

Exercising and Improving the Pharmaceutical Cache: A Case-Based Workshop

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Background

- Natural and human-caused disasters affect everyone, everywhere
- Little data exists on how to estimate, stock, and operate emergency pharmaceutical caches to fulfill chronic, emergency, acute, disaster-related, mental health, and team volunteer medication requests during disasters

Objectives

- Evaluate, construct, and prioritize both therapeutic class and medications within each class for inclusion, exclusion, and/or quantity changes in the current federal DMAT cache
- Solve post-72 hour pharmaceutical and medical needs in near real-time, applying cache suggestions to case examples
- Summarize participant recommendations into a concise, practical statement supporting cache modification

Pharmaceutical Cache (2006)

- Goals
 - Identify, describe, and evaluate the criteria involved with preparing a pharmaceutical cache for a disaster, considering
 - most likely acute and chronic diseases seen
 - Space limitations / ordering
 - Legal issues
 - Therapeutic substitution
 - Storage requirements
 - Equipment needed

Pharmaceutical Cache

- Identify items for the inventory of the cache using pre-existing therapeutic categories considering
 - Pediatric and geriatric issues
 - Over-the-counter products
 - Narcotics/security
 - Storage/refrigeration
 - Infectious diseases
 - Evidence of use in previous situations

Pharmaceutical Cache

- Demonstrate flexibility and rapid assessment and priority skills during use of cache
- Critically evaluate benefits and limitations of other teams' cache
- Demonstration project with DMAT

Cache Project Objectives

- Five groups of students created concise, yet comprehensive lists of medications required to be deployed with state and/or federal response teams in a disaster
- Rubrics were used to evaluate medication appropriateness, indications, and quantities

Cache Project Objectives

- Space and financial constraints were ignored
- Media were invited to the cache practical final (held with RI-1 DMAT), to evaluate command, operational, and logistical use of the cache lists and materials

Written Rubric - Drugs

1. Organization into easy-to-find classes that correspond to commonly used terms in normal practice.
2. Formulations / dosage forms most commonly used selected to easily be administered to all demographic groups in properly estimated quantities.
3. Most drugs lack lab monitoring requirement and have ADR's easy to identify, describe, and counsel patients on.
4. Most appropriate public health oriented medications included and clearly labeled for such , i.e. vaccines, prophylaxis of BT exposure.
5. Team members and OTC treatments are easily labeled and set aside for different ordering.

Written Rubric - Indications

1. All common, pharmacologically manageable acute, disaster-related conditions listed and linked to proper medication choice and quantity.
2. All common, pharmacologically manageable emergency conditions listed and linked to proper medication choice and quantity.
3. All common, pharmacologically manageable chronic conditions listed and linked to proper medication choice and quantity.
4. Common and easily treated team member, volunteer, first responder, etc. needs comprehensively addressed and linked to medication choices and supplied.
5. Clear balance between (treatable) disaster and usual societal needs of patients obviously considered.

Written Rubric - Supplies

1. Quantities perfectly appropriate for 250 persons x 3 days in field settings.
2. Most medications in forms that can quickly be dispensed, distributed, apportioned, and/or given away efficiently.
3. All abnormal storage requirements justified (i.e. vaccine refrigeration), yet appropriate; most medications require minimal, if any special storage requirements.
4. Medications forming the core of the pharmacologic management of most indications easily re-ordered / therapeutically substituted from multiple sources (federal, state, etc.)
5. Most medications chosen to minimize inaccurate/improper dispensing (i.e. lack of name similarity).

Practical Rubric – Clinical Decision Making

1. Therapeutic substitutions proactively and professionally addressed using superior clinical and logistical documentation.
2. Adverse drug events prevented, and/or attenuated in severity, and documented.
3. All team dispensing handled professionally, and in proper priority manner with proper integration into medical command structure and documented.

Practical Rubric – Logistical Decision Making

1. Security needs addressed in both job duties, pharmacy arrangement, and credentialing procedures for all members.
2. Easy understandable, yet comprehensively informative forms for ordering/ re-ordering used.
3. Inventory control well-described, efficient, and simplified through use of forms to track dispensing, donations & ordered medications.

Practical Rubric – Command Decision Making

1. Immediate, proactive, redundant and complete interdisciplinary integration into DMAT command, logistics, and operational ICS structure.
2. Job duties quickly and efficiently described, assigned, and exchanged during changing and fluid pharmacy operations.
3. Each member exerts clinical and operational independence in their particular job duty, while simultaneously performing with team members and global response operation in mind.

Case Examples: in 10 minutes...

- Command Request
- Logistics Request
- Donation Management
- Operations Acute Medication Problem
- Operations Chronic Medication Problem
- Policy Creation

Conclusions

- Peer reviews indicate great satisfaction with both the written and practical portions of the cache project, especially interacting with the RI-1 DMAT
- Students did have difficulty working in larger groups
- RI-1 DMAT members enjoyed challenging the students and were impressed with their procedures, professionalism, and feedback
- Active learning experiences enhance pharmacy curricula, especially experiences with real-world applications and interactions

Practical Cache: Acknowledgements

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Workshop Agenda

- Three 60 min rounds
- **Classes**
- **Medications**
- **Forms and Quantities**
- 15 minutes individual
- 15 minutes pairs/groups
- 15 minutes case presentation / action
- 15 minutes discussion

Disaster Medication Categories

- Emergency
- Acute
- Chronic
- Psychiatric
- Disaster-related
- Volunteer-related

Medication Class Categories

- DMAT
- ASHP
- WHO
- Literature categories
- National health statistics

Forms and Quantities

- Vulnerable and special populations
- Pharmaceutical equipment
- Special drug conditions
- Special disasters

Recommendations / Consensus Document

- Modified WHO Essential Medications
Inclusion/Exclusion criteria – or our own
- Majority rules