


SHEA Position Paper

SHEA position statement on pandemic preparedness for policymakers: the role of healthcare epidemiologists in communicating during infectious diseases outbreaks

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Background

Effective communication is a fundamental aspect of any emergency response, including outbreaks of infectious diseases, epidemics, and pandemics, during which rapidly evolving conditions, and changing or conflicting recommendations can generate confusion and mistrust.^{1–4} During the COVID-19 pandemic, the rapid pace of changing public health guidance, the emergence and distribution of misinformation, as well as diminishing overall trust in public health agencies by both healthcare personnel and the general public, presented key challenges to communication which impacted the effectiveness of the public health policy response. The role of the healthcare epidemiologist is increasingly recognized as essential in the synthesis and communication of emerging science for healthcare settings, and for the general public. This commentary describes the challenges faced by healthcare epidemiologists and infection prevention and control experts, during the COVID-19 pandemic and proposes solutions to strengthen future emergency responses.

Rationale

Effective communication should adhere to the Centers for Disease Control and Prevention's Crisis and Emergency Risk (CERC) framework.^{5,6} This framework stresses timeliness, accuracy, and transparency while informing, building trust, and promoting

action. Adherence to CERC is critical as emergencies often exacerbate existing inequalities in access to resources,^{7–9} including timely and credible information (e.g., lack of internet access), impacting public health emergency preparedness outcomes and leading to excess morbidity and mortality.^{10–12}

During the COVID-19 pandemic and the recent global outbreak of mpox, the role of healthcare epidemiologists as experts in infection prevention and control (IPC) has been central to the communication, interpretation and implementation of evolving public health guidance and science in healthcare settings.^{13–15} Healthcare epidemiologists have a unique leadership role as a trusted source of guidance related to infectious diseases and infection control, interpreters of guidance and implementers of recommendations, especially during crises. These roles have required healthcare epidemiologists to be effective communicators across a range of audiences in healthcare settings. Healthcare epidemiologists have additionally been key subject matter experts in communicating information *outside* of healthcare settings to the general public (e.g., providing recommendations to mitigate risk of COVID-19 in public spaces, educational institutions, private homes).

While most heavily concentrated in acute care facilities and affiliated practices and patient care locations, healthcare epidemiologist expertise is sought after across the continuum of care (e.g., urgent care, ambulatory, post-acute care, home health, ambulatory surgical centers, assisted living, in addition to acute care) to ensure both patient care and workplace safety.^{16–18} The healthcare epidemiologist must communicate with diverse groups of stakeholders within a facility, providing the rationale behind recommendations and assessing trade-offs between competing strategies (Supplement).

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Figure 1. Role of healthcare epidemiologist and infection prevention and control experts in design, development, and modification of policies and procedures and communication to diverse audiences. Healthcare epidemiologists and infection prevention and control experts must assess guidance from federal, state, and local public health authorities, and determine regulatory requirements in the design, development of infection control protocols for healthcare facility. Staffing, other resources, supply chain considerations, and assessment of the available scientific literature informs this process, which is then communicated to a variety of stakeholders including facility leadership, healthcare personnel, patients and visitors, and the public, through diverse communication modalities.

Below we describe the challenges faced by healthcare epidemiologists during the COVID-19 pandemic, and identify targeted solutions.

Ensuring effective communication during a time of rapid changes in public health guidance during a pandemic

To inform policies and protocols, healthcare epidemiologists must synthesize guidelines from the U.S. Centers for Disease Control and Prevention (CDC) as well as directives from federal, state and local public health authorities who have jurisdiction in their region, the Centers for Medicare and Medicaid Services (CMS) and the Occupational Health and Safety Administration (OSHA), incorporate local epidemiologic trends, and assess available human and physical resources. Both major and minor shifts in federal, state, or local public health guidance or regulatory requirements can have important downstream effects for individual healthcare facilities, requiring communication of local policy and procedure changes and explaining the rationale for the changes (Fig. 1). Internal organizational structures such as medical policy committees may require further internal review and modification.

