

A Ten-Year Experience of a Pharmacist Consulting Team for Statewide Bioterrorism and Emergency Preparedness

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THE TRAGIC EVENTS OF SEPTEMBER 11 AND subsequent anthrax attacks in the fall of 2001 changed the nation. These events also changed the profession of pharmacy by expanding their roles in emergency and disaster planning and response.¹ The American Society of Health System Pharmacists state “On the basis of their education, training, experience, and legal responsibilities, pharmacists should have a key role in the planning and execution of (a) pharmaceutical distribution and control, and (b) drug therapy management of patients during disasters.”² The purpose of this paper is to describe innovative ways that pharmacists in the state of Rhode Island are involved in emergency preparedness planning.

INTRODUCTION OF PHARMACISTS IN RHODE ISLAND PREPAREDNESS ACTIVITIES

After a successful multidisciplinary education seminar led by University of Rhode Island (URI) College of Pharmacy on bioterrorism agents and their public health implications, the Rhode Island Department of Health (RIDOH) decided to explore adding pharmacists to a team of health professionals who were preparing the state for an intentional outbreak of a biological agent. Initially, RIDOH sought a pharmacist to assist them to repackage bulk medications supplied from the Strategic National Stockpile (SNS), a federal cache of medical supplies.³ The initial group included five pharmacists with a variety of backgrounds and specialties, including community pharmacy, pharmacoepidemiology, and infectious diseases. In early 2002, this group developed a process to effectively package multiple doses of antibiotics.

In October 2002, the first dispensing exercise with a local municipality and RIDOH was conducted to simulate a response to a terrorist attack using *Yersinia pestis*, the causative agent of plague, a Category A biowarfare agent. An ice

skating rink in Pawtucket, RI was turned into a **point of dispensing (POD)** for either doxycycline or ciprofloxacin, both recommended antibiotics for prophylactic treatment of pneumonic plague.⁴ This comprehensive response plan was called the **Medical Emergency Distribution Plan (MEDS)**. The MEDS plan exists as a way to maintain control of all state-level medical emergency supply resources and to deliver those resources during an emergency, including the mass distribution of antibiotics to the entire population.⁵ Our role during this initial exercise was limited to staffing the pharmacy where the “patients” received their medication and were counseled on appropriate medication use.

PARTICIPATION IN NATIONAL TRAINING

During the summer of 2003, our group of pharmacists as well as members of the Board of Pharmacy traveled to the Noble Training Center in Anniston, Alabama for the Strategic National Stockpile

Preparedness Course sponsored by the Centers for Disease Control (CDC) and Prevention. This course educated attendees on the administration of a quick and efficient medical response to a terrorist attack, natural disaster, or any other accident where medical personnel were needed. The majority of the course was concentrated on the design of a comprehensive system for the rapid distribution of prophylactic medications or vaccinations to the public. This included developing and determining the most appropriate location, site design, and ideal characteristics of POD's. Other crucial operational and logistical issues such as internal and external communications, staffing levels and roles, security, patient flow, and volunteer and resource management were discussed and practiced in both tabletop (response capability simulations) and live POD exercises and evaluations.

This course was a significant turning point in our roles as pharmacists with RIDOH in preparedness issues. During our time in Alabama, we realized our



Rhode Island Department of Health emergency preparedness consultant pharmacists Brett Feret (left) and Jeffrey Bratberg (right) pause for a photo at the pharmacy station during the mass dispensing of antibiotics for at Greenwood Elementary School in Warwick, RI in January 2007.

responsibility should be much more than medication repackaging supervisors. Now, as professionals with advanced training on the SNS, our roles changed from repackaging supervision to emergency planners with expertise from drug selection to POD site security and evaluation.

