

Policy Analysis

Cite this article: Harris C, O'Neal P and Taylor M (2024). The Urgent Need for Disaster Education as a Core Competency in Accredited Schools and Colleges of Public Health by the Council on Education for Public Health. *Disaster Medicine and Public Health Preparedness*, 18, e199, 1–3
<https://doi.org/10.1017/dmp.2024.274>

Received: 27 November 2023

Revised: 24 June 2024

Accepted: 29 August 2024

Keywords:

Disaster Education; Public Health; Disaster Preparedness

Corresponding author:

Curt Harris;

Email: cuharris@uga.edu

The Urgent Need for Disaster Education as a Core Competency in Accredited Schools and Colleges of Public Health by the Council on Education for Public Health

Curt Harris PhD , Patrick O'Neal MD and Morgan Taylor PhD, MPH

University of Georgia, College of Public Health, Institute for Disaster Management

Abstract

Public Health is essential to disaster preparedness, mitigation, response, and recovery. This has never been more evident than during the COVID-19 pandemic when public health was the disaster response lead. However, students are graduating from accredited schools and colleges of public health with limited or no education in disaster management. This is a crisis unto itself, and it is incumbent upon The Council on Education for Public Health (CEPH) to take immediate action. Public health preparedness should be recognized as a core element in public health curricula, and practical experiences, such as drills and simulations, are necessary to equip students with the confidence and competencies needed in high-stress situations. The need for such preparedness education extends beyond the COVID-19 pandemic. It is a crucial step for creating a resilient and competent public health workforce capable of safeguarding community health in the face of complex and emerging challenges.

As we confront a world filled with evolving public health challenges, the imperative for public health preparedness has never been more apparent.^{1,2} Our response to disasters such as pandemics, natural and human-made disasters, and bioterrorism threats hinges on the education, and therefore preparedness, of our public health professionals.³ The Council on Education for Public Health (CEPH) is the accrediting agency dedicated to ensuring and advancing the quality of education in public health.⁴ It establishes rigorous standards and criteria for evaluating public health programs offered by universities and institutions worldwide.⁴ As such, CEPH is the authority for shaping competent and well-prepared professionals who contribute to the promotion of public health and the well-being of their communities.⁴ Currently, CEPH evaluates public health education programs by 22 criteria, which are informed by the five traditional public health disciplines (i.e., biostatistics, epidemiology, social and behavioral sciences, health services administration, and environmental health sciences), as well as cross-cutting and emerging public health areas. However, CEPH has yet to recognize public health preparedness as an essential component of public health education, even as a subdiscipline or an emerging public health area. As such, there are only six CEPH-accredited programs in the United States that offer public health preparedness and emergency management as a concentration for the Master of Public Health (MPH) degree.^{5,6} Although there are additional programs that offer elective courses in this domain, only one CEPH-accredited program includes public health preparedness or emergency management as part of the core curriculum required for all public health students.^{5,6} It is high time for CEPH to acknowledge this critical need, develop a set of clear and concise competencies to standardize the educational framework in public health preparedness,⁷ and incorporate public health preparedness education into its accreditation process.

After recent communication with CEPH, explaining the importance of adding public health preparedness as a sixth core element in CEPH-accredited public health education, CEPH responded that they would review the public health curriculum in 2026 and invited participation in their process at the time. Given the rapidly evolving landscape of public health threats, this lengthy delay is concerning. It takes time and faculty to launch courses in public health preparedness; at the very least, CEPH should announce the imminent requirement (and competencies) for these types of courses. Schools of public health must stay current with the latest knowledge and best practices in public health disaster-related education.

Public Health Preparedness During the COVID-19 Pandemic

As professionals with a combined 60-plus years of experience in public health preparedness, the authors have repeatedly witnessed the impact of sub-optimal education and training in this field.

