



## Disclosures

- Nothing to disclose

## Objectives

- Discuss pharmacy preparedness in various disaster events
- Review important disaster medications and distribution
- Evaluate the various services pharmacists can provide during a disaster
- Describe the role of the pharmacist and technician in a disaster event

## Pharmacy is a Big Field

- Pharmacy technicians
- Pharmacy interns/students
- Pharmacy residents (PGY1, PGY2)
- Pharmacist clinicians
- Pharmacist specialists
  - Emergency medicine/Critical care
  - Pediatrics
  - Infectious disease
  - Anticoagulation
  - Toxicology
  - Heme/Oncology
  - Nuclear pharmacy

## Emergency Preparedness

History...

- Oklahoma City bombing
- World Trade Center attack
- Hurricane Katrina
- H1N1 outbreak
- Orlando mass shooting
- Hurricane Harvey
- Hurricane Irma

## Emergency Preparedness

- Infectious
- Bioterrorism
- Natural Disasters
- Radiation/Chemical



## Influenza Pandemic

Pharmacists can:

- Counsel and educate on symptom identification and supportive management
  - OTC medications
- Triage and patient referral
- Manage patients with mild illness so they do not need to access and overburden acute care settings
- Vaccinate



### Pandemic Flu Pharmacy Checklist

- **Supplies: Immunizations**
  - o Cotton balls
  - o Latex gloves
  - o Needles / syringes
  - o Alcohol swabs
  - o Sharps containers
  - o Influenza Vaccine
- **Supplies: Miscellaneous**
  - o Masks
  - o Eye shields / goggles
  - o Thermometers – oral, rectal, axillary administration
  - o Thermometer covers
  - o Vaporizers
  - o Vaporizer solution
  - o Humidifiers – warm air / cool air
  - o Biohazard waste containers
  - o Plastic bags
  - o Mops / brooms
  - o Rubric containers / liners
  - o Water containers
  - o HEPA air purifier / filters
  - o Labels
  - o Sharpie markers
- **Other consumables**
  - o Bottled water
  - o Electrolyte solution
  - o Hand sanitizer
  - o Antibacterial wipes / baby wipes
  - o Blinds
  - o 70% / 91% rubbing alcohol
  - o Cleaning chemicals
  - o Air disinfectants
  - o Surface disinfectants / antiseptics
  - o Paper towels
  - o Toilet tissue
  - o Tissues (Clorox)
  - o Antibacterial soap
- **Drugs**
  - o Anti-virals (Tamiflu, Relenza, Symmetrel, Flumadine)
  - o NSAID's (Ibuprofen, Naproxen)
  - o APAP
  - o Aspirin
  - o Opioids
  - o Decongestants (Sudafed, Allegra D, Claritin D, Contac 1182, phenylephrine)
  - o Antihistamines (Claritin, Allegra, Benadryl)
  - o Antidiarrheals (Immodium AD, Pepto Bismol, Lomotil)
  - o Antinausea meds (Zantac, ondansetron, Phenergan – oral and suppository)
  - o Topical decongestants (phenylephrine, oxymetazoline, naphazoline)
  - o Short-acting beta agonist inhalers
  - o Chacane Tablets
  - o Chronic care medications, including insulin
- **Information – Personal**
  - o Blood type
  - o Immunization / vaccination record
  - o Medical history
  - o Medications, OTC's, herbs
  - o Allergies
  - o Health conditions
  - o Comorbidities / disease states
  - o Lifestyle – smoking / tobacco use, alcohol use, exercise
- **Information – Names, Phone numbers, Addresses**
  - o Family members
  - o Caregivers
  - o Physicians
  - o Insurance / 3rd party coverage
  - o Financial status / payment ability

## Vaccines

Pharmacists in all 50 states are authorized to vaccinate

Mass vaccination clinics

- Non-traditional sites
  - Community centers
  - Schools



## The Most Accessible Healthcare Providers

- Pharmacists vaccinated the most patients on a daily basis
- Pharmacists see patients more frequently than other providers
- They are an established and trusted part of the community



## Additional Skills

Pharmacists can obtain additional skill sets

- CPR certification
- ACLS/PALS
- ATLS
- Immunization training
- Board certification



