Disaster Medicine and Public Health Preparedness

www.cambridge.org/dmp

Concepts in Disaster Medicine

Cite this article: Bazzi O, Munyambabazi A, Anderson EE and Wild HBH (2025). Retraumatization Associated with Quantitative Epidemiological Research Methods in Conflict Settings: Issues and Mitigation Strategies. *Disaster Medicine and Public Health Preparedness*, **19**, e290, 1–4
https://doi.org/10.1017/dmp.2025.10211

Received: 31 December 2024
Revised: 18 August 2025
Accepted: 09 September 2025

Keywords:
Retraumatization; Trauma-informed research; Research ethics; Quantitaive epidemiological research; Qualitative research; Tribunal proceedings; Participants protection; Conflict research

Corresponding author:
Hannah B. H. Wild;
Email: hbwild@uw.edu

Retraumatization Associated with Quantitative Epidemiological Research Methods in Conflict Settings: Issues and Mitigation Strategies

Ola Bazzi MPH[1], Alex Munyambabazi MBChB, MLSO, DMLT[2], Emily E. Anderson PhD, MPH[3] and Hannah B. H. Wild MD[4,5]

[1]Faculty of Health Sciences, American University of Beirut, Beirut, Lebanon; [2]Founder and CEO at Amputee Self-help Network Uganda (ASNU), Uganda; [3]Neiswanger Institute for Bioethics, Loyola University Chicago, Stritch School of Medicine, Maywood, IL, USA; [4]Department of Surgery, University of Washington, Seattle, WA, USA and [5]Explosive Weapons Trauma Care Collective, International Blast Injury Research Network, Southampton, UK

Abstract

Existing approaches to quantitative epidemiologic methods commonly used in conflict and other emergency settings risk retraumatizing research participants. However, little guidance exists regarding how to mitigate these risks. Here we draw on literatures addressing ethical considerations in 2 similar activities—the use of qualitative research methodologies in research with survivors of violence and trauma, as well as witness protection strategies during tribunal proceedings. We recommend preliminary standards and best practices for participant protection from retraumatization associated with quantitative epidemiological methods adapted from existing practices for qualitative research and in tribunal contexts that should be refined in partnership with the affected communities.

Introduction

Twenty-first-century armed conflict is characterized by an increased proportion of civilian casualties, largely related to the use of explosive weapons in populated areas.[1] These conflicts often cause extreme public health crises. In 2024, 300 million people were estimated to require humanitarian assistance and aid, with armed conflicts being the primary driving reason.[1] Numerous challenges such as security concerns, lack of resources, and a weakened infrastructure limit the number and quality of published research studies on populations in areas affected by armed conflicts.[2] However, research in these areas is a critical tool for evaluating the needs of vulnerable populations, as well as for assessing the impact of interventions to inform policy and best practices. Accurate mortality and morbidity estimates are challenging to obtain in conflict settings, given the destruction of health facilities, migration, and security concerns.[3] A study on civilian deaths due to war-related violence in Syria, recorded by the Violation Documentation Center, reports limitations on the accuracy of the estimates provided due to challenges in data collection.[4] The difficulty in verifying the validity of mortality estimates could be observed in the controversy surrounding the mortality data reported by the Gaza Ministry of Health.[5] Skeptics suggested possible inflation or bias; however, a study comparing Ministry of Health data with figures from the United Nations Relief and Works Agency reveals no evidence of inflation, and on the contrary, presents concerns related to underreporting resulting from operational challenges and uncounted deaths of individuals still buried under the rubble.[5] A systematic review of Iraq war mortality estimates following the US invasion in 2003 reveals that despite their availability, the use of standard epidemiological methods is rare, which ultimately results in varying estimates of mortality.[6]

Given those challenges, applying a range of standard quantitative epidemiological methods, including retrospective household surveys, prospective community surveillances, key informant interviews, and verbal autopsies, is crucial to accurately determine the impact of war on civilian populations.[3]