During the COVID-19 pandemic, healthcare epidemiologists were also called upon to interpret revised public health recommendations and new scientific publications in an expedited fashion, often within hours of their release from public health or other authorities. The pace of changes amid evolving science and interpretation, however minor, can undermine trust and confidence in recommendations as audiences can perceive such quick changes as evidence of lack of robust basis for the policies themselves. Between 04/01/2020 and 12/31/2023, for example, there were 1,072 updates related to COVID-19 recommendations published by the CDC of which 679 were targeted to HCP; a full account of the number of updates prior to this is not available.¹⁹ The National Institutes of Health published and continues to update their comprehensive treatment guidelines.²⁰ In addition to updates from the CDC, healthcare epidemiologists must

incorporate recommendations from state and local public health authorities and regulatory agencies, which may differ from the CDC; when this is the case, state and local public health guidance may supersede that of CDC.

During the COVID-19 pandemic, changes to public health guidance were often released to the general public without advance communication to healthcare epidemiologists, leading to frequent scrambles to review, interpret, and modify policies when indicated. This was compounded by the focused attention of the media which often led to immediate demands to respond to the updated guidance.

Lack of training in effective communication to diverse audiences, including communicating in traditional and nont-raditional media and countering mis/dis-information

Communication during the COVID-19 pandemic was often characterized by vocal figures, some of whom had no expertise in healthcare epidemiology or IPC. When engaged, healthcare epidemiologists assisted in interpretation of the latest guidelines and science for the general public through print, television, and, increasingly, through social media platforms. However, like most clinicians, healthcare epidemiologists generally do not have formal training in health communication strategies. In addition to interacting with media outlets, many healthcare epidemiologists provided formal or informal guidance to communities through public service messages, advising local and state governments, educational sectors (from early education through institutions of higher learning), athletic organizations and facilities, businesses, media appearances, among other channels. The ever-changing communication landscape also necessitated an understanding of multiple new modalities for dissemination of information, including broadcasted lectures, live-streaming, and various social media platforms, all of which require additional skills and training.²¹ The emergence of social media as an increasingly common source of information for the general public and

Table 1. Communication challenges, recommendations to policymakers, and examples

Challenge	Recommendation (examples)
Ineffective communication during a time of rapid changes in public health guidance during a pandemic	<p>Endorse a communication standard developed by federal, state, and local public health, professional societies, and regulatory agencies to provide subject matter expertise in guidelines and policies, including timely communication of updates or changes.</p> <ul style="list-style-type: none"> • <i>Target standards, which would facilitate bidirectional communication, to specific audiences, including clinicians and the general public.</i> • <i>Endorse the role of SHEA, as a professional society with epidemiologic expertise, as a lead partner in developing these standards.</i> • <i>Recommend development of materials for rapidly educating healthcare personnel and the public about effective IPC practices during nonemergency periods.</i>
Lack of training in effective communication to diverse audiences, including communicating in traditional and nontraditional media and countering mis/dis-information	<p>Fund formal training for healthcare epidemiologists, infection preventionists, and allied roles that amplify IPC expertise (e.g., emergency preparedness) in Crisis and Emergency Risk Communication (CERC) and effective use of traditional and social media.</p> <ul style="list-style-type: none"> • <i>Develop accessible educational toolkits for training of healthcare epidemiologists in effective and clear messaging.</i> • <i>Fund initiatives to assist with identification of mis and dis-information, and to develop effective communications strategies for addressing these challenges.</i> • <i>Support the advancement of research into effective health communications strategies and develop a toolkit for linking effective strategies with identified challenges.</i> • <i>Create certification for healthcare epidemiologists who complete training through the CDC CERC program; consider use of reimbursement premiums for healthcare epidemiologists who complete and maintain training.</i>
Need to support professional societies in providing IPC guidance	<p>Endorse the critical role of subject matter experts in healthcare epidemiology in partnering with diverse professional societies, which have an important and influential role in educating their specialty audiences, to ensure that their membership benefits from healthcare epidemiologist and infection preventionist subject matter expertise.</p> <ul style="list-style-type: none"> • <i>Develop and implement new models for creating guidelines, including those tailored to specific audiences, moving toward a dynamic, rather than static approach to development and revision, including SHEA as a lead partner in contributing IPC expertise.</i> • <i>Before the next outbreak, develop toolkits for communicating about different types of infectious disease outbreaks.</i> • <i>Before the next outbreak, create a national repository of IPC resources to improve data generation, analysis, and access.</i>
Inconsistent recommendations between public health and regulatory agencies and applications in community and healthcare settings	<p>Enable collaboration between professional societies with subject matter expertise in IPC with public health and regulatory agencies to ensure consistency in guidance and messages.</p> <ul style="list-style-type: none"> • <i>Develop communications strategies that can clearly express uncertainty in a way that is understandable to a wide audience and does not undermine trust.</i> • <i>Ensure inclusion of SHEA as the lead partner with IPC expertise in forums with public health and regulatory agencies, including public comment, opportunities for public testimony, and other venues to highlight where discrepant recommendations exist and opportunities for resolution.</i> • <i>Endorse collaboration between healthcare epidemiologists, infection preventionists, and their state and local public health and regulatory agencies to ensure consistent recommendations.</i>

