



Biosurveillance Trail Boss

Joint Program Executive Office for Chemical and Biological Defense

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September 7, 2011

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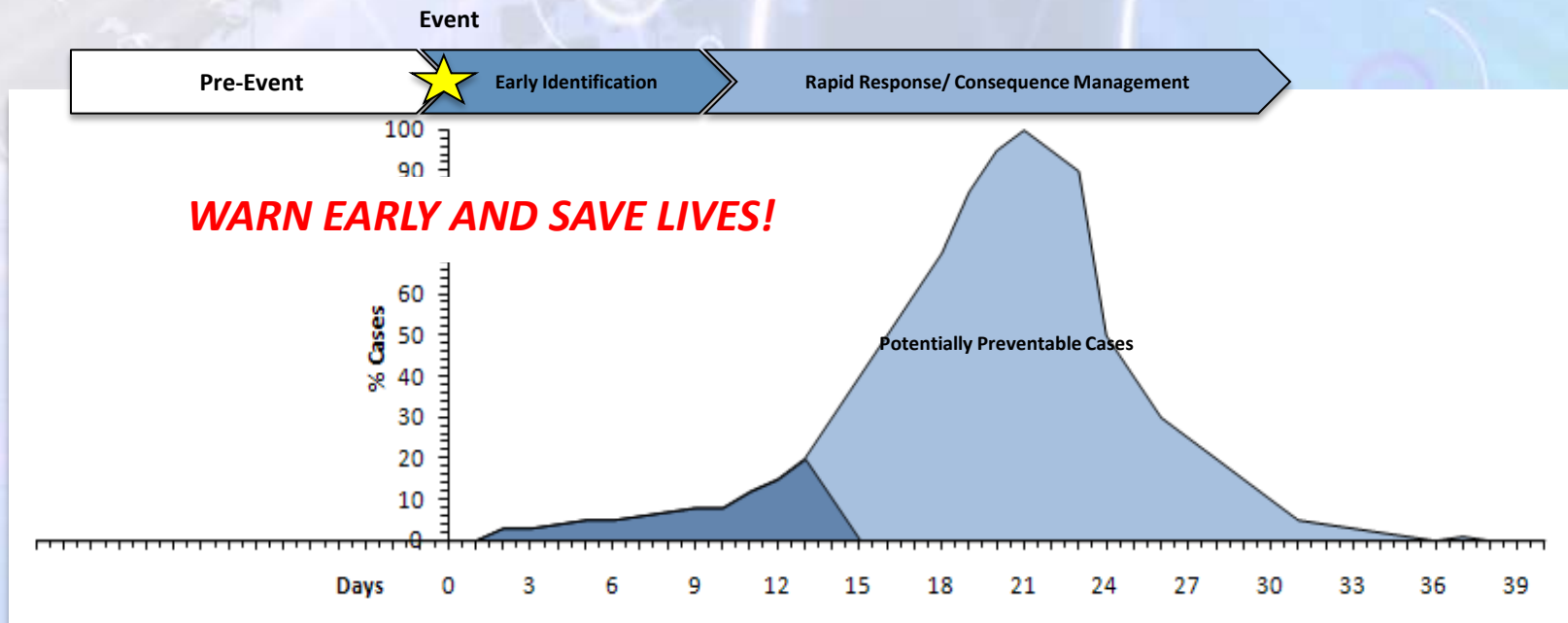




Biosurveillance Defined

Biosurveillance Definition

*“The term **“biosurveillance”** means the process of data-gathering with appropriate analysis and interpretation of biosphere data that might relate to disease activity and threats to human or animal health – whether infectious, toxic, metabolic, or otherwise, and regardless of intentional or natural origin – in order to achieve early warning of health threats, early detection of health events, and overall situational awareness of disease activity.” (HSPD-21)*



WHO World Health Report 2007



Continuum of Biosurveillance

Integrated Global Biosurveillance and Situational Awareness



**Identify, Reduce, and Respond to Bio Threats, Global Epidemics, Pandemics
.... And Ensure Mission Readiness**



Biosurveillance: Global Approach

* This graphic is a representative example and may not be exhaustive



In-Reach

Coordinating integration across the DoD spectrum

Out-Reach

Establishing interagency and international partnerships to leverage global assets



