



# Office of Health Security: Intro, Focus, and Drivers for R&D

February XX, 2024

**Dr. Micheal Burke, VMD**

Division Director (Acting) / Veterinary Medical Officer  
Health, Food, and Agriculture Resilience Directorate (HFARD)  
Office of Health Security (OHS)  
U.S. Department of Homeland Security



## Agenda

*This document is incomplete without accompanying discussion.*

- 1 Office of Health Security – Introduction**
- 2 OHS HFAR Authorities, Mission, Vision, and Role**
- 3 HFARD R&D Goals and Objectives**
- 4 HFARD R&D Priorities, Intra-Agency Drivers, and Recent Initiatives**
- 5 Joint FAV-D R&D Strategic Plan – Focus Areas and Anticipated Efforts**
- 6 Collaboration & Coordination**
- 7 Q&A**

## Office of Health Security (OHS)

OHS is the principal medical, workforce health and safety, and public health authority for DHS.

OHS strengthens the Nation's health security through leadership and partnership, a safer and healthier DHS workforce, and optimal care for those entrusted to us.

As the United States has weathered **dynamic public health challenges** which **pose threats to national security**, the DHS Chief Medical Officer and team mobilized to **evolve** in response to **lessons learned**.

Under the CMO and DCMO's leadership, the newly-established **Office of Health Security continues to mature** across multiple lines of effort that reflect growing partnerships with DHS components and other agencies in **protecting the health of our workforce and the health security of the homeland**.

*This document is incomplete without accompanying discussion.*

External Audience



- **Where We've Been.** The creation of the OHS unified medical, workforce health and safety, and public health functions into one HQ office
- **Who We Are.** OHS's Mission & How it Delivers - Through Lines of Effort, Unique Value, and Component and Interagency Partnerships
- **Where We're Going.** Maturation of Authorities to Enhance Mission Delivery for a Healthier Workforce, Healthcare Delivery, and a Secure Nation



## OHS's Mission & Lines of Effort

OHS achieves its mission by leading and supporting the DHS health ecosystem through five lines of effort. This focus helps OHS deliver broader, more holistic value to the DHS workforce, individuals in DHS's care and custody, and the nation.

**Our Mission** We strengthen the Nation's health security through leadership and partnership, a safer and healthier DHS workforce, and optimal care for those entrusted to us.

**Our Role** Led by the Chief Medical Officer, OHS is the principal medical, workforce health and safety, and public health authority for DHS. OHS leads and coordinates efforts to prepare for an ever-expanding, dynamic, and complex health security landscape.

**OHS Serves**

- DHS Workforce
- The Nation's Health Security
- Individuals in DHS's Care & Custody

- By Providing**
- Health Systems & Oversight**  
Train, unify, integrate, and standardize quality healthcare for those in our care while ensuring appropriate oversight
  - Health, Food, & Agriculture Resilience**  
Enhance preparedness and response efforts for events that threaten the health, food, and agriculture sectors
  - Total Workforce Protection**  
Innovate, implement and oversee Departmental workforce, health, safety and medical programs
  - Health Information Systems & Decision Support**  
Manage DHS medical and public health data to drive decision-making and support oversight of all OHS mission areas
  - Regional Operations**  
Provide specialized direct technical assistance to FSLTT partners through a regionalized network of interdisciplinary subject matter experts



## Health, Food, and Agriculture Resilience Directorate (HFARD)

The OHS Health, Food, and Agriculture Resilience Directorate (HFARD), is tasked with carrying out activities to bolster resilience of the nation's health, food, and agriculture infrastructure



HFARD leverages OHS's **medical, veterinary, biological and health security** threat expertise, in conjunction with U.S. Government agencies and multi-level partners. We analyze **existing and emerging threats** to systems to improve the detection, characterization, forecasting, and prevention of major health events.

We coordinate and influence policy, technical, and scientific activities across the five mission areas — prevention, protection, mitigation, response and recovery to increase resilience to **high-consequence agents/events** in the agricultural, food, public health, and interdependent systems.

## HFARD's Purpose and Mission

### **Purpose:**

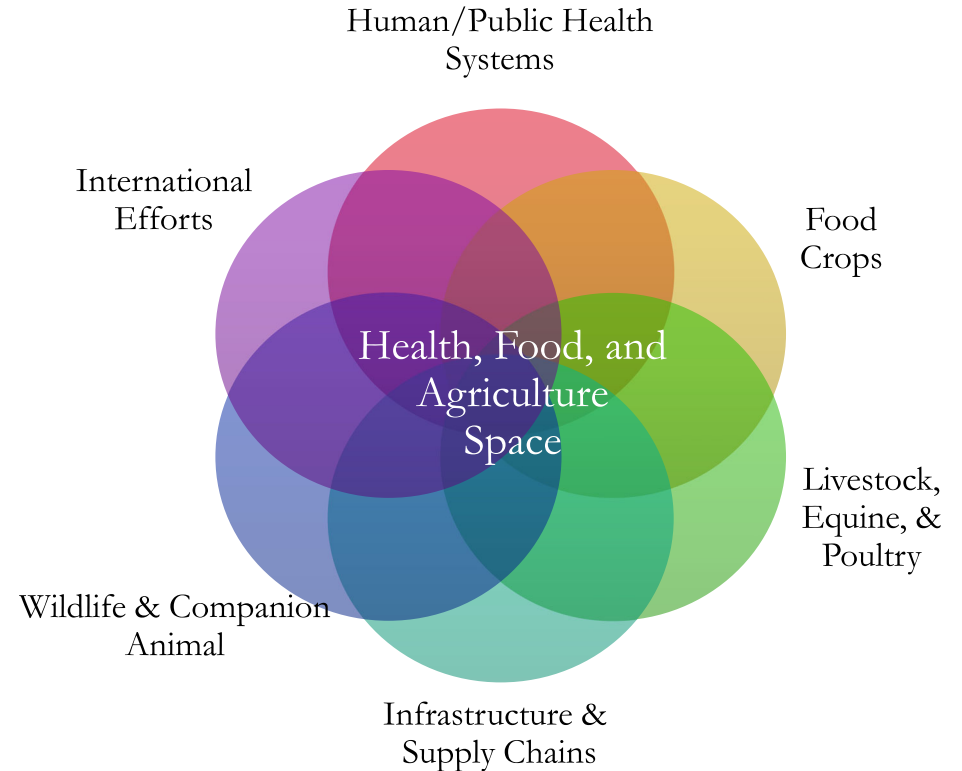
OHS recognized the interplay between human, animal, plant, and environmental health on national security (economic, social, and health) and created the HFAR Directorate to strengthen and protect the United States.

