opportunities for workers to share their experiences with each other without fear of reprisal, and involving employees in decision making.[68] This may also help

[63] Angus Thomson and Gary Finnegan. "Vaccine Misinformation Management Field Guide." New York: United Nations Children's Fund, 2020. 17-32. https://vaccinemisinformation.guide.

[64] Pihl-Thingvad, Jesper, Lars Peter Soenderbo Andersen, Signe Pihl-Thingvad, Ask Elklit, Lars Peter Andreas Brandt, and Lars Louis Andersen. "Can High Workplace Social Capital Buffer the Negative Effect of High Workload on Patient-Initiated Violence? Prospective Cohort Study." *International Journal of Nursing Studies* 120 (August 1, 2021). 9. https://doi.org/10.1016/j.ijnurstu.2021.103971.

[65] Institute for Social Capital. "Definitions of Social Capital • Institute for Social Capital." Accessed September 25, 2022. https://www.socialcapitalresearch.com/literature/definition/. Yudiatmaja, W. E., Yudithia, T. Samnuzulsari, Suyito, and Edison. "Social Capital of Local Communities in the Water Resources Management: An Insight from Kepulauan Riau." *IOP Conference Series: Materials Science and Engineering* 771, no. 1 (March 2020). 2. https://doi.org/10.1088/1757-899X/771/1/012067.

[66] Kristanti, Dwi, Edison Edison, Mohammad Kus Yunanto, Alfiandri Alfiandri, Diah Siti Utari, Tri Samnuzulsari, Dhani Akbar, Suyito Suyito, Emmy Solina, and Wayu Eko Yudiatmaja. "Strengthening Social Capital of Urban Community during COVID-19 Disaster." Edited by L. Comfort, S. Saravanan, I.W. Sengara, and Fauzan. *E3S Web of Conferences* 331 (2021). 4-5. https://doi.org/10.1051/e3sconf/202133101013.

[67] Ganapati, N. Emel, and Kanako Iuchi. "In Good Company: Why Social Capital Matters for Women during Disaster Recovery [with Commentary]." *Public Administration Review* 72, no. 3 (May 1, 2012): 422. https://doi.org/10.1111/j.1540-6210.2011.02526.x.

[68] Pihl-Thingvad, Jesper, Lars Peter Soenderbo Andersen, Signe Pihl-Thingvad, Ask Elklit, Lars Peter Andreas Brandt, and Lars Louis Andersen. "Can High Workplace Social Capital Buffer the Negative Effect of High Workload on Patient-Initiated Violence? Prospective Cohort Study." *International Journal of Nursing Studies* 120 (August 1, 2021). 9-10. https://doi.org/10.1016/j.ijnurstu.2021.103971.

address declining mental health and personal isolation among workers during a pandemic like COVID-19.[69]

2. *Identify Trusted Community Members/Culture Brokers Early On*—The beginning of the COVID-19 pandemic required a swift response that did not offer much opportunity to engage in public discourse.[70] Identifying culture brokers prior to a disaster can help public health workers make inroads with social groups that may prove beneficial later. Some social groups take collective action against risk such as providing food, medicine, and transportation to isolated community members that helps to promote individual empowerment during a vulnerable time.[71] By engaging in social collective action, communities reduce their burden on the public health infrastructure, which as observed in Theme 2, may reduce the risk to workplace violence. Creating transparent lines of communication with culture brokers ahead of a crisis may also lessen the susceptibility to misinformation later.

Collect Workplace Violence Data on the Broader Public Health Workforce

As mentioned in the introduction, the Texas Department of State Health Services collects biannual data on violence against nursing staff. Biannual data collection is a typical standard reporting time but is also a challenge to understanding the full scope and prevalence of workplace violence in a fast-paced disaster environment. One solution offered by the literature scan is media scraping coupled with verification through workplace reporting.[72] Another limitation to the nurses study is that it does not asses the full risk to workplace violence faced by the broader public health workforce which also complicates understanding the full scope and precedence of the problem.

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[69] Ramzi, Zhian Salah, Proosha Warzer Fatah, and Asghar Dalvandi. "Prevalence of Workplace Violence Against Healthcare Workers During the COVID-19 Pandemic: A Systematic Review and Meta-Analysis." *Frontiers in Psychology* 13 (2022). 3. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.896156. McGuire, Sarayna S., Bou Gazley, Angela C. Majerus, Aidan F. Mullan, and Casey M. Clements. "Impact of the COVID-19 Pandemic on Workplace Violence at an Academic Emergency Department." *The American Journal of Emergency Medicine* 53 (March 1, 2022): 285.e4. https://doi.org/10.1016/j.ajem.2021.09.045.

[70] Mello, Michelle M., Jeremy A. Greene, and Joshua M. Sharfstein. "Attacks on Public Health Officials During COVID-19." *JAMA* 324, no. 8 (August 25, 2020): 741–42. https://doi.org/10.1001/jama.2020.14423.

[71] Kristanti, Dwi, Edison Edison, Mohammad Kus Yunanto, Alfiandri Alfiandri, Diah Siti Utari, Tri Samnuzulsari, Dhani Akbar, Suyito Suyito, Emmy Solina, and Wayu Eko Yudiatmaja. "Strengthening Social Capital of Urban Community during COVID-19 Disaster." Edited by L. Comfort, S. Saravanan, I.W. Sengara, and Fauzan. *E3S Web of Conferences* 331 (2021). 4-5. https://doi.org/10.1051/e3sconf/202133101013.

