

Peer Review

Review of: "The Limitations and Challenges of Researching Mass Casualty Incidents and Disasters in Europe"

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The article explains how heterogeneity in definitions and data collection on mass-casualty incidents in Europe hampers comparability and coordination. It identifies good data-collection practices—rapidly capturing key information, using triage tags and unified platforms—and underscores the importance of interoperability and a European minimum data set to avoid information silos and delays, as well as the role of the EU Civil Protection Mechanism in standardisation and training. It also notes that data management must respect privacy and ethical norms and calls for the use of emerging technologies—GIS, drones, mobile apps, and real-time platforms—to improve situational awareness and response in mass-casualty incidents.

This review highlights a series of strengths worth noting:

1. It clearly shows how the diversity of definitions and data sets on mass-casualty incidents hinders comparability and cross-border coordination. The introduction is well-structured, contextualising the issue and justifying the need for the review.
2. It covers multiple dimensions—definitions, data-collection practices, interoperability, standards, emerging technologies, European policy, and ethics—demonstrating a comprehensive approach to the subject. This breadth is valuable for planners and emergency managers.
3. The topic is of high interest for Europe, given recent health and climate crises. The article offers policy and operational recommendations that can be applied to disaster preparedness and response.
4. The inclusion of a section on ethical and legal considerations in data standardisation demonstrates social responsibility and respect for current regulations (GDPR, informed consent, and data minimisation).

In this context, it is worth stressing the relevance of the subject for the scientific community, emergency managers, and public policy. A standardised data system could significantly improve coordination and survival in major disasters, benefiting society as a whole. The recommendations can guide future investments in interoperability and contribute to European resilience.

My field of expertise includes forensic odontology, and from this perspective, the article has direct implications for victim identification in mass-casualty incidents. The creation of a standardised data system and interoperable platforms would allow forensic teams to quickly access dental records and other essential biomedical data. Forensic odontology is based on comparing prior dental records with victims' dentition to confirm identities. Therefore, having a European dental data set and a rapid flow of information between emergency services, hospitals, dental clinics, and judicial databases would facilitate the retrieval and verification of those records. Likewise, the ethical and privacy considerations addressed in the article are fundamental to ensuring the confidential handling of sensitive dental information and respecting families' rights during the identification process.

In conclusion, the article constitutes a timely and well-documented review of the limitations and challenges of research into mass-casualty incidents in Europe. Its main strengths lie in the clarity with which it states the problem, the breadth of sources used, and the integration of technological, political, and ethical perspectives.

It stands out for its ability to provide practical recommendations to emergency managers and policymakers. The critical synthesis and standardisation proposals offer high academic and practical value. The connection to forensic odontology underscores that standardising and sharing data has positive repercussions beyond the immediate management of the crisis, also facilitating victim identification.

Declarations

Potential competing interests: No potential competing interests to declare.