### **Mission:**

Identify the evolution of threats to health, food, and agriculture in response to pressures and forces.

Respond to multi-faceted challenges to homeland security with a whole-of-government approach.

Deconstruct current/future risk landscape and foster sector resilience – enhance national capacity to absorb unexpected consequences and quickly develop new capabilities necessary to manage risk.



## HFARD Essential Partnerships



DHS Offices and Components



Coalitions & Associations



Academia



State, Local, Tribal, Territorial Governments



Fusion Centers



Federal Interagency



Global Health Entities

## HFARD Key Initiatives



Global Health Security



Multi-Sector Partner  
Engagement, Briefing, and  
Convening



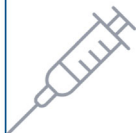
Strengthen Security and  
Resilience of U.S. Food and  
Agriculture



Exercise and Reference  
Scenario Development



Research & Development  
Initiatives



DHS Medical  
Countermeasures (MCM)  
Program



Integrated Consortium of  
Laboratory Networks (ICLN)

## 2024 Key Functional Areas of Focus

Enhancing Food/Agriculture and Public Risk Assessments & Developing a National Framework

Building a Stronger Health Security Intelligence Enterprise

Developing an Architecture for Food, Agricultural, and Health Security Resilience

Supply Chain Mapping and Integrity

One Health Data Sharing, Integration and Analysis

Facilitating Food, Agriculture, and Veterinary Defense (FAV-D) RDT&E

Health, Food, and Agriculture Reference Scenarios and Exercises

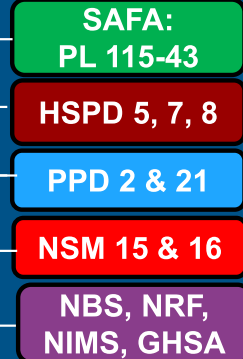
Coordinating with Interagency Granting Programs to Align Efforts

## Relevant Food and Agriculture Authorities

### Securing Our Agriculture and Food Act (SAFA):

Requires the DHS Secretary, through the Assistant Secretary for Health Affairs (CMO), to carry out a program to coordinate the Department's efforts related to defending the food, agriculture, and veterinary systems against terrorism and other high-consequence events that pose a high risk to homeland security.

*\*HSPD-9 established a national policy to defend the agriculture and food system against terrorist attacks, major disasters and other emergencies and was replaced with a revised National Security Memorandum*



- Six lines that direct how to implement P.L. 115-43:
  - Oversight and management of DHS responsibilities for NSM-16\*
  - Oversight and integration of DHS' veterinary public health, food defense & ag. security
  - Lead policy for DHS' food, animal and ag. incidents & impact on animals & public health
  - Lead policy for DHS' overall domestic preparedness & collective response to agricultural terrorism
  - Coordinate with other Department components on food & ag security & screening procedures for domestic and imported products
  - Coordinate with Federal departments and agencies

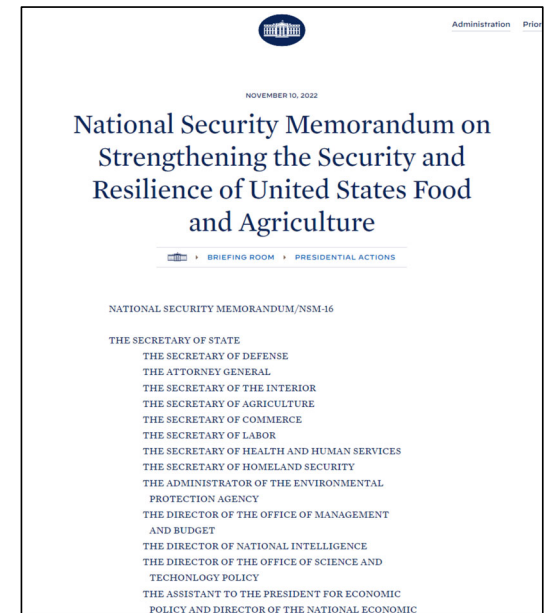


## Strengthening Security and Resilience of U.S. Food and Agriculture

Under NSM-16, **HFARD provides strategic guidance and promotes unity of effort** to protect this critical sector, including:

- Using all-hazards, risk-based approaches to identify and address key gaps in preparedness to current and future threats, including climate change and cybersecurity;
- Facilitating programs to exercise and train Federal, SLTT, and private sector partners, as well as nongovernmental organizations;
- Directing cybersecurity technical assistance efforts;
- Supporting workforce development and other Federal and SLTT capabilities for response and recovery actions;
- Engagement and outreach across the sector and its essential workforce - including SLTT, private sector, and international – to better prepare for and respond to incidents with broad impacts on our national and economic security.

*This document is incomplete without accompanying discussion.*



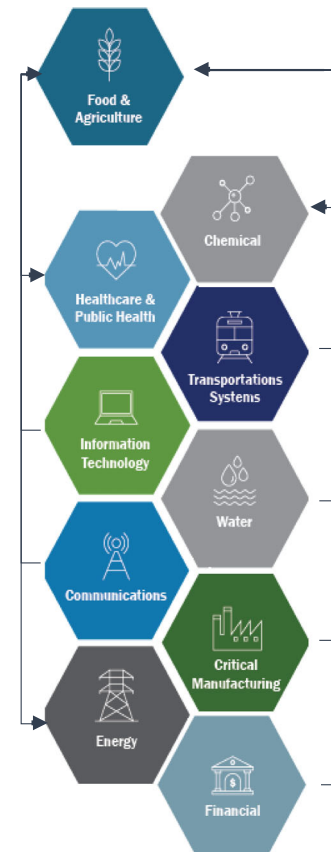
## R&D - Strengthening the Security and Resilience of U.S. Food & Agriculture

- DHS, USDA, FDA and other relevant agencies must accelerate and expand (R&D) of current and new capabilities to enhance the security and resilience of the food and agriculture sector.
  - + Cybersecurity enhancements;
  - + Countermeasures, including vaccines and diagnostic capabilities;
  - + New methods and technologies for the prevention and detection of threats that may result in high - consequence and catastrophic incidents for the food and agriculture sector;
  - + Agent characterization and dose response relationships;
  - + Evidence-based bio-risk management practices;
  - + Validated decontamination technologies and strategies;
  - + Waste management approaches for high-consequence agents;
  - + Climate adaptation measures;
  - + Food production methods resilient to disasters; and
  - + Real-time R&D capabilities to inform response measures and understand phenomena associated with high-consequence or catastrophic incidents.