JPEO-CBD Biosurveillance Trail Boss

Roles

- Biosurveillance Trail Boss is the lead for identifying and integrating next-generation and existing JPEO-CBD programs/capabilities that are relevant to supporting national Biosurveillance strategies as defined in Homeland Security Presidential Directive 21
- CBMS includes the JPM Biosurveillance (Provisional) Office which executes Trail Boss activities and brings together key BSV programs under one leadership (ex. Diagnostics, CRP)

Responsibility

- The overall goal of the Biosurveillance Trail Boss is to integrate the JPEO-CBD core competencies across internal and external stakeholders to achieve strategic goals

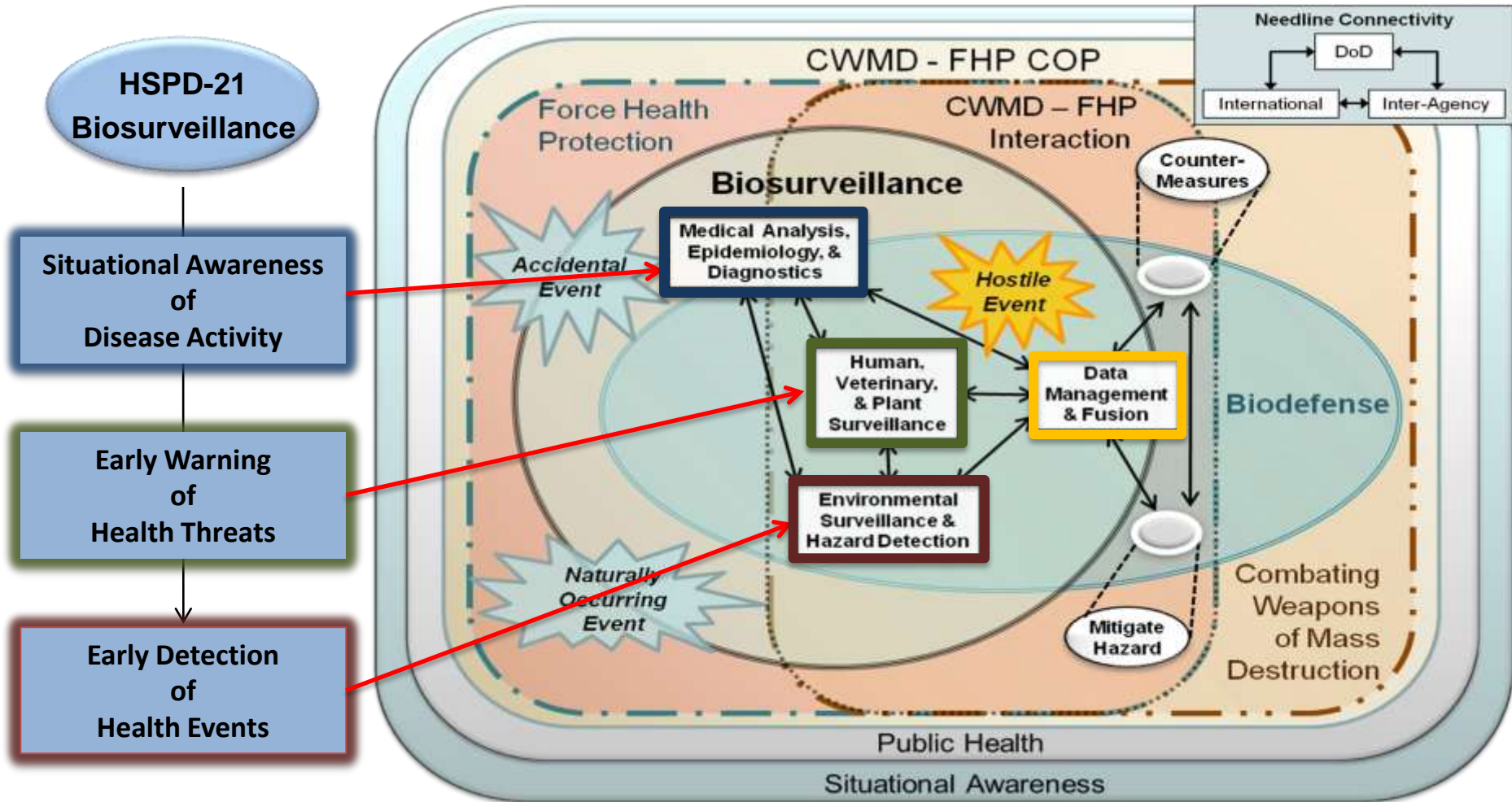


JPEO-CBD's mission is to, "Provide Research, Development, Acquisition Fielding and Life-Cycle Support of Chemical, Biological, Radiological and Nuclear Defense Equipment, Medical Countermeasures and Installation and Force Protection Integrated Capabilities Supporting the National Strategies."



