

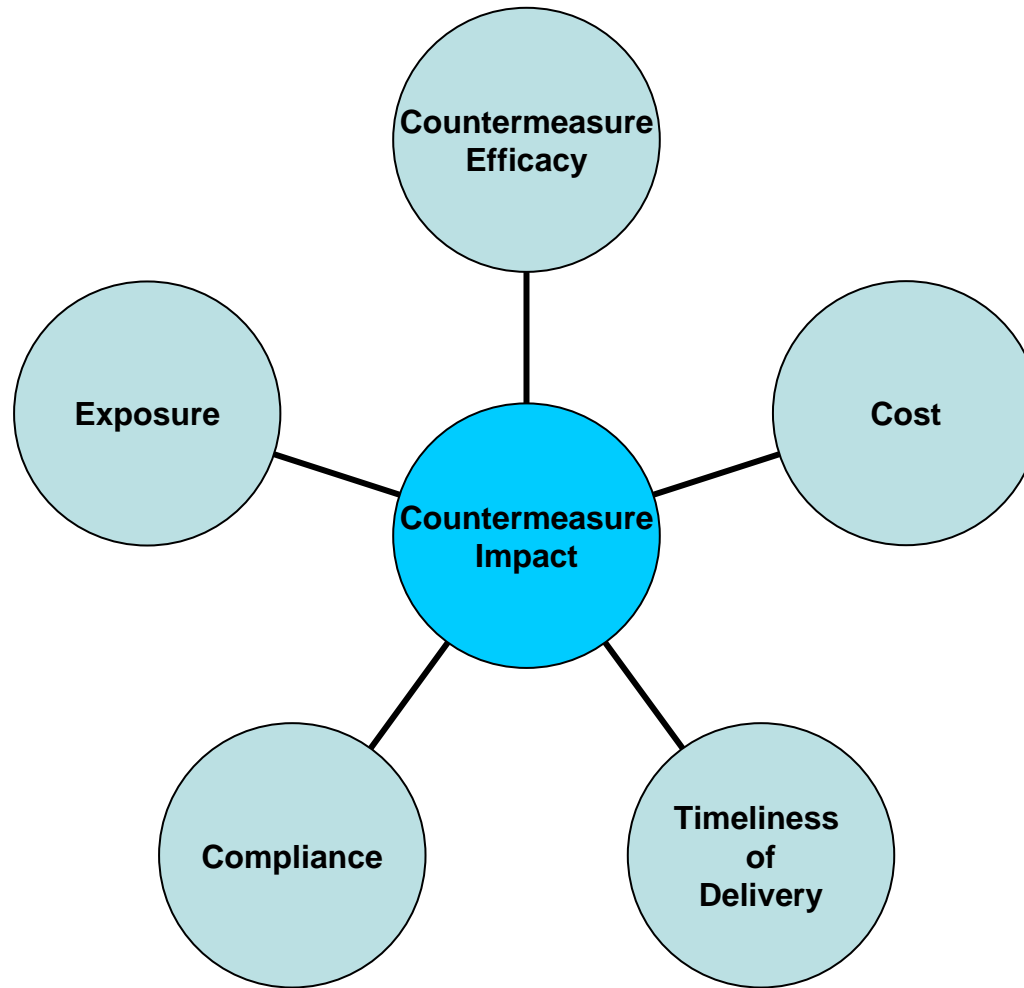


Department of Health and Human Services  
Centers for Disease Control and Prevention

