



BARDA INDUSTRY DAY

BARDA Chemical Medical Countermeasures (MCM) Program

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October 29, 2018

October 29-30, 2018 | Grand Hyatt • Washington, D.C.



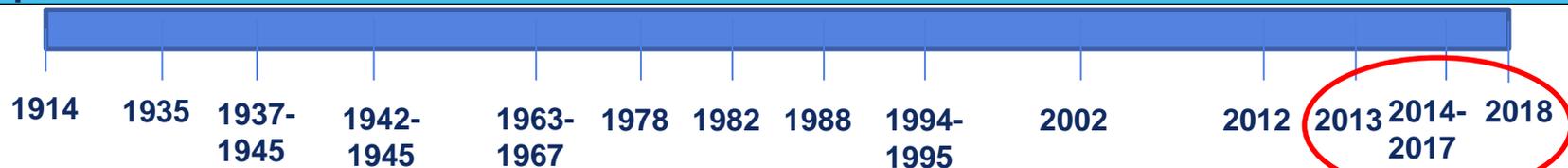
The BARDA Chemical MCM Program

GOAL

To improve health outcomes for all victims of chemical exposure



Intentional use of chemical weapons resulting in death since 1914



General Considerations for Civilian MCMs

- Challenges
 - Chemical injury happens very fast!
 - No pretreatments
 - May take a while for help to arrive



General Considerations for Civilian MCMs

- Challenges
 - Chemical injury happens very fast!
 - No pretreatments
 - May take a while for help to arrive
- Addressing the challenges
 - Proper decontamination can remove > 99% of chemical from skin
 - Injury caused by chemicals share many characteristics with common clinical conditions



Treat the injury, not the agent



ASPR
ASSISTANT SECRETARY FOR
PREPAREDNESS AND RESPONSE

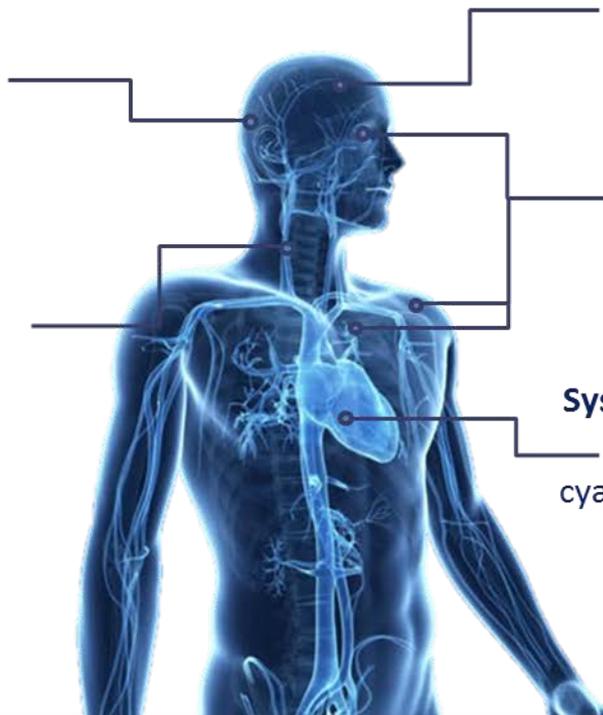


Saving Lives. Protecting Americans.

Treating the Symptoms of Chemical Exposure

Nerve agents
(Sarin, VX)
Cholinergic crisis, seizures

**Pulmonary
(choking) agents**
(Chlorine, phosgene)
Injure respiratory tract



Incapacitating agents
(Opioids, riot control agents)
Cause altered state of consciousness;
respiratory depression, irritation

**Vesicants
(blistering agents)**
(Sulfur mustards, lewisite)
Injure skin, eyes, and airways

Systemic asphyxiants (blood agents)
(Hydrogen cyanide,
cyanogen chloride, hydrogen sulfide)
Cause apnea and
organ problems



Enabling Community Resiliency

- Ensuring availability of lifesaving medicines

New Uses for Common Medicines



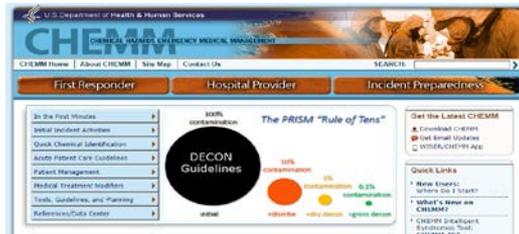
- Improving Emergency Response



PRISM Guidance for Chemical Decontamination



A	Algorithm	
S	Suggesting	
P	Proportionate	
I	Incident	
R	Response	
E	Engagement	



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Repurposing for Chemical MCMs

Need: Have FDA-approved MCMs readily available in hospitals to treat victims of chemical threat attack



Strategy
Use existing hospital formularies to develop on-site MCM armamentarium



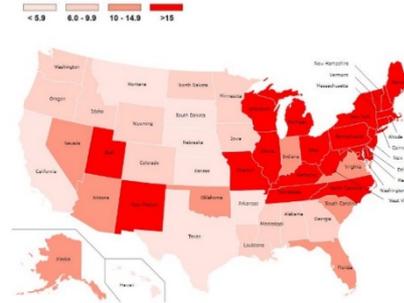
GOAL



BREAKOUT SESSION: Repurposing for Chemical Medical Countermeasures – Day 2

Opioids MCM Development

- Requirement initiated in FY'18
 - Public Health Emergency
 - Partnership with Opiant for development of Nalmefene for opioid overdose
 - ✓ Co-funded by NIH/NIDA