Verbal autopsies aim to identify the causes of death of a deceased person by interviewing relatives or caregivers using a structured set of questions. In conflict settings, where reliable mortality data is difficult to collect through official government surveillance systems, verbal autopsies can fill this gap in information. Quantifying the number of deaths is crucial for documenting the impact of war, estimating the need for aid, advocating for resources, and informing political decisions.[7] Verbal autopsies, however, can be emotionally distressing for grieving relatives.[8] Emotional distress symptoms could come in the form of grief, frustration, anger, and anxiety.[9] Recounting the circumstances of death could specifically elicit feelings of guilt, self-blame, and helplessness.[9] In the context of humanitarian crises, distress is often further exacerbated by the burden of repeated interviews regarding the same deaths, due to the presence

CAMBRIDGE
UNIVERSITY PRESS

of several agencies working in the same area.[10] Furthermore, in situations of extreme distress and limited aid, conflict-affected communities may gain false hope that the research conducted might result in immediate and significant advantages.[11]

A researcher asking a family member or neighbor to recount certain details of a loved one's death may unintentionally reactivate feelings associated with past trauma; that is, such research may cause retraumatization. This can cause additional harm to communities already suffering due to the conflict. Retraumatization can undo healing that individuals or communities may have started, which could lead to the return to or emergence of new psychological symptoms, including post-traumatic stress disorder, depression, and self-injury.[12]

In spite of these risks, most violence-related mortality studies do not report implementing any measures to protect participants from retraumatization.[13,14] A systematic review of ethics reporting in verbal autopsy studies found that only around half of the studies (48%) reported undergoing any type of prospective ethics review, while only 62% reported interviewer training, and 51% reported the amount of time that had lapsed between death and interview.[15] This lack of reporting can partly be attributed to a lack of ethical guidance as well as the lack of standards for reporting the results of verbal autopsies in manuscripts. For example, the Standardized Monitoring and Assessment for Relief and Transitions (SMART), an inter-agency initiative for assessing humanitarian interventions, has introduced a methodology for assessing mortality, but there is no reference to participant protections or ethics more broadly.[16] SMART mortality questionnaire calls for asking the head of the household to "list the names, sex, and age of all individuals that were part of the household but have died since the beginning of the recall period," in addition to the cause of death. Although there is a significant risk of retraumatization from such questions, the sensitive nature of this research is discussed only in terms of the potential for response bias and underreporting of death rates in cultures where death is "taboo."[16]

While ethical guidelines for conducting research in humanitarian settings do exist, the focus tends to be on settings of natural disasters or pandemics.[17] Additional specific ethical guidance for research in settings of armed conflicts is needed,[18,19] and in particular for quantitative epidemiological methods like verbal autopsies or mortality surveys aiming to document conflict-related deaths of civilians.

While discussion of the potential for retraumatization in quantitative research in conflict settings is sparse, attention to the issue is more robust in both qualitative research with survivors of violence and tribunal settings—2 similar activities that aim to gather data and pose potential risks to participants with uncertain and limited promise of direct benefit. This manuscript aims to draw from these literatures to guide ethical analysis, highlight gaps in protections, and make preliminary recommendations for best practices for mitigating against retraumatization in quantitative research aiming to document conflict-related civilian deaths.

Discussion

Protections Against Retraumatization in Qualitative Research

In the context of qualitative research, normative guidance exists to support specific protections for a broad range of survivors of violence and trauma.[17,20,21] These best practices are greatly informed by empirical research that was conducted largely in response to research ethics committees raising concerns about risks of retraumatization without offering potential means of mitigating these risks, thus hampering important research with the potential to inform the development of services for trauma survivors.[17] This fear, however, may not be backed by empirical evidence on the risks and benefits of trauma research.[22] A review on the topic indicates that only a small number of participants in trauma research experience distress.[22] These negative feelings tend to be short-lasting, and most participants tend to report that their experience was positive or rewarding. Proper design, ethical oversight, and following best practices would, however, ensure that the benefits of participating in this research outweigh the risks.[22]