IPC, infection prevention and control.

healthcare audiences has both presented opportunities for rapid dissemination of credible information as well as increasing dissemination of disinformation.^{22–24}

Lack of support to professional societies in providing infection prevention and control guidance

Educating HCP to changes to existing infection prevention policies and protocols can be further complicated when evidence or guidance, including that of individual professional societies, conflicts with the healthcare epidemiologist's guidance. The advent of professional society guidelines addressing IPC considerations specific to a particular clinical (or nonclinical) discipline

further challenged healthcare epidemiologist's communication of guidelines. Professional society guidelines were often inconsistent with existing IPC guidance and sometimes public health guidance. Guidelines from societies without specific expertise in IPC often did not include input from IPC subject matter experts and at times provided incorrect IPC recommendations. Given the rapid pace of change, guidelines from professional societies whose primary role is outside of IPC often became outdated quickly, or were updated after various interventions had already been implemented into practice.

New models for creating and updating IPC guidelines are needed. Potential strategies for improvement include moving to a "living guideline" approach, where the documents and guidance is

considered to be inherently dynamic, rather than static. Additionally, a national repository for sharing local guidelines could be created to improve data sharing, dissemination of best practices, and access to best-available practices for facilities with limited IPC resources. This could also lead to advancements in evidence generation and evaluation of practices, thereby speeding our scientific understanding about interventions and facilitating translation of best policies into clinical and public health practice.²⁵

Addressing inconsistent recommendations between public health and regulatory agencies and applications in community and healthcare settings

Conflicting recommendations from federal agencies, including CMS and OSHA, further exacerbated challenges in communicating recommendations. For example, OSHA's Emergency Temporary Standard included recommendations that were not aligned with CDC recommendations. Inconsistent messages are among the most significant problems in risk communication. Discrepancies and inconsistencies between CDC and state and local public health guidance and, in turn, policies adopted in healthcare facilities can generate friction between HCP who may consider CDC guidance to be *de facto* policy, when that is not the case.

The eventual bifurcation of CDC recommendations regarding mitigation measures, and specifically use of universal source control, into scales based on "community level" and "community transmission", applied to community masking and healthcare masking, respectively, generated specific challenges in communicating the scientific basis and practical implications of the two frameworks. Further, discrepant recommendations regarding isolation and quarantine for healthcare and community settings created further challenges in communicating the reasons for these differences to patients as well as to HCP.

Recommendations

SHEA recommends that policy makers undertake the following actions to improve on communication for future infectious diseases emergency responses, with detailed components outlined (Table 1):

1. Endorse a communication standard developed by federal, state, and local public health, professional societies and regulatory agencies to provide subject matter expertise in guidelines and policies, including timely communication of updates or changes.
2. Fund formal training for healthcare epidemiologists, infection preventionists, and allied roles that amplify IPC expertise (e.g., emergency preparedness) in Crisis and Emergency Risk Communication (CERC) and effective use of traditional and social media.
3. Endorse the critical role of subject matter experts in healthcare epidemiology in partnering with diverse professional societies, which have an important and influential role in educating their specialty audiences, to ensure that their membership benefits from healthcare epidemiologist and infection preventionist subject matter expertise.
4. Enable collaboration between professional societies with subject matter expertise in IPC with public health and regulatory agencies to ensure consistency in guidance and messages.

Summary

SHEA strongly supports efforts undertaken now by policy makers to improve future communication during outbreaks of infectious diseases, epidemics, and pandemics. The COVID-19 pandemic focused a spotlight on the critical role of healthcare epidemiologists and IPC experts in communication. However, it also laid bare significant challenges in effective communication, some of which are driven by external forces and within the context of unprecedented staffing shortages²⁶ and high rates of fatigue, stress, and burnout.^{27–29} Healthcare epidemiologists themselves are not immune to the same stressors faced across the healthcare workforce. The proposed actions by policy makers will strengthen future responses to outbreaks, epidemics, and pandemics.

