



BARDA Chemical Medical Countermeasures Program

Efrain E Garcia, Ph.D.
Health Scientist
Chemical Medical Countermeasures Branch
CBRN Division

**BARDA Industry Day
November 7, 2017**



The Chemical Threat

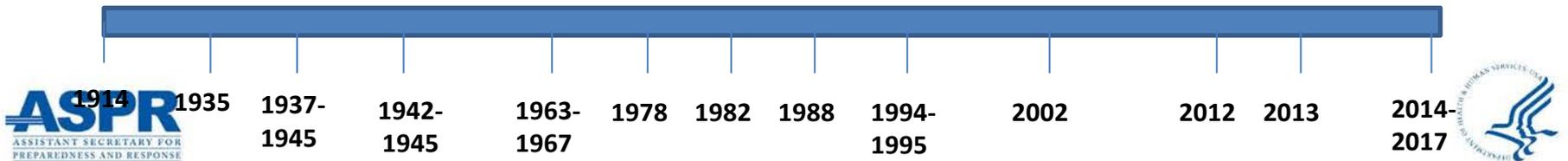
Chemical weapons have been used in war and terrorism since World War I and are still being used today!

BARDA Top Priorities for Medical Countermeasure (MCM) Development

- Pulmonary Threat Agents
- Vesicants
- Nerve Agents
- Cyanide



Intentional use of chemical weapons resulting in death in 100 years





General Considerations for Civilian MCMs

- **First, the bad news:**

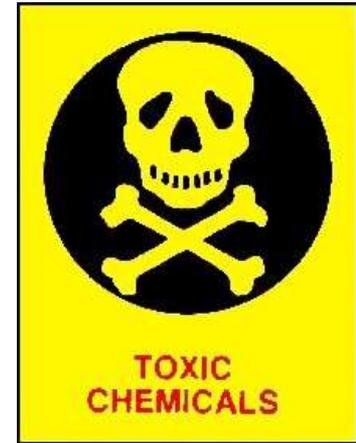
- *Chemical Injury Happens Fast!*
- Civilians don't get pretreatments
- It might take a while for help to arrive

- **Next, the better news:**

- Optimized Ladder Pipe Decontamination can remove >99% of chemical contamination.
 - *Just removing contaminated clothing removes 90%!*
- Chemical-induced pathologies can share many characteristics with more common clinical conditions

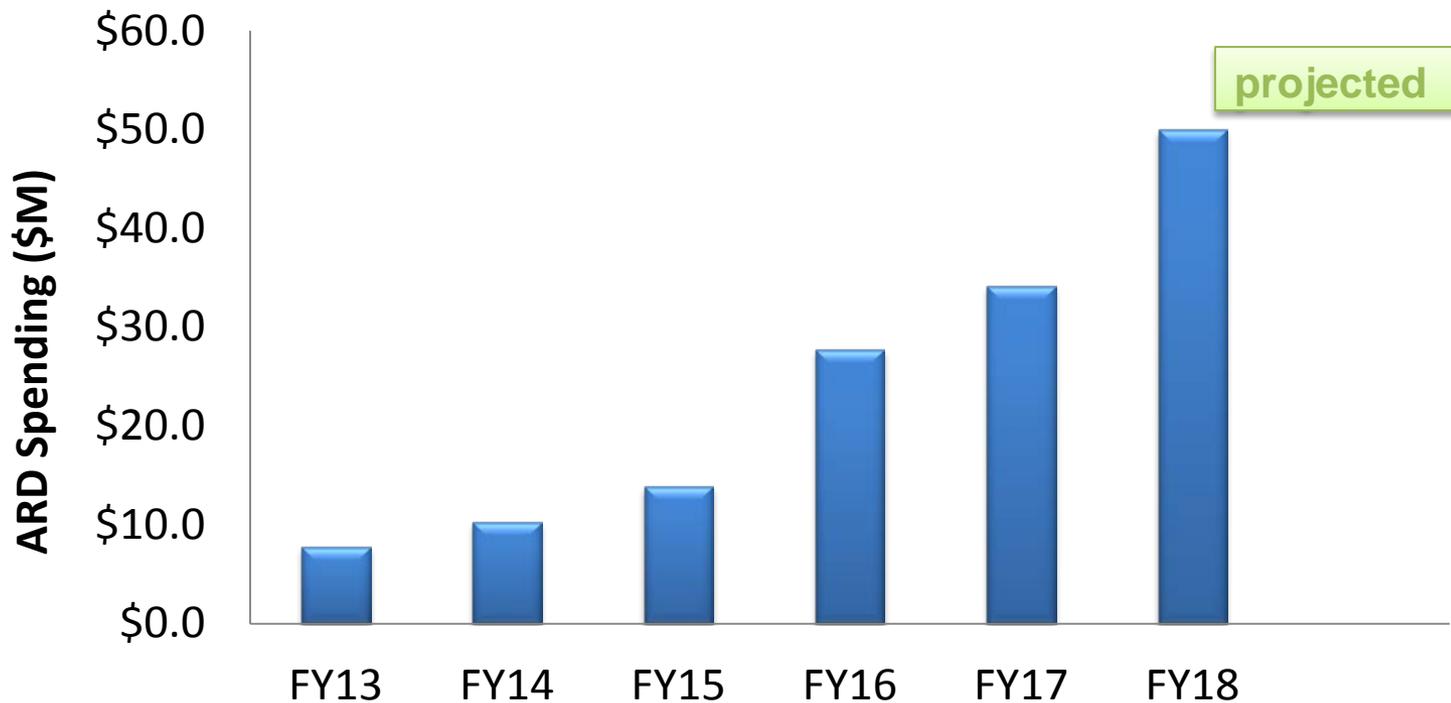
- **Now, the insight:**

Treat the injury, not the agent





Chemical MCM Program Growth





Current Portfolio

■ Projects Address Program Priorities

- Nerve Agents
- Cyanide
- Sulfur Mustard
- Chlorine
- Decontamination
- Animal Model Development Projects



■ FY2018 Portfolio Expansion Plans

- Vesicants
- Repurposed Drugs and Novel Delivery Methods
- Task orders in Non-clinical and Clinical Studies Networks

Breakout Session Today!



Enabling Community Resiliency

Ensuring availability of lifesaving medicines

New Uses for Common Medicines



Improving Emergency Response



PRISM Guidance for Chemical Decontamination

Our goal is to improve health outcomes for all victims of chemical exposure



Operation Downpour in Action





Pursuing Chemical Threat Indications for Available Drugs

Midazolam for Nerve Agent Exposure



Silverlon® Wound Dressing for Sulfur Mustard



Activase® for Sulfur Mustard Inhalation



University of Colorado
Boulder | Colorado Springs | Denver | Anschutz Medical Campus

TRPV4 Blockers for Chlorine exposure



Amyl Nitrite (SIAN) for cyanide intoxication





Contact Us

www.medicalcountermeasures.gov

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

The Chemical MCM Team

Efrain Garcia

202-205-3717

Efrain.Garcia@hhs.gov

Judith Laney, Chief, Chemical MCM – Judith.Laney@hhs.gov

Kristen Herring – Kristen.Herring@hhs.gov

Tom Hu – Tom.Hu@hhs.gov

Robert Rauli – Robert.Rauli@hhs.gov



Thank You!