DoD Biosurveillance OV-1

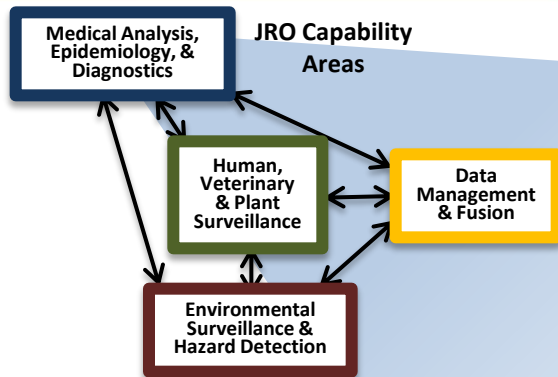
Pre-decisional - Joint Requirements Office 2011





New Efforts in Biosurveillance

(Pre-decisional)



As-Is

Threat Specific
Traditional Threats
Fixed Architectures
Stand Alone Data (Med ≠ Env)
Stovepipe IS (CDBD ≠ FHP/ PH)

To-Be

Threat Agnostic
Non-traditional Threats (EID/AT)
Modular/ Flexible Architectures
Fused Data (Med = Env)
Integrated IS (CDBD = FHP/ PH)

• **Diagnostics (Funded FY12 POM)**

- Provides the war-fighter with an integrated system for detection, rapid identification, and diagnostic confirmation of CBRN threats

• **Environmental Biological Surveillance (EBS)**

- Provides Warfighter with a comprehensive and adaptive capability to detect and identify plant, animal and human pathogens in environmental sample matrices and a advanced front-end instrumentation to feed BSV tools and models.

• **Joint Biosurveillance Communications Framework (JBCF)**

- Provides Warfighter the ability to extract and fuse CBRN medical, environmental and incident management data from sensors, diagnostic platforms and IT-systems in a robust system that can “plug and play” with networks around the world.

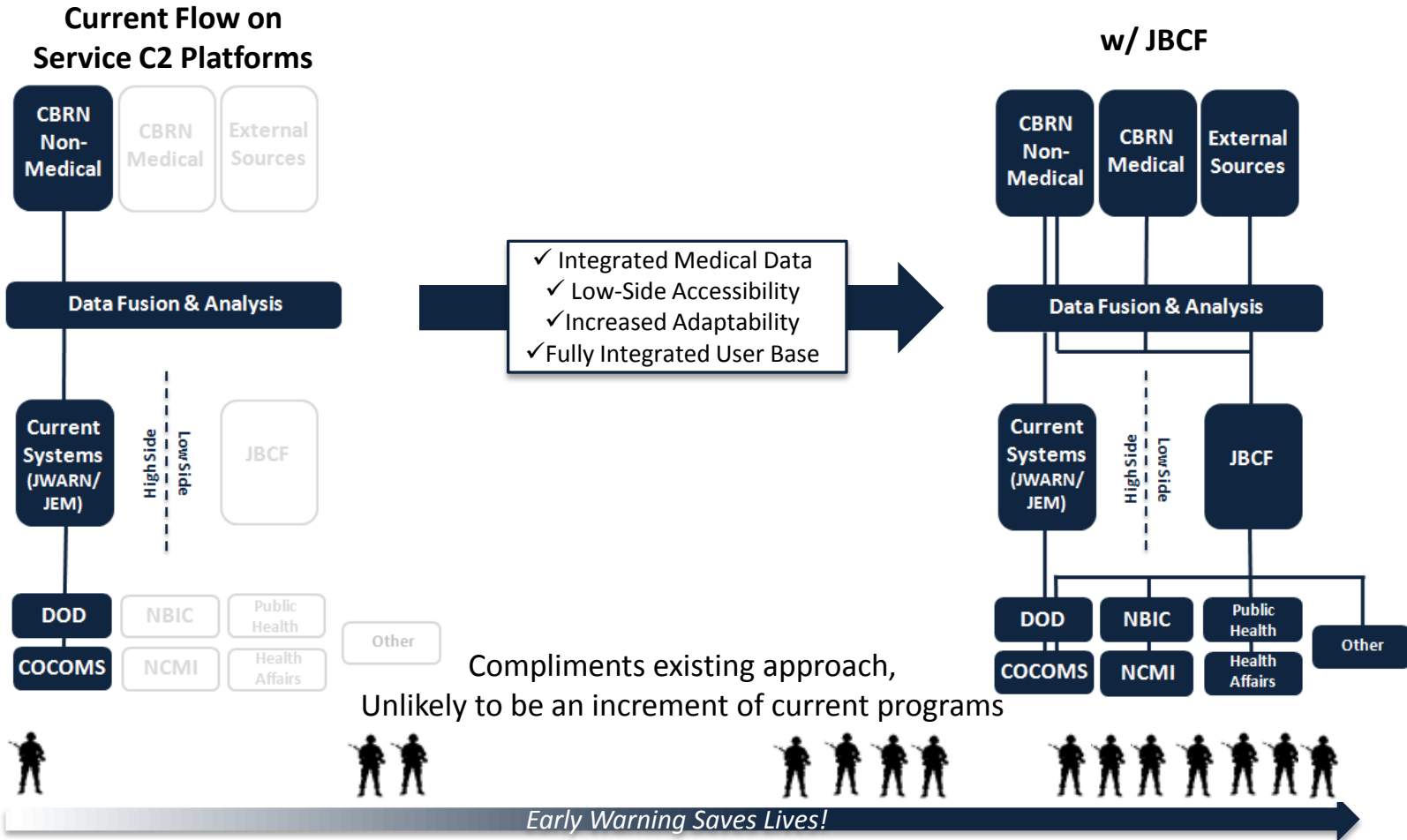
• **Rapid Assay Response System (RARS)**

