

The Medical Reserve Corps (MRC): Understanding the State of Knowledge in a post-COVID-19 Landscape

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Introduction

In response to the 9/11 terrorist attacks and anthrax bioterrorism incidents, Congress established the Medical Reserve Corps (MRC) in 2002. This national volunteer program connects local and state organizations, comprised of medical and public health volunteers, to enhance disaster response and community resilience (Stein, 2017). The MRC was first activated during Hurricane Katrina in 2005, deploying 7,500 volunteers for medical care and sheltering. Today, the MRC operates under the U.S. Department of Health and Human Services, with over 200,000 volunteers in 800 local units (ASPR, 2022). The MRC recruits, trains, and collaborates with local partners for effective emergency response (Hoard & Tosatto, 2005)

Objectives

There is limited research on MRC recruitment, deployment, and evaluation beyond sporadic ad hoc case studies. We performed a scoping review to assess the state of knowledge of MRCs

Methods

- Four (4) English language databases identified for search: Academic Search Complete, OVID Medline, PubMed, and Web of Science.
- Limited articles to those published between January 2003 and July 2022.
- Keyword search included: Medical Reserve Corps (MRC) *, surge capacity, workforce capacity, hazards, disasters, public health emergency preparedness and response, mass casualty incident, volunteer, disaster education, disaster nursing, and disaster planning.

Despite having 800 MRCs units nationwide and 3 million + volunteer hours served during COVID – 19 response, robust theory driven research around MRCs is lacking.

Types of Evidence	n	Research Typology	n
Case Studies	16	Observational studies (i.e. pre-test/post-test survey designs, descriptive statistics)	15
Commentary	24	Hypothesis/theory driven research questions	2
Research	25	Qualitative and mixed method	5
Review	1	Causal inference (i.e. RCT)	3

Ways to Strengthen MRC Scholarship



Increase funding and applied research around workforce development.

EX. Clemson University's partnership with SC Department of Health and Environmental Control created a network of diverse undergraduate students across colleges in SC who can organize locally to assist communities during disasters and other emergencies.



Develop more robust evaluations associated with the deployment of MRCs during disaster response and community engagement events.