# **BioShield Stakeholder's Workshop**

September 26, 2006

# Influences on Countermeasure Impact



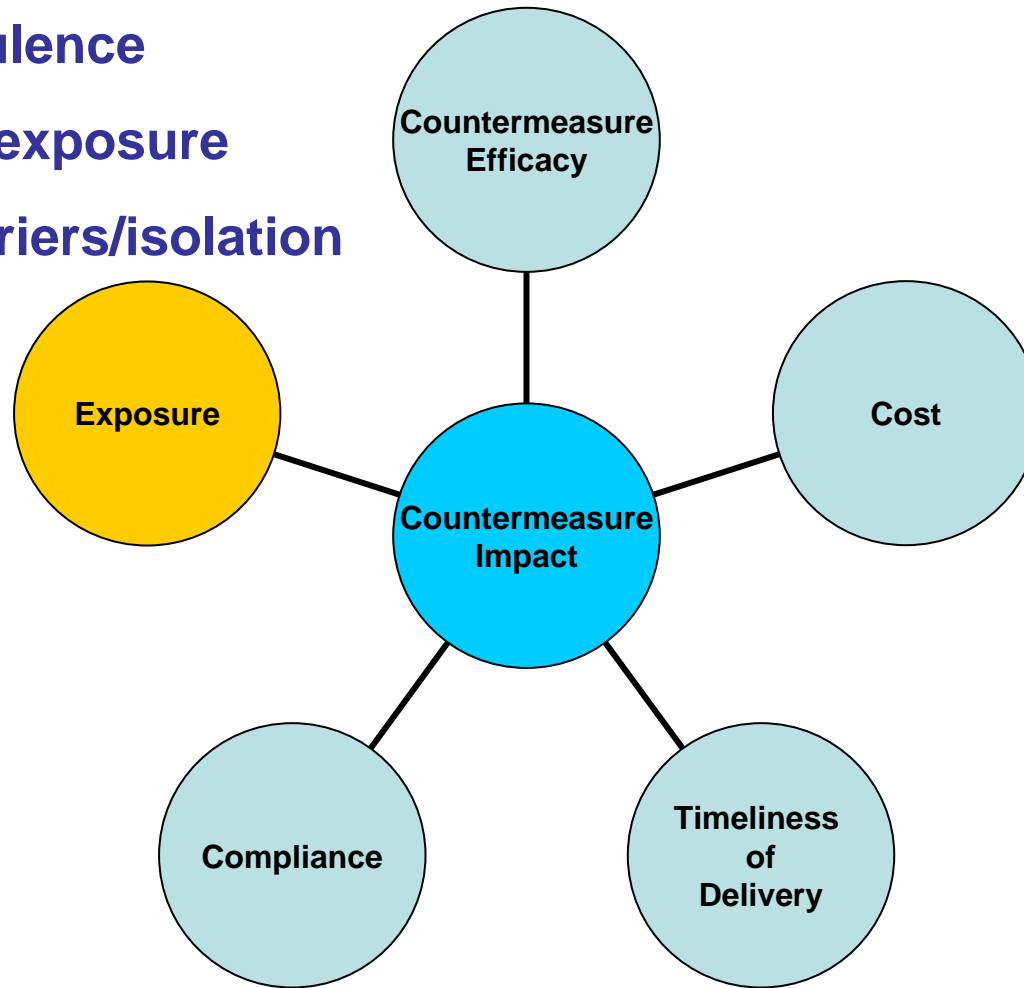
# Influences: Exposure

Transmissibility

Virulence

Re-exposure

Barriers/isolation





# Agent Expertise at CDC

## Environmental Microbiology Framework

Detection and Investigation    Control and Containment    Recovery and Remediation