© The Author(s), 2024. Published by Cambridge University Press on behalf of Society for Disaster Medicine and Public Health, Inc. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

Public health professionals and practitioners urgently need competency in public health preparedness and response. Historically, most Departments of Public Health in the United States lack an Emergency Manager and an updated Emergency Response Plan.⁸ The COVID-19 pandemic further highlighted that every discipline within public health plays a crucial role in disaster response. Environmental health scientists assess air and water quality, biostatisticians analyze outbreak data, epidemiologists track the spread of diseases, health policy and management professionals develop response strategies, and health promotion and behavior experts communicate public health messages.⁹ Despite these vital roles, it is disheartening to know that the majority of public health graduates will enter the workforce lacking the essential knowledge, skills, and abilities (KSAs) needed to prepare for and respond to public health disasters.^{10,11} These KSAs include, but are not limited to, operating in Incident Command System-based settings, navigating resource limitations (i.e., personnel and supplies), adapting to challenging conditions (i.e., working outside in the elements or a facility with no bed capacity), addressing misinformation and disinformation, and navigating situations with limited access to accurate data. Moreover, numerous studies have demonstrated that this lack of knowledge and training resulted in high levels of stress, burnout, and other severe mental health consequences throughout the COVID-19 pandemic and other previous epidemics.^{12–14} Therefore, the gap in public health preparedness education leaves our future public health professionals unprepared to face the realities of a disaster, where interdisciplinary collaboration is essential. Public health preparedness should be woven into the fabric of every public health degree, with courses and practical experiences designed to foster an understanding of disaster response strategies, disaster communication, resource allocation, and the unique demands on public health in times of disaster.

Integrating public health preparedness into the curriculum cannot just include theoretical knowledge, however. Students must develop practical skills that will save lives. Students should have the opportunity to participate in drills, simulations, and real-world exercises that mimic the challenges of responding to a public health disaster. These experiences will equip them with the confidence and competencies necessary to excel in high-stress, high-stakes situations.

Furthermore, the COVID-19 pandemic highlighted that students may encounter the challenges of a disaster even before graduation. The reduction of over 50 000 full-time employees (FTEs) in the public health workforce from 2008 to 2016, coupled with the current demand for 80 000 FTEs to effectively implement Foundational Public Health Services at the state and local levels,¹⁵ underscores the crucial role public health students played in supplementing the strained workforce. During the pandemic, students were mobilized and provided with “Just-in-Time Training” for tasks such as contact tracing, training, and handling surge capacity.¹⁰ Although this real-world experience proved invaluable, it also emphasized the necessity for a formalized, experience-based¹⁶ education in public health preparedness to better equip students for their roles during such disasters. Without such education, students found themselves in need of just-in-time training for essential skills like using personal protective equipment,¹⁷ conducting contact tracing,¹⁸ and employing coping mechanisms¹⁷—skills currently only obtained as a professional.

Public Health Preparedness Beyond Pandemics

The need for public health preparedness education is not confined to pandemic preparedness. As natural, human-made, and technological

disasters have been a part of human history since the beginning of human civilizations, the frequency, intensity, and scope of disasters are ever increasing. Each of these events carries significant public health consequences, and our public health workers are called upon to address these challenges.¹⁹ Whether it is providing medical care in austere environments, addressing mental health needs of survivors and responders, monitoring the spread of diseases during and following these events, or ensuring access to clean water and sanitation, public health professionals are at the forefront of population-level health.²⁰

Students studying public health disciplines should be well versed in the complexities of working in challenging and even austere environments where their skills can (and will) make life-or-death differences. Incorporating education on public health preparedness and disaster response strategies within the public health curriculum is imperative for producing graduates who can navigate the realities of today's world.

Conclusion

The COVID-19 pandemic has underscored the urgent need for more comprehensive public health preparedness education in CEPH-accredited colleges of public health. This education should be integral to every public health student's journey, regardless of their chosen discipline. We also need more frequent reviews of public health curricula to ensure they reflect the ever-changing landscape of public health threats. Our future public health professionals must be equipped to face the challenges of tomorrow, which can only be achieved by instilling the principles of preparedness at the heart of their education. Only by doing so can we ensure a resilient and competent public health workforce that can effectively protect the health and well-being of our communities in times of disaster. Including public health preparedness in the CEPH curricula will save countless lives as the next generation of public health workers faces existing and emerging threats worldwide.

Author contribution. Concept and design: CH, PO, MT; Drafting of the manuscript: CH; Critical revision of the manuscript: PO, MT.

Competing interest. The authors declare none.

