

FDA Medical Countermeasures Initiative

Alan Liss Ph.D.
Director, MCMi PHSAT
FDA/OC/OCET
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U.S. Food and Drug Administration
Medical Countermeasures

The Threat

- The USA is at war with determined, well organized and well funded terrorist organizations worldwide.
- Our Homeland faces serious threats, especially from bioterrorism
- USG has responsibility for upgrading public health preparedness

- Bombings & Armed Attacks

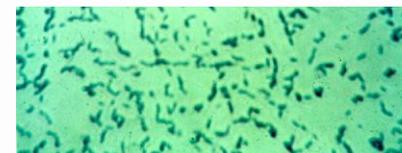


- Toxic Industrial Chemicals



- Radioactive Dispersal Devices (RDD)

- Biological Agents





The *Project BioShield Act of 2004* (Public Law 108-276 on 21 July 2004)

The Pandemic and All-Hazards Preparedness Act (P.L. 109 – 417, December 2006)

BARDA manages advanced development and procurement programs for vaccines, drugs and biologics-based therapeutics and diagnostics for CBRN threats, pandemic influenza, and emerging infectious diseases.



Programs are supported by:

- Advanced Research and Development**
- Project BioShield Special Reserve Fund**
- Pandemic Influenza appropriations**



From MCM Requirements to USG Asset

PRODUCT DEVELOPMENT

<p>Requirements Page 1 on by W...</p>	<p>Finalization and prioritization by the HHS/DoD</p>	<p>Product Plan drafted by Integrated Program Team and approved</p>	<p>Project Coordinating Teams established</p>	<p>Acquisition and stockpiling in SNS or other controlled site</p>	<p>Lifecycle management</p>
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HHS Public Health Emergency Medical Countermeasures Enterprise (Enterprise)