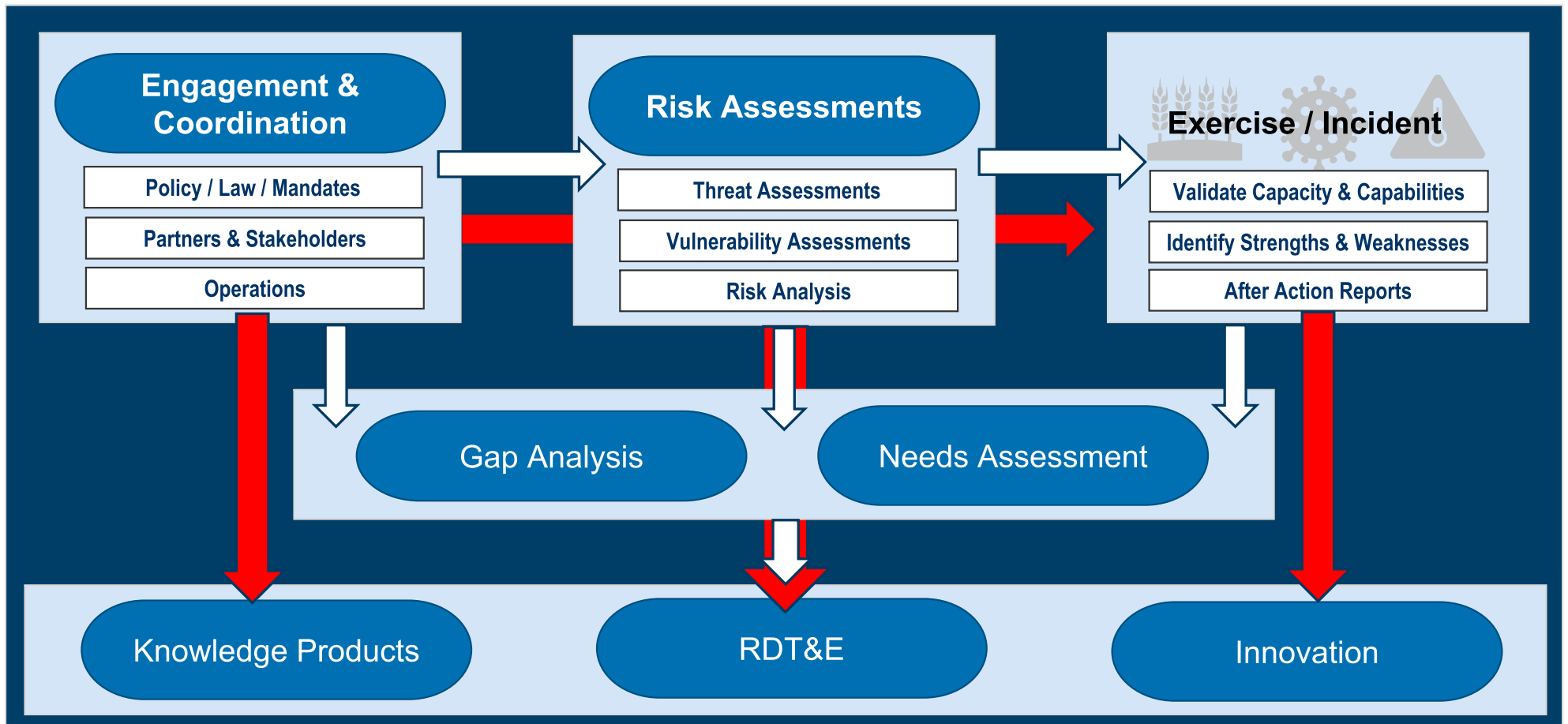
## OHS Perspective: Resilient and Responsive Systems

- Re-think integration across the five pillars of the National Response Framework, and deconstruct the cross-dependencies between critical sectors
- Build a Food and Agriculture sector resilient and responsive to intentional, unintentional or natural catastrophic threats by understanding the risk landscape (current/emerging/future)
- Promote understanding that food/agriculture/health security is national security, interdisciplinary, interjurisdictional, and international
  - Developing risk-informed approaches for strategic actions
  - Iterative assessments of threats (Cyber, CBRN, Climate Change, Foreign acquisition, etc.), threat actors, and threat vectors
  - Exercising to failure to validate capacity/capabilities and identify outcomes for resilience
  - Reducing/eliminating information sharing challenges
  - Promoting One Health systems for early warning and integrated risk management
  - Clarifying terminology, areas of responsibility, and prioritizing investments



Vision: Integrated critical sectors protected from. and resilient to intentional, unintentional, or natural catastrophic threats

## Influencers and Drivers – Pursuing Informed R&D



## Problem Space: Strategy and Planning Considerations

- Human, animal, plant, and environmental health are linked in profound ways that make **any disruption** potentially catastrophic to the whole.
- An interconnected world **increases the probability** for introduction and dispersion of potentially disruptive poisons, pests, and pathogens.
- International sourcing of food - combined with a relatively few, key supply choke points – make the food/ag supply chains **susceptible** to potential disruption.
- Food security **is** national security. Disruptions to food/ag sector invariably cascade across other sectors.

## Problem Space: Implementation and Operational Considerations

- Despite the national/international nature of those supply chains, the food and agriculture sector is heavily dependent on segmented government action at the SLTT level.
- Sector controlled and operated by key private interests – operational threat spectrum is different than those associated with resilience to external threats.
- Key sector actors tends to be insufficiently integrated into emergency planning and response frameworks.
- Response capabilities differ from within and between states and are not well defined in the context of a catastrophic event.

## 120-Day Initial “Risk Review”

### Domain focus areas included:

#### **Livestock and Poultry**

- Production, processing, and distribution for pre-harvest, harvest, post-harvest, and primary processing.

#### **Crops and Forestry**

- Production, processing, and distribution from for pre-harvest and harvest phases, and those crops used for fiber, industrial, or other non-food purposes.

