

ON THE FRONTLINE: THE ROLES OF PHARMACISTS IN DISASTERS

ABOUT THIS PROJECT

This research was completed in 2019 at the Queensland University of Technology as part of a Bushfire and Natural Hazards CRC associate student PhD project, *The roles of pharmacists in disaster health management in natural and anthropogenic disasters*.

AUTHORS

Dr Kaitlyn E Watson, Queensland University of Technology and University of Alberta.
Contact kewatson@ualberta.ca

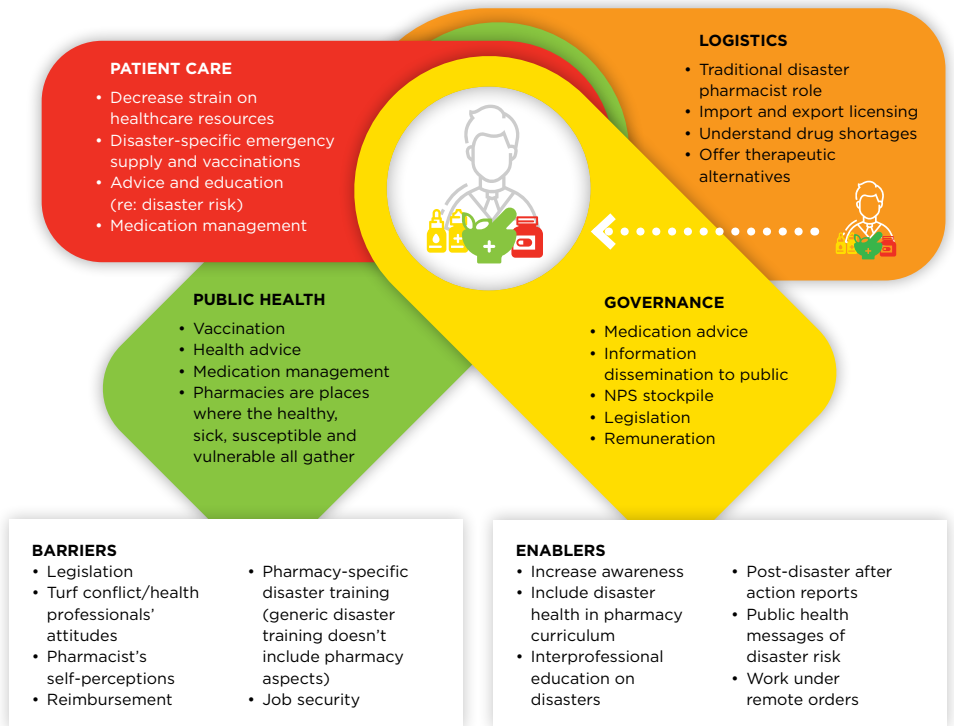
SUMMARY

Pharmacists are among the unsung heroes in health-related impacts of disasters. As the most accessible primary healthcare professionals, they have always assisted in emergencies, but are not adequately recognised for their contributions. The global COVID-19 pandemic identified the essential role pharmacists have in managing the health needs of the community.

This research identifies that pharmacists' roles extend beyond just logistics, also incorporating 43 roles throughout the disaster cycle - prevention, preparedness, response, and recovery - across four practice areas: public health, patient care, governance and logistics. This knowledge is applicable to natural hazards, but can also be applied to any disaster or emergency where healthcare is required, such as the COVID-19 pandemic.

CONTEXT

Disasters are highly stressful environments and often result in the affected community being unable to access basic healthcare services in a timely manner. Healthcare during disasters is often associated with emergency



▲ **Figure 1:** CONCEPTUAL FRAMEWORK MODEL OF PHARMACISTS' CURRENT LOGISTICS PRACTICE AREA AND HOW THEY SHOULD BE ALLOWED TO TRANSCEND THE BOUNDARIES INTO MULTIPLE PRACTICE AREAS. BARRIERS AND ENABLERS TO PHARMACISTS' ROLES IN DISASTERS ARE INCLUDED.

services and hospitals. However, research has identified many disaster-affected individuals avoid these overburdened services and will present to pharmacies for their healthcare needs. Thus, pharmacists provide essential health services to the public and are highly accessible due to their numbers and locality within the community.

BACKGROUND

Pharmacists are uniquely placed to provide frontline healthcare to a large portion of the population in everyday practice, including during a disaster. It is suggested that disasters bring out the best in pharmacists and the best in pharmacy practice. The COVID-19 pandemic and the 2019/20 Australian bushfires have illustrated the essential roles that pharmacists play in providing healthcare to

disaster-affected communities, especially in terms of medication continuity.