National Biodefense Science Board



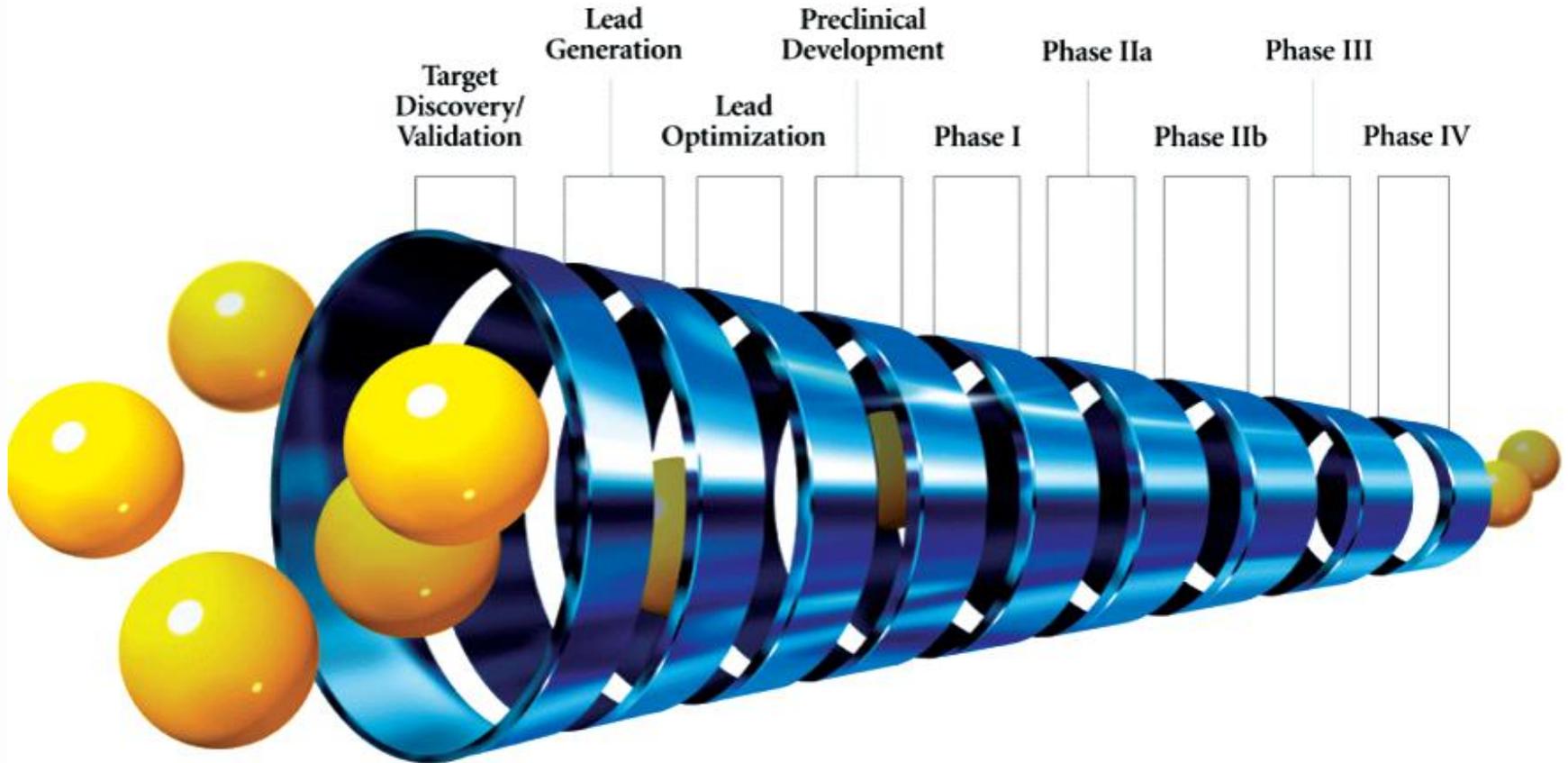
Looking Back: USG Efforts to Date

- Federal civilian biodefense funding has been estimated to exceed \$54B between FY 2001-2010
- Nation lacks range of MCMs listed in the HHS Public Health MCM Enterprise Plan
- 2009 H1N1 influenza pandemic highlighted U.S. vulnerability
 - Lag time between event detection and MCM availability
 - “Maybe We’re Not so Ready for a Pandemic After All” – Wpost October 23, 2009
- Probability of successfully developing required MCM as low as 12 percent

Dec 2009: Secretary Requests MCM Review

- Lessons learned from 2009 H1N1 response and from post-9/11 MCM enterprise
- Impediments to MCM development, including science and financial challenges
 - Broad input from IOM, NBSB, industry, public health leaders
- Improve processes, policies, infrastructure required to develop, approve, and stockpile MCMs
 - “[T]o get the 21st century countermeasures, we don’t just need 21st century technology. We also need 21st century financial, legal, and regulatory frameworks...”

PHARMACEUTICAL DEVELOPMENT







Regulatory Access to Unapproved Products

- **Emergency Use IND (21CFR 312.36)**
- **Treatment Use IND/IDE (21 CFR312.35)**
- **Emergency Use Authorization (EUA)**

Criteria for EUAs, E-INDs, INDs, and FDA-approved Prescription Products (*The New England Journal of Medicine* 361 (23): 2204-7, 2009)

	EUA, in General (and for Peramivir)	EIND	IND	FDA-Approved Prescription Product
Access	Broad or restricted according to the letter of authorization (peramivir: seriously ill, hospitalized patients)	Single patient with serious illness or immediately life-threatening condition	Limited to clinical trials or expanded access	By prescription
Use	According to the conditions of authorization (peramivir: intravenous administration in a hospital)	Limited to single patient	Limited to clinical trials or expanded access	According to labeling and practice of medicine
Efficacy requirements	Reasonable to believe based on totality of scientific evidence, including adequate and well-controlled trials as available (peramivir: benefit observed in patients with acute, uncomplicated influenza)	Rationale for intended use, risk from treatment should be no greater than risk from disease or condition	No efficacy requirements, but safety data from animal studies are needed	Substantial evidence based on adequate and well-controlled clinical trials
Prescriber safety reporting	According to the conditions of authorization (peramivir: mandatory)	Required per IND regulations	Required per IND regulations	Voluntary MedWatch reporting
Informed consent	No	Yes	Yes	No
Approval by institutional review board	No	Exempted but must be reported to institutional review board within 5 days	Yes	No