#### **Aquaculture and Fisheries**

- Production, processing, and distribution for catching, breeding, raising, and harvesting of fish, shellfish, and aquatic plants in both natural and controlled environments.

#### **Food Manufacturing and Distribution**

- Transform livestock and agricultural products into products for immediate or final consumption.

### Threats & Hazards Identified:

- \* CBRN / Cyber
- \* Impacts of climate change
- \* Industry consolidation
- \* Input shortages (labor, energy, fertilizers and other consumables)
- \* Trade disruptions
- \* Aging / insufficient infrastructure
- \* Foreign acquisition
- \* Gaps in preparedness

## R&D General Objectives & Goals

### Program Goals:

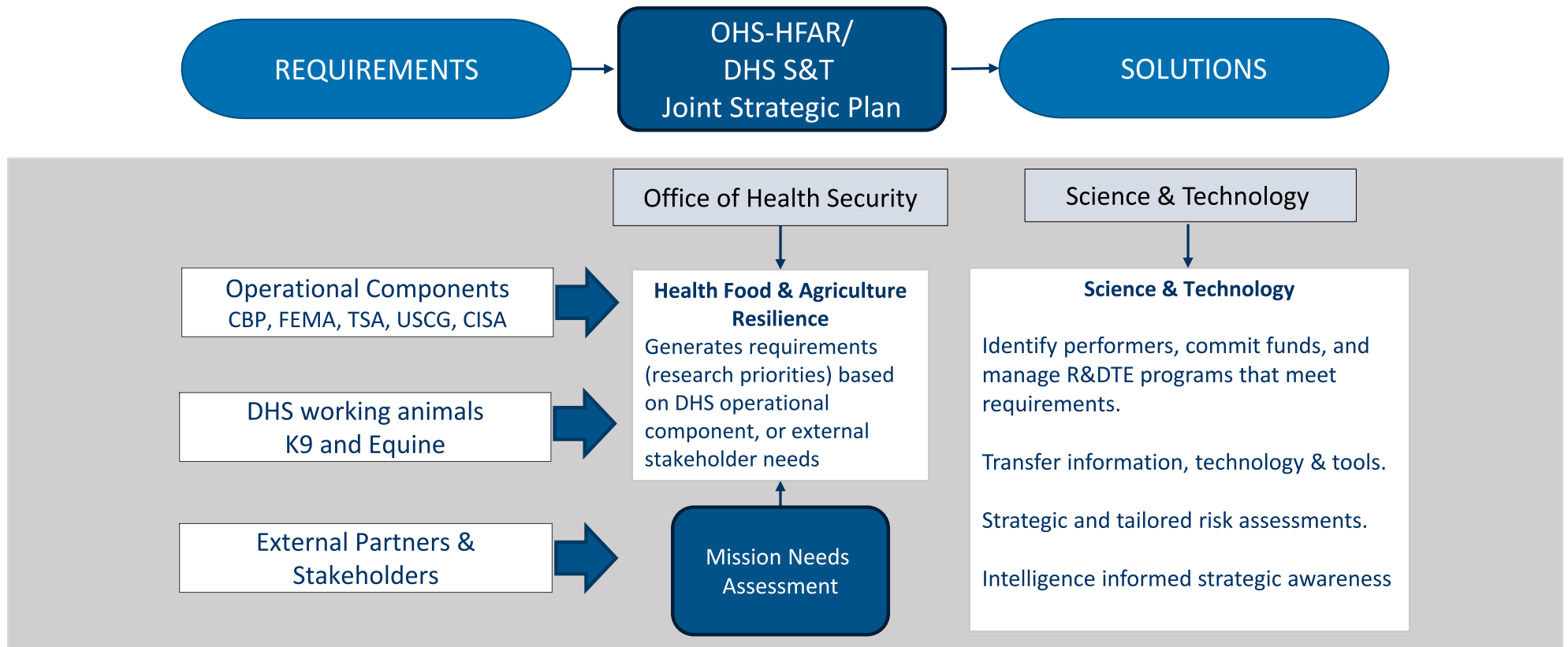
- Ensure Department leaders have comprehensive and relevant intelligence, and science-based health, medical, and veterinary information to inform decisions;
- Coordination of DHS activities involving food, agriculture, and veterinary programs with the private sector, academia, and interagency partners at the international and FSLT level;
- Identification and protection of critical nodes of the Food/Agriculture sector, and interdependent sectors to foster deterrence, prevention, detection, mitigation and recovery efforts.

## R&D General Objectives & Goals (continued)

### Program Objectives:

- Enhanced protection of the food and agriculture critical infrastructure and its associated supply chains;
- Mitigation and defense against the introduction of high consequence animal or plant diseases, and pests;
- Strengthened agro-defense, food defense, and food protection efforts;
- Improved intelligence gathering and data analysis;
- Getting countermeasures to frontline or emergency responders for an enhanced operational posture.
- R&D on risk approaches, including modeling and simulation, data collection and analysis to inform risk evaluation.

## The DHS Process: FAV-D RDT&E Prioritization and Drivers



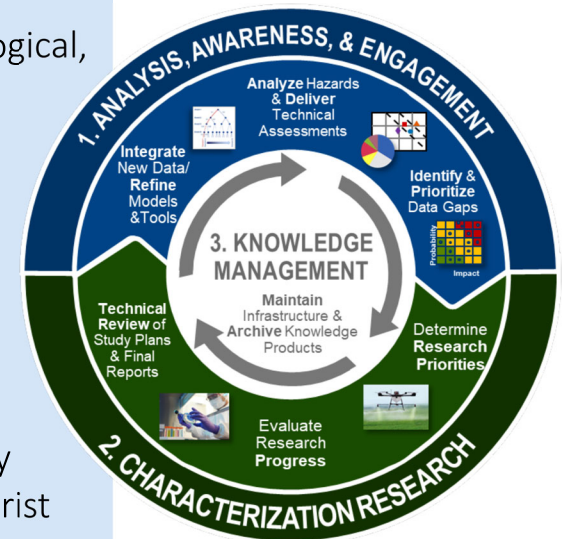


## Risk Assessments: FASRAC / PHARM

### PHARM - Pre-Harvest AgDefense Risk Model (PHARM)

### ↳ FASRAC - Food and Agriculture Sector Risk Analytic Capabilities

- Framework and modeling tools to assess risks to the Food and Agriculture Sector.
- First iteration - quantitative risk assessment capabilities for intentional chemical, biological, radiological and nuclear (CBRN) and cyber threats
  - Agricultural Production – Livestock & Crops
  - Food Defense
  - Food and Agriculture Supply Chain
  - Cyber Attacks on the Food and Agriculture Sector
- Incorporates Vulnerability and Threat Assessments for the sector
  - allows stakeholders to prioritize specific scenarios to prepare against and identify specific actions that can be taken to prevent, mitigate, etc. a specific risk of terrorist attacks against the U.S. Homeland



# Gap Identification – MQLs: COVID-19, ASF, HPAI, & Monkeypox



**Incubation period** – Time lag after infection to the appearance of symptoms. For most viruses, it takes at least 2 days for healthy symptoms, and an average 5-7 days to develop a fever. However, some individuals never develop symptoms, but can still transmit disease.