A review of empirical research on ethical issues in trauma-related research recommends providing training for researchers on managing emotions and self-care and following a team-based approach that encourages those practices.[17] Recommendations also call for transparency with potential participants during recruitment about the risks of distress, attention to minimizing potential undue influence, and plans for intervening when participants are in distress that range from temporarily pausing the interview to providing community-based resources for counseling and social services.[17] In crisis settings, the authors propose a coordinated, central review process to avoid duplication in data collection and to reduce the burden on the research population.[17]

Another recommended practice to minimize the risk of retraumatization in qualitative research is adopting a trauma-informed approach, which entails understanding the impact of trauma and ways to recover, recognizing the signs and symptoms of trauma, incorporating knowledge around trauma into policies and procedures, and actively aiming to prevent retraumatization.[20] The Substance Abuse and Mental Health Services Administration proposes several key principles for trauma-informed approaches in research on sensitive subjects such as mental health issues and psychological trauma.[20] These principles include safety, trustworthiness, and transparency, as well as collaboration and mutuality.[20] Other recommendations include using inclusive, nonstigmatizing language, being sensitive to social location and cultural norms, taking breaks, performing mood checks, learning to recognize retraumatization signs, debriefing, providing resources, performing member checks as needed, and taking care of the researcher's well-being.[20]

Building from an awareness of the importance of avoiding retraumatization, explicit guidelines for conducting trauma-informed qualitative research have been proposed, calling for understanding the impact of trauma, creating a safe and trustworthy research environment, being flexible by changing course if needed, and prioritizing self-reflection and self-care for researchers throughout the research process.[21]

Achieving the aims of a trauma-informed research practice often requires sensitivity in design to minimize the risk of replicating oppressive dynamics that existed historically between researchers and researched communities.[23] This could mean empowering participants to shape the data collection process. For example, Aroussi[23] discusses research with survivors of wartime rape in Eastern Congo that utilized participant-led storytelling, personal narrative methods, and a reflexive meta-research design rather than structured interview questions. The methods used were perceived as empowering for participants as they gave space for healing and power over the interview process by reducing power dynamics between the interviewer and interviewees.[23]

Protections Against Retraumatization in Tribunal Settings

In the criminal justice system, trauma survivors may experience retraumatization due to both active and passive features of the system.[24] The adversarial nature of the courtroom forces survivors to confront perpetrators and relive traumatic events. At the same time, the impartiality of judges and formalistic legal procedures puts survivors under pressure to navigate an often difficult and insensitive system.[24] Actively, and specifically in the context of intimate partner violence, the system's problematic separation paradigm pressures survivors to leave abusers even when it is not possible or desirable. The system also emphasizes physical harm while often overlooking other types of violence, like financial and emotional abuse.[24] Strategies used to reduce the risk of retraumatization in tribunals that could be applied to conflict research include building cross-cultural competencies of researchers by fostering habits like compassion, self-reflection, and addressing personal biases and stereotypes.[24] Building habits of cross-cultural competency allows for the practice and delivery of trauma-informed legal services, which starts by identifying trauma and implementing strategies to prevent vicarious harm while assisting clients in managing difficult emotions and preparing them for challenging testimonies.[24]

Some international courts, like the Extraordinary Chambers in the Courts of Cambodia, allocate specific funding to provide psychological support to victims, including emotional support during trials and debriefing after proceedings.[25] In Germany, court professionals extend their support to pretrial, during which they familiarize survivors with the criminal justice process.[25] German investigators also use special interview techniques that aim to support survivors.[25] Survivors in Germany may also receive psychosocial assistance outside of the trial; however, resources remain limited.[25] Protecting the psychological well-being, privacy, and dignity of victims and witnesses is a measure set within the mandate of the International Criminal Court Victims and Witnesses Section (VWS). Since 2009, when the first International Criminal Court trial took place, the VWS has set some quality control measures to evaluate witness-related services.[26] Feedback revealed that while witnesses and victims report high levels of stress, they still assess their experience to be positive, especially when they receive adequate support from the VWS before, during, and after testifying.[26]

