

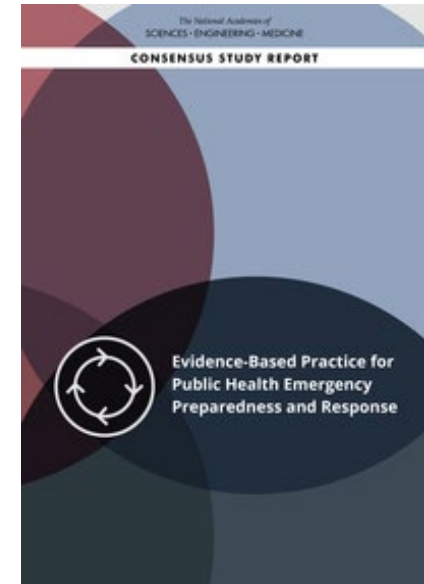
Implementation Science & Disaster Research: Challenges & Opportunities

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NIEHS Advancing Environmental
Health Equity through
Implementation Science
Workshop
March 1, 2022

Public health emergency preparedness and response (PHEPR) practice lacks a sufficient evidence base

- > “As described in this report, the committee found that despite the investments that have been made in PHEPR research over the past two decades, **the science underlying the nation’s system of response to public health emergencies is seriously deficient**, *hampering the nation’s ability to respond to emergencies most effectively to save lives and preserve well-being.*”



SOUNDING BOARD

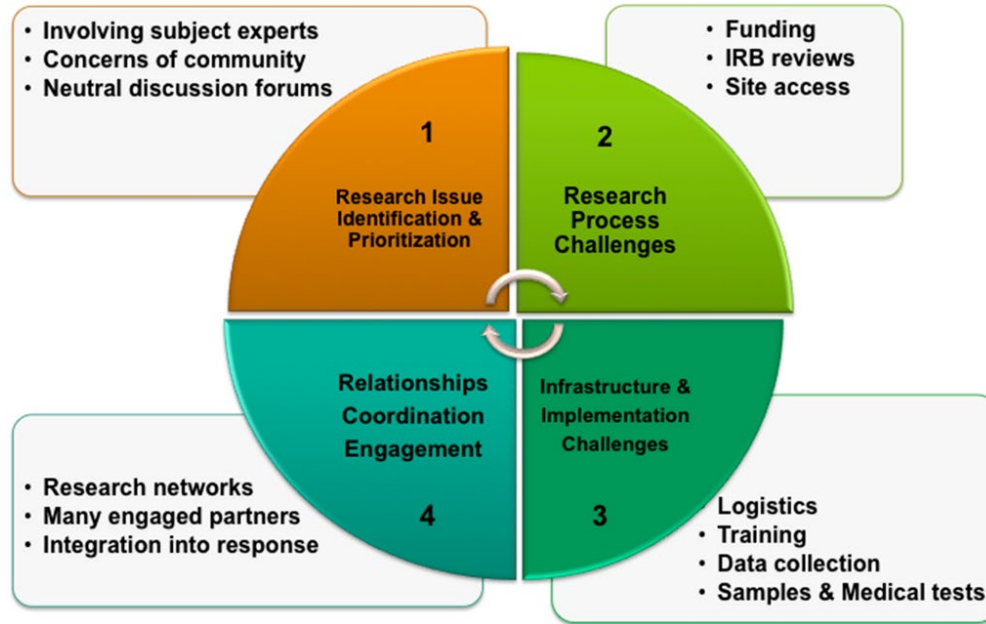
Research as a Part of Public Health Emergency Response

Nicole Lurie, M.D., M.S.P.H., Teri Manolio, M.D., Ph.D., Amy P. Patterson, M.D.,
Francis Collins, M.D., Ph.D., and Thomas Frieden, M.D., M.P.H.

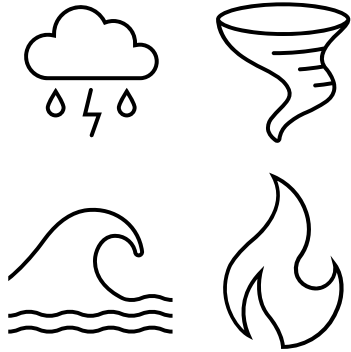
- To learn about the short- and long-term health effects
- To understand the effectiveness of response and recovery strategies



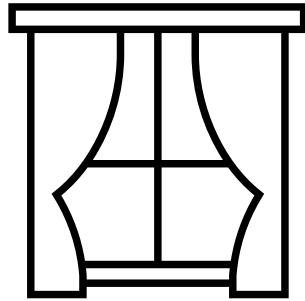
Conducting research in the context of disaster response is inherently challenging



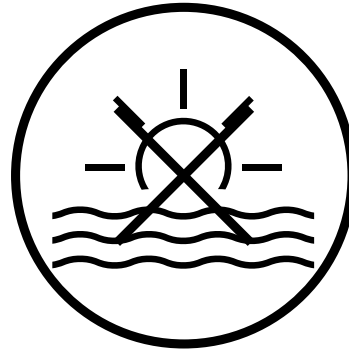
Studying implementation in disasters introduces additional challenges