[72] Tiesman, Hope, Suzanne Marsh, Srinivas Konda, Suzanne Tomasi, Douglas Wiegand, Thomas Hales, and Sydney Webb. "Workplace Violence during the COVID-19 Pandemic: March-October, 2020, United States." *Journal of Safety Research* 82 (September 2022): 382. https://doi.org/10.1016/j.jsr.2022.07.004.

1. *Train staff on effective reporting*—Training staff on better reporting practices showed an increase in reporting and an increase in violence.[73] This is perhaps because better reporting illuminated the true prevalence of workplace violence. While no organization wants to see those rates increase, better reporting will ultimately provide a more complete picture of this issue.

2. *Address gaps in state data*—As mentioned previously, a lack of state data makes it difficult to assess the baseline prevalence of violence against public health and healthcare workers, which makes assessing its change during a disaster even more challenging. The Texas Department of State Health Services Strategic Plan 2023-2028 Objective 2.4: Strengthen consumers' access to information, education, and support, explicitly addresses this in several action items that strengthen data reporting and access to the public, though nothing specific for violence against healthcare workers.

Conclusion

Workplace violence and harassment poses a risk to the stability of the public health infrastructure and exacerbates the threat of infectious disease by creating a secondary or "shadow" disaster within the disaster.[74] The evidence from this literature scan suggests there was an increase in workplace violence against the public health workforce during the COVID-19 pandemic and that there were disaster specific risk factors and characteristics of that violence. Addressing workplace violence is critical to strengthening the public health infrastructure against future infectious disease outbreaks.

Evidence on interventions, like training and surveillance technology, was minimal and had varying impacts on workplace violence.[75] One interesting finding was that training staff on better reporting resulted in increased rates of violence in their organization. This speaks to the effectiveness of the training and the importance of collecting data that can provide better visibility on the pervasiveness of the problem, but also presents the conflict of organizations reporting higher rates of violence which may damage institutional reputation, weaken public trust, and could

[73] Abeyta, Stephen, and Brandon C. Welsh. "Effects of Prevention Interventions on Violence in the Workplace: A Systematic Review and Meta-Analysis." *Aggression and Violent Behavior* 64 (May 1, 2022). https://doi.org/10.1016/j.avb.2022.101747.

[74] Ramzi, Zhian Salah, Proosha Warzer Fatah, and Asghar Dalvandi. "Prevalence of Workplace Violence Against Healthcare Workers During the COVID-19 Pandemic: A Systematic Review and Meta-Analysis." *Frontiers in Psychology* 13 (2022). 5. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.896156.

[75] Abeyta, Stephen, and Brandon C. Welsh. "Effects of Prevention Interventions on Violence in the Workplace: A Systematic Review and Meta-Analysis." *Aggression and Violent Behavior* 64 (May 1, 2022). 5. https://doi.org/10.1016/j.avb.2022.101747.

even incur fines. These barriers imply that preventing workplace violence goes beyond the individual worker or even manager, and is an organizational challenge that must be addressed at the highest strategic level.

Data is important for developing violence prevention strategies and making informed investments in training and security technology. The evidence from this literature scan calls for policy that creates multi-model interventions for comprehensive approaches to preventing violence.[76] Broken reporting structures and retaliatory work cultures have worsened the problem, but Culture change initiatives like, CREW (Civility, Respect, and Engagement at Work), help to promote vertical and horizontal communication which may reduce workplace violence.[77] The CDC has several intervention recommendations that include suggestions for environmental design, administrative controls, and training that could be utilized in a multi-model prevention strategy.[78]

Research on the characteristics of violence and harassment suggest that an enterprise-wide multi-model prevention strategy must also go beyond training individuals and securing facilities to include engaging with other healthcare entities, political partners, non-profits, private industry, and civil society partners prior to the event. This paper suggests several recommendations for establishing an enterprise-wide strategy in the previous section: 1) create and sustain a unified front, 2) build and leverage social capital, and 3) collect workplace violence data on the broader public health workforce. While not mentioned in the literature for this project, establishing an emergency management program could prove beneficial because of the unique skillset of emergency managers and their coordination between various groups. Other suggestions from outside of the literature include establishing an organizational task-force to provide a holistic approach to workplace violence that includes social workers, security specialists, emergency managers, leadership, and public health and healthcare workers.

There is no panacea for preventing workplace violence, but organizations can take informed steps towards reducing the vulnerability of their workforce. Preparedness is an enduring effort that requires strategy and partnership, but will ultimately have a positive impact on strengthening the healthcare infrastructure in the United States.

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[76] Abeyta, Stephen, and Brandon C. Welsh. "Effects of Prevention Interventions on Violence in the Workplace: A Systematic Review and Meta-Analysis." *Aggression and Violent Behavior* 64 (May 1, 2022). 7-8. https://doi.org/10.1016/j.avb.2022.101747.

[77] VA Healthcare, National Center for Organization Development. "Civility, Respect, and Engagement in the Workplace (CREW)." General Information. Accessed December 23, 2022. https://www.va.gov/ncod/crew.asp.

[78] The National Institute for Occupational Safety and Health (NIOSH). "Violence Occupational Hazards in Hospitals," June 30, 2020. https://www.cdc.gov/niosh/docs/2002-101/default.html.

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