# Chem Bio Defense Transformation

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DST

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## BioDefense for the 21<sup>st</sup> Century: *Pillars*

### Prevention and Protection

- Proactive Prevention
- Critical Infrastructure Protection

#### Threat Awareness

- Biological Warfare Related Intelligence
- Assessments
- Anticipation of Future Threats

- Surveillance and Detection
  - Attack Warning
  - Attribution

### Response and Recovery

- Response Planning
- Mass Casualty
- Risk Communication
- Medical Countermeasures
- Decontamination

## **CBD: Current Status**

- Underfunded for Years
- Tired Infrastructure
- Difficult to Maintain Intellectual Property
- Industrial Base Problems
- Slow Movement From Tech Base to Production
- Inability to Aggressively Adopt New Biotech Capabilities

### **CBD:** Proposed

- Improve Industrial Base (Bio/NTAs)
- Consider Intellectual Property Needs
- Transition Many Existing Capabilities to Production for Warfighters
- Incorporate New Science And Technological Approaches:
  - Develop NTA countermeasures and detection
  - Biotech Base for Rapid Detection/Analysis of Genetically Engineered Bio Threat Agents
  - Move In-House Development Bias To Best Of Breed Nationally and Internationally
  - Move Radiation Therapies out of Tech Base

# CBD: Where the Program Needs to Go

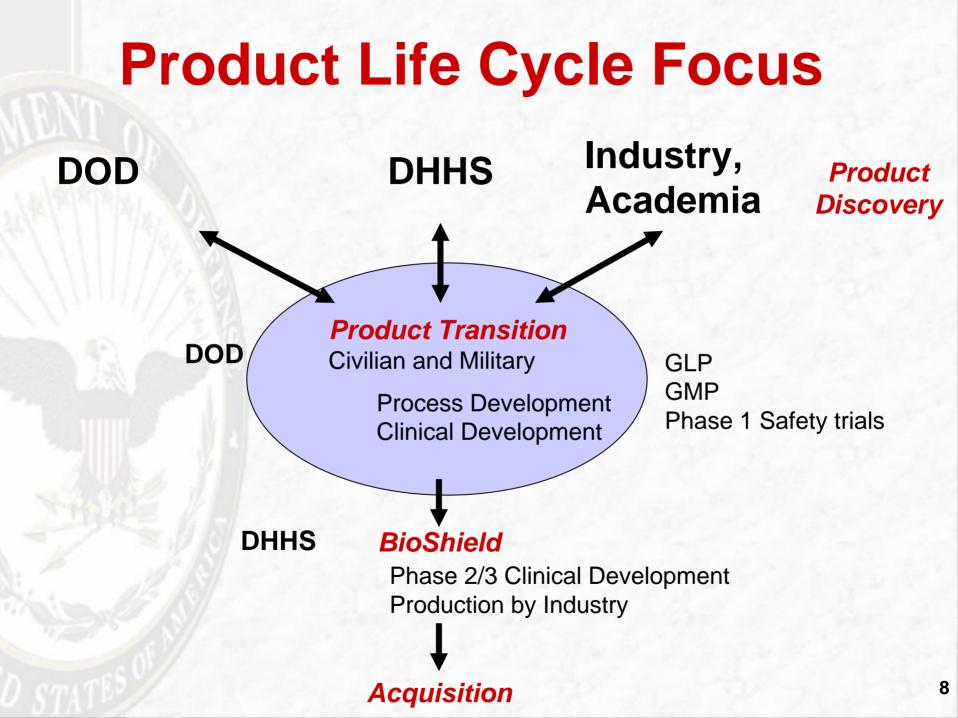
- Integration Of Detection Systems And Medical Diagnostics
- Broader Intervention Through Immune System Manipulation
- Computational Biology For Detection Analysis And Drug Development
- Accelerating Product Transition
  - Process And Clinical Development
- Transformational Management Of The Programs
  - Rapid Development And Insertion Of New Technologies
  - Program Re-direction
    - Darpa-like Authority At DTRA (JSTO-CBD)
  - Authority To Rapidly Cancel S&T Projects And To Incorporate Rapidly Emerging Technologies
- Interagency/International Cooperation To Leverage S&T
- Expand Competitive Basis For S&T
  - Industry, Academia, Interagency
- Address Institute Of Medicine Recommendations

### **CBD: Program Direction**

- Accelerating Medical Countermeasures
  - Near Term Transformational Management
    - Interagency Cooperation
      - DoD-DHHS Interagency Medical Countermeasures
        Development
    - Plus Up DoD Tech Base
    - Leverage Bioshield For Advanced Development
    - Build Competition
    - Mid Term Transformational Science
      - Genomics, Proteomics, Vaccinomics, Metabolics, Immune Products, Prioritize Accelerated Technologies
      - Technology Insertion

# CBD: DoD Strengths Vice Other Agencies

- DoD Has The Demonstrated Capacity For...
  - Solid Tech Base Key To DHHS Development
  - Fielding Systems
  - Experimentation With Threat Agents
  - Established Infrastructure (Personnel And Laboratories)
  - Crisis And Operational Response



# **Industry's Role**

- Bring Us Innovations!
- Where the Opportunities Are:
  - Nanotech
  - Micro/Nano fluidics
  - Wet Chemistry to Dry Methods
  - Statistical Process
  - Modeling & Simulation of Biological Processes
  - Systems Integration

## **Congressional Activity**

- Need Your Help Often Unable to Tell if Language is Intended for a Specific Constituent!
- Single Focal Point: CBD-My Office!
  - Includes DTRA/JPEO
  - Includes Activities managed by Services in CBD
  - Provides Us the Opportunity to Manage Better-Build Better Science
- We Don't Lobby But Can Advocate!

# **Questions?**

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