**The overall period between infection and the incubation period is 1-14 days, with 95% of individuals showing symptoms within 14 days of infection.** Fewer than 10% of individuals show symptoms after 14 days.

- The incubation period of asymptomatic individuals is variable, but generally shorter than that of symptomatic individuals.
- Individuals can test positive for COVID-19 despite having no symptoms.
- Individuals can be infectious while asymptomatic.
- Asymptomatic individuals can have similar amounts of virus in their nose and throat as symptomatic individuals.
- Individuals can be infectious for approximately 4-10 days after onset of symptoms.
- On average, there are approximately 4<sup>th</sup> to 7<sup>th</sup> days between infection and the appearance of a fever.
- Most individuals are infected by the respiratory route.

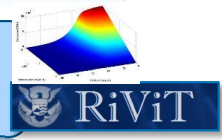
Critical research gaps about the virus identified by Master Question List (MQL)

Research designed from identify gaps to (i.e. surface stability, decontamination efforts, etc.)

Results from research generated operationally relevant information leveraged to assist stakeholder CONOPs

Results published and incorporated into Knowledge Management for future use

Data incorporated in models & tools, and reassessed to identify new priority gaps



## Modeling – REPEL

### Rapid Evaluation of Pathogens to prevent Epidemics in Livestock

- ❑ Model to provide DHS, USDA APHIS, and other U.S. agencies with information to enable rapid assessment of foreign animal disease threats
- ❑ Can enable rapid assessments even when current data are incomplete.
- ❑ Capable of generating country-level nowcasts and one-year-ahead forecasts of disease cases for all 182 OIE member countries, for all USDA Reportable and Foreign Animal Diseases.
- ❑ Intended to provide forecasts of country-to-country disease spread following the detection of new outbreaks.
- ❑ Algorithms will be able to predict outbreak size

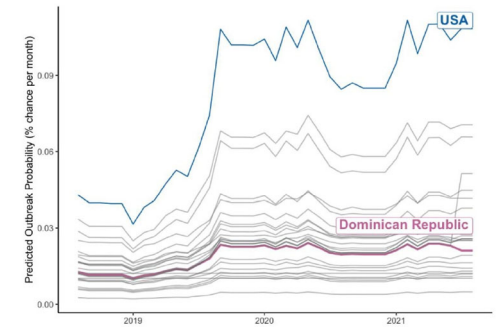


Figure 1: The probability of an ASF outbreak in a given month in the Americas from August 2018 to August 2021. Each line represents a country.

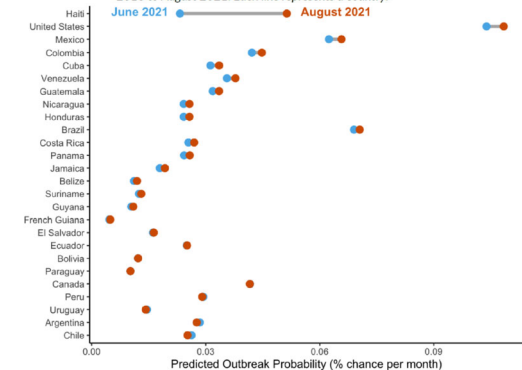


Figure 2: REPEL estimates of change in probability of an ASF outbreaks in the Americas from June 2021 (pre-D.R. outbreak) to August 2021 (ongoing D.R. outbreak)

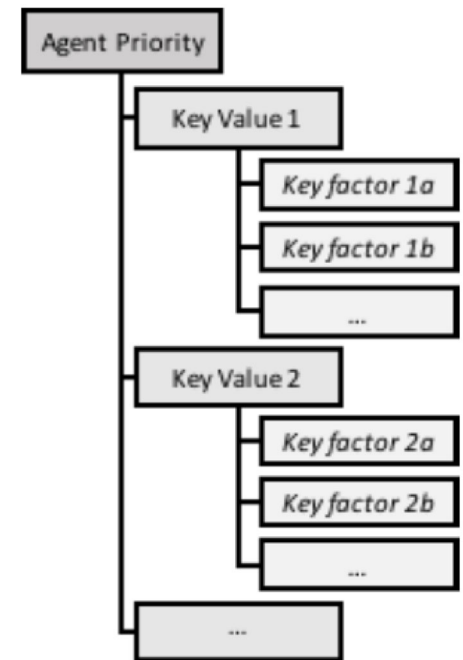
## Risk Tool - RAPT: Risk-based Agent Prioritization

### ❑ Risk-based methodology and tool to aid in prioritizing agents:

- Can be used to inform interagency discussions and policy making.
- Influence agent-based research areas for R&D investment
- Subjective / Qualitative assessment vs. Quantitative

