Improving long-term disaster recovery research in Australia through boosting dataset comparability

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Emergencies and disasters are increasing in frequency and complexity in Australia and around the world.[1] It is well established that the effects of these events take a long time to recover from. There is strong and growing evidence to show that different segments of society are exposed to disasters in different ways, with people and communities affected in interconnected and compounding ways.

Despite knowing that the consequences of disruptive events can be pervasive and long lasting, Australia lacks a consistent approach in the way it collects data and analyses information about the medium and long-term effects and rates of recovery.[2]

In addition to a lack of long-term recovery data, Australia has no unified approach to how disaster experiences are measured and how data is captured. This limits the ability of data to inform research, practice and policy by making it difficult to compare datasets between disaster recovery studies as well as other sources of population-level data (e.g. general social surveys). This presents difficulties for communities, policy makers and practitioners to draw on evidence to make decisions.

As researchers in emergency and disaster management, we aim to improve outcomes for people and communities. We think there is a pressing need for greater standardisation in the way that data is collected about how people and communities are exposed to disasters. While addressing this issue requires a diverse research agenda with a range of approaches and goals, it is nevertheless essential to provide a core basis for consistent ways to assess disaster exposure. This will improve the comparability of datasets across populations, timeframes and events as well as improve the reliability of questions asked.

If we improved the comparability of data sets across different disaster-affected populations, we would improve the ability to:

a) develop a finer-grained understanding of protective and vulnerability factors
b) better predict the long-term effects of disasters
c) better assess the effectiveness of interventions and programs
d) learn lessons from disaster events across time
e) develop common analytical methods and procedures to assess and score data
f) use this evidence base to improve policy, interventions and support
g) pave the way for improved data sharing and research collaboration.

We are contributing to these aims in 3 ways.

Encouraging the sharing of survey instruments

In 2021, Emergency Recovery Victoria commissioned the University of Melbourne to undertake the Community Recovery study into how people who were affected by the 2019–20 summer bushfires were recovering. The study had 4 aims:

- To examine mental health and wellbeing of diverse groups in affected areas.

- To examine perceptions of the recovery process (e.g. satisfaction, fairness, comparative judgements).
- To capture experiences of utilisation of the service system.
- To describe community priorities for recovery.

Between August and November 2022, 989 people from fire-affected communities in Victoria participated in the study. A preliminary summary of the results is available on the University of Melbourne website.[3] The survey instrument was co-designed with Emergency Recovery Victoria and an internal working group at the university. Where possible, we selected pre-existing instruments and indexes, such as the K-10, PCL-5 (both commonly used in mental health screening questionnaires), major life event inventories (used by Australian Bureau of Statistics[4] and Household, Income Labour Dynamics in Australia[5]) and selected disaster exposure items as used in the Beyond Bushfires study (University of Melbourne) and the Regional Wellbeing Survey (University of Canberra).

We are in the process of working with other researchers to offer components of the survey tool in the hope that it can improve the efficiency of their survey design and that we can increase the number of comparable recovery data sets across a range of disasters.

Developing an Inventory of Disaster Exposure

The University of Melbourne and the University of New South Wales are seeking support to develop an Inventory of Disaster Exposure. This will be available to researchers and organisations so that the sector has consistent approaches to capturing information about disaster exposure.

People are being exposed to multiple, compounding and cascading disaster events. Not only do most studies of disaster effects look at singular events rather than the lifetime experience of disasters for individuals or communities, the way that disaster exposure is measured is inconsistent and is often idiosyncratic to each study. This lack of a standardised approach to the measurement of exposures makes it difficult to understand the effects of multiple disasters and to compare data sets looking at the long-term results of disasters and perceptions of recovery.

To minimise these challenges, the Inventory of Disaster Exposure will be designed to be used in studies and assessments by organisations. The index would be based on a systematic framework of disaster exposures (e.g. threat, property damage and loss, bereavement, displacement and relocation and disruption). This multi-dimensional approach would support a nuanced assessment of exposure, compared to single item measures that assess general impact. Subsequently, a pool of candidate items (as drawn from existing surveys and/or created anew) would be collected and crafted for subsequent validation and analysis. This would provide a shared base for new information arising from new research topics and emerging issues.

Planning a long-term recovery tracking study

As part of the new *HowWeSurvive* initiative[6] (launching in September 2024), the University of New South Wales is planning a long-term, repeated study across decades to track the progress of recovery. In 2024, we will be inviting ideas about what we need to track. In addition to using the Inventory of Disaster Exposure, we intend to use approaches to data collection that can be compared to existing instruments, such as those used by the Australian Bureau of Statistics; Household, Income Labour Dynamics in Australia and the Regional Wellbeing Survey. Within ethical guidelines, we intend to share de-identified data sets with other researchers to ensure that we can all learn as much as possible from participants and can collectively work to improve outcomes for disaster-affected people.

The field of disaster recovery research is expanding. The methodological know-how already exists to make the needed improvements in data collection and assessment. As consensus around the importance of this grows, we will advance our understanding of patterns of disaster exposure and how different profiles are linked to risk and consequences.

We will work with others to ensure that the evidence base about experiences of long-term recovery is improved to support policy and practice. This includes how we reshape the understandings and practice in recovery, given the escalating challenges communities face.

Endnotes

1. Seneviratne SI, Zhang X, Adnan M, Badi W, Dereczynski C, Di Luca A, Ghosh S, Iskander I, Kossin J, Lewis S, Otto F, Pinto M, Satoh SM, Vincente-Serrano MW and Zhou B (2021) *Weather and climate extreme events in a changing climate (Chapter 11). In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (pp.1513–1766). Cambridge University Press. Retrieved: www.ipcc.ch/report/ar6/wg1/chapter/chapter-11/#:~:text=The%20probability%20of%20compound%20events,global%20warming%20(high%20confidence.*

2. Commonwealth of Australian (2020) *Royal Commission into National Natural Disaster Arrangements report. Retrieved: https://naturaldisaster.royalcommission.gov.au/publications/html-report.*

3. Gallagher HC, Brady K, Molyneaux R, O'Donnell ML, Glenister K, Harms L, Leppold C and Gibbs L (2023) *Community Recovery study: Recovery from the 2019-2020 bushfires. Report for Emergency Recovery Victoria. University of Melbourne. Retrieved: https://mspgh.unimelb.edu.au/__data/assets/pdf_file/0010/4710448/CORE_spread-1.pdf.*

4. Australian Bureau of Statistics website, at www.abs.gov.au/

5. Household, Income Labour Dynamics in Australia website, at www.dss.gov.au/about-the-department/longitudinal-studies/living-in-australia-hilda-household-income-and-labour-dynamics-in-australia-overview.

6. How We Survive website, at www.howwesurvive.com.

7. Regional Wellbeing Survey website, at www.regionalwellbeing.org.au.

