



National Institute of
Neurological Disorders
and Stroke

NIH Counter**ACT**
Program

Status Epilepticus after Benzodiazepines: Seizures and Improving Long-term Outcomes

February 28 - March 1, 2023



Rapid Acquisition and Investigation of Drugs for Repurposing (RAIDR): Progress and Ambition

Lauren Quattrochi, MA, MA, PhD, Program Officer, Joint Program &
Executive Office – CBRN Medical

Status Epilepticus after Benzodiazepines: Seizures and Improving Long-term Outcomes



Disclaimer

This certifies that the views expressed in this presentation are those of the author and do not reflect the official policy of NIH.

Disclosure

This certifies that I, Dr. Lauren Quattrochi, have no financial relationship that is relevant to the subject matter of the presentation.

BROAD SPECTRUM

Effective across multiple threats, offering a frontline defense and buying time to deploy targeted MCMs

Example: A broad-spectrum antiviral can be administered after exposure to multiple encephalitic viral diseases, to mitigate impact and spread



TARGETED

Understand, mitigate, and protect warfighter against priority threats with highly-specific tests and MCMs

Example: A Naloxone autoinjector provides immediate protection to warfighters following an exposure to ultra-potent opioids in the field



JPM CBRN MEDICAL STRATEGY

Protect the warfighter against known and unknown CBRN threats

Repurposed MCMs

Symptomatic or host-immune targeted treatment



CBRN Event

Traditional MCM development



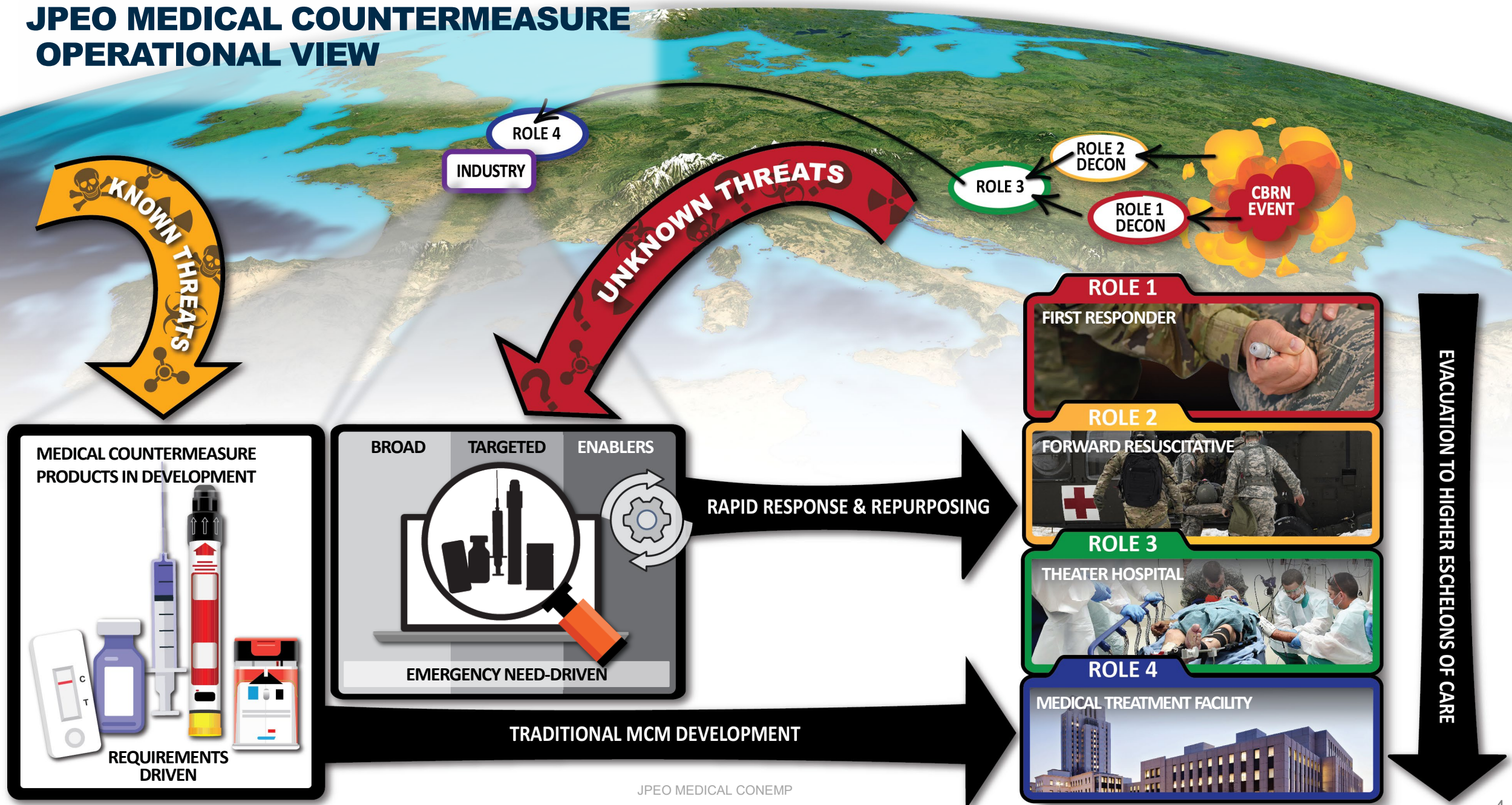
