



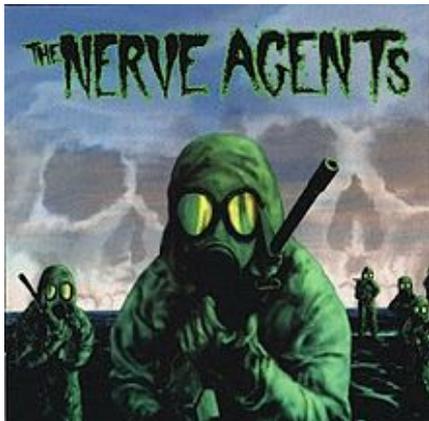
# Improved Civilian Medical Countermeasures Against Chemical Threats



Judy Laney, Ph.D.  
BARDA Industry Day  
November 12, 2013



- Decontamination
- Specific Threat Agents of Interest
  - Nerve agents and Pesticides
  - Vesicants (Mustard)
  - Pulmonary Agents
  - Blood and Metabolic Agents
  - Toxic Industrial Chemicals and Emerging Threats



- General Considerations
  - Safe in children, pregnant women, and the elderly
  - Easy to administer
  - Realistic treatment window

*ASPR: Resilient People. Healthy Communities. A Nation Prepared.*

# We Need Better Countermeasures for Kids!



## ***Nerve Agent Victims, Syria: August 2013***

*ASPR: Resilient People. Healthy Communities. A Nation Prepared.*

# BARDA Concept-of-Operations (CONOPs) for Nerve Agent Exposure

## Nerve Agent Release



**Goals:**

**Goals:**

**Goals:**

**Counter acute lethal effects:**

- **Decontaminate**
- Reactivate AChE
- Block AChR overstimulation
- Arrest seizure

**Continue acute care /**

- Treat slow-onset agents
- Block AChR overstimulation
- Arrest recurring seizures
- Mitigate neurological damage

**Treat long-term effects:**

- Treat long-term effects
- Treat chronic effects
- ???
- ??? } *knowledge gap*

**Treatment**

**Treatment**

**Treatment**

**EMS CHEMPACK (autoinjectors)**

- Atropine (anticholinergic)
- 2-PAM (reactivator)
- Diazepam (anticonvulsant)

**Hospital Care**

- Atropine (anticholinergic)
- Diazepam (anticonvulsant)
- ??? } *product gap*

**Hospital Care/Home Care**

- ???
- ???
- ??? } *product gap*

- Adapting already in-use emergency response paradigms



- New uses for drugs already in hospitals and on ambulances



- Treatments for chronic and long-term effects of chemical exposure



- Approval of existing MCMs for pediatric use
- New Therapeutics for Chemical Agents
  - Safe, efficacious, and easy to use
  - Realistic
- Animal Models
  - Realistic routes of exposure
  - Time course and effects of sub-lethal exposure
- Mitigation of long-term and chronic effects





# Questions?

- **[www.medicalcountermeasures.gov](http://www.medicalcountermeasures.gov)**

- Portal to BARDA
- View BAA priorities
- Register and Request a Meeting

- **Contact Us**

**Judy Laney**

**Project Officer, Chemical Medical Countermeasures**

**[Judith.laney@hhs.gov](mailto:Judith.laney@hhs.gov)**

**Ron Manning**

**Branch Chief, CRN Medical Countermeasures**

**[Ronald.manning@hhs.gov](mailto:Ronald.manning@hhs.gov)**