



## Managing Surge Needs for Injuries: Drugs and Pharmaceutical Supplies

### PURPOSE

Within four hours of an explosion, acquire the additional drugs and pharmaceutical supplies needed to treat 300 injured patients for up to 72 hours.

### BACKGROUND

The Madrid terrorist bombings were used as a model to help develop solutions for managing rapid surge problems during a mass casualty event.

On March 11, 2004, 10 terrorist explosions occurred almost simultaneously on commuter trains in Madrid killing 177 people instantly and injuring more than 2,000. That day, 966 patients were taken to 15 public community hospitals. More than 270 patients arrived at the closest facility between 0800 and 1030 hours.

Federal resources should not be expected to arrive sooner than 72 hours from the time of explosion. Resources can be delayed by the time taken to deploy them and by responding to multiple communities.

Emergency Medical  
Service Response

Emergency Department  
Response

Surgical and Intensive  
Care Unit Response

Radiology Response

Blood Bank Response

Hospitalists' Response

Administration Response

**Drugs and  
Pharmaceutical Supplies**

Nursing Care

### GOAL

Within four hours of an explosion, acquire appropriate and adequate drugs to treat 300 injured patients for up to 72 hours.

### RESOURCES REQUIRED

The list below includes therapeutic categories, administration route, and recommended drug or pharmaceutical supply. For simplicity, purchase and stockpile a single or few drugs from each therapeutic category. Care providers may have little or no prior experience with the drug.

*This document is a resource guide. Local needs, preferences, and capabilities of the affected communities may vary.*

- Analgesics  
p.o., hydrocodone/acetaminophen (one strength—5/500); IV, morphine
- Anxiolytics  
p.o. and IV, lorazepam
- Antipsychotics  
p.o. and IV, haloperidol
- Antibiotics, broad spectrum with low allergy risk  
p.o. and IV, ciprofloxacin
- Intravenous fluids  
saline and D5W

- Blood (see Blood Bank Response)
- Drugs for intubation  
IV etomidate, succinylcholine, and vecuronium
- Topical burn care agents  
Silver sulfadiazine (Silvadene)  
Bacitracin
- ENT meds for TM perforation  
Cortisporin otic suspension
- Ocular meds  
Proparacaine  
Erythromycin ophthalmic ointment
- Tetanus toxoid

## **ASSUMPTIONS**

1. There may be a demand for certain pharmaceuticals following a bombing event with multiple casualties.

## **ACTION STEPS**

1. Identify community medical leadership and a committee to address near-term solutions.

Discussion and decision by EMS, emergency medicine, trauma surgery, hospital pharmacy (PharmD), blood bank, hospital leadership, hospital nursing, emergency management, public health, and law enforcement and transport of pharmaceuticals.

2. Inventory drugs and quantities available at points of care (prehospital and hospital).

Assuming 4 hospitals and 10 ambulances, committee should delegate a point person to contact hospital pharmacists and EMS leadership and inquire about inventory.

3. Identify gaps between drugs on hand and goal.
4. Identify potential sources of drugs in the community besides prehospital and hospital supplies (e.g., locally developed stockpiles, community pharmacies, drug wholesalers/warehouses, physicians' offices via medical society). Identify additional sources should consider daily, routine needs of the community.
5. Develop relationships with leadership at additional sources; ask for "snapshot" inventory of drugs, and establish "mutual aid" agreements to rapidly acquire drugs.

6. Assess drugs available in the community by adding prehospital + hospital + community pharmacies + drug wholesalers/warehouses + physicians' offices (through medical society).
7. If the drug supply is low,, develop a plan for intercommunity mutual aid or rationing.
8. Develop a plan to rapidly acquire drugs from additional sources and deliver products to points of care. This plan should include communications between point(s) of care and additional sources, mutual aid agreements with additional community sources, transport of drugs, and reimbursement.

### **EVALUATION**

1. Plan, conduct, and evaluate a community-wide drill. The evaluation should include measurements of quantity and names of drugs and pharmaceutical supplies acquired, distributed and administered; times when drill started, time drugs were acquired from distribution points, duration of transport, time of distribution to points of care, and time of administration to patients.
2. Refine plan based on drill experience.