EX. Cost benefit analyses, RCTs, longitudinal assessments



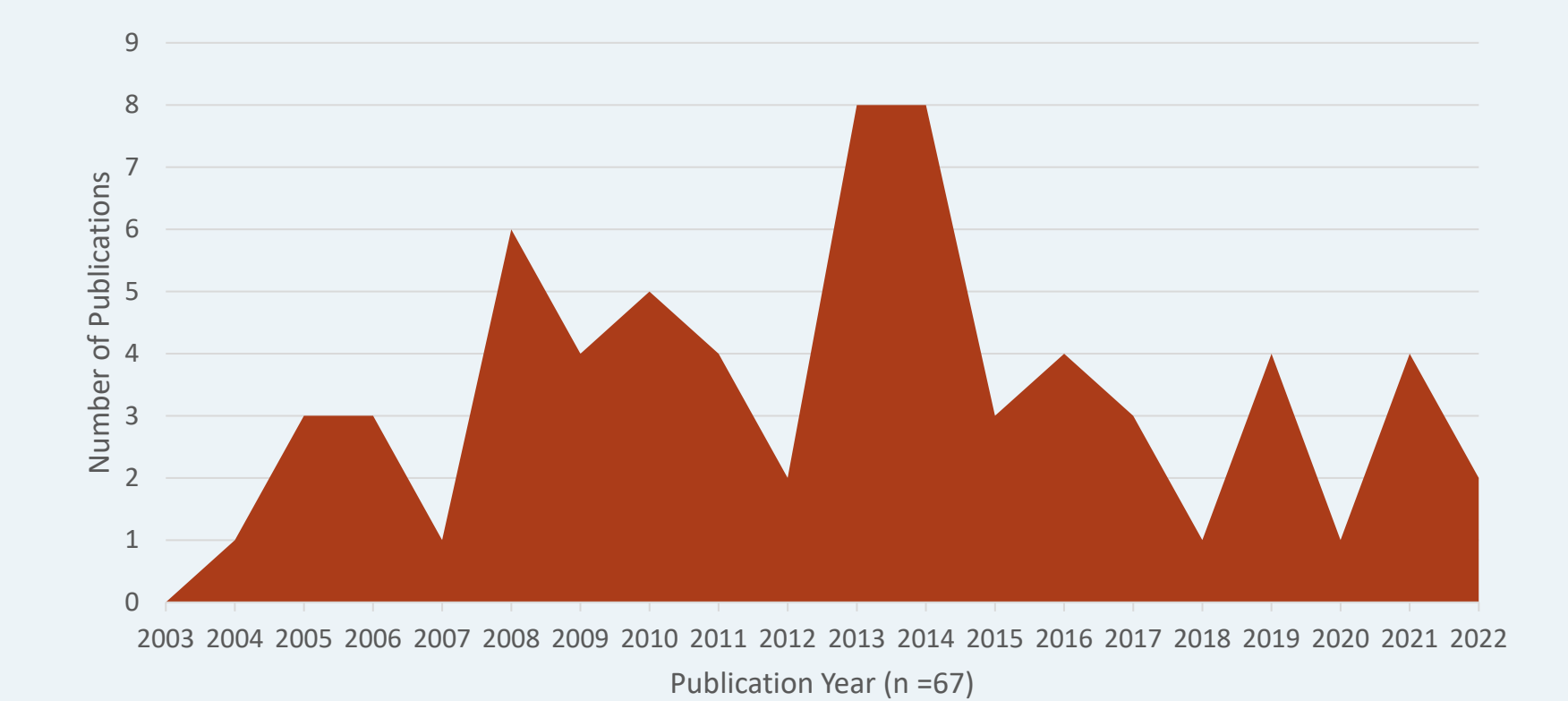
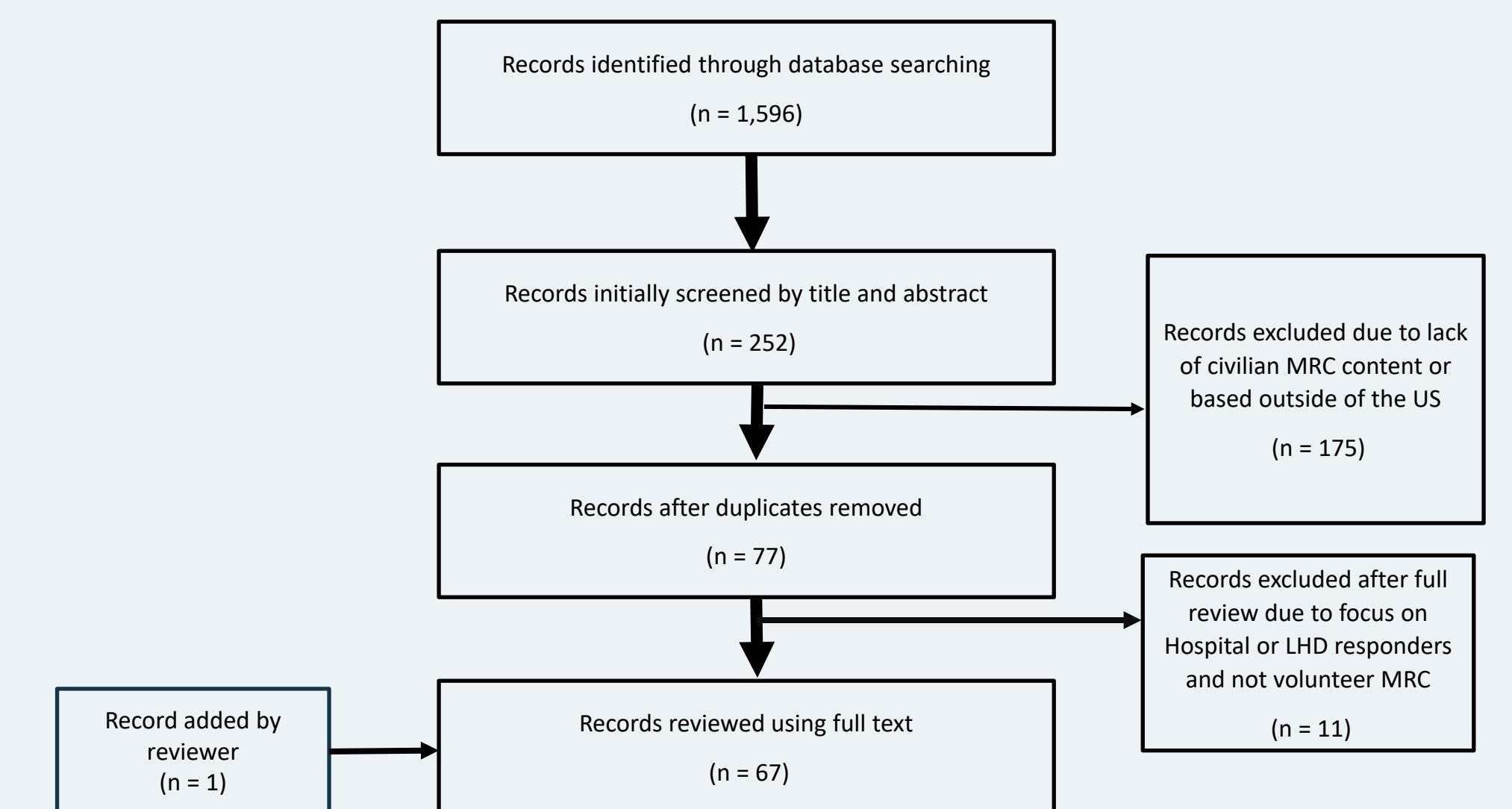
Utilize available social and behavioral science theories in the recruitment, training and deployment of MRCs and the use of MRCs for long-term recovery efforts.