### ❑ Scoring considers factors associated with:

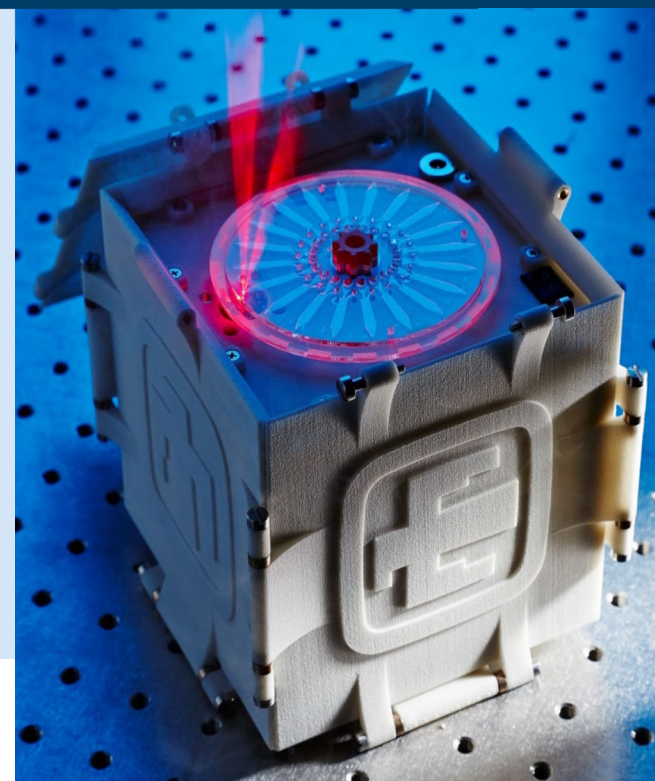
- Production - ease, growth conditions, time, yield, and potential to genetically modify
- Exposure – Hosts, environmental stability, transmissibility, infectious dose, etc.
- Consequences – animal/farm, mortality, morbidity, & public health impact
- Mitigations – countermeasures, quarantine/isolation capabilities, etc.



## Diagnostic Tool - Spin Dx

### Integrated, Multiplexed, Point-of-Care Microfluidic Biodetection Platform

- Fast:** Sample-to-answer in <15 minutes
- Manufacturable:** Commodity plastics, standard metals, injection moldable.
- Multiplexed:** up to 20 parallel assays.
- Sample Sharing:** 2 uL per assay.
- Sensitive:** Comparable to ELISA, better than lateral flow assays
- No sample prep:** Direct analysis of samples including clinical (blood, serum, urine, saliva stool), and environmental (food, soli, etc.)
- Flexible:** Proteins, nucleic acids, cells
- Portable:** 5" (13cm) square, 2lbs.
- Easily adapted to new targets:** biodefense agents, public health targets, bio-surveillance, agriculture, etc.



## SBIR – Diagnostic Tool For Reportable or Transboundary Diseases

### Small Business Innovation Research Program

- Funded three (3) Phase I, five-month efforts that will result in R&D between the TRL 3-7 level for the development of a multiplex, low cost, simple to use, point-of-care, animal-based pen- or port-side diagnostic platform that tests for high consequence transboundary or nationally reportable animal pathogens.
  - Proof of concept funding to demonstrate method of detection, stability of reagents, and capability to conduct multiplexed testing in purified or clinical samples, for at least two transboundary or nationally reportable animal pathogens.
    - Goal - Field deployable with results <1 hr, from samples w/ minimal to zero preparation
  - Performer 1: Detection of ASF, CSF, and FMDV in a MS2 viral surrogate using RT-PCR and LFA*
  - Performer 2: Detection of ASF and FMDV in DNA plasmid via RT-LAMP and automated microfluidics*
  - Performer 3: Detection of BSE and WNV using protein or DNA biomarkers via electrochemical via impedance spectroscopy (EIS) and microfluidics.*



## SBIR – Diagnostic Tool For Reportable or Transboundary Diseases

### Performer 1: Point-of-Need Test for TADTs of Pigs

- TRL of 2 at the end of Phase I; estimated TRL 5 at the end of Phase II
- Phase I pathogens included African Swine Fever Virus, Classical Swine Fever Virus, Foot and Mouth Disease Virus via synthetic nuclei acids along with a MS2 viral surrogate control
- Phase II Objectives:**
  - Develop a 6-plex RT-PCR assay to amplify viral sequences
  - Develop LFAs for Detection of Swine Viruses (proposed: African Swine Fever, Classical Swine Fever, Foot and Mouth Disease, Porcine Epidemic Diarrhea Virus, Pseudorabies Virus, and MS2 surrogate control) from multiple input sources (animal feed, chew ropes, swabs, urine/feces, etc.)
  - Develop semi-quantitative lateral flow assay and interpretation software
  - Convert cRT-PCR / lateral flow diagnostic to a cartridge-based assay
  - Validate assay via blind in-house testing for the six targets

## SBIR – Diagnostic Tool For Reportable or Transboundary Diseases

### Performer 3: Low-Cost Diagnostic for Animal Zoonotic Diseases

- TRL of 4 at the end of Phase I; estimated TRL 6/7 at the end of Phase II
- Phase I pathogens included BSE prion Prp protein and WNV NS1 protein
  
- Phase II Objectives:**
  - Demonstrate automated sample preparation (filtration, processing and dilution) of biological specimens (blood, urine, mucous, etc.)
  - Prepare and characterize carbonaceous molecular capture media for selectively isolating target analytes specific to a given biothreat. Intent is for this device to have a library of pathogens that can be detected.)
  - Fabricate and test microfluidic assays that will detect five biothreats (proposed: avian influenza, BSE, brucellosis, swine influenza, and WNV)
  - Demonstrate simultaneous multiplex detection using prototype device



## S&T Centers of Excellence (COE) – African Swine Fever Virus Projects

- ASF online dashboard and model for the assessment of the risk of virus introduction, exposure and potential spread into the United States - UC Davis (Lead)*
  - Quantitative risk assessment including **imported feed components, contaminated fomites, unintentional passenger introduction, international garbage, swill feeding, and importation of contaminated products.**
  - Spatial-explicit disease spread model with consideration of **feral swine and Ornithodoros tick vectors.**
  
- Validation of sampling methods for ASF detection on various environmental surfaces that could be contaminated and result in introduction - KSU (Lead)*
  - Detection of ASFV genotype II strain using real time quantitative PCR (qPCR) for p72 capsid protein.
  - Four (4) sampling tools evaluated** –cotton surgical sponge; Swiffer sweeping cloth; 3M stick sponge; and Dacron-tipped sterile swaps.
  - Five (5) different surfaces** – steel, rubber, plastic, woven polyethylene, and wood
  - Five (5) experiments** that will produce 965 samples for qPCR and 700 samples for virus titration

UNCLASSIFIED // FOR OFFICIAL USE ONLY

## S&T Centers of Excellence (COE) – African Swine Fever Virus Projects

- ❑ *Direct threat assessment of African Swine Fever virus competent tick vectors, *Ornithodoros spp.*, at the US-Mexico border and near swine operations in Texas*