Supplementary material. The supplementary material for this article can be found at <https://doi.org/10.1017/ice.2024.63>.

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References

1. Sakran JV, Patel KK. *How Communication around COVID Fuels a Mistrust of Science*: Scientific American, Inc.; 2022.
2. Pollard MS, Davis LM. *Decline in Trust in the Centers for Disease Control and Prevention During the COVID-19 Pandemic*. Santa Monica, CA: RAND Corporation; 2021. https://www.rand.org/pubs/research_reports/RRA308-12.html
3. Nagler RH, Vogel RI, Gollust SE, Rothman AJ, Fowler EF, Yzer MC. Public perceptions of conflicting information surrounding COVID-19: results from a nationally representative survey of U.S. adults. *PLoS One* 2020;15:e0240776. doi: [10.1371/journal.pone.0240776](https://doi.org/10.1371/journal.pone.0240776)
4. Reynolds B, Seeger MW. Crisis and emergency risk communication as an integrative model. *J Health Commun* 2005;10:43–55. doi: [10.1080/10810730590904571](https://doi.org/10.1080/10810730590904571)
5. CERC introduction : 2018 update. Centers for Disease Control and Prevention (U.S). Center for Preparedness and Response. Division of Emergency Operations, CERC manual; 2018. <https://stacks.cdc.gov/view/cdc/120677>
6. Veil S, Reynolds B, Sellnow TL, Seeger MW. CERC as a theoretical framework for research and practice. *Health Promot Pract* 2008;9 (4 Suppl):26S–34S. doi: [10.1177/1524839908322113](https://doi.org/10.1177/1524839908322113)
7. Perry BL, Aronson B, Pescosolido BA. Pandemic precarity: COVID-19 is exposing and exacerbating inequalities in the American heartland. *Proc Natl Acad Sci* 2021;118:e2020685118. doi: [10.1073/pnas.2020685118](https://doi.org/10.1073/pnas.2020685118)
8. Andrasfay T, Goldman N. Reductions in 2020 US life expectancy due to COVID-19 and the disproportionate impact on the Black and Latino populations. *Proc Natl Acad Sci* 2021;118:e2014746118. doi: [10.1073/pnas.2014746118](https://doi.org/10.1073/pnas.2014746118)
9. Early J, Hernandez A. Digital disenfranchisement and COVID-19: broadband internet access as a social determinant of health. *Health Promot Pract* 2021;22:605–610. doi: [10.1177/15248399211014490](https://doi.org/10.1177/15248399211014490)
10. Savoia E, Lin L, Viswanath K. Communications in public health emergency preparedness: a systematic review of the literature. *Biosecur Bioterr: Biodef Strategy, Pract Sci* 2013;11:170–184. doi: [10.1089/bsp.2013.0038](https://doi.org/10.1089/bsp.2013.0038)

