





Role of hospital pharmacy in response to emergencies or disasters

Pesenti Florence^{1,4}, Blanc Anne-Laure¹, Bonnabry Pascal^{4,5}, Mühlebach Stefan^{2,3}, Widmer Nicolas¹

¹ Pharmacy of Eastern Vaud Hospitals, Vevey, Switzerland ² Department of Pharmaceutical Sciences, University of Basel, Switzerland ³ Therapeutic Products Unit, Federal Office for National Economic Supply, Bern, Switzerland ⁴ School of Pharmaceutical Sciences, University of Geneva, Switzerland ⁵ Pharmacy, Geneva University Hospitals, Geneva, Switzerland

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

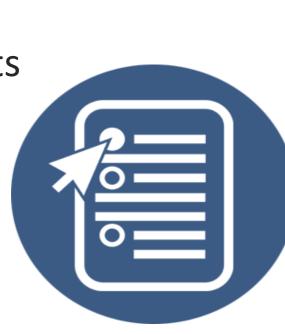
This research work was conducted at three levels, each with a different investigation method:

- 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
 - 150,000outpatientscases 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	
Management of antidote stock/distribution	
Involvement in hospital crisis staff	
Substitution of medication	
Involvement in hospital hygiene activities	
Manufacture of additional medicines	
Provision of pharmacotherapeutic advices	
Involvement in vaccinations activities	
Involvement, if needed, in emergency service	
Management of medication history	

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



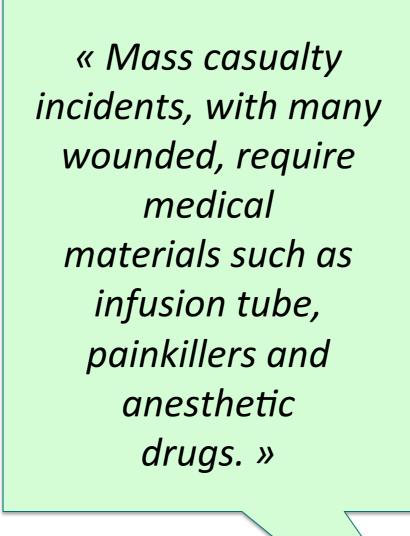
Category	Topics discussed
Article published after a mass casualty incident	 Crisis management Collapse of the World Trade Center, USA, 2001 Madrid train bombings, Spain, 2004 London bombings, UK, 2005 Fukushima nuclear disaster, Japan, 2011 Assessment and evaluation afterwards
Preparation phase	 Important phase, but hard to predict Disaster plan and simulation exercises Staff resources acquisition Prevention through vaccination
Pharmacy service roles	 Provision of the necessary medications Capacity to adapt to any situation Logistics management Provision of pharmaceutical assistance
Pharmacy practice in the disaster field	 Recent activity Need for field pharmacies and emergency kits Prescription and distribution on the field
Disaster medications	 Drug choice Keeping up-to-date lists Donations management Chronic medication management
Disaster plan	 Importance of a planed preparedness Lack of familiarity with the guidelines Unpredictability of events (i.e. difficult to plan) Need to be set up in partnership with medication users (physicians, nurses, etc.)

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:



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



« 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. »

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

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.