Gaps in Protection Against Retraumatization during Quantitative Research

While relatively robust guidelines and practices exist to protect participants from retraumatization during qualitative research and tribunals, the standards for quantitative epidemiological research methods, such as verbal autopsies or mortality surveys, are limited.[3]

In the manual for training interviewers on the use of the verbal autopsy instrument, the World Health Organization (WHO) proposes some principles for conducting successful and ethical interviews, including guidelines on preventing emotional and moral distress for both respondents and interviewers.[27] WHO training guidance also suggests working in close collaboration with the local community to ensure respect for culture and bereavement customs.[27] Guidelines also call for compassionate communication, sharing data with bereaved families, and recognizing and managing signs of distress in both interviewees and interviewers.[27]

Although the WHO guidelines presented offer a starting point, there are some remaining gaps.[28] First, there is a lack of formal protocols around the timing of verbal autopsy interviews. It is recommended that verbal autopsies not be conducted too soon after death. For example, in the context of stillbirths or neonatal deaths, it is specifically recommended to wait at least 6-8 weeks to prevent distress in a particularly vulnerable period.[8] The acceptable timing in other contexts may vary and is culturally specific.[28] In one study in rural Ghana, field staff reported that the only guidance on timing they received was that it had to be recent enough to avoid recall bias.[29] This lack of appropriate and standard guidance around timing could lead to interviews being conducted during sensitive periods of mourning and grief.

Second, there is a need for standard requirements for the qualifications of the interviewers conducting the interviews. Though the evidence regarding the community acceptance of interviewers with different qualifications is limited,[9] employing interviewers who are underqualified or lack training could create a potential risk of distress in those settings. The lack of training and support for interviewers could cause them distress as well, as they are often caught in emotionally charged situations.[9] It is also recommended that interviewers be provided basic training in counseling and have the necessary skills to carry out sensitive interviews and support grieving individuals in the short term so as not to cause additional harm.[8]

Additionally, research that employs verbal autopsies should adhere to general recommendations for the ethical conduct of quantitative epidemiological research, specifically review by an ethics committee, e.g., an institutional review board (IRB). However, a systematic review of ethics reporting in verbal autopsy studies reveals that there is limited application, adherence, and reporting of compliance with ethical frameworks in these settings.[15] A prospective ethics committee review aims to ensure that potential risks are minimized and proportional to prospective benefits. A review should be obtained prior to initiating verbal autopsy research, whether the data will be used for war crime investigations or advocacy.[3] Even if it is determined that an activity is not research per se and thus ethics committee review is not required, risks and benefits should be assessed, and alternative data collection research methods and mitigation strategies implemented to ensure balance.[3]

Limitations

Two activities were selected—qualitative research and tribunal proceedings, both with survivors of trauma and violence, that share similarities with verbal autopsy and other quantitative research methodologies used in conflict and disaster settings in terms of procedures, risks, and potential benefits. It may be that these activities differ in ethically important ways that make guidance from one activity less salient to the others. Nonetheless, this manuscript defines a problem and makes recommendations toward establishing a more structured agenda to close gaps in ethical protections for research participants in conflict settings.

Conclusion

Quantitative epidemiological research methods used in conflict settings, such as mortality surveys or verbal autopsies, require bereaved individuals to recount details of the violent deaths of close family members and thus risk retraumatization. Yet despite these risks, clear ethical standards have not yet been articulated. Refining specific standards for quantitative research in conflict settings could begin by adapting and applying the existing principles and practices for qualitative research methods and tribunal proceedings for survivors of violence.

Author contribution. Hannah Wild: Conceptualization, resource synthesis, and writing; Ola Bazzi: Resource synthesis and writing; Emily E. Anderson: Reviewing and editing; Alex Munyambabazi: Reviewing and editing. All authors approved the final version of the manuscript.

Competing interests. The authors have no competing interests to declare.

Ethical standard. This research did not involve primary data collection or contact with human subjects; therefore, an ethics review board submission was not applicable.