### Identifying Threat Agents



- ✓ Sampling and Recovery
- ✓ Detection and Quantification
- ✓ Identification

### Determining Risk of Transmission



- ✓ Virulence
- ✓ Transmissibility
- ✓ Persistence

### Evaluating Techniques & Procedures for Risk Reduction



- ✓ Protection
- ✓ Decontamination

# Influences: Efficacy



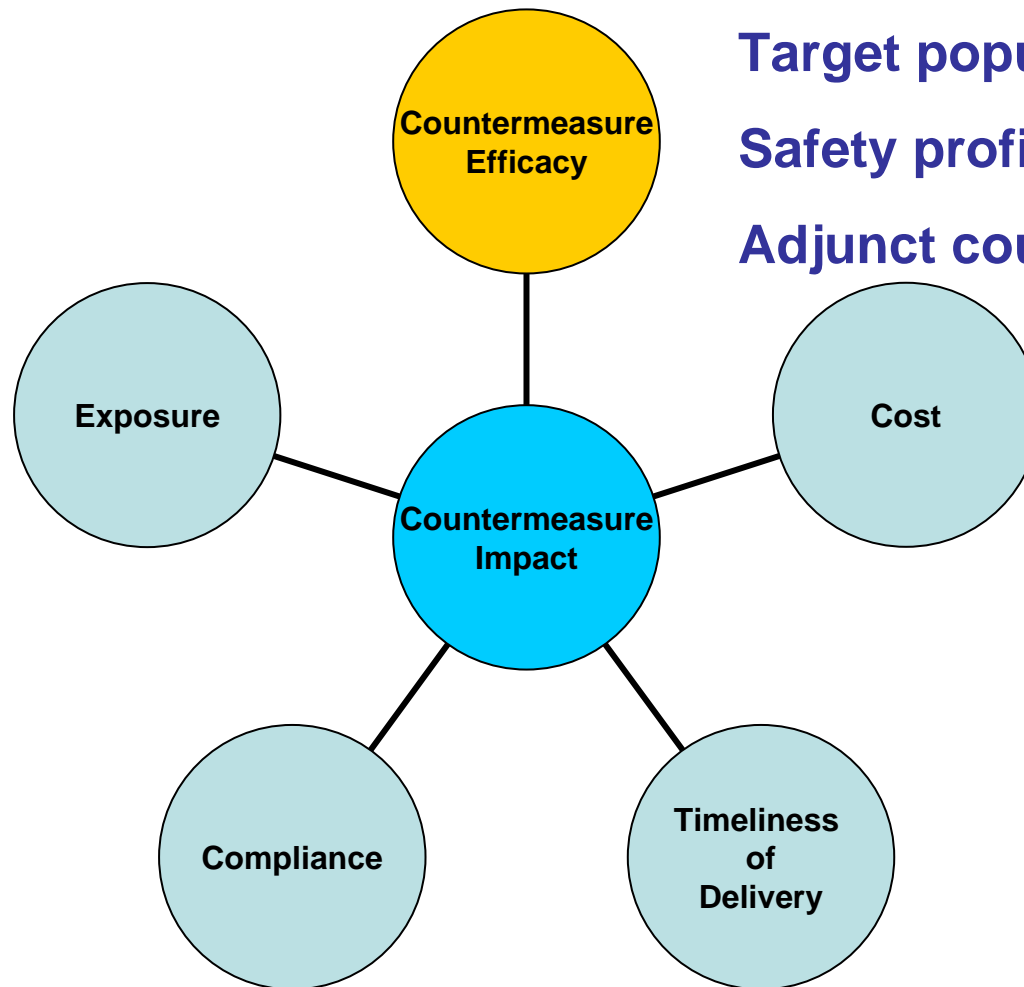
Testing model

Stage of disease

Target population

Safety profile

Adjunct countermeasures



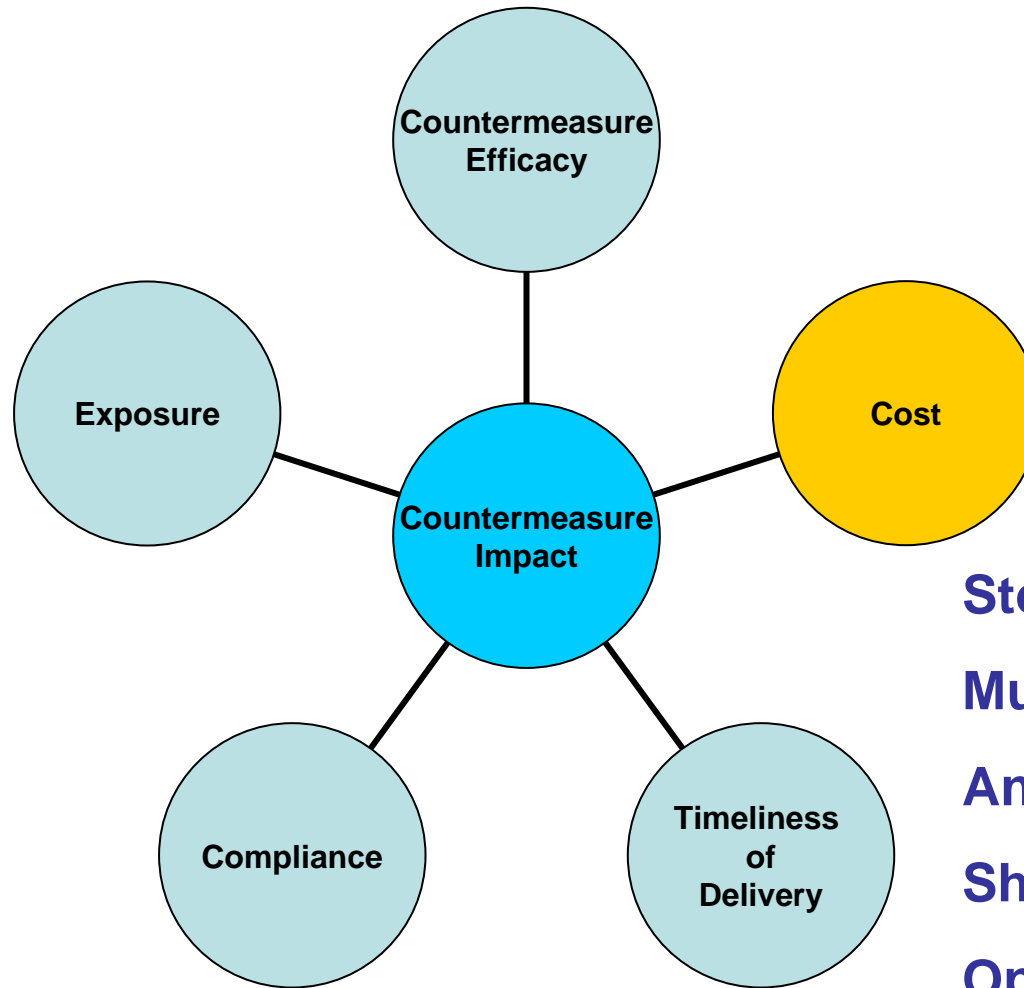
# Anthrax Prognosis Related to Stage of Disease