## Orlando Mass Casualty

“It happened at 0300 when staff was leanest”

- Pharmacy technicians were moving patients or gathering information on patients in addition to their assigned tasks
- Pharmacy aided with restocking and filling intubation kits and code carts





## Prepare Ahead of Time

- Develop plan for role of pharmacy in ordering, receiving, and storing medications and supplies, including alternative care sites
- Establish agreements with vendors for ordering of essential pharmaceutical supplies in emergencies
- Determine role of employees during a disaster and managing staff required for services

## Home Medication Related Assistance

## Managing Existing/Home Medications

- Implementation of a collaborative practice during emergency
- Without a prescription or collaborative practice, pharmacists can only provide 72 hours of medication



## Home Medications in Katrina

- Collaborative practice protocols
- Pharmacists were authorized to write prescriptions for maintenance medications
  - Restricted to chronic disease management
  - No antibiotics without physician assessment of the patients
  - Patients must be affected by the disaster

## Over the Counter Medication (OTC)

- Assess patients' ability to self treat
- Provide counseling and make recommendations on use of OTCs for minor injury/illness
- Distribute OTCs as necessary



Figure 3. Suggested over-the-counter products for availability in evacuee shelters\*

Pain relievers/antipyretics	Yeast infection and topical antifungal treatments
Acetaminophen	Clotrimazole cream for vaginal application
Adult formulation	Anti-itch creams for vaginal application
Chewable formulation	Miconazole cream or tolnaftate cream or topical administration
Liquid formulation	Eye care
Ibuprofen	Contact lens solution
Adult formulation	Contact lens carrying cases
Liquid formulation	Contact lens rewetting drops
First aid supplies	Reading glasses (various strengths)
Waterproof bandages (variety of sizes)	Moisture drops/artificial tears
Butterfly bandages	Eye wash kits
Antibiotic ointment	Gastrointestinal preparations
Allergy medications	Calcium carbonate tablets
Diphenhydramine capsules and liquid	Milk of magnesia liquid
Loratadine tablets and liquid	Loperamide tablets
Contact dermatitis agents	Bismuth subsalicylate
Hydrocortisone cream 0.5% and 1.0%	Calcium carbonate tablets, children's chewable formulation
Petroleum jelly	Anti-nausea liquid (e.g., Emetrol)
Calamine lotion	Diabetic supplies
Zinc oxide paste (e.g., diaper rash formulation)	Glucose tablets
Cough and cold symptom relief	Insulin syringes/needles
Pseudoephedrine tablets <sup>†</sup>	Insulin
Dextromethorphan-only liquid formulations	Alcohol prep pads
Adult strength	OTC preparations
Pediatric strength	Swimmer's ear preparation
Throat lozenges/cough drops	Ear wax removal kits
Sore throat spray	Cotton balls
Miscellaneous	
Fine point tweezers	

\*Based upon the experiences of a distant site (Birmingham, Alabama) shelter. Needs in the center of a disaster area are likely to be much greater. Products are listed once, but may fit within multiple categories.

<sup>†</sup>Federal and state laws restrict the dispensing of pseudoephedrine. Special arrangements that are in compliance with existing laws must be considered. Pseudoephedrine has been shown clinically to be superior to other existing over-the-counter decongestants, and is preferred for availability.



## Benefits of EPAP

- Ensures patient access to medication
- Can limit ED visits for medication refills
- Also includes certain medical equipment, such as wheelchairs, crutches, cane, & other specialty pharmacy items



## Limitations of EPAP

- Does not cover all medications:
- anti-obesity drugs
  - impotence treatment drugs
  - over the counter (OTC) drugs, such as smoking cessation
  - fertility drugs (including progesterone and leuprolide)
  - OTC vitamins
  - fluoride products
  - insulin pump (including supplies)
  - blood products
  - non-specialty implantable medications
  - allergy serums
  - drugs for cosmetic usage

## Who Qualifies for EPAP?

- Limited to uninsured patients affected by a national disaster
- Any government or privately insured patient is ineligible

## National Supplies

## Strategic National Stockpile (SNS)

- A supply of medications maintained by the Center for Disease Control and Prevention (CDC)