Ex. Transformative Learning Theory, Theory of Planned Behavior, Nudge Theory, Narrative Policy Framework, Extended Parallel Processing Model

"As the novel COVID-19 pandemic continues to evolve, the public health community's fluid, prolonged, and multidisciplinary response may highlight and inform the prioritization of critical competencies (eg, crisis risk communication, disaster mental health), character needs (eg, stress management, decision-making), and practical educational approaches (eg, pedagogical design and delivery methods) that may enrich the development of capable and adaptable leaders for managing future public health emergencies." Li et al. (2022) pg 12



Results



Theme 1: Background and Scope of MRCs (n = 16). Many articles were in the form of commentaries (n = 14), published between 2006 and 2022. These articles provide in-depth information about the mission of the MRCs, including insights into coordination and strategic partnerships, such as the one with the National Association of County and City Health Officials. Additionally, they highlight the value of the MRCs to communities through large-scale mobilization.

Theme 2: Augmenting the potential of MRCs (n=12). The articles consisted of a combination of evidence, with a focus on expanding the range of volunteer skillsets that can benefit the mission of MRCs. These articles included six commentaries and five case studies exploring the roles of dentists, nuclear medicine technologists, faith leaders, and basic science graduate students in enhancing the operations of MRCs. These articles were published between 2004 and 2021.

Theme 3: Deployment of MRCs in the community (n=5). These articles primarily concentrated on the responses of MRCs to community needs. They employed a combination of commentaries, observational studies, and mixed-method research to describe the utilization of MRCs in real-world hurricane recovery efforts, vaccine campaigns, active bystander training, and campaigns aimed at reducing obesity and promoting healthy eating. These articles were published between 2010 and 2019.

Theme 4: Willingness to Respond (n = 12). The articles examine factors that facilitate and hinder volunteering within the MRCs. Utilizing a combination of primarily observational studies (n=7) and research driven by causal and behavioral theories (n=3), these articles identify influential factors like altruism as motivations for volunteering. They also highlight various barriers, including concerns related to liability, responder safety, financial costs associated with deployment, a lack of training, and potential risks to family members. These articles were published between 2008 and 2020.

Theme 5: Training (n=9). These articles focus on the activities to enhance MRC capacity to respond to various events. Among these articles, four are case studies that offer detailed descriptions of large-scale events aimed at improving different aspects of readiness. Additionally, three articles present observational studies using pre- and post-tests to assess the effectiveness in enhancing knowledge and readiness. These activities encompass a range of training methods, including face-to-face and online training, just-in-time training, desktop exercises, drills for mass casualty incidents, mass vaccination, bioterrorism, psychological first aid, and chronic care triage. The articles were published between 2008 and 2021.

Theme 5: Workforce Development (n= 5). The articles primarily emphasized the enhancement of knowledge and skills in disaster response, with the goal of strengthening the MRC and the broader emergency response infrastructure for the next generation. Most of these articles (n=4) are case studies that provide in-depth insights into partnerships with academic institutions, primarily schools of nursing and medicine, where MRC content was integrated into the curriculum. These articles were published between 2009 and 2019.

References

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