Rapid Response



EXPLOIT RAPID RESPONSE CAPABILITIES

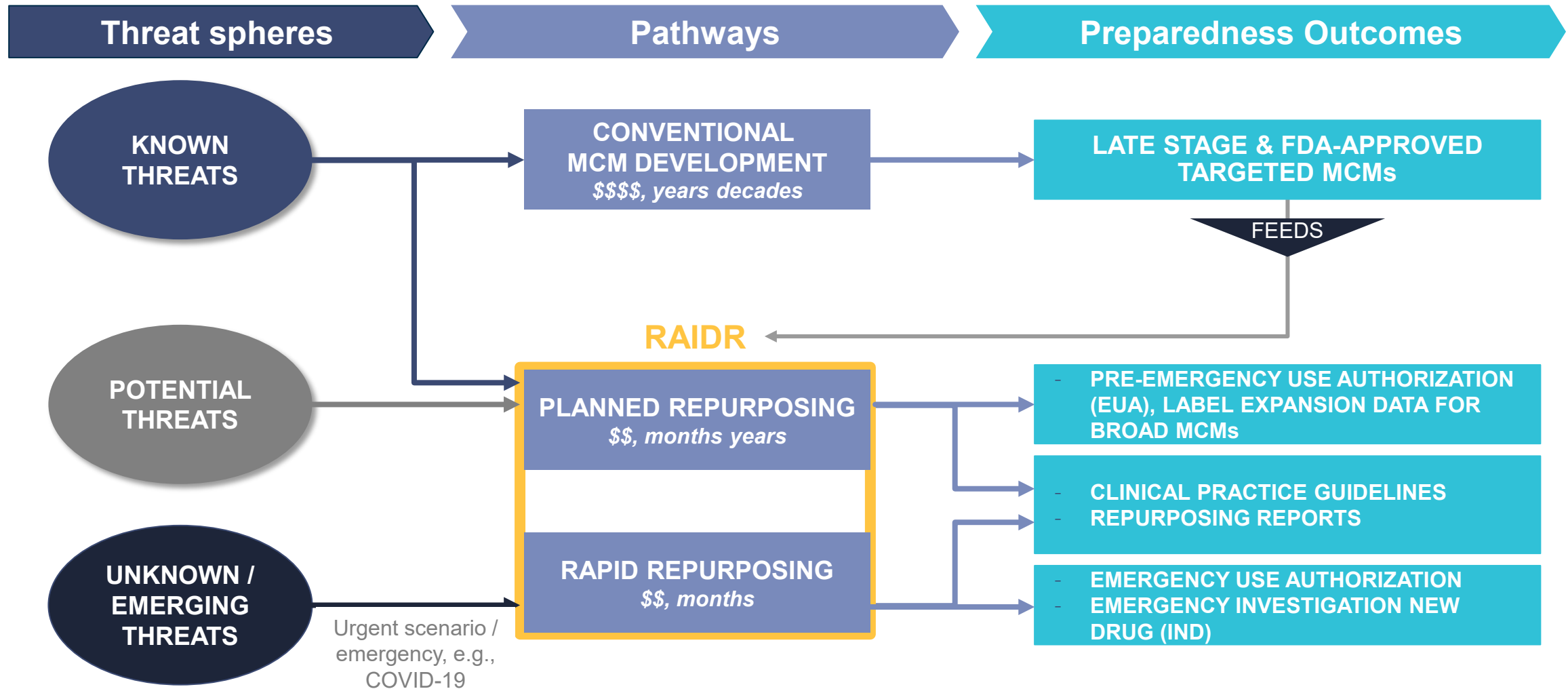
Respond faster to the unknown

JPEO MEDICAL COUNTERMEASURE OPERATIONAL VIEW





RAIDR PIPELINE HELPS DRIVE PREPAREDNESS

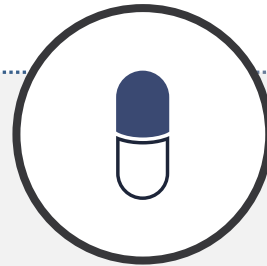


Conventional drug development is the primary means by which we build MCMs

RAIDR complements this approach with **drug repurposing**, testing approved MCM efficacy for additional indications

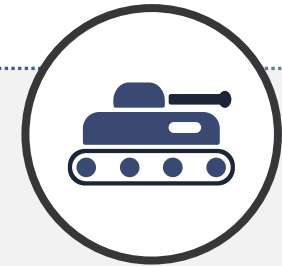


RAIDR repurposes proven medicines...



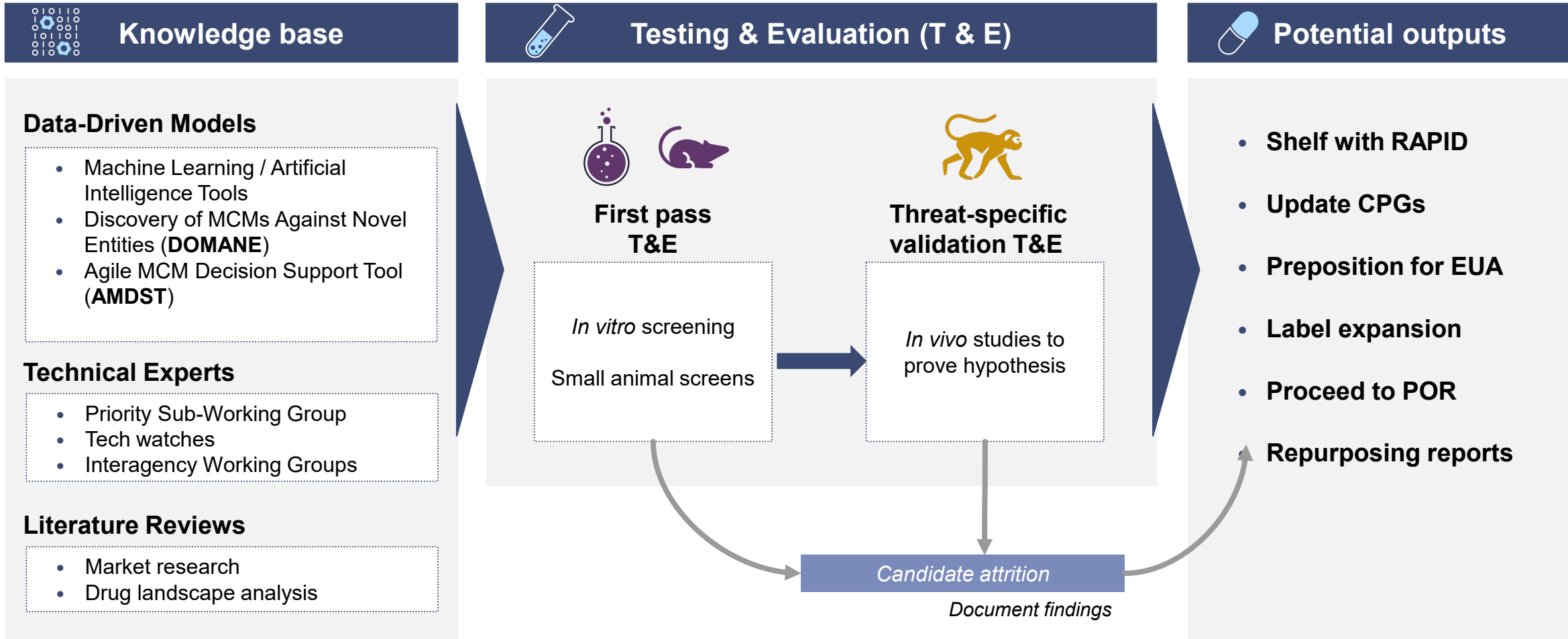
- **Demonstrated safety** in similar indications, lowering risk of failure
- **Established manufacturing processes**
- **Faster and cheaper path to deploy**, building from prior development efforts

