

The challenges of research utilisation and the risks of collaborative research

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Abstract

Translating and using research in emergency management policy and practice is challenging. It requires time and collaboration between researchers and practitioners. While it is assumed that working together well will lead to better outcomes than working in silos, clear evidence and guidance on what it takes to achieve successful collaboration is lacking. This paper discusses the challenges of research translation and utilisation and considers the risks of collaboration. The paper reflects on how collaboration between researchers and practitioners can achieve robust scientific contributions, as well as relevant and useful practical outcomes.

The challenges of research

Scholars have argued for efforts to strengthen the links between science and practice to improve emergency management policy and practice (Spiekerman et al. 2015). However, there are challenges to research translation and utilisation (see Oliver and Boaz 2019).

These challenges include the tendency to simplify complex problems to enable robust and rigorous research methods and to produce generalised results. Also, competing priorities and timelines for research and practice, which result in limited incentives to collaborate, limit the involvement of end users in research (Oliver and Boaz 2019; Wilkens et al. 2016). This can create or exacerbate the gap between research and practice.

Scoping and conducting research without meaningful contributions from end users assumes that quality research can translate

itself. Ideally, emergency management organisations would be able to take generic results and not only translate the relevance into their context, but also decipher the implications and solutions required to improve current practice. However, this assumption underestimates the amount of time, resources, negotiation and effort research translation and utilisation requires.

The benefits of collaboration

This paper uses the phrase ‘collaborative research’ to capture the shared intention of terms such as co-design, co-production or co-creation. These terms are being increasingly used across many academic disciplines and expected benefits include being able to solve complex or wicked problems that cannot be solved through silos or by singular disciplines (Turner and Baker 2020; Wilkens et al. 2016). It is also argued that collaboration is more likely to result in research outputs that are useful, usable and used than if end users were not involved (Oliver and Boaz 2019).

Risks of collaborative research

Discussions of the challenges and risks of collaborative research are not new (Flinders et al. 2016; Cvianovic et al. 2016). However, because these approaches are used across a wide range of disciplines, lessons learnt about collaboration may not reach everyone who is conducting collaborative research (Oliver and Boaz 2019). Moreover, despite increasing demands to conduct collaborative and practically relevant research, there are few evaluations of whether such approaches lead to improvements in policy and practice (Oliver and Boaz 2019; Turner and Baker 2020). As a result, practical guidance to support effective collaboration is lacking (Reed et al. 2014; Cvianovic et al. 2016; Wilkens et al. 2016). Also, because there

are differences among stakeholders, in project scope, power dynamics and expected outcomes, a one-size-fits all approach to collaboration is unlikely to be successful (Wilkens et al. 2016).

There are risks involved in working collaboratively rather than within the safety of established disciplines and methods. Collaboration asks us to move out of this space of comfort and requires us to transform the way that we design and conduct research projects. Not acknowledging these risks when embarking on collaborative research projects could have implications not only for the translation and utilisation of research, but also the quality of scientific contributions. In other words, we run the risk of producing results that can neither be utilised in practice nor published as scholarship (Turner and Baker 2020).

Despite the increasing promotion of and positive rhetoric around participatory research projects, Flinders et al. 2016, p.266) state that such projects are:

time-consuming, ethically complex, emotionally demanding, inherently unstable, vulnerable to external shocks, subject to competing demands and expectations, and other scholars (journals, funders, and so on) may not even recognise its outputs as representing 'real' research.

While collaborative action research is risky business, 'this is what makes it so fresh and innovative' (Flinders et al. 2016, p.261). If research for practice is risky business, what are the alternatives? If we continue to work in silos, nothing changes. Is it possible to design research so that it contributes to science and can inform and assist innovation in public policy and service? The Natural Hazards Research Australia funded the Predictions in Public project to achieve both aims.

