

scenes and the fact that by nature the scene is not safe, though EMS personnel are intervening in those unsafe environments.

**Method:** During a series of workshops with different EMS providers and managers the following ideas have been discussed: 1) Acceptable risk is part of EMS work 2) EMS personnel should be trained to conduct a personal risk assessment on-site and take appropriate action 3) EMS personnel on site should not think about the "large scene" but on the specifics of their site of operations

**Results:** This new way of thinking requires a shift of paradigm in EMS, which for many years was "safety first" or "don't engage unless the scene is safe", ignoring the change like deliberate attacks against the population.

**Conclusion:** Recent attacks present new threats and risks for EMS personnel, coupled with public expectations (who are on the scene providing assistance to their fellow injured citizen) are a call to EMS leaders to re-think the way we teach and address scene safety in security related incidents.

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### What Has Changed? A Bibliometric Analysis and Visualization of Research in Mild Traumatic Brain Injury

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**Introduction:** People around the world are affected by traumatic experiences, ranging from collective events like natural disasters, mass violence, war, terrorism and to personal, even "everyday life" traumas such as road traffic accidents and the sudden football attack. The mTBI caused by traumatic events is a significant public health international matter. There is a greater demand for mTBI research from all cultures and societies. This paper attempts to explore the research status, focus and challenges by using a bibliometric analysis on mild traumatic brain injury (mTBI).

**Method:** Publications on mTBI were retrieved from the Web of Science Core Collection by the title advanced search strategy from January 1, 2000, to October 31, 2022. Articles and reviews were included, and no language restrictions were applied. Microsoft Excel, RStudio, VOSviewer, and CiteSpace were used to extract, integrate and visualize the bibliometric information.

**Results:** A total of 3,464 documents were retrieved from 2000-2022, with a general upward trend despite slight fluctuations in annual publications. The USA had an overwhelmingly dominant position in terms of both the number of publications ( $n = 2\ 028$ ) and citations ( $n = 63\ 287$ ). The Department of Veterans Affairs ( $n = 380$ ) and Veterans Health Administration ( $n = 370$ ) were the most productive institutions. Collaborations in cross-national, cross-institutional and different authors were weak. Iverson GL was the leading scholar and the Journal of Neurotrauma and Brain Injury were the most influential journals. Based on keyword co-occurrence analysis, the research focus could be divided into four clusters:

epidemiology and prevention, characterization of mTBI, outcome assessment and prognosis.

**Conclusion:** The mTBI research has drawn increasing attention over the years. However, the research on mTBI is still relatively limited and challenging, and collaborations that cross national, institutional, disciplinary, and sector boundaries are important to the advancement of improving mTBI worldwide.

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### MCI (Mass Casualty Incident) Response Support for Palestine Refugee Hospitals in Lebanon

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**Introduction:** The Japanese Red Cross Society has been supporting MCI response support for Palestine hospitals in Lebanon since 2018.

**Method:** It was started from a hospital as a single topic in a one-year ER trauma course, which was combined with an ER triage course. In the next hospital it was revised into not only a theological lecture course but also a field triage training course with pre-hospital volunteers. As a result, when the Beirut explosion happened in 2020, the first hospital could accept more than 50 green patients at once, and the second one sent a pre-hospital team to do triage at the scene showing that training courses were useful in a real MCI case.

**Results:** At this time, support is being provided in a new hospital by making use of these experiences. A current report will be available when this association is held.

**Conclusion:** MCI response support for refugee camps is improving through trial and error, which would have much in common with other MCI responses in many countries and areas.

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### International Military Vaccination Efforts During the COVID-19 Pandemic: A Literature Review

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**Introduction:** The COVID-19 pandemic created a public health crisis worldwide. Mass vaccination efforts in some cases were initiated without adequate civilian manpower due to critical medical staffing shortages. The governments of many nations deployed their military assets to fill gaps in care and to initiate projects to promote vaccinations. The COVID-19 pandemic created a unique international military vaccination response to an infectious disease disaster.