*Texas A&M*

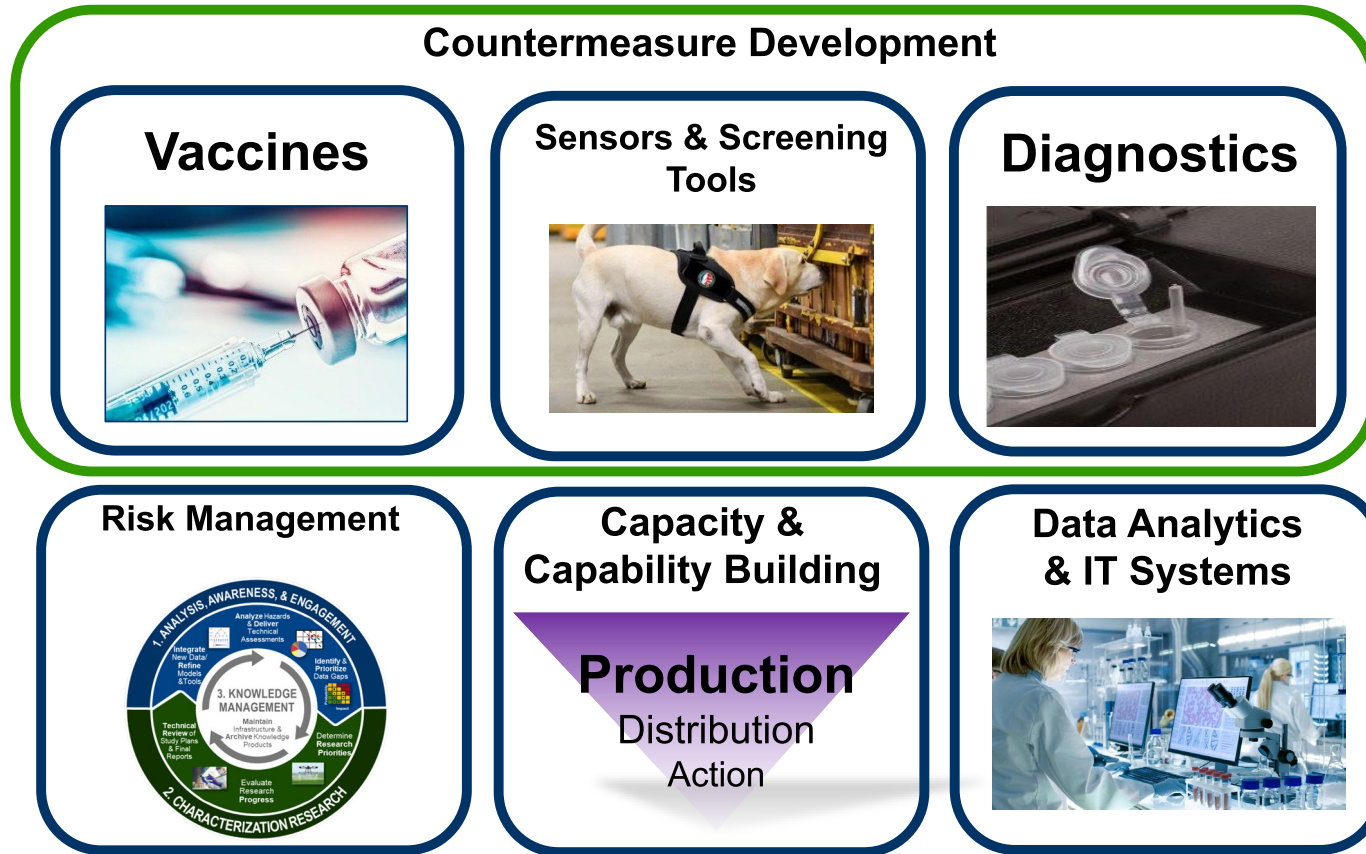
- ❑ Exploring the distribution of both competent tick vectors and possible wildlife hosts in Texas, a state that has been deemed a high risk for introduction of ASFv in several reports.
- ❑ 16 counties in TX targeted for tick capture, wildlife surveillance, macro/micro-environment monitoring.

- ❑ *Measuring the Economic Impacts of African Swine Fever Virus on United States Supply Chains*

*KSU / Texas A&M (co-leads)*

- ❑ **Partial Equilibrium Model** to estimate potential economic impacts on the U.S. pork production supply chain.
- ❑ **Computable General Equilibrium** to estimate direct, indirect, and induced effects of the U.S. swine industry, allied industries, and non-agricultural industries.
- ❑ Determination of the duration for which economic indicator impacts can be categorized: at the regional, national and international level

# Joint Strategic Plan for FAV-D R&D



## Joint Strategic Plan – Example Objectives

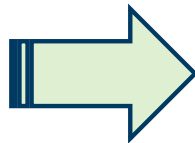
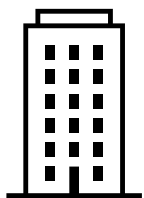
- Digital references and/or compendiums for mobile/computing devices to assist with the identification of etiologic agents and biothreats of concern by frontline operators
- Models, scenarios, and simulations to elucidate pathways for the entry of high-consequence transboundary, zoonotic, emerging, and novel etiologic disease agents of animals and plants.
  - Accounts for the associated risk material, international cargo pathways, passenger travel, and domestic distribution/supply chain channels
- Animal and Plant Vaccine Platforms and accompanying DIVA (differentiation infected from vaccinated animals) diagnostic tests for transboundary, zoonotic, emerging and novel high-consequence pathogens
- In-line and off-line sensors for screening, detecting, and identifying CBRN adulterants during food production, food processing, food distribution, and food storage activities.
- Integration and analysis of veterinary and human medical records (clinical, diagnostic, pre/post-mortem, etc.)
  - Real-time situational awareness through syndromic surveillance and integration of sentinel animal populations in urban and rural environments (zoos, companion animals, shelters, laboratory facilities)

## Collaboration – Historical and Ongoing

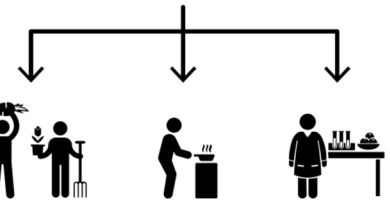
- **USDA** – agriculture screening and surveillance tools, in-line food modeling, transboundary animal disease (TAD) modeling, agricultural outbreak and response assessment tools, and development of FAD countermeasures (vaccines, therapeutics, diagnostics, etc.)
- **FDA** – assessment tools, Terrorism Risk Assessments (TRAs), and Material Threat Assessments (MTA).
- **EPA** – Disinfection and decontamination studies.
- **Academia** – Centers of Excellence (CEEZAD, IIAD, CBTS, FPD, etc.)
- **Private Industry**