References

1. **Public Health Preparedness: Building and Maintaining Infrastructure Beyond the COVID-19 Pandemic** | U.S. GAO. U. S. Government Accountability Office. Published November 7, 2023. Accessed November 21, 2023. <https://www.gao.gov/products/gao-24-105891>
2. **National Association of County and City Health Officials. 2022 Preparedness Profile Study.** Published online 2022. <https://www.naccho.org/uploads/downloadable-resources/2022-Preparedness-Profile-Full-Report.pdf>
3. **Rose DA, Murthy S, Brooks J, et al.** The evolution of public health emergency management as a field of practice. *Am J Public Health.* 2017; **107**(S2):S126–S133. doi:10.2105/AJPH.2017.303947
4. **About - Council on Education for Public Health.** Accessed November 21, 2023. <https://ceph.org/about/org-info/>
5. **FEMA Higher Education College List.** Emergency Management Institute. Published June 15, 2021. Accessed April 22, 2024. <https://training.fema.gov/hiedu/collegelist/default.aspx>
6. **List of Accredited Schools and Programs - Council on Education for Public Health.** Accessed April 22, 2024. <https://ceph.org/about/org-info/who-we-accredit/accredited/>

7. **Walsh L, Subbarao I, Gebbie K**, et al. Core competencies for disaster medicine and public health. *Disaster Med Public Health Prep.* 2012;**6**(1): 44–52. doi:10.1001/dmp.2012.4
8. **Reid, PhD, Mba WM, Brown, PhD LM, Landis, PhD, Mph DC**. Leadership, collaboration, and effective training principles and practices from a decade of training by a center for public health preparedness. *J Emerg Manag.* 2014;**12**(1):31–44. doi:10.5055/jem.2014.0160
9. **Council on Education for Public Health**. *Accreditation Criteria: Schools of Public Health and Public Health Programs*. Published online August 2021. <https://media.ceph.org/documents/2021.Criteria.pdf>
10. **Burns KF, Strickland CJ, Horney JA**. Public health student response to COVID-19. *J Community Health.* 2021;**46**(2):298–303. doi:10.1007/s10900-020-00910-z
11. **Czabanowska K, Kuhlmann E**. Public health competences through the lens of the COVID-19 pandemic: what matters for health workforce preparedness for global health emergencies. *Int J Health Plann Manage.* 2021;**36**(S1): 14–19. doi:10.1002/hpm.3131
12. **Stone KW, Kintziger KW, Jagger MA**, et al. Public Health Workforce Burnout in the COVID-19 Response in the U.S. *Int J Environ Res Public Health.* 2021;**18**(8):4369. doi:10.3390/ijerph18084369
13. **Cotel A, Golu F, Pantea Stoian A**, et al. Predictors of burnout in healthcare workers during the COVID-19 pandemic. *Healthcare.* 2021;**9**(3):304. doi:10.3390/healthcare9030304
14. **Maunder RG, Lancee WJ, Balderson KE**, et al. Long-term psychological and occupational effects of providing hospital healthcare during SARS outbreak. *Emerg Infect Dis.* 2006;**12**(12):1924–1932. doi:10.3201/eid1212.060584
15. **Leider JP, Coronado F, Beck AJ**, et al. Reconciling supply and demand for state and local public health staff in an era of retiring baby boomers. *Am J Prev Med.* 2018;**54**(3):334–340. doi:10.1016/j.amepre.2017.10.026
16. **Magaña L**. The importance of fieldwork experience in public health education. *Pedagogy Health Promot.* 2021;**7**(1_suppl):18S–19S. doi:10.1177/23733799211054080
17. **Suwanbamrung C, Kaewsawat S**. Public Health Students' Reflection Regarding the First Case of Coronavirus Disease 2019 in a University, Southern Thailand. *J Health Care and Research.* 2020;**1**(3):182–92.
18. **UofL Students, Graduates**, and Contact Tracing — University Career Center. Accessed November 22, 2023. <https://louisville.edu/career/news/students-contact-tracing>
19. **Murray CJL, King G, Lopez AD**, et al. Armed conflict as a public health problem. *BMJ.* 2002;**324**(7333):346–349.
20. **Federal Emergency Management Agency**. *Guide to Expanding Mitigation: Making the Connection to Public Health*. Published online May 13, 2020. https://www.fema.gov/sites/default/files/documents/fema_mitigation-guide_public-health.pdf