PLANNING FOR DISASTERS IN HOSPITAL PHARMACIES

DEVELOPING A STANDARD OPERATING PROCEDURE

WHY A STANDARD OPERATING PROCEDURE (SOP)

- As the impacts of climate changes are becoming more evident globally, extreme weather events and natural disasters are predicted to persist and, most likely, intensify over the coming decades (1).
- Hospitals across Canada have been impacted by extreme heat, floods, wildfires, hurricanes, and extreme snowfall, leading to cancellation of surgeries, facility damage, and in extreme cases, evacuation of healthcare centers (2).
- Medications in particular are a vulnerable resource, given their specific storage needs. Climate change is also impacting global supply chains, leading to issues with procurement (3).
- The goal of an SOP is to ensure the continuation of pharmacy services, the safety and well-being of staff, and the preservation of the pharmacy's inventory. A pharmacy SOP should be a part of a hospital or health authority's overall emergency plan and updated annually.
- Simulation drills based on the SOP should be conducted regularly to refine procedures and prepare staff in the event of an actual emergency (4).

Useful documents:

- National Association of Boards of Pharmacy: Comprehensive emergency and disaster preparedness and response planning guide. Appendices have fillable forms pharmacies can use or adapt for their own SOPs, and referenced throughout this document.
- International Pharmaceutical Federation: Additional considerations for hospital pharmacies (page 14-18) with useful specific and general disaster pearls (page 25-30).
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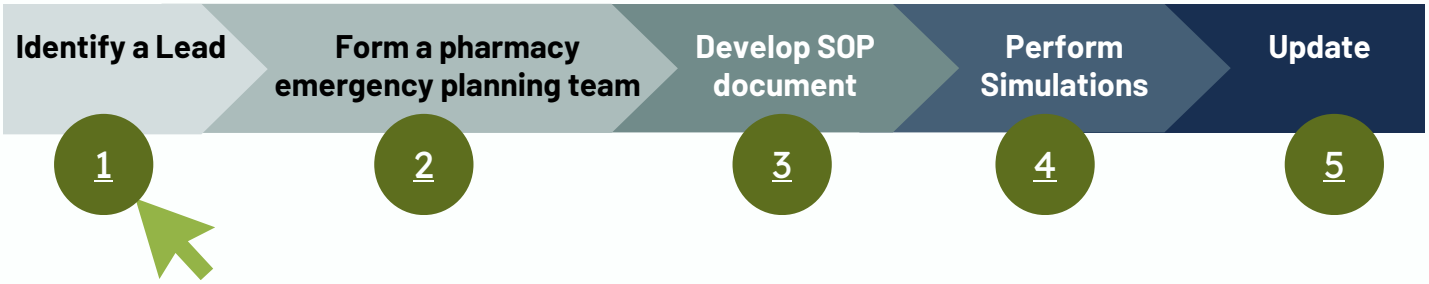
HOW TO CREATE AN SOP



For more resources, visit:
https://cascadescanada.ca/action-areas/pharmacy-and-prescribing/

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CASCADES

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1

IDENTIFY A LEAD

The pharmacy director should determine who will be responsible for the development of the plan and be the representative of the hospital or health authority incident management team. The identified staff should be knowledgeable about the pharmacy's operations and facilities.

The lead can start by finding out what is already available, including:

- Existing emergency plans and committees at the pharmacy, hospital, health authority, municipal, provincial, and federal levels
- Documents such as policies and procedures that may be adapted to emergency situations, such as downtime procedures
- Strategic medication stockpiles (types of medications and location)
- Lead SOP updates annually and based on lessons learned after every event
- Identify possible local threats. Determine which climate disasters and emergencies are most likely to occur in your local area. In addition to the following resources, local municipal sites may also have information:
  - Risk Assessment Survey: List of potential disasters (Appendix A I.C.)
  - Canadian Disaster Database: Search for significant historical disasters
  - Climate Data: Information on temperature, precipitation, and other variables
  - Climate Atlas of Canada: More climate information, with future predictions
  - Pearls to Consider: Tips and considerations for general and specific disasters (e.g., fire, flood) (Section 2.3; page 25-29)

2

FORM A PHARMACY EMERGENCY PLANNING TEAM

- Once existing resources are known and needs are established, an emergency planning team should be formed to fill in the gaps.
- The team is responsible for developing, implementing, and maintaining the SOP, conducting training and simulations, coordinating with larger hospital or health authority's emergency team, and activating the plan in an actual emergency.
- Assigning positions can help distribute the many tasks and documents that need to be prepared. Some team members may be more involved in planning, while others may have a more active role in the event of an actual emergency.
- One person may have several roles, depending on staffing availability.