- Provides Warfighter with a faster, agile and more accurate diagnostic capability that will increase the speed and accuracy of a post-event diagnostic/detection response.



Joint Biosurveillance Communications Framework (JBCF)

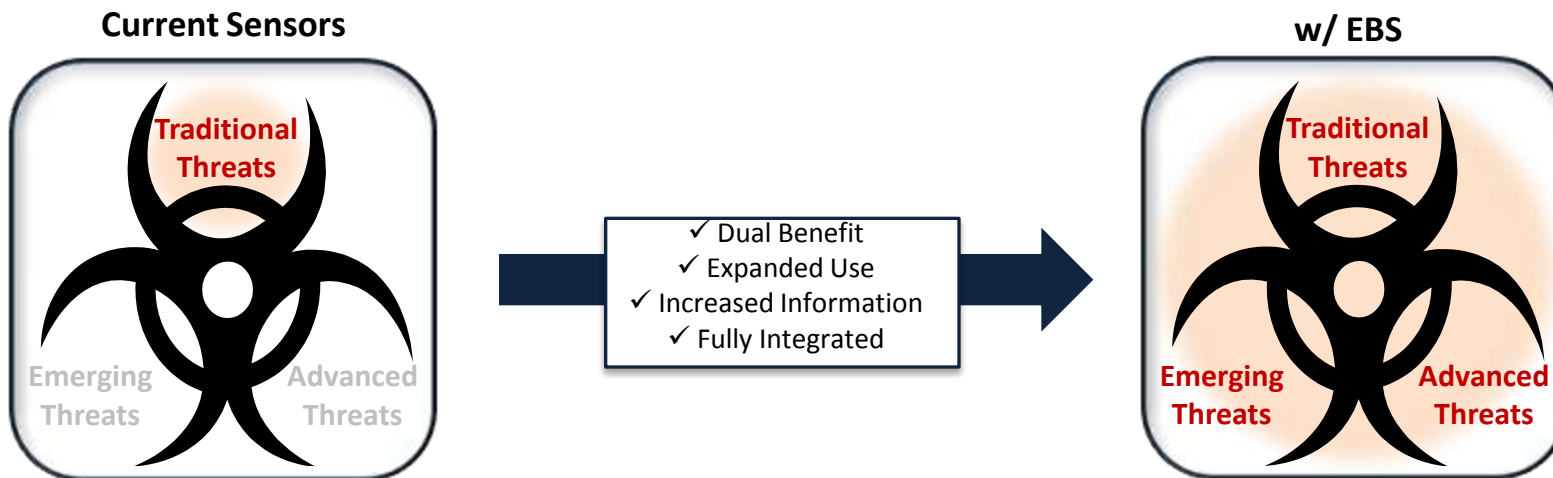
Material Solution Approach: Provide common enterprise framework for an open, standardized DISA- approved, web based, service oriented architecture tools for managing biological events in real-time between DOD and Non-DOD Communities.