Predictions in Public Research (PiP) project

Background

There have been many advances in scientific knowledge about fire behaviour and modelling, practice and agency capacity to deliver fire spread predictions to support operational decisions (Begg et al. 2021; Tolhurst 2018). Public demand for real-time data has increased (Wood et al. 2018). In addition, reviews, inquiries and royal commissions have repeatedly called for improvements in the timeliness and quality of warning products (United Nations Office for Disaster Risk Reduction 2022; Royal Commission into National Natural Disaster Arrangements 2020). The use of fire spread predictions has received increasing attention since the 2019–20 fire season when so-called 'Red Maps' were released to the public in New South Wales and the Australian Capital Territory.

Yet, questions have arisen about the value of producing fire spread predictions during future fire seasons. Previous research in Victoria showed that while operational staff agree that providing the public with quality real-time information is important, concerns remain regarding how to effectively embed predictions into existing warning products and when and how to release them to the public (Begg et al. 2020).

Based on this and with the support of the AFAC Predictive Services Group and AFAC Warnings Group, the topic of public-facing predictions was identified as a research challenge.

Project aim and governance

The aim of the PiP project was to develop empirical evidence and collaborative processes to contribute to a national approach to the future use of public-facing fire spread prediction products during an emergency. The project team is made up of coordinators who have research and emergency management experience from 2 Victorian government agencies. The research team includes experts from 4 Australian universities. The team has expertise in risk communication, evacuation modelling, cartography, anthropology and organisational learning.

The project also has a steering committee made up of AFAC Predictive Services Group and AFAC Warnings Group with representatives from all Australian jurisdictions. This committee provides feedback on the research and assists with and approves decision-making related to the project's scope and practical outputs. The steering committee and the research team meet for 30 minutes each fortnight using Microsoft Teams. The project team also presents regularly at the AFAC groups meetings to provide project updates and seek endorsement for specific decisions.

Project design

The project had 3 phases. Phase 1 has been completed. The research conducted in Phase 1 aimed to better understand the status quo. This included current emergency management organisation practice as well as community comprehension and use of existing public-facing map-based products. Two local maps were tested with community members in each Australian jurisdiction. In most cases, the maps tested were incident warning maps but predictions were also tested where they had been previously released to the public (e.g. in New South Wales, the Australian Capital Territory and Victoria). The findings of the research were discussed with the project steering committee to identify the implications for current practice and the research in Phase 2.

Phase 2 is underway. A range of prediction map design concepts have and will be co-developed with the research team and the project steering committee and tested with

community members in 5 studies. Based on the findings of this research, 3 practical outputs for emergency management organisations to use will be delivered in Phase 3. Only one of the 3 outputs has currently been identified, which is a set of evidence-based principles for designing and disseminating prediction maps. The additional 2 outputs have been funded but not yet defined. These outputs will be co-developed together with the research team and the project steering committee.

Lessons for collaboration, research translation and utilisation

Complex problems require effective collaboration approaches to translate research into practice. Collaboration is risky. If not done well, there is a risk that projects produce not only poor-quality research and that the results will have little relevance for end users.

Lessons from the PiP project include that collaborative research takes time. To commence the project and to enable collaboration, incentives for researchers and practitioners are required. The time and resources that relationship- and trust-building requires is not often budgeted for in research projects. Also, to enable the adaptable approach that collaboration requires, there is a need for flexibility in project planning. On the one hand, a clear plan for collaboration that articulates how end users will be involved in the decision-making process is an important way to value everyone's input. On the other hand, flexibility and creativity are important to allow for changes in the project plan as needs arise.

Finally, having a facilitation role that sits between researchers and practitioners has been beneficial in the PiP project. It has meant that there is capacity within the project for researcher and practitioner inputs to be considered and that negotiations are guided and decisions are shared.

There is no one-size-fits-all approach to collaboration between researchers and end users. However, acknowledging the risk of collaboration and learning from previous research projects provides considerations for researchers and practitioners who want research to be practically relevant and to produce robust scientific evidence.

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