This literature review highlights creative solutions, abilities utilized, projects completed, overall effectiveness, and lessons

learned by the military community worldwide to support their vaccination efforts within their countries. By collating this information into a single document, the collective global experience can be better analyzed and this information utilized to develop a framework for future disaster preparedness and mitigation planning efforts.

**Method:** Medline (PubMed), Google Scholar and the JSTOR Security Studies collection were searched for English language articles from January 1, 2020 and onwards. Keywords used included civil-military coordination, military, COVID-19, vaccination, vaccine. Titles were initially screened for relevance. The abstracts were then reviewed for a decision on inclusion. Article inclusion was determined by author consensus based on relevance to the objectives. Key papers were also hand searched for additional unidentified references.

**Results:** Data collection and analysis planned for completion by January 2023.

**Conclusion:** The COVID-19 pandemic created a public health need for mass vaccination distribution that was assisted by militaries throughout the world. This literature search demonstrates the ways in which military resources contributed to COVID-19 vaccination efforts, including creative techniques, successes and opportunities for future improvement.

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### Emergency Health Care Workers' Preparedness for Disaster Management: An Integrative Review

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**Introduction:** Around two billion people globally were affected by natural disasters between 2008 and 2018. Countries are required to effectively prepare their healthcare workers for disaster response. A greater level of preparedness is associated with a more effective response to disasters. The World Health Organization requires countries and governments to have disaster plans and emergency health workers ready and prepared at all times. This integrative review aims to understand emergency healthcare workers' perceived preparedness for disaster management.

**Method:** An integrative literature review using the PRISMA checklist guidelines was conducted to explore physicians, nurses, emergency medical services, and allied medical professionals' preparedness for disasters. Literature was searched from 2005, published in the English language and from MEDLINE (PubMed), Google Scholar, EMBASE, PsycINFO, SCOPUS, ProQuest and CINAHL databases. Reviews, case reports, clinical audits, editorials and short communications were excluded. Studies were critically appraised using the Mixed Methods Appraisal Tool.

**Results:** The initial search yielded 9,589 articles. Twenty-seven articles were included following the application of the eligibility criteria. Included studies were geographically diverse including North America, the Middle East, and the Asia Pacific. Most

studies (n=24) assessed the knowledge of healthcare workers in general disasters. Studies using the Disaster Preparedness Evaluation Tool reported moderate disaster preparedness and knowledge, while studies using other instruments largely reported inadequate disaster preparedness and knowledge. Regional variations were recorded, with high-income countries' reporting a higher perceived preparedness for disasters than low-income countries.

**Conclusion:** The majority of emergency healthcare workers appear to have inadequate disaster preparedness. Previous disaster experience and training improved disaster preparedness. Future research should focus on interventions to improve emergency healthcare workers' preparedness for disasters.

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### Targeted Review and Amalgamation of Unmapped Major Trauma and Ambulance Data in Ireland: TRAUMA Study

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**Introduction:** The trauma care system in Ireland is being re-configured to have major trauma centers for severe injuries and other sites for less severe injuries. This is to ensure patients are brought quickly to the most appropriate hospital to manage their injuries. The National Ambulance Service (NAS) electronic Patient Care Record (ePCR) records what happens to patients before they reach the hospital and the Major Trauma Audit (MTA) captures data on patients' hospital treatment. These datasets are currently separate and if they could be joined, they would inform important decisions on which hospitals to take patients. This study aims to investigate joining these datasets to create a seamless database of the patient journey from roadside to recovery.

**Method:** Proof of Concept—The ePCR and MTA datasets will be linked on a once-off basis. The combined anonymized dataset will then be analyzed to identify pre-hospital characteristics that determine the need to bypass smaller hospitals and bring patients to a larger major trauma center or trauma unit.

Stakeholder input for ongoing dataset combination and utilization—A stakeholder consultation process will explore the best way to make a GDPR-compliant combination of datasets on an on-going basis, including geo-location data and the inclusion of patient reported outcome measures. This will incorporate the requirements of the Data Protection Commissioner, National Office of Clinical Audit, patients, clinicians, NAS, HSE and other stakeholders.

Geospatial implications of major trauma services—Once ongoing data combination is approved, we will determine geospatial implications of the trauma network for prehospital care configuration and the patient journey.