**DIVISION OF STRATEGIC NATIONAL STOCKPILE**  
AMERICA'S EMERGENCY MEDICAL SUPPLIES TO PROTECT THE PUBLIC'S HEALTH

To prepare and support partners and provide the right resources at the right time to secure the nation's health

**THE STRATEGIC NATIONAL STOCKPILE (SNS)** consists of **>\$7 billion** worth of medicines and medical supplies.

**SNS HAS THE ABILITY TO RESPOND TO:**

- Bacterial and viral diseases**
- Pandemic influenza**
- Radiation/nuclear emergency**
- Chemical attacks**
- Natural disasters**

**THE STRATEGIC NATIONAL STOCKPILE**

- Managed Inventory:** Includes specific medicines, vaccines, and supplies for a defined need.
- Federal Medical Station:** Ready deployable reserve of beds, supplies, and medicines to accommodate 50-250 people with health-related needs and low-acuity care.
- CHEMPACK:** Forward-deployed containers of non-urgent medicines that can be used to respond to a chemical attack.
- 12-hour Push Package:** 50 tons of emergency medical resources that can be delivered anywhere in the U.S. within 12 hours.

**Partnerships in Preparedness**

CDC's Strategic National Stockpile works with state and local health departments, as well as the private sector, to ensure that medicine and supplies get to the people who need them most during an emergency.

**HOW?**

- Practice:** Leading training courses and exercises to prepare state and local partners to receive, distribute and dispense SNS resources during an emergency.
- Send to the SNS Experts:** If needed, multiple teams of experts are prepared to deploy to locations receiving SNS resources.
- Community Resilience:** Create relationships between public health and community partners to support optimal distribution of medical countermeasures (MCMs) in the U.S. healthcare supply chain during public health emergencies.

**90%** of the U.S. population is within one hour of a CHEMPACK location.

**CDC** Centers for Disease Control and Prevention, Office of Public Health Preparedness and Response

## Contents of the SNS

- Antibiotics
- Antivirals
- Antidotes
- Antitoxins
- Vaccines
- Life supporting medications
- Personal protective equipment
- Ventilators
- Other medical supplies




## Problems with the SNS

- Not an immediate source of medications
- 12 Hour Push Pack
  - Contains 90 medications considered "broad spectrum support"
- 24-36 hours after emergency
  - Vendor-managed inventory (VMI) can be sent if additional support is needed
  - Can be better tailored to the emergency



## Actions to Take Before Disaster Strikes

## Ask Patients to Learn About Their Health

- Encourage patients to keep an updated list of their medications, with doses, routes, and frequencies
- Indications should be listed when possible
- Encourage patients to use phone applications, such as iPhone 'Health'



## Educate on Indications

- Patients should know which medications are vital to sustaining their lives and should be replaced quickly




## Educate on Safe Medication Use After a Disaster

- Excessive heat or moisture can damage medications
- Replace any medication that may have been exposed to contaminated water
- Life-saving medications may be used despite potential damage/contamination

## Should Our Patients Be Stockpiling?

- A statement from the American Society of Health System Pharmacists specifically recommends against personal stockpiles
- Healthcare institutions and the SNS can help provide medications to patients



## Should Our Hospitals Be Stockpiling?

- Hospitals should not stock more than the recommended amounts of life-saving medications prior to disasters
  - Institutions should work on determine appropriate min/max and par levels of medications

## UNMH Emergency Management

- Emergency Management Forms
- Facility Emergency Preparedness
- Hospital Capacity Saturation Plan
- Incident Command System
- Additional Resources:
  - Federal & State Emergency Management Plans

## Other considerations

- Automated dispensing system (Pyxis)
- Pharmogistics/ Carousel
- DoseEdge
- Downtime procedures for HIT
- QS/1 Outpatient pharmacy management systems
- Baxter compounder
- Power sources
- Packaging solutions
  - PackEdge/ MILT

## Conclusions

Pharmacists can provide critical services in a variety of disaster responses

- Emergency preparation planning
- Contact ordering vendors to determine disaster assistance programs
- Prepare ahead of time



## Questions