However, owing to the fragmented nature of disaster management and the organisations closely involved therein, pharmacists are currently limited to their roles within the logistics practice area. The pharmacy profession successfully transcends these individual practice boundaries in daily practice, working collaboratively to provide best-practice patient care. Yet, when a disaster arises, this level of multidisciplinary partnership is generally lost, and pharmacists are allocated to disaster teams as logisticians. Pharmacists need to be accepted and acknowledged for their ability to bring a unique skillset and knowledge to disaster management and be allowed to transcend the boundaries of the restrictive individual practice areas.

BUSHFIRE AND NATURAL HAZARDS CRC RESEARCH

This PhD study identified the roles that pharmacists play in the disaster management prevention, preparedness, response and recovery cycle, and what their roles and responsibilities could be using an all-hazard approach (including both natural and anthropogenic hazards).

This multi-phased, mixed-methods study included both quantitative and qualitative methods, incorporating a disaster pharmacy legislation review and international surveys, interviews, and a Delphi study. International disaster health experts and key opinion leaders from a range of backgrounds (e.g. non-government organisations, government, pharmacy, military, public health, emergency services and disaster management) participated in this study to provide multiple perspectives on pharmacists' roles in disasters.

RESEARCH FINDINGS

This research found that pharmacists can undertake 43 different roles, during and following disasters, and that these roles span four practice areas – public health, patient care, governance, and logistics (see Figure 1, page one). These roles are not in substitution to those of other healthcare professionals, but an additional resource to assist communities during disasters.

PUBLIC HEALTH Pharmacists are involved in several public health roles in their everyday practice. During disasters, which can quickly become public health

END-USER STATEMENT

“[Pharmacists] need to be involved in the preparedness – if they don't plan for it ... then in fact their response is not going to be appropriate. They need to be involved and participating in the whole cycle.”

Government Emergency Management Advisor, Participant I13

emergencies, many patients will seek pharmacists for public health advice before making an appointment with another health professional or going to hospital emergency departments. This has been demonstrated in the recent COVID-19 pandemic, with pharmacists providing symptom screening, asymptomatic testing, and being identified as a significant vaccinator for distribution of a vaccine once it becomes available.

PATIENT CARE Evidence-based research has identified the value of pharmacists in optimising patient outcomes and safety. The thunderstorm asthma event in Melbourne in 2016 highlighted that without the pharmacists' response, the mortality and morbidity would have been significantly worse.

GOVERNANCE By giving pharmacists more authority during disasters to adequately look after the needs of chronic disease patients, doctors and nurses can focus their attention and resources on more critically ill patients. Pharmacists need to be more active in government roles and be given more opportunities to contribute to health policy decisions related to disaster management.

LOGISTICS Pharmacists already play an important logistics role during disasters, including import and export licensing, understanding drug shortages, and offering therapeutic alternatives. However, while this role is valuable and essential, it is not the only role that pharmacists can play, and they should be allowed to transcend the boundaries of logistics into multiple practice areas (see Figure 1, page one).

HOW IS THE RESEARCH BEING USED?

This research has led to increased awareness of pharmacists' roles in disaster management, both within the pharmacy profession as well as international disaster health organisations. Further research is being undertaken internationally to provide additional evidence

of pharmacists' preparedness, willingness in disasters, and to identify barriers and enablers to pharmacists' roles in disasters.

The author, Dr Kaitlyn Watson, has been involved in leading disaster tabletop exercise workshops internationally for pharmacists and healthcare students, to increase their understanding and preparedness for health-related impacts of disasters. Dr Watson is currently furthering her research, looking specifically at the impact of COVID-19 on pharmacists' roles and services.

FUTURE DIRECTIONS

Pharmacists have been found to have roles spanning across multiple practice areas. Their roles evolve as a disaster unfolds and depend on the needs of the community and the extent of the collapse of normal healthcare services. A 2019 study conducted by the author found a correlation between the number of disasters experienced by a specific country's jurisdiction and the presence of disaster-specific pharmacy legislation (e.g. emergency supplies, vaccinations, and pharmacy relocation/mobile pharmacies). Further research is required that examines the cost-effectiveness of pharmacist interventions and their willingness to work during disasters.

FURTHER READING

Watson KE, Singleton JA, Tippett V & Nissen LM (2019) Defining pharmacists' roles in disasters: a Delphi study. *PLoS One*: 14 (12): e0227132, doi.org/10.1371/journal.pone.0227132.

Watson KE (2019) The roles of pharmacists in disaster health management in natural and anthropogenic disasters, PhD thesis, Queensland University of Technology, available at eprints.qut.edu.au/130757/.

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