Possible roles on a pharmacy emergency planning team include:

- Planning Lead
- Experts in pharmacy

- Information Systems
- Inventory and purchasing
- Staff leadership
- Education
- Critical systems (e.g. HVAC)
- Documents (e.g. Insurance policies)
- Role assignments and redeployments
- Legislation (eg. Controlled and targeted substances)

RESOURCES

- Emergency Planning Team Form (Appendix A I.A & B; p. 14-15)
- Cyber Security & Computer Inventory (Appendix A VI.A; p. 30-31)

3

DEVELOP SOP DOCUMENT

The SOP should be able to cover most disaster and emergency situations, especially most likely local threats, and be flexible on implementation depending on the availability of critical functions. Essential documents (including building plans, insurance documents, contracts, employee contact information, and electronic backup media) should be sealed in a waterproof, fireproof container with a duplicate set stored off-site. The location of the documents should be listed on the SOP.

Useful sections in an SOP include:

- ☐ Emergency response team
- ☐ List of Emergency Supplies
- ☐ Contact List
- ☐ Laws and Regulations
- ☐ Evacuation Plan
- ☐ Response plan for loss of critical functions
- ☐ Workforce

EMERGENCY RESPONSE TEAM

A list of people involved during an actual emergency response should be created detailing their specific roles and expectations with their contact information. Positions are activated depending on the type of emergency.

Suggested roles include:

1. Primary and secondary crisis managers:
   - Oversee and execute disaster response plan
   - Communicates with hospital/health authority emergency board
   - Issues all clear once disaster is over and leads debriefing
2. Staff communications and coordination lead (internal communications)
   - Communicates directly with staff
   - Coordinates tasks needed to cover clinical pharmacy and critical functions
   - Redeploys staff if needed
3. Electronic records manager
   - Responsible for remote electronic access to data and cyber security
4. Inventory manager
   - Coordinates strategic stockpile, emergency supplies, PPE, and refrigerated items
   - Ensures safe drug supply (cold chain maintained, humidity, temperature excursions)
   - Ensures continuous procurement/supply of medications
   - Familiar with alternative sites of medication supplies
5. Security officer
   - Maintains security of pharmacy and controls access
   - Responsible for pharmacy lockdown in the event of an evacuation
   - Secures alternative security for controlled and targeted substances

RESOURCES

- Emergency Response Team Form (Appendix A II.A&B; Page 18-20)
- For larger institutions, a pharmacy incident command structure can be considered.

CONTACT LISTS

Contact lists should be updated annually or in the event of significant staffing or drug distributor changes. In addition to vendors being able to supply medications during an emergency, they may also be able to provide storage sites and transportation resources for critical drugs and supplies.

Useful contact lists include:

- ☐ Staff contact list with their roles
- ☐ Municipal public health
- ☐ Provincial emergency management agencies
- ☐ Wholesale drug distributors
- ☐ Manufacturers
- ☐ Volunteers with their credentials
- ☐ Local/regional pharmacies (community and hospital)
- ☐ Fan out list: Prioritize contact list (e.g. based on role or distance) and identify method for contacting staff

LIST OF EMERGENCY SUPPLIES

Create lists of emergency supplies with quantities that will last until back up supplies can arrive. Large urban centres may be able to rely on other nearby warehouses, pharmacies and other healthcare facilities while more rural areas will need to plan for lack of access to their site. Determine if the hospital or health authority already has emergency stockpiles and non-medication medical equipment, and if so, the location of those items.

Types of emergency supplies include:

Medications: Determine quantities needed based on geography and use patterns

- ☐ Emergency stock (e.g. analgesics, anti-allergic drugs, anti-infectives, respiratory tract-related drugs, oral rehydration therapy, gastrointestinal related drugs.
- ☐ Medications to treat chronic disease and exacerbations

Non-medication supplies

- ☐ Personal protective equipment
- ☐ Supplies for compounding
- ☐ Medication administration supplies
- ☐ Downtime supplies (e.g. paper for orders/ documentation/medication administration/inventory tracking, pens, medication information in hard copy, compounding instructions)

RESOURCES

Contact Lists

- Suppliers and Contractors (Appendix A II.E; p 22-23)

List of Emergency Supplies

- Creating a priority medication list for disaster preparedness
- List of non-medication emergency supplies (Appendix A I.D; page 17-18)
- Examples of medicine stock and emergency supplies (2.3 Section D & E; p 29-30)

