

# Role of hospital pharmacy in response to emergencies or disasters

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## Background & Objectives

- The role of hospital pharmacy in emergency preparedness is often neglected, especially in occidental countries with rare exposure to natural catastrophes or civil disturbance.
- This raises questions about what a hospital pharmacy service must do to prepare and support the management of crisis.
- This research work aims to review the disaster management guidelines for hospital pharmacies, both at international and national levels, to determine the role and responsibility of the hospital pharmacy service and to establish a local action plan.

## Methods

This research work was conducted at three levels, each with a different investigation method:

- International level:** Literature was systematically searched to summarize descriptions of roles played by hospital pharmacies in disaster situations.
- National level:** A national online survey in Swiss hospital pharmacies was conducted to gather data on actual disaster plans.
- Regional level:** Needs and expectations of hospital partners (members of the board, doctors, nurses, technical collaborators) were locally collected through semi-structured interviews.

## Results

### National study - Online survey

- 41 usable questionnaires were received out of 62 (66%)
- The average pharmacy service supplies:
  - 5 establishments
  - 700 beds
  - 150,000 outpatients cases per year



Stockpile products	%
Infusion & rinsing solution	75
Anti-infective	67
Desinfectant	63
Analgesic	54
Anaesthetic	50
Antidotes	46

Percentage of institutions with a disaster plan:

- 83% of the hospitals
- 63% of the pharmacies

The main tasks identified were emergency drug supply (incl. autonomy calculation and antidotes distribution) and participation to crisis management at hospital level.

Pharmacist role in case of emergency	%
Management of medication stock/distribution	73
Management of antidote stock/distribution	68
Involvement in hospital crisis staff	62
Substitution of medication	56
Involvement in hospital hygiene activities	40
Manufacture of additional medicines	35
Provision of pharmacotherapeutic advices	32
Involvement in vaccinations activities	25
Involvement, if needed, in emergency service	24
Management of medication history	24

### International study – Systematic literature review

- 219 articles discussing disasters and pharmacy were retrieved
- 29 of them provided valuable information and were classified into 6 categories
- Highlighted duties of hospital pharmacist were stock management and drug distribution



Category	Topics discussed
Article published after a mass casualty incident	<ul style="list-style-type: none"> <li>Crisis management</li> <li>Collapse of the World Trade Center, USA, 2001</li> <li>Madrid train bombings, Spain, 2004</li> <li>London bombings, UK, 2005</li> <li>Fukushima nuclear disaster, Japan, 2011</li> <li>Assessment and evaluation afterwards</li> </ul>
Preparation phase	<ul style="list-style-type: none"> <li>Important phase, but hard to predict</li> <li>Disaster plan and simulation exercises</li> <li>Staff resources acquisition</li> <li>Prevention through vaccination</li> </ul>
Pharmacy service roles	<ul style="list-style-type: none"> <li>Provision of the necessary medications</li> <li>Capacity to adapt to any situation</li> <li>Logistics management</li> <li>Provision of pharmaceutical assistance</li> </ul>
Pharmacy practice in the disaster field	<ul style="list-style-type: none"> <li>Recent activity</li> <li>Need for field pharmacies and emergency kits</li> <li>Prescription and distribution on the field</li> </ul>
Disaster medications	<ul style="list-style-type: none"> <li>Drug choice</li> <li>Keeping up-to-date lists</li> <li>Donations management</li> <li>Chronic medication management</li> </ul>
Disaster plan	<ul style="list-style-type: none"> <li>Importance of a planed preparedness</li> <li>Lack of familiarity with the guidelines</li> <li>Unpredictability of events (i.e. difficult to plan)</li> <li>Need to be set up in partnership with medication users (physicians, nurses, etc.)</li> </ul>

### Regional study - Semi-structured interviews

Locally, expectations of 16 hospital partners were about preparedness of the pharmacy (drug and antidote stockpiles) and quick mobilization of the employees via emergency call lists to provide both logistic and clinical support.



Here are some of their statements:

« Mass casualty incidents, with many wounded, require medical materials such as infusion tube, painkillers and anesthetic drugs. »

« What should be known is which co-worker can assuredly be reached. In disasters, I think that the critical point is the number of people that can be recruited on short notice. »



« In emergencies, we must be able to rely on someone who masters the medication circuit, in order to supply us and meet the needs. »

« Depending on the disaster, doctors will need advice. We, nurses, will probably have to give unusual medication. It would be nice to have someone who can answer our questions. »

## Conclusions

- A hospital pharmacy has to play a substantial role in disaster situations. Preventing measures like stock piling and stock management are key for success.
- Main tasks identified were emergency drug supply, participation to crisis management at hospital level in order to provide both logistic and clinical support.
- Priorities have to be set to guarantee optimal outcome and the survival of most patients.
- The gathered information was compiled and lead to the establishment of a disaster plan for pharmacy service in mass casualty incidents.