STAGE	NEW CLINICAL STAGING SYSTEM FOR INHALATIONAL ANTHRAX	PROGNOSIS
<b>Early-prodromal stage</b>	Unchanged from original staging system	Cure rate is high with institution of appropriate antibiotics.
<b>Intermediate-progressive stage</b>	<p>Any <b>one</b> of the following findings is defined as inclusion criteria for this stage:</p> <ol style="list-style-type: none"> <li>1. Positive blood cultures, <i>or</i></li> <li>2. Mediastinal adenopathy, <i>or</i></li> <li>3. Pleural effusion(s)</li> </ol> <p>Non-specific and non-defining symptoms and signs in this stage may include high fever, dyspnea, confusion, syncope, increasing nausea and vomiting.</p>	Cure rate is still high with rapid treatment with appropriate antibiotics, pleural fluid drainage, and meticulous supportive care.
<b>Late-fulminant stage</b>	<p>Any <b>one</b> of the following findings is defined as inclusion criteria for this stage:</p> <ol style="list-style-type: none"> <li>1. Meningitis, <i>or</i></li> <li>2. Respiratory failure requiring mechanical ventilation, <i>or</i></li> <li>3. Shock</li> </ol> <p>Findings in this stage may also include any of those from prior stages, for example positive blood cultures, mediastinal adenopathy, or pleural effusion(s).</p>	Survival is much less likely.

Daniel R. Lucey, M.D., M.P.H., November 8, 2005; Clinicians' Biosecurity Network

# Influences: Cost



- Storage**
- Multiple doses**
- Ancillary supplies**
- Shelf-life**
- Opportunity costs**

# Strategic National Stockpile (SNS)



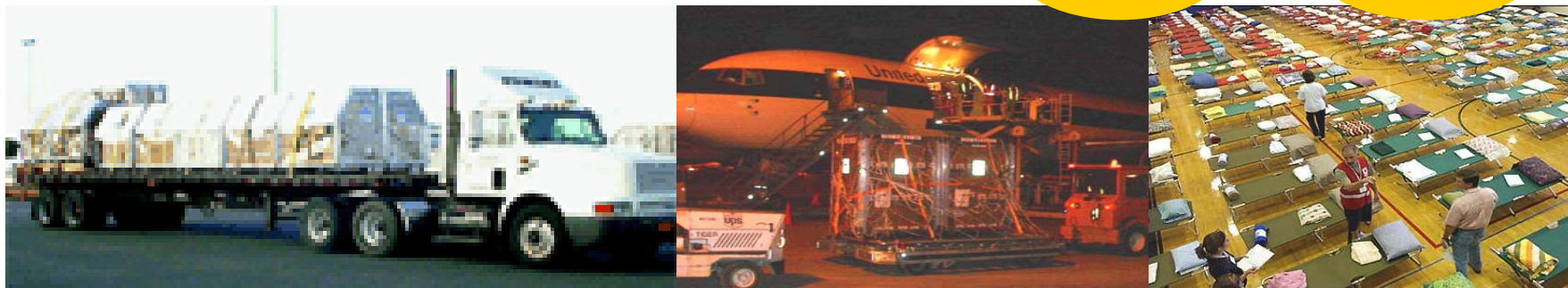
PREPARE

DETECT

INVESTIGATE

**RESPOND**

**RECOVER**



- National repository of antibiotics, antivirals, chemical antidotes, antitoxins, life-support medications, and medical supplies to supplement and re-supply state/local response assets
- Procurement, storage, and deployment logistics
- Integrating BioShield development with delivery through SNS
- Technical Advisory Response Unit (TARU) to increase capacity to deliver SNS assets in a large-scale event



# SNS Response Concept



## ■ 12-hour Push Packages

- Pre-packed and configured materiel in transport-ready containers
- Pre-positioned in secure facilities near major transportation hubs
- Delivered rapidly by world class transport partners
- Color coded and numbered for rapid identification by state and local authorities