Environmental Biosurveillance System (EBS)

Sensor Materiel Solution Approach: Emerging Concepts of Employment and threat require sensors adaptable to pre- & post-event bio events; near real-time confirmation; expandable to meet emerging and advanced threats



EBS will likely be a family of sensors/capabilities for a broader user set that in turn is complimented by existing sensors under certain concepts of employment envisioned in the BSV OV-1

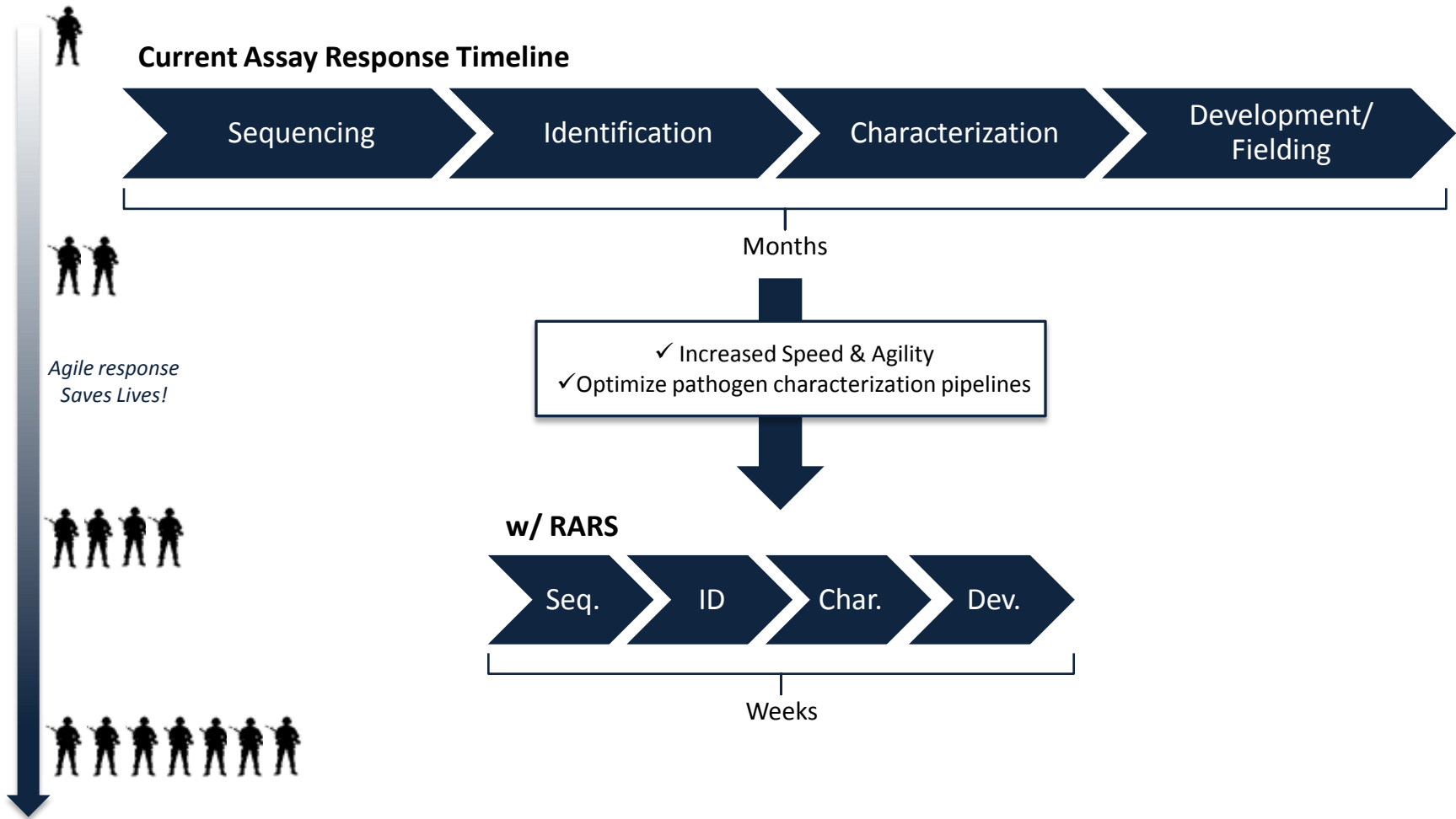


Early Warning Saves Lives!



Rapid Assay Response System (RARS)

Material Solution Approach for Assay Development: Emerging concepts of employment and threat response require flexible and agile assay capability.