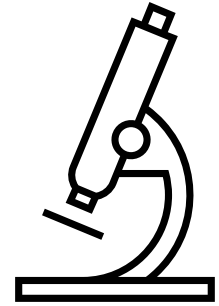
Varied contexts



Short implementation windows



Unique implementation environments

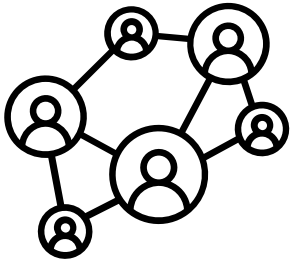


“Imperfect” and evolving evidence

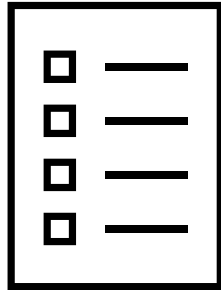
In the context of disasters, implementation science can:

- > Identify barriers and facilitators to implementation of disaster preparedness, response and recovery strategies
- > Inform incident- and context-specific implementation strategies
- > Promote learning about effectiveness of response and recovery strategies at community-scale

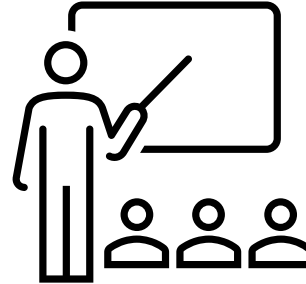
What is needed to build disaster implementation science capacity?



Community-
practitioner-researcher
relationships &
research networks



Plans
Research Protocols
Advance IRB approval



Competent
workforce



Flexibility

Some ideas about where to start

Disaster Medicine and Public Health Preparedness

www.cambridge.org/dmp


Concepts in Disaster Medicine

Cite this article: Khan AS, Wittenauer R, Patel R, Baseman J, Miller A, Errett NA. Developing a concept of operations template to guide collaborative disaster research response between academic public health and public health agencies. *Disaster Med Public Health Prep*. doi: <https://doi.org/10.1017/dmp.2021.280>.

Keywords: academic public health; disaster research response; evidence-based practice; public health emergency preparedness and response

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Developing a Concept of Operations Template to Guide Collaborative Disaster Research Response Between Academic Public Health and Public Health Agencies

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Abstract

Research conducted in the context of a disaster or public health emergency is essential to improve knowledge about its short- and long-term health consequences, as well as the implementation and effectiveness of response and recovery strategies. Integrated approaches to conducting Disaster Research Response (DR2) can answer scientific questions, while also providing attendant value for operational response and recovery. Here, we propose a Concept of Operations (CONOPS) template to guide the collaborative development and implementation of DR2 among academic public health and public health agencies, informed by previous literature, semi-structured interviews with disaster researchers from academic public health across the United States, and discussion groups with public health practitioners. The proposed CONOPS outlines actionable strategies to address DR2 issues before, during, and after disasters for public health scholars and practitioners who seek to operationalize or enhance their DR2 programs. Additional financial and human resources will be necessary to promote widespread implementation of collaborative DR2 programs.

Disaster Research Response (DR2) Program Community of Practice



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The DR2 Program engages with a variety of partners and stakeholders to promote understanding of the need for and importance of disaster research response. Collective actions can improve national and global capacity to collect timely data and conduct studies in response to disasters and public health emergencies. The translation of knowledge from such studies into policies and interventions will strengthen recovery, reduce adverse health impacts, and build resilience, especially in vulnerable populations.

The DR2 Community of Practice includes members of academia; local, state, and federal officials; public health practitioners; emergency management personnel; community advocates; and more. All members engage in discussions, share information, coordinate outreach and training, and collaborate on resource and tool development. Support of these efforts is a strategic priority of the DR2 program.

The DR2 Environmental Health Sciences Network

The DR2 Environmental Health Sciences (EHS) Network was created by a group of NIEHS-funded disaster research scientists. In 2020, the group expanded to welcome all environmental health researchers. This vital group coordinates and collaborates on issues related to disaster research response.

The DR2 EHS Network works within the larger DR2 Community of Practice to facilitate the specific engagement of environmental health scientists. Priorities include identifying scientific knowledge gaps and proposing solutions around implementation of disaster research, such as methods development, institutional review board approval, and stakeholder engagement. Recent outcomes of the DR2 EHS Network include a [study using the Delphi method](#)  to identify and prioritize environmental health research questions related to COVID-19, and the launch in 2021 of inaugural symposia, "Compounding Environmental Health Crises: COVID-19 Research Response."

Stories from the Environmental Factor (NIEHS Newsletter)

- [Disaster Research Response Experts Share Insights for Pandemic](#)  (April 2021)

+ Symposia Videos



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DR2 EHS Network Co-Chair
University of Washington




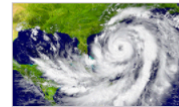
Erin Haynes, Ph.D.
DR2 EHS Network Co-Chair
University of Kentucky

Environmental health researchers interested in joining the DR2 EHS Network should send an email to dr2@niehs.nih.gov.



Disaster research planning eays off after hurricane

NIEHS-funded researchers leveraged partnerships built through the Environmental Health Science Network and DR2 training workshops to [improve disaster research response](#)  following Hurricane Harvey in Houston.



Reference: Khan AS, Wittenauer R, Patel R, Baseman J, Miller A, Errett NA. Developing a Concept of Operations Template to Guide Collaborative Disaster Research Response Between Academic Public Health and Public Health Agencies. *Disaster Med Public Health Prep*. Published online October 6, 2021:1-7.

Thank you!



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