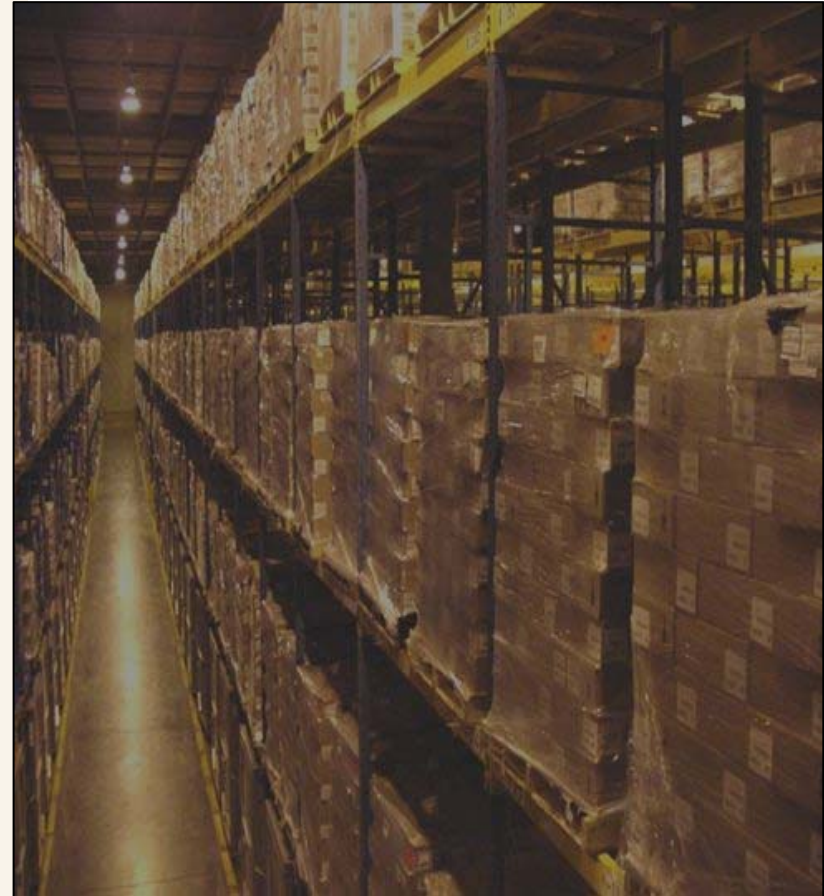


# SNS Response Concept



## ■ Specific Item Support

- Managed Inventory
  - Stockpile Managed (SMI)
  - Vendor Managed (VMI)
- Vaccines and Antitoxins
- Buying Power/Surge Capacity
- Federal Medical Stations (FMS)