Regulatory Pathways for Medical Countermeasures

- For Drugs and Biologics

Animal Rule Approach

- Regulations: **21 CFR 601.90-95 (biologics)**
21 CFR 314.600-650 (drugs)

- For Diagnostics and Devices

- Traditional Regulatory Approach

Animal Rule does not “technically” apply to devices.
CDRH flexibility and innovation

“FDA has not been able to fulfill its implicit national security mission, in large part because of a lack of resources...It is imperative for America’s health and progress for FDA to be provided adequate resources to bring its regulatory science into the 21st century...Doing so will greatly enhance the FDA’s ability to support MCM development and licensing.”

**WHERE ARE THE COUNTERMEASURES?
PROTECTING AMERICA'S HEALTH FROM CBRN THREATS**

A REPORT OF THE NATIONAL BIODEFENSE SCIENCE BOARD



March 2010



- January 2010: State of the Union Address
 - “[W]e are launching a new initiative that will give us the capacity to respond faster and more effectively to bioterrorism or an infectious disease – a plan that will counter threats at home and strengthen public health abroad.”
- President Obama



Review Calls for New Federal Approach to Medical Countermeasures

HHS Secretary releases review and recommendations driven by pandemic flu experience



MCM Review Recommendations

1. **Enhance MCM regulatory science (FDA)**
2. Foster flexible manufacturing
 - New platforms for product development and manufacturing
 - Advanced development core services partnerships
3. Expand the product translation pipeline
4. Advance influenza vaccine development/manufacturing
5. Establish strategic investment firm for innovation

FDA MCM Action Plan: 3 Pillars

1. Enhance the MCM Review Process
2. Advance MCM Regulatory Science
3. Optimize Legal, Regulatory, and Policy Approaches to MCM Development and Use

Objective:

FDA to strengthen regulatory evaluation and facilitate MCM development

(1) Enhancing the Review Process

- Establish Public Health & Security Action Teams (PHSATs)
 - Multidisciplinary teams to tackle the range of regulatory, scientific and policy issues facing MCM development and approval
 - Highly interactive engagement with MCM Enterprise
 - Develop “Regulatory Science Plan” for each MCM project
 - Provide clear development pathways based on best possible science
 - Ensure consistent approaches & best review practices

(2) Advancing Regulatory Science for MCM Development

- Increase FDA capacity to help address unmet regulatory science needs for highest priority MCMs and new technologies
 - Explore solutions to complex scientific regulatory problems
 - Identify situations in which the application of new science could simplify or speed product development and improve the FDA regulatory processes for MCMs
 - Regulatory science agenda responsive to regulatory review needs
 - Support for FDA interdisciplinary inter-center and USG collaborative programs; partnerships and collaborations between FDA and others

(3) Optimizing the Legal and Policy Framework

- Ensure that laws and regulations support preparedness and response
 - Conduct review of strengths and weaknesses of current approaches
 - Where needed, FDA will develop and make recommendations for any statutory changes that might be required to achieve goal of improving emergency preparedness and response
- Examine needs and feasibility for new or modified approaches such as pre-EUAs, “restricted” or “conditional licenses”
- Address needs of non-Federal public health partners
 - e.g. Shelf-life extension of State-held stockpiles
- Examine limitations of and alternatives to Animal Rule



U.S. Department of Health and Human Services
Assistant Secretary for Preparedness and Response

The Public Health Emergency
Medical Countermeasures
Enterprise Review

*Transforming the Enterprise
to Meet Long-Range National Needs*

August 2010

“Our Nation must have the nimble, flexible capacity to produce MCMs rapidly in the face of any attack or threat, known or unknown, including a novel, previously unrecognized, naturally occurring emerging infectious disease.”

The Guiding Principle