References

1. **United Nations Office for the Coordination of Humanitarian Affairs (OCHA)**. *Global Humanitarian Overview 2024.* Published 2023. Accessed December 26, 2024. https://www.unocha.org/publications/report/world/global-humanitarian-overview-2024-enarfrsp
2. **Ford N**, **Mills EJ**, **Zachariah R**, **Upshur R.** Ethics of conducting research in conflict settings. *Confl Health.* 2009;**3**:7. Published July 10, 2009. doi:10.1186/1752-1505-3-7
3. **Checchi F.** *Estimation of population mortality in crisis-affected populations: guidance for humanitarian coordination mechanisms*. Geneva: World Health Organization; 2018. Accessed November 27, 2024. https://healthcluster.who.int/publications/m/item/estimation-of-population-mortality-in-crisis-affected-populations
4. **Guha-Sapir D**, **Schlüter B**, **Rodriguez-Llanes JM**, **Lillywhite L**, **Hicks MH**. Patterns of civilian and child deaths due to war-related violence in Syria: a comparative analysis from the Violation Documentation Center dataset, 2011-16. *Lancet Glob Health.* 2018;**6**(1):e103–e110. doi:10.1016/S2214-109X(17)30469-2
5. **Huynh BQ**, **Chin ET**, **Spiegel PB**. No evidence of inflated mortality reporting from the Gaza Ministry of Health. *Lancet.* 2024;**403**(10421): 23–24. doi:10.1016/S0140-6736(23)02713-7
6. **Tapp C**, **Burkle FM Jr**, **Wilson K**, et al. Iraq War mortality estimates: a systematic review. *Confl Health.* 2008;**2**:1. Published 2008 Mar 7. doi:10.1186/1752-1505-2-1
7. **Colombo S**, **Terracini B.** Estimating and interpreting mortality data in conflicts: Challenges, controversies, and significance. Estimating and interpreting mortality data in conflicts: Challenges, controversies, and significance. *Epidemiol Prev.* 2025;**49**(1):84–90. doi:10.19191/EP25.1.A855.012
8. **Chandramohan D**, **Soleman N**, **Shibuya K**, **Porter J.** Ethical issues in the application of verbal autopsies in mortality surveillance systems. *Trop Med Int Health.* 2005;**10**(11):1087–1089. doi:10.1111/j.1365-3156.2005.01510.x
9. **Hinga A**, **Marsh V**, **Nyaguara A**, **Wamukoya M**, **Molyneux S.** The ethical implications of verbal autopsy: responding to emotional and moral distress. *BMC Med Ethics.* 2021;**22**(1):118. Published September 4, 2021. doi:10.1186/s12910-021-00683-7
10. **Thomas LM**, **D'Ambruoso L**, **Balabanova D.** Use of verbal autopsy and social autopsy in humanitarian crises. *BMJ Glob Health.* 2018;**3**(3):e000640. Published May 3, 2018. doi:10.1136/bmjgh-2017-000640
11. **Goodhand J.** Research in conflict zones: Ethics and accountability. *Middle East News Online*. 2000.
12. **Howe K.** Trauma to self and other: Reflections on field research and conflict. *Secur Dialog.* 2022;**53**(4):363–381. doi:10.1177/09670106221105710
13. **Burnham G**, **Lafta R**, **Doocy S**, **Roberts L.** Mortality after the 2003 invasion of Iraq: a cross-sectional cluster sample survey. *Lancet.* 2006;**368**(9545): 1421–1428. doi:10.1016/S0140-6736(06)69491-9
14. **Alkhuzai AH**, **Ahmad IJ**, **Hweel MJ**, et al. Violence-Related Mortality in Iraq from 2002 to 2006. *The New England journal of medicine.* 2008;**358**: 484–493. doi:10.1056/NEJMsa0707782
15. **Joshi R**, **Faruqui N**, **Nagarajan SR**, **Rampatige R**, **Martiniuk A**, **Gouda H.** Reporting of ethics in peer-reviewed verbal autopsy studies: a systematic review. *Int J Epidemiol.* 2018;**47**(1):255–279. doi:10.1093/ije/dyx216