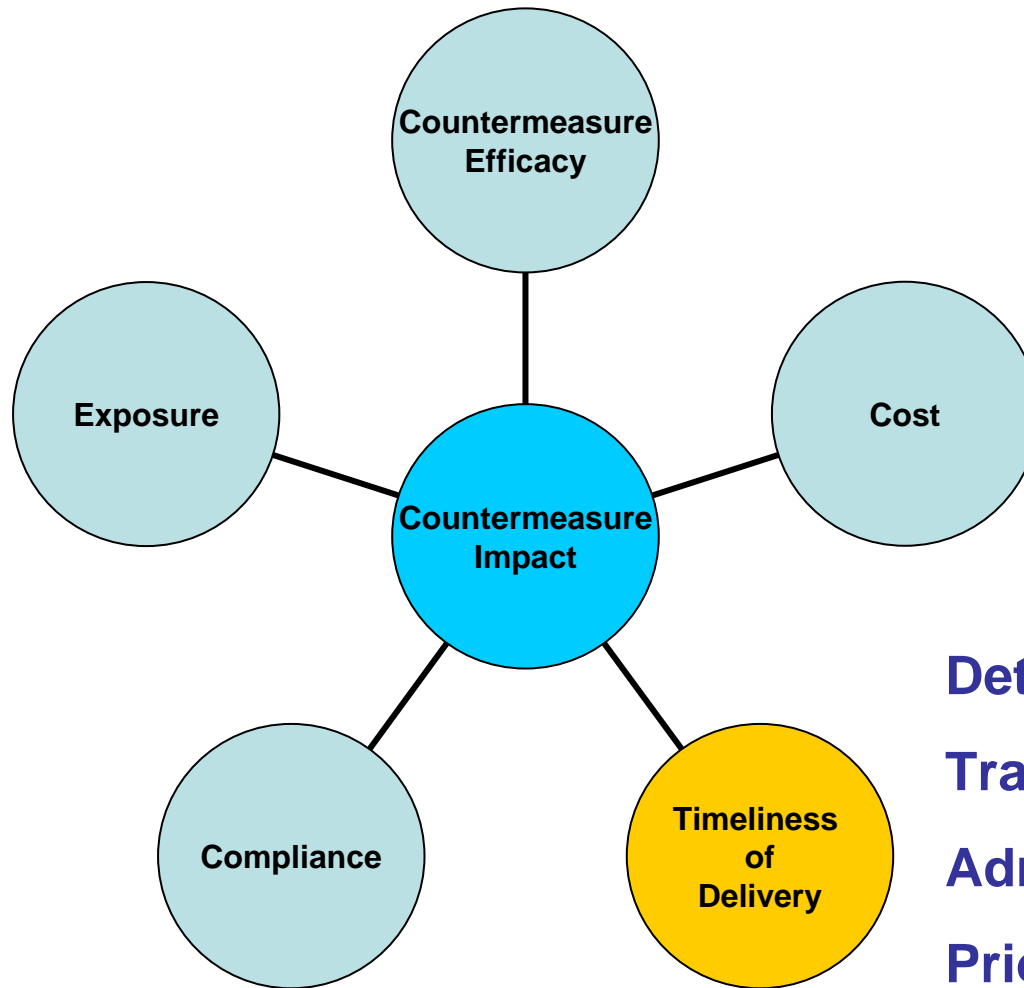
# Countermeasure Storage Costs



- Cubic footage (product bulk)
- Climate control
- Dose packaging
- Ancillary supplies (e.g., syringes, needles, mixing vials)



# Influences: Timeliness



**Detection**  
**Transport**  
**Administration methods**  
**Priority targets**

# Enhanced Surveillance Systems



PREPARE

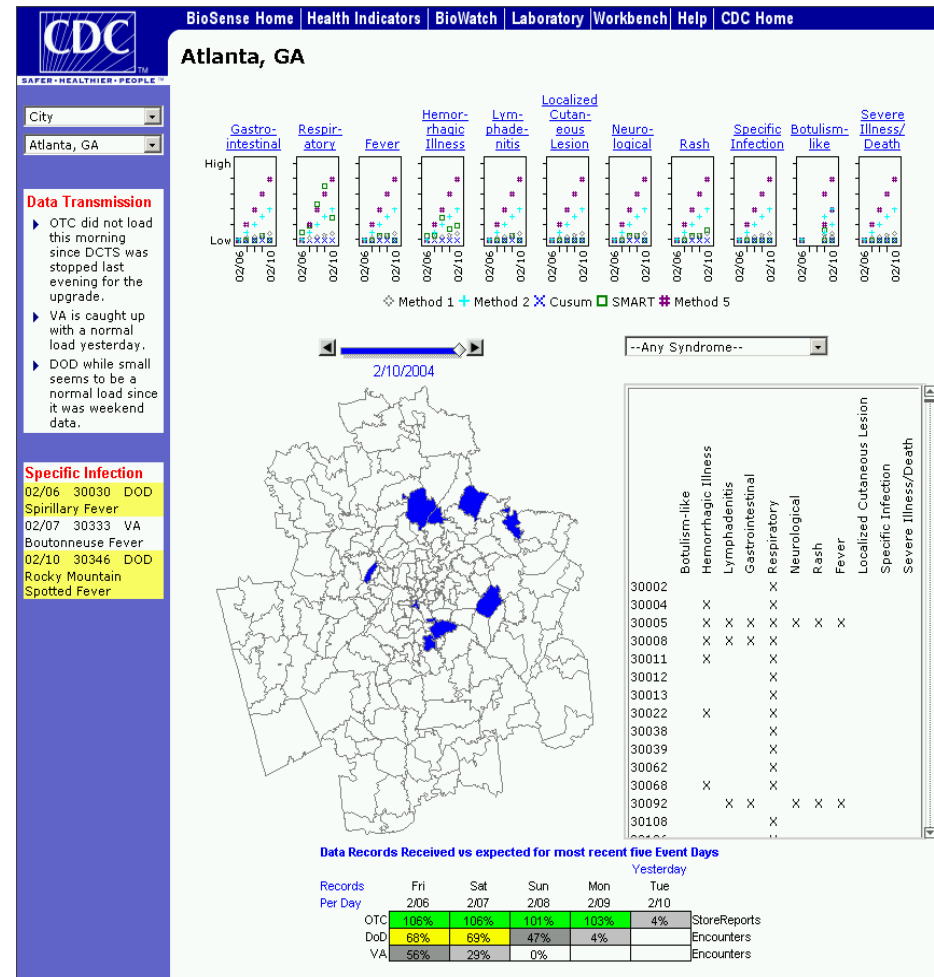
DETECT

INVESTIGATE

RESPOND

RECOVER

- Agents in the Environment: BioWatch
- Health Event Indicators: BioSense
- Laboratory Surveillance: LRN, Pulsenet, ELR
- State, Local, National, & Global Health Surveillance
- Situational Awareness & Investigation: BioSenseRT
  - Real-time acute care data
  - Foundation in EHR and electronic reporting



# Public Health Information Network



Early Event Detection  
and Situational  
Awareness

Notifiable Disease  
Surveillance

Outbreak  
Management

Partner  
Communications &  
Alerting

Countermeasure &  
Response  
Administration

Knowledge  
Management



Federal Health  
Architecture

National Health  
Information  
Network



# Timeliness: Transportation Logistics



## ■ Countermeasure mobility (storage)

- Stock accessibility
- Pre-configuration for transport

## ■ Distribution capability

- Dedicated resources
- Personnel safety
- Receipt site access

### Storage

Stockpile  
Accessibility

Ease of  
Movement  
(Packaging &  
Configuration)