...to provide a first line of defense to the warfighter



- Provides **broad-spectrum MCMs to bridge** between threat emergence and targeted therapy development
- Mitigates warfighter's **symptoms**, and expedites **return to action**

HOW INFRASTRUCTURE FEEDS INTO SUSTAINABLE CANDIDATE PIPELINE



Candidate approach will be dependent on knowledge base already available for a particular drug, against a threat of interest

RAIDR vision is to consistently contribute to a sustained MCM pipeline, via repurposing

Prioritized RAIDR efforts guided by:

- Level of threat risk and unmet needs
- Evidence for Mechanism of Action (MOA)/target knowledge
- Available partnerships
- Balance with existing portfolio
- Available Science & Technology Tools (e.g., animal models, existing assets)

Aiming for two repurposing target outcomes (repurposing reports, CPGs, EUA readiness¹) achieved per year

1. EUA readiness include pre-EUA label expansion data as well as approved EUA

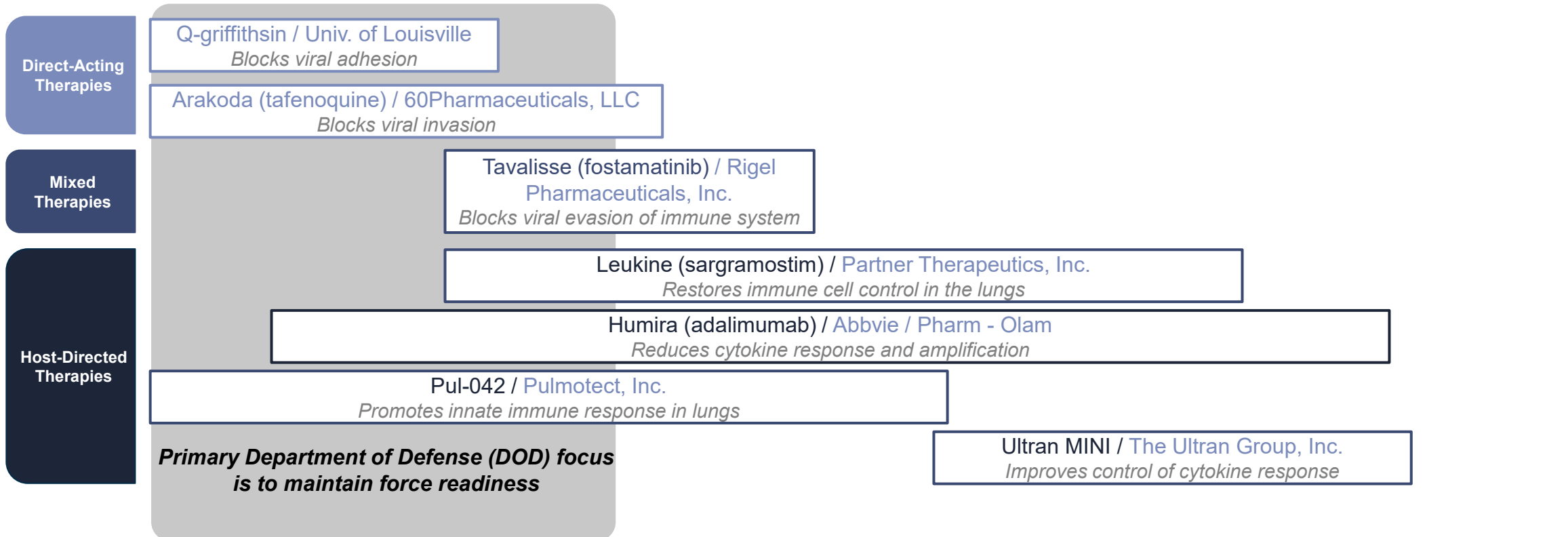
RAIDR LAUNCHED TO ADDRESS COVID-19 EMERGENCY