ACTIVITIES TO HELP RHODE ISLAND COMMUNITIES IN EMERGENCY PREPAREDNESS

In late 2003, the pharmacy emergency preparedness consultants began to help revise and update the state's MEDS plan. A comprehensive manual and template for POD set-up and training for each municipality throughout the state of Rhode Island was developed that outlined all the necessary steps to open a POD for the public.⁵ POD workflow diagrams, medication selection algorithms, drug information sheets, and volunteer job descriptions were all included in this document. Each pharmacist was then assigned a group of municipalities to work with each year to develop, maintain, and improve each municipality's MEDS plan to meet federal and state SNS requirements. In order to receive federal and state funding, each municipality is scored on a local technical assistance review. Each pharmacist grades the municipality using this tool annually. Currently, this is one primary role for each pharmacist.

EXAMPLES OF EMERGENCY PREPAREDNESS IN LOCAL OUTBREAKS OF INFECTION

Several real-life events were interspersed throughout the consulting period. Each pharmacist was heavily involved in preparing and responding to the atypical *Mycoplasma* outbreak in Warwick, RI in January 2006. During that event, each pharmacy consultant worked to develop the POD flow in the Greenwood School and staffed the pharmacy, while providing counseling to families regarding the antibiotic course. The MEDS plan was put to the test for each municipality during the 2009–2010 H1N1 pandemic. During this event, each pharmacist worked closely with their assigned municipalities to quickly and efficiently set-up their vaccination POD's in communities and pandemic regional hospitals. The MEDS program helped Rhode Island lead the nation in vaccination coverage for adults with chronic

health conditions (57.5%) and Rhode Island was estimated to have the highest H1N1 vaccination coverage rate in the country for anyone older than six months at 38.8% compared to the national median of 23.9%.⁷ Pharmacists now immunize over 45% of all adults against influenza in Rhode Island, likely due to increased recognition of their role in public health (unpublished data). At URI College of Pharmacy, Dr. Bratberg has developed an innovative elective course in public health preparedness and all-hazards emergency preparedness and response. In various semesters student pharmacist teams not only have developed and tested pandemic influenza and hurricane preparedness plans, but also have designed and participated in full-scale, University-wide live exercises testing the rapid distribution of medical countermeasures to students exposed to inhalational anthrax. In 2012, students facilitated their own tabletops to emerging infectious disease outbreaks in class, and designed a full-scale exercise of an outbreak of a hypothetical infection that creates zombies, thus mimicking an outbreak of an unknown, yet highly communicable and terrifying infectious disease.

CONCLUSION

Pharmacists' knowledge and skills in emergencies have transformed from a purely dispensing, logistical role to all-hazard preparedness planners and evaluators. Based on lessons learned from past national and local disasters, pharmacists continue to demonstrate their value to the healthcare system by leading all-hazard public health emergency preparedness and response efforts in Rhode Island.

REFERENCES

1. Babb J & Down K. Fighting Back: Pharmacists' roles in the federal response the September 11 attacks. *J Am Pharm Assoc.* 2001; 41(6):834–7.
2. American Society of Health-System Pharmacists. ASHP statement on the role of health-system pharmacists in emergency preparedness. *Am J Health-Syst Pharm.* 2003; 60:1993–5.
3. Strategic National Stockpile [Internet]. Centers for Disease Control and Prevention; c2012 [updated March 8th 2012; cited May 28th 2012]. Available from <http://www.cdc.gov/phpr/stockpile/stockpile.htm>.
4. Inglesby TV, Dennis DT, Henderson DA, Bartlett JG, Ascher MS, Eitzen E, Fine AD, et al. Plague as a biological weapon: medical and public health management. Working Group on Civilian Biodefense. *JAMA.* 2000; 283(17):2281–90.

5. Banner G. The Rhode Island Medical Emergency Distribution System (MEDS). *Disaster Manage Response.* 2004;2:53–7.
6. MEDS Guidelines and Supplemental Information. 3rd Edition. *Consensus Guidelines from the Rhode Island Department of Health Pharmacist Consultants.* Rhode Island Department of Health, Providence, RI. August 2006.
7. RI.Gov [Internet]. Rhode Island Government Press Release; c2010 [updated April 1 2010; cited May 28 2012]. Available from <http://www.ri.gov/press/view/11080>.

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Disclosure of Financial Interests

Brett Feret, PharmD, consults for the Rhode Island Department of Health.

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