Role of the Pharmacist in Emergency Preparedness and Response

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Learning Objectives

- Understand role of pharmacists for public health emergency preparedness and response
- Identify pharmaceutical resources available for public health emergency response.
There is no shortage of disasters/threats....

Investments in State and Local Preparedness

- Focus on Bioterrorism, Other Outbreaks of Infectious Disease, and Other Public Health Emergencies
- Billions $ sent to States, Territories, and Cities
- Surveillance & epidemiology, laboratories, information technology, hospital surge capacity, communications, training, mass prophylaxis...
- Importance of All-Hazards Preparedness & Response

6 of 75 metro areas score high for emergency communication

WASHINGTON — Only six of 75 U.S. metropolitan areas won the highest grades for their emergency agencies’ ability to communicate during a disaster, five years after the Sept. 11 terrorist attacks, according to a federal report obtained Tuesday by The Associated Press.

A draft portion of the report, to be released today, gives the best ratings to Washington, D.C.; San Diego; Minneapolis-St. Paul; Columbus, Ohio; Sioux Falls, S.D.; and Laramie County, Wyo.

The lowest scores went to Chicago; Cleveland; Baton Rouge, La.; Mandan, N.D.; and American Samoa. The report included large and small cities and their suburbs, along with U.S. territories... The Seattle area received the second-highest grade, “well-developed,” for its operations procedures and its use of communications systems, and the third-highest grade, “intermediate,” for its government coordination.

By DEVIN BARRETT
The Associated Press
Steps in Preparedness & Response

- **RECOGNITION**: unusual diseases or patterns of disease early in their course
- **RESPONSE**: health departments and local health care delivery system must respond promptly
- **RECOVERY**: recover as quickly as possible

Recognition: Problem Identified

- Natural disease outbreak requiring hospitalization of large number of patients (e.g., pandemic flu)
- Reports of unusual cases or clusters of cases
- Reports of suspected BT attack
- Natural disaster
- Chemical agent or radiation event
- Trauma event requiring hospitalization of large numbers of patients (e.g., bomb/blast)
Outbreak of Avian Influenza A (H5N1)

- WHO: H5N1 poses considerable human public health risk
  - Widespread, outbreak not controlled
  - Mutates rapidly, propensity to acquire new genes
  - Increasing host range, directly infects humans
- Since December 2003:
  - At least 261 human cases
  - 157 deaths from Indonesia, Vietnam, Thailand, China, Egypt, Cambodia, Azerbaijan, Turkey, Iraq
- WHO Pandemic Alert: Stage 3 (of 6)

Potential Impact of Pandemic Influenza in the U.S.

- Little warning: onset of pandemic and arrival in U.S.
- Planning Assumptions:
  - Attack rate 30%: 90 million persons clinically ill
  - 45 million persons require outpatient medical care
  - 865,000–9.9 million persons hospitalized
  - 128,750–1,485,000 persons require ICU care
  - 64,875–742,500 require mechanical ventilation
  - 209,000–1.9 million deaths
  - Economic cost estimate: $181 billion for moderate pandemic

Potential Impact, Continued

- Vaccine and antiviral drugs will be in short supply.
- Healthcare workers and other first responders will be at higher risk of exposure and illness than the general population.
- Risk of sudden shortages of key personnel in critical community services

Expect 6-8 month lag-time for vaccine availability.
Biological Agents of Highest Concern
Category A Agents

- Anthrax (*Bacillus anthracis*)
- Smallpox (*Variola major*)
- Plague (*Yersinia pestis*)
- Botulism (*Botulinum toxin*)
- Tularemia (*Francisella tularensis*)
- Viral hemorrhagic fevers (*Filoviruses & Arenaviruses*)

Example: Anthrax

- *Bacillus anthracis*
- Category A Agent
- Skin or cutaneous anthrax
- Inhalational anthrax
  - Incubation period 1-7 days (up to 60)
  - Initial symptoms mild, nonspecific

What a bioterrorism attack might look like

- Could begin as an (large) aerosol release
- Silent, invisible, odorless
- Surveillance is important
- First sign would not occur until days later
- (Many) patients with severe and unusual symptoms that few providers have ever seen before
Surveillance and Reporting

New York
- On October 5, the New York City Department of Health notified CDC of a person with a mild skin lesion consistent with cutaneous anthrax. CDC sent a team to New York City to provide epidemiologic and laboratory support for field work. As of October 12, 236 people had received preventive medications for anthrax; 118 of these people were considered to have had some form of intentional or accidental exposure to anthrax. Of these, 22 people were determined to have had intentional exposure.

Investigation of BT-Related Anthrax

FIGURE 1. Number of bioterrorism-related anthrax cases by date of onset and work location—District of Columbia (DC), Florida (FL), New Jersey (NJ), and New York City (NYC), September 16—October 25, 2001

Post-Exposure Prophylaxis for Prevention of Inhalational Anthrax

- 22 people with anthrax: 5 deaths
- Hundreds evaluated to "rule out" anthrax
- 30,000 people advised to start antibiotics
- 10,000 people recommended to take at least 60 days of antibiotic therapy
- Hundreds of thousands more affected by events
Anthrax Bioterrorism Issues for Pharmacists

- Preparedness planning
- Detection of a possible event
  - Surveillance and reporting
- Management of sick and exposed persons
  - Treatment
  - Post-exposure prophylaxis with antibiotics or vaccine
  - Monitoring and managing adverse effects of treatments
- Communications
- Needs of the “worried well”

“Getting Pills to People”

1. Problem Identified
2. Assess Local Resources
3. Request Assistance
4. Stockpile Deployed
5. Received & Distributed
6. Mass Dispensing

When Additional Resources Are Needed

- Strategic National Stockpile (SNS)
  - Antibiotics, antivirals, antidotes, biologicals (vaccines), medical supplies
  - Chempack Program
- Other Pharmaceutical and Medical Supplies Stockpiles
- Personnel, Facilities, Security, etc.
- Deployed for anthrax attacks and for Hurricane Katrina
Healthcare Duties in Mass Dispensing Clinics

- Patient screening
- Verification of patient information
- Dispensing medications
- Patient education
- Coordinating efforts with other sites
- Psychosocial support

Observation:
Local Preparedness is Vital

- All disasters start locally.
- Coordination is needed.
- Neither state nor federal government assets will be available immediately. Examples of needs:
  - Mass Chemoprophylaxis
  - Medical Care for Large Numbers of Casualties
  - Disaster Preparedness: Self/Family, Business Continuity

What can you do?

- Be Informed
  - Threats, treatments, procedures
  - Role of pharmacist
- Be Prepared
  - Resources and general disaster planning
- Be Involved
  - Organization & local preparedness
  - Volunteer
  - Training
Volunteer Opportunities

- Medical Reserve Corps
- Public Health Reserve Corps
- Advance Registration for Volunteer Public Health Emergency Responders – UW, WA DOH, PHSKC
- Citizen Corps
- Disaster Medical Assistance Team (DMAT)
- National Pharmacist Reserve Team (NPRT)
- Connect with your hospital/organization and public health department

Selected Resources

- www.bt.cdc.gov
- http://www.nwcphp.org/btcurriculum
- www.nwcphp.org

“Don’t worry about it, it’s probably just a head cold.”