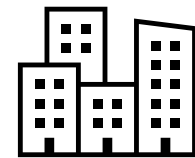
## Unique Role of Academia



- Understand and research risk
- Promote transdisciplinary approaches
- Improve preparedness and resilience for health, food, and ag systems and communities



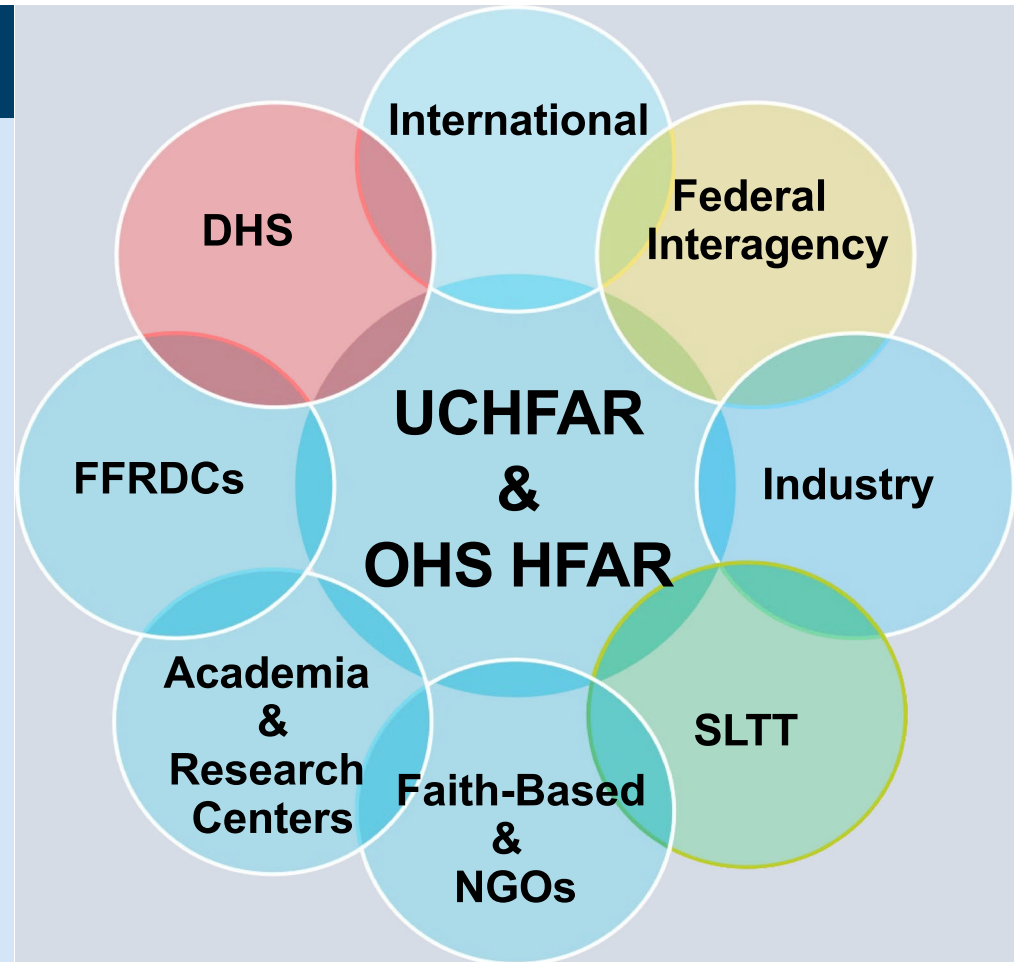
Created by Dañku Sobieraj  
from Noun Project



Communities

## UCHFAR Potential – OHS Outlook

- Forum for information flow between partners and stakeholders
- Energize the academic community, including land grant institutions, to engage decision makers
- Network capable of leveraging neutrality of academia to inform risk, develop solutions, and enhance resilience
- Provide insights on critical threats, vulnerabilities, and risk to roll up into national security perspective and USG awareness
- Informing an R&D agenda: multi-institutional and multi-disciplinary



## Recognized Needs for Continued Engagement

### Lessons Learned

- Stronger, whole-of-community approaches to resilience: seek partnerships, build trust, and incentivize involvement of critical infrastructure owner/operators across the food and agricultural security landscape.
- Established public/private relationships through cross-sector collaboration prior to a disaster.
- Comprehensive threat and risk assessments across the health, food, and agriculture space for dissemination to FSLTT and private sector partners.
- Improved understanding of cyber and information security threats and vulnerabilities across all health, food, and agriculture domains, both public and private.
- Understanding of U.S. food systems reliance on international supply chains and potential impacts in the event of a catastrophic incident and take steps to build resilience.
- Coordinated bi-directional flow of information and fusion center analyses with relevant FSLTT, industry, and academic partners.



## Potential Points for Consideration During UCHFAR

- What areas of research and development should be prioritized, in your opinion?
  - What would be helpful from a planning/preparedness, mitigation, response, or recovery perspective?
- Has and/or how has your organization exercised complex impacts to the food and agriculture sector to include coordination with public/government stakeholders (health, agriculture, emergency management, etc.)?
- What threats/hazards require more attention?

## Additional Potential Points for Consideration: Strengthening Partnerships

- What is the best structure/approach?
  - Is it at the individual company level (how to balance size of the company)? Commodity groups? Advocacy/governing board (e.g., Healthcare Distribution Alliance)? Existing structures; i.e., Sector Coordination Committee?
- What are the best ways to address gaps in threat information sharing between relevant partners and stakeholders with equity in the sector?
  - How can we build trust and other mechanisms that encourage and incentivize open flow of information?
- What outcomes/success criteria do we strive for? How can we ensure a sustainable partnership?
- What ideas do you have that may incentivize partners in the HFA space to strengthen resilience?

# Questions?

Contact Information:

[OHS\\_HFARD@hq.dhs.gov](mailto:OHS_HFARD@hq.dhs.gov) (group)

[Micheal.Burke@hq.dhs.gov](mailto:Micheal.Burke@hq.dhs.gov) (personal)



# Office of Health Security