US Opioid Deaths per 100k by State



- What we are looking for:
 - **MCMs that target respiratory depression**, rather than traditional opioid receptor antagonists
 - Fast acting, long lasting, and effective against a variety of opioids (e.g., fentanyl, carfentanil)
 - MCMs that are amenable for use in a mass-casualty setting

BREAKOUT SESSION: New Approaches to Combating Opioids @ 3:30PM

Our FY19 Priorities

- Program Priorities and Current Projects
 - Sulfur Mustard
 - Chlorine
 - Opioids 
 - Nerve Agents
 - Cyanide
 - Novel Delivery Methods



Drugs in development or already approved for conventional indications strongly preferred

Our Current Portfolio

Nerve Agents



Pulmonary Agents (Chlorine)



Vesicants (Sulfur Mustard)

YOUR DRUG HERE

Novel Delivery Mechanisms



Cyanide

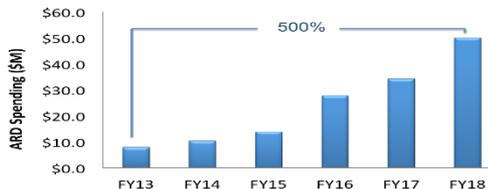


Opioids



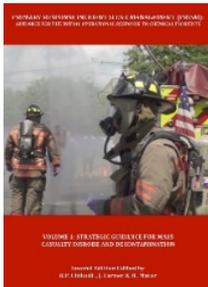
Chem Program Successes in 2018

Continue chem program growth



**500% growth
in
5 years!**

Second Edition of PRISM Guidance



**Developed in Partnership with University of Hertfordshire
Publication in Annals of Emergency Medicine**

DISASTER MEDICINE/ORIGINAL RESEARCH

Evaluation of US Federal Guidelines (Primary Response Incident Scene Management [PRISM]) for Mass Decontamination of Casualties During the Initial Operational Response to a Chemical Incident

Robert P. Chilcott, PhD¹; Joanne Larmer, PhD; Adam Durrant, BSc (Hons); Philip Hughes, BSc (Hons); Devanya Mahalingam, MSc; Samantha Rivers, MSc; Elliot Thomas; Navine Aher, MRes; Mark Barrett, BSc (Hons); Hazem Matar, PhD; Andrea Pinhal, MSc; Toni Jackson, BSc (Hons); Kate McCarthy-Barnett, EdD; Joseph Reppucci, MS

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FDA approval of Meridian's SEIZALAM for Status Epilepticus



**Collaboration
with DOD and
NIH**

Publication of efficacy of Ketamine for refractory seizures



Contents lists available at ScienceDirect

Neurotoxicology

journal homepage: www.elsevier.com/locate/neuro



Full Length Article

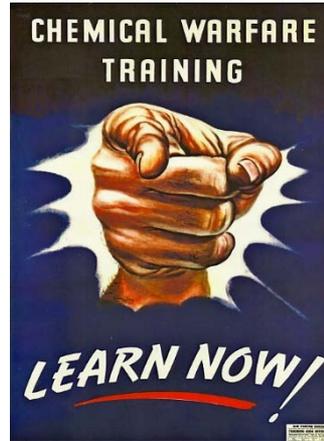
Addition of ketamine to standard-of-care countermeasures for acute organophosphate poisoning improves neurobiological outcomes



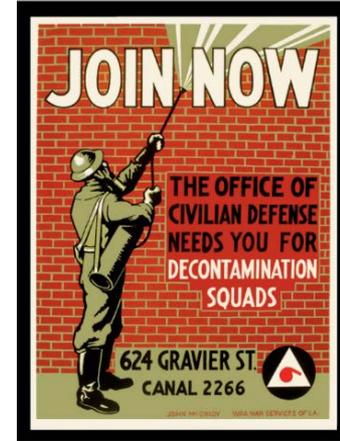
Jeffrey David Lewine^{a,b,c,d,e}, Waylon Weber^a, Andrew Gigliotti^a, Jacob D. McDonald^a, Melanie Doyle-Eisele^a, Nitin Bangera^b, Kim Paulson^b, Christy Magcalas^a, Derek A. Hamilton^a, Efrain Garcia^a, Robert Rauli^d, Judith Laney^d

The Chem MCM Team

- Judy Laney, Branch Chief
- Will Coley
- Efrain Garcia
- Kristen Herring
- Tom Hu
- Brian Tse
- Rob Raulli
- Alan Jacobson



- Pat Bowers
- Jonathan Gonzalez
- Phil Hastings
- George Keane
- Ethan Mueller
- Michele Riggs
- Juan Wooten



How to contact BARDA



Medical
Countermeasures.gov

[medicalcountermeasures.gov/home.aspx](https://www.mediccountermeasures.gov/home.aspx)

Portal to BARDA: **Register to request a TechWatch meeting!**



www.fbo.gov/
("FedBizOpps")

Official announcements and info for all government contract solicitations



<https://www.phe.gov/about/BARDA/Pages/default.aspx>

Program description, information, news, announcements



www.drive.hhs.gov

DRIVE questions

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