### Delivery

Dedicated Resource

Private/Government

Air/Ground

International Ability

Safety of Transport  
Personnel

Access to  
Site of Emergency

# Modalities of Dispensing

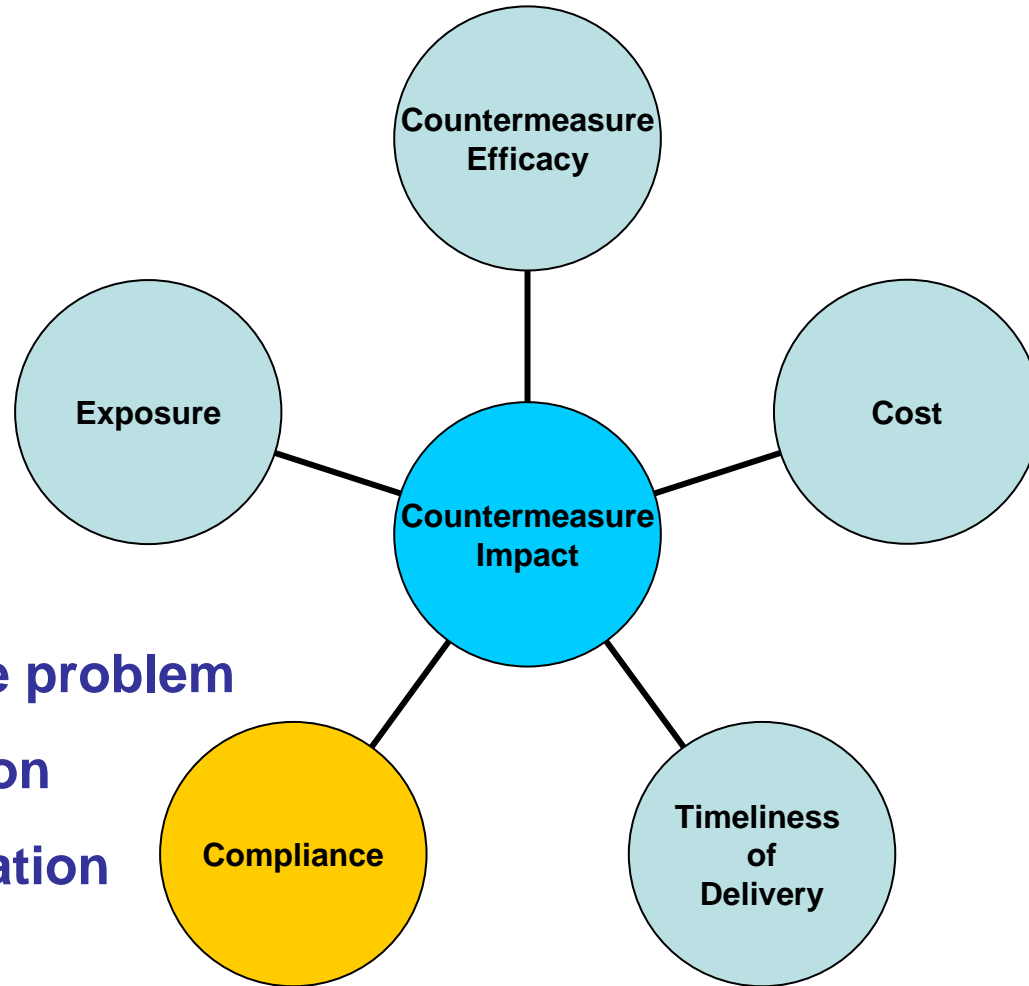


- Traditional POD is cornerstone (Pull)
- 4 alternate modalities to complement PODs (Push)
  - Pre-event dispensing to first-responders
  - Home Pre-placement: MedKit study
  - Postal Delivery – allows sheltering in place
  - Pre-deployed community caches for large populations





# Influences: Compliance



**Understanding the problem**

**Trust in the solution**

**Ease of administration**

**Side effects**

# State and Local Readiness



## **PREPARE**

## DETECT

## INVESTIGATE

## RESPOND

## RECOVER

- **Manages CDC's State and Local Preparedness Cooperative Agreements**
- **Works with partners to develop performance-based measures of preparedness**
- **Manages the Centers For Public Health Preparedness Program**
- **Manages COTPER's Partnership Agreements**
- **Provides funding to 62 public health departments**