Biosurveillance

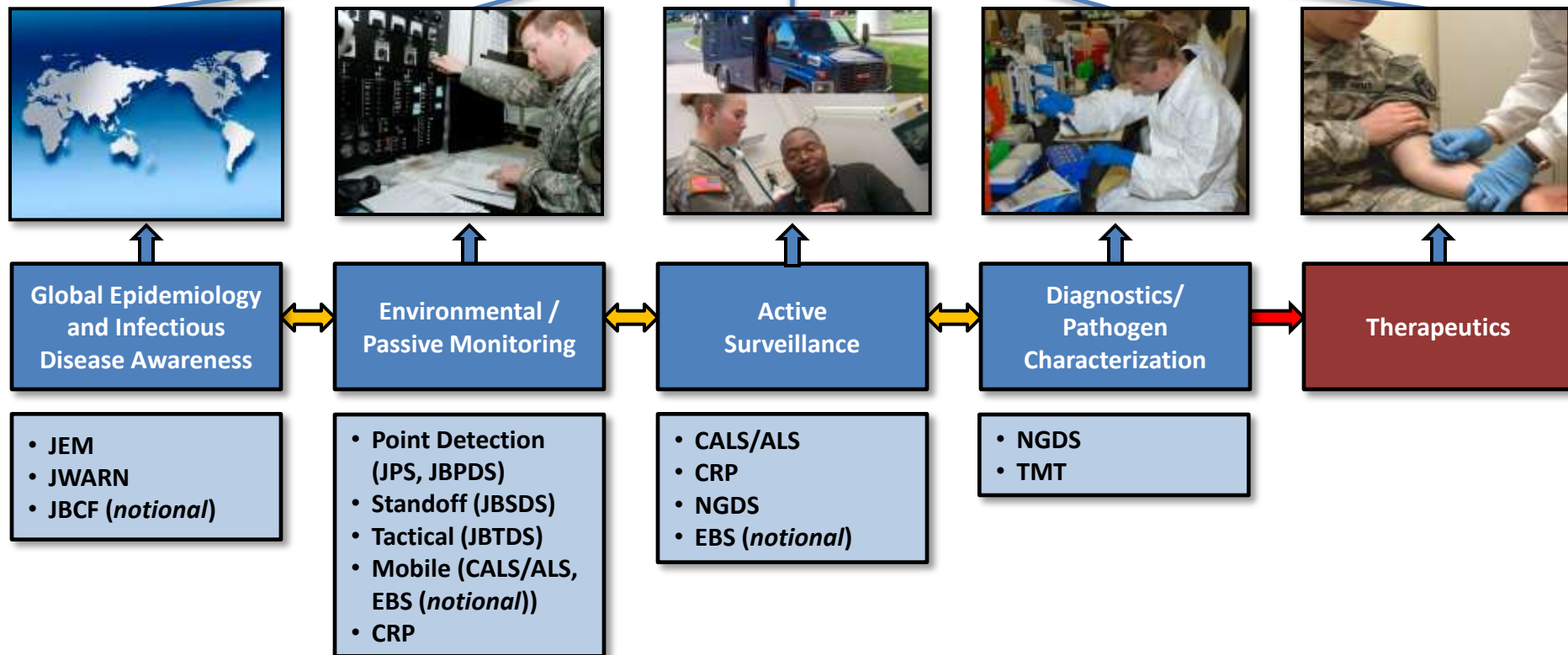
- **BSV Market Survey**
 - Hardware Technologies
 - Software Technologies (TBD)
- **Threat Analysis/Studies**
 - National Center for Medical Intelligence (NCMI)
 - JHU-APL Threat Study
- **Vector Sample Prep Study**
- **Pre-positioned Emergency Use Authorization (EUA) Packages for Diagnostics**
- **Able Response Exercise**





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Needs from Industry to Support Biosurveillance

- **Indications and Warnings**
 - Predictive disease modelling
 - Modelling/analysis tools
 - Understanding disease at human-animal interfaces
- **Tools to surveil normal health activity**
 - Vector-borne disease tracking
 - Endemic disease mapping
 - Sample characterization
- **Detection/Diagnostics**
 - Point of care diagnostics
 - Lightweight systems
 - Flexibility to expand targets
- **Information Systems**
 - Tools for data fusion
 - Medical informatics/public health expertise
 - Development of a data trust tier to facilitate data sharing across multiple COIs and models
 - Development of data intermediary capabilities to facilitate data sharing between multiple producers and consumers



Questions?