16. **Standardized Monitoring and Assessment of Relief and Transitions (SMART)**. *Measuring mortality, nutritional status, and food security in crisis situations: SMART methodology, version 2.0.* January 9, 2017. Accessed July 18, 2025. https://smartmethodology.org/wp-content/uploads/2018/02/SMART-Manual-2.0_Final_January-9th-2017-for-merge-3.pdf
17. **Newman E**, **Risch E**, **Kassam-Adams N.** Ethical issues in trauma-related research: a review. *J Empir Res Hum Res Ethics.* 2006;**1**(3):29–46. doi:10.1525/jer.2006.1.3.29
18. **Mezinska S**, **Kakuk P**, **Mijaljica G**, **Waligóra M**, **O'Mathúna DP**. Research in disaster settings: a systematic qualitative review of ethical guidelines. *BMC Med Ethics.* 2016;**17**(1):62. Published October 21, 2016. doi:10.1186/s12910-016-0148-7
19. **Makhoul J**, **Chehab RF**, **Shaito Z**, **Sibai AM**. A scoping review of reporting "Ethical Research Practices" in research conducted among refugees and war-affected populations in the Arab world. *BMC Med Ethics.* 2018;**19**(1):36. Published May 15, 2018. doi:10.1186/s12910-018-0277-2
20. **Karmakar S**, **Duggal C.** Trauma-informed approach to qualitative interviewing in non-suicidal self-injury research. *Qual Health Res.* 2024;**34**(1-2): 33–47. doi:10.1177/10497323231207746
21. **Alessi EJ**, **Kahn S.** Toward a trauma-informed qualitative research approach: Guidelines for ensuring the safety and promoting the resilience of research participants. *Qual Res Psychol.* 2023;**20**(1):121–154. doi:10.1080/14780887.2022.2155369
22. **Legerski J**, **Bunnell SL**. The risks, benefits, and ethics of trauma-focused research participation. *Ethics Behav.* 2010;**20**(5):429–442. doi:10.1080/10508422.2010.491908
23. **Aroussi S.** Researching wartime rape in Eastern Congo: Why we should continue to talk to survivors. *Qual Res.* 2020;**20**(5):582–597. doi:10.1177/1468794120920028
24. **Katirai N.** Retraumatized in court. *SSRN Electron J.* Published March 2020. Accessed July 18, 2025. https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID3505570_code575020.pdf?abstractid=3389573&mirid=1
25. **Jacovides JL**. Rethinking victim participation in international criminal tribunals. *Notre Dame J Int Comp Law.* 2023;**13**(1):Article 5. Accessed July 18, 2025. *https://scholarship.law.nd.edu/ndjicl/vol13/iss1/5*
26. **UK Economic and Social Research Council (ESRC)**. *Advancing the impact of victim participation at the International Criminal Court: Bridging the gap between research and practice.* Oxford Faculty of Law; 2020. Accessed July 18, 2025. https://www.law.ox.ac.uk/sites/default/files/migrated/iccba_-_oxford_publication_30_november_2020_.pdf
27. **World Health Organization**. *Verbal autopsy standards: Manual for the training of interviewers on the use of the 2022 WHO verbal autopsy instrument.* World Health Organization; 2023. Accessed December 26, 2024. https://www.who.int/publications/m/item/2022-who-verbal-autopsy-manual-and-training-curriculum-for-interviewers
28. **Gouda HN**, **Flaxman AD**, **Brolan CE**, et al. New challenges for verbal autopsy: Considering the ethical and social implications of verbal autopsy methods in routine health information systems. *Soc Sci Med.* 2017;**184**: 65–74. doi:10.1016/j.socscimed.2017.05.002
29. **Aborigo RA**, **Allotey P**, **Tindana P**, **Azongo D**, **Debpuur C.** Cultural imperatives and the ethics of verbal autopsies in rural Ghana. *Glob Health Action.* 2013;**6**:18570. Published September 19, 2013. doi:10.3402/gha.v6i0.18570