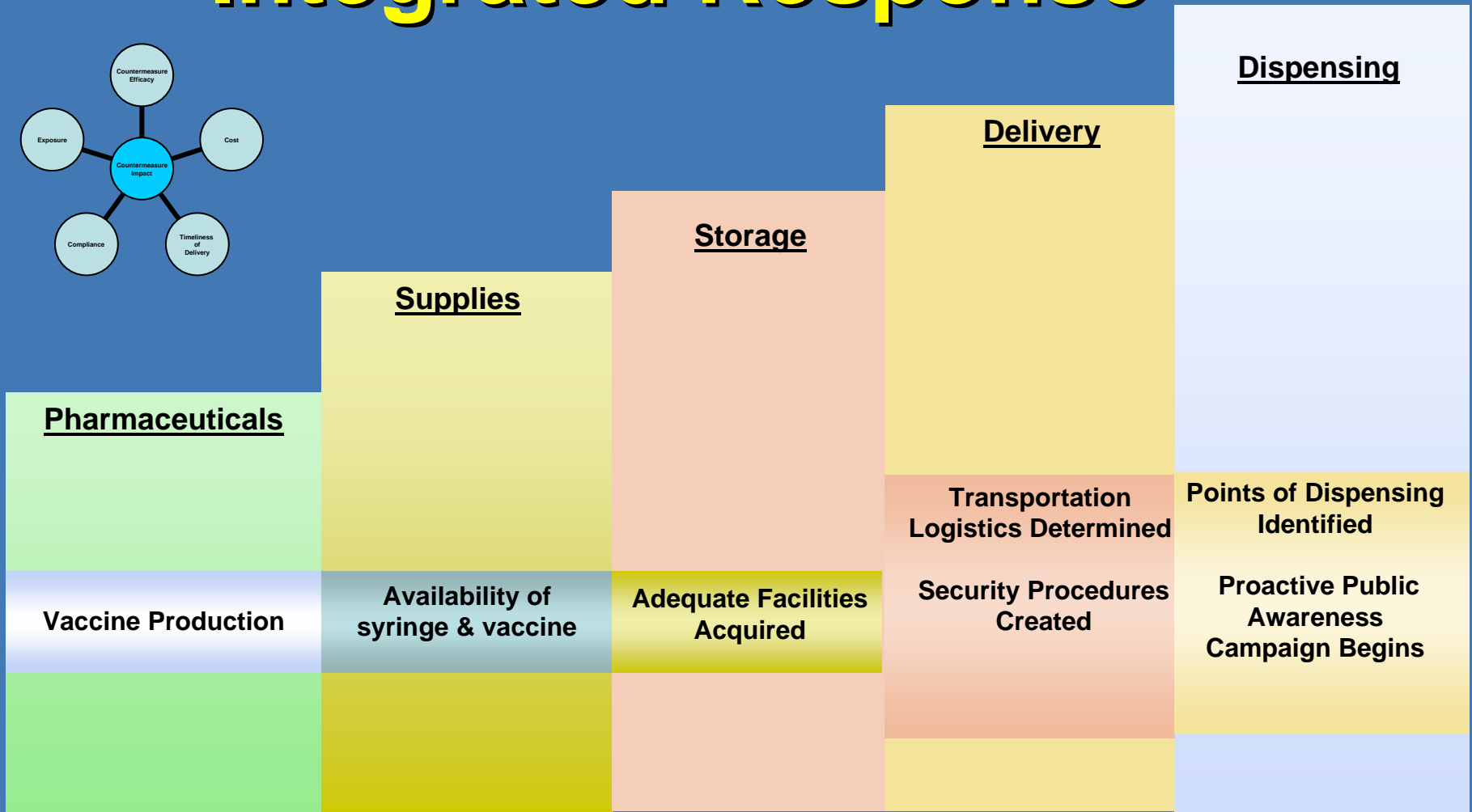
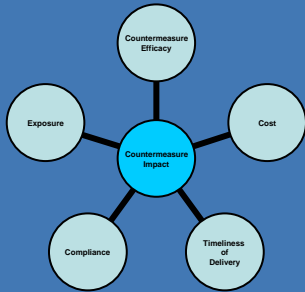
# Cities Readiness Initiative



Goal: Major metropolitan areas are prepared to dispense life-saving medicine to 100% of the population within 48 hours

- Response to an outdoor anthrax release
- Must offer prophylaxis to the “population at risk” within 48 hours to avert mass casualties
- In early hours of response, uncertainty in epi & modeling likely to compel decision to offer broadly

# Integrated Response





# *Questions...*

CAPT Daniel M. Sosin, M.D., M.P.H.

Senior Advisor for Science

Coordinating Office for Terrorism Preparedness  
and Emergency Response

[dsosin@cdc.gov](mailto:dsosin@cdc.gov)