Severity

Low

High



Primary Department of Defense (DOD) focus is to maintain force readiness

Clinical range of treatment efficacy



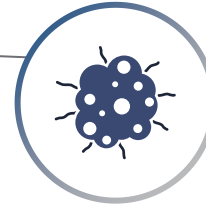
ONGOING EFFORTS AND CANDIDATES

In FY22, the team launched, focusing on high-priority indication treatment efforts



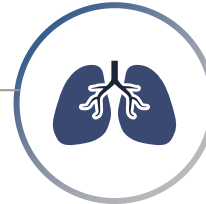
Sulfur Mustard
Myelosuppressive effects

• *Leukine®*



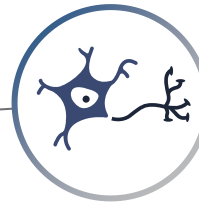
Bunyaviruses
Post-exposure prophylaxis

• *Xofluza® Antiviral*



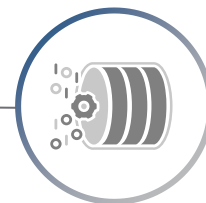
Acute Respiratory Distress Syndrome (ARDS)
Life-threatening lung condition

• *MINI Wearable ultrasound*



Nerve agents
Treatment for fatal seizures

• *PRECEDEX™*
• *Isoflurane*
• *Ketamine*



Artificial Intelligence/Machine Learning (AI/ML) tool
Tests for potential FDA-approved drugs against virus targets with docking models, via crystallography

IN 2023 AND BEYOND, WE INVITE YOU TO WORK WITH RAIDR AS WE EXPAND CAPABILITIES AND THREAT SCOPE



Viruses

- All Coronaviruses
 - SARS-CoV
 - MERS-CoV
 - *Excluding SARS-CoV-2*
- Pandemic Influenza
- Western, Eastern, Venezuelan Equine Encephalitis
- Filovirus
 - Ebola
 - Sudan
 - Marburg
- Lassa virus
- Crimean-Congo Hemorrhagic Fever
- Nipah/Hendra virus



Bacteria

- *Burkholderia mallei*
- *Burkholderia pseudomallei*
- *Coxiella burnetii*
- *Francisella tularensis*
- *Yersinia pestis*
- Antimicrobial resistant bacteria
 - *E. coli*
 - *P. aeruginosa*
 - *S. aureus*



Toxins

- Staphylococcal Enterotoxin B (SEB)
- Mycotoxin
 - Aflatoxin
 - Diacetoxyscirpenol
 - T2
- Tetrodotoxin
- Conotoxin
- Ricin
- Botulinum Toxin A-G



CONTACT

LTC Amanda Love

Joint Product Manager
JPM CBRN Medical
amanda.b.love.mil@army.mil

Mr. Andrew Glenn

Deputy Joint Product Manager
JPM CBRN Medical
andrew.m.glenn7.civ@army.mil

Dr. Lauren Quattrochi

Medial Program Officer, BIO1
JPM CBRN Medical
lauren.e.quattrochi.civ@army.mil

Public Affairs Office

usarmy.apg.dod-jpeo-cbrnd.mbx.jpeo-cbd-public-affairs-office@army.mil

Contracting

Keith Batchelor | 240-586-1523
Lee Hess | 240-344-0462

Online

jpeocbrnd.osd.mil



@JPEOCBRND