DEVELOPING A STANDARD OPERATING PROCEDURE

LAWS AND REGULATIONS

- [ ] Determine if there are expanded scope of practice for pharmacy staff during emergencies in your province (e.g. Saskatchewan Prescriptive Authority, p 3).
- [ ] Have a process to document drug losses due to loss of facilities or theft.
- [ ] Ensure laws and regulations have been met at alternate storage sites for narcotic and controlled substances.
- [ ] Ensure backup documentation and dispensing measures in the absence of critical functions meet provincial regulations.
- [ ] Stocking of emergency supplies of medications in areas outside the licensed pharmacy may be needed to prepare for a disaster or emergency. Hospitals should be encouraged to expand the space allotted to the licensed pharmacy area to accommodate the need to store emergency supplies.
- [ ] Consider best practices for storage and count of narcotic products in case of emergencies based on recommendations of local regulators. For example, conducting a narcotic count before evacuation if possible or printing out the narcotic system inventory and conducting a narcotic count in recovery (4).

RESPONSE PLAN FOR LOSS OF CRITICAL FUNCTIONS

Identify the functions that are critical for the pharmacy to operate and determine a staff member in charge and action plan for each function. Consider thresholds of when prioritization need to take place and when services are paused based on functions resources/staffing.

Considerations include:

Power loss

- [ ] Plan for non sterile compounding
- [ ] Back up to avoid break in cold chain for refrigerated items or other temperature excursions. Determine which plugs are connected to the backup generator.
- [ ] Downtime procedures for electronic systems, including access to patient records
- [ ] Alternative dispensing procedures if packaging systems are unavailable

Loss of physical access or infrastructure

- [ ] Alternative sources of inventory and purchasing

RESOURCES

Loss of critical functions

- Critical Functions Form (Appendix A II.D; page 20-22)
- Toronto Public Health Power Outages and Vaccines Storage Checklist

EVACUATION

A plan should be put in place in the event of an evacuation of the primary premises.

Considerations for an evacuation include:

- [ ] Identify a primary and a secondary assembly site if the pharmacy is inaccessible
- [ ] Determine a mode of communication, and test the disaster warning system
- [ ] Identify staff responsible for shutting down critical operations and securing the pharmacy (Security officer)
- [ ] Identify evacuation routes that are well lighted or have functioning flashlights available
- [ ] Refer to response plan for loss of critical functions
- [ ] Ensure there is a system in place to account for all staff on site

WORKFORCE

- [ ] Create staff education and training materials
- [ ] Detail what happens during the activation of the emergency plan
- [ ] Ensure expectations are clear in the event of an emergency, for instance:
  - Needing to stay on site or work longer shifts
  - Requirements for staff not scheduled, on leave or on stand-by
  - Redeployment of staff to assist with managing/triaging influx of disaster-affected individuals (eg. Managing walking wounded or chronic condition exacerbations)
  - Recruitment of other healthcare professionals to maintain pharmacy services (for instance in small and rural healthcare facilities where staffing levels may impact available functions)
  - Resources that are available for staff during an emergency
- [ ] Ensure there are health and wellbeing check-ins with staff during and after an emergency
- [ ] Plan for debriefing after the emergency

RESOURCES

Evacuation

- Evacuation Plan (Appendix A IV.A; p 26-30)

4

PERFORM SIMULATIONS

Create simulations for the pharmacy department based on the most likely threats identified by the lead or emergency response team. Simulations should follow actual timelines to identify areas of weakness in the SOP and prepare staff in the event of an actual emergency. Full-scale simulations have been shown to improve pharmacy preparedness and staff awareness in hospital pharmacies (4). Pharmacy staff should also participate in hospital wide simulations to ensure coordination with the larger emergency response.

5

UPDATE ANNUALLY OR AFTER SIGNIFICANT CHANGES

Documents should be reviewed by the Emergency Response Team at least annually, after an actual emergency, or in response to a significant change in staffing that could affect the roll out of the SOP.

REFERENCES

[1] Climate change adaptation in Canada [Internet]. Government of Canada, Natural Resources Canada; [cited February 11, 2025]. Available from: https://natural-resources.canada.ca/climate-change/climate-change-adaptation
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[3] Noe B, Smith A. Development of a community pharmacy disaster preparedness manual. J Am Pharm Assoc (2003). 2013 Jul-Aug;53(4):432-7.
[4] Schumacher, L., Senhaji, S., Gartner, B.A. et al. Full-scale simulations to improve disaster preparedness in hospital pharmacies. BMC Health Serv Res 22, 853 (2022).

RESOURCES

Perform Simulations

- Schumacher, L., Senhaji, S., Gartner, B.A. et al. Full-scale simulations to improve disaster preparedness in hospital pharmacies. BMC Health Serv Res 22, 853 (2022).

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