11. Lin L, Jung M, McCloud RF, Viswanath K. Media use and communication inequalities in a public health emergency: a case study of 2009–2010 pandemic influenza A virus subtype H1N1. *Public Health Rep (Washington, DC: 1974)* 2014;129(Suppl 4):49–60. doi: [10.1177/003335491412968408](https://doi.org/10.1177/003335491412968408)
12. Ghio D, Lawes-Wickwar S, Tang MY, et al. What influences people's responses to public health messages for managing risks and preventing infectious diseases? A rapid systematic review of the evidence and recommendations. *BMJ Open* 2021;11:e048750. doi: [10.1136/bmjopen-2021-048750](https://doi.org/10.1136/bmjopen-2021-048750)
13. Weber DJ, Al-Tawfiq J, Babcock H, et al. Multisociety statement on COVID-19 vaccination as a condition of employment for healthcare personnel. *Inf Control Hosp Epidemiol* 2021;1–46. doi: [10.1017/ice.2021.322](https://doi.org/10.1017/ice.2021.322)
14. Schnell N, Brewer B, Young K, et al. Creation and impact of containment units with high-risk zones during the COVID-19 pandemic. *Inf Control Hosp Epidemiol* 2022;1–27. doi: [10.1017/ice.2022.165](https://doi.org/10.1017/ice.2022.165)
15. Henderson DK, Haessler S, Weber DJ. The coronavirus disease 2019 (COVID-19) pandemic-looking back and looking forward. *Inf Control Hosp Epidemiol* 2021;42:1245–1250. doi: [10.1017/ice.2021.338](https://doi.org/10.1017/ice.2021.338)
16. Banach DB, Johnston BL, Al-Zubeidi D, et al. Outbreak response and incident Management: SHEA guidance and resources for healthcare epidemiologists in United States Acute-Care Hospitals. *Inf Control Hosp Epidemiol* 2017;38:1393–1419. doi: [10.1017/ice.2017.212](https://doi.org/10.1017/ice.2017.212)
17. Godshall CE, Banach DB. Pandemic preparedness. *Inf Dis Clin N Am* 2021;35:1077–1089. doi: [10.1016/j.idc.2021.07.008](https://doi.org/10.1016/j.idc.2021.07.008)
18. Kaye KS, Anderson DJ, Cook E, et al. Guidance for infection prevention and healthcare epidemiology programs: healthcare epidemiologist skills and competencies. *Inf Control Hosp Epidemiol* 2015;36:369–80. doi: [10.1017/ice.2014.79](https://doi.org/10.1017/ice.2014.79)
19. Centers for Disease Control and Prevention. What's New and Updated, COVID-19. <https://www.cdc.gov/coronavirus/2019-ncov/whats-new-all.html>. Accessed January 27, 2024.
20. National Institutes of Health. Coronavirus Disease 2019 (COVID-19) Treatment Guidelines. <https://www.covid19treatmentguidelines.nih.gov/>. Accessed January 11, 2023.
21. Mheidly N, Fares J. Leveraging media and health communication strategies to overcome the COVID-19 infodemic. *J Public Health Policy* 2020;41:410–420. doi: [10.1057/s41271-020-00247-w](https://doi.org/10.1057/s41271-020-00247-w)
22. Gabarron E, Oyeyemi SO, Wynn R. COVID-19-related misinformation on social media: a systematic review. *Bull World Health Organ* 2021;99:455–463A. doi: [10.2471/BLT.20.276782](https://doi.org/10.2471/BLT.20.276782)
23. Islam MS, Sarkar T, Khan SH, et al. COVID-19-related infodemic and its impact on public health: a global social media analysis. *Am J Trop Med Hygiene* 2020;103:1621–1629. doi: [10.4269/ajtmh.20-0812](https://doi.org/10.4269/ajtmh.20-0812)
24. World Health Organization. Managing the COVID-19 infodemic: promoting healthy behaviours and mitigating the harm from misinformation and disinformation; 2020. <https://www.who.int/news/item/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation>
25. Monach P, Branch-Elliman W. Clinical guidelines in the face of caring for patients with emerging diseases, 2021. <https://www.contagionlive.com/view/guidelines-update-in-progress>. Accessed December 21, 2021.
26. Office of the Assistant Secretary for Planning and Evaluation. Impact of the COVID-19 pandemic on the hospital and outpatient clinician workforce: challenges and policy responses (Issue Brief No. HP-2022-13), U.S. Department of Health and Human Services; 2022.
27. Denning M, Goh ET, Tan B, et al. Determinants of burnout and other aspects of psychological well-being in healthcare workers during the Covid-19 pandemic: a multinational cross-sectional study. *PLoS One* 2021;16:e0238666. doi: [10.1371/journal.pone.0238666](https://doi.org/10.1371/journal.pone.0238666)
28. Prasad K, McLoughlin C, Stillman M, et al. Prevalence and correlates of stress and burnout among U.S. healthcare workers during the COVID-19 pandemic: a national cross-sectional survey study. *EclinicalMedicine* 2021;35:100879. doi: [10.1016/j.eclinm.2021.100879](https://doi.org/10.1016/j.eclinm.2021.100879)
29. Couarraze S, Delamarre L, Marhar F, et al. The major worldwide stress of healthcare professionals during the first wave of the COVID-19 pandemic – the international COVISTRESS survey. *PLoS One* 2021;16:e0257840. doi: [10.1371/journal.pone.0257840](https://doi.org/10.1371/journal.pone.0257840)