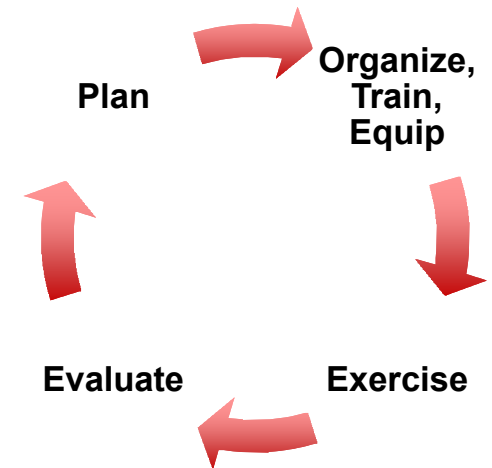


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IBCTR

# Strengthening BioChem Readiness through Systems Coordination



Carrie McNeil DVM MPH  
Multi-State Partnership Meetings  
February 2016

# Innovative solutions for countering biological and chemical threats globally

Strengthen capacities to safely, securely, and responsibly detect, handle, and control dangerous biological and chemical agents by

- Promoting responsible use and strengthening global expertise
- Encouraging global partnerships and adherence to best practices in biochem management
- Enhancing health security to promote early detection & effective response



# IBCTR core capabilities



*Human Capacity Development*



*Risk Management*

*Analysis*

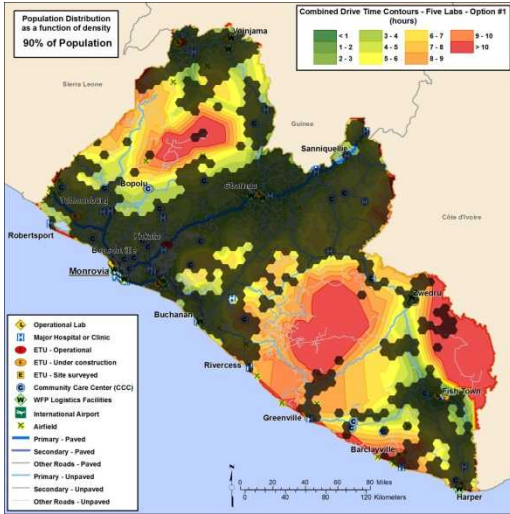
*Health Security*



# IBCTR's global experience



# Health Security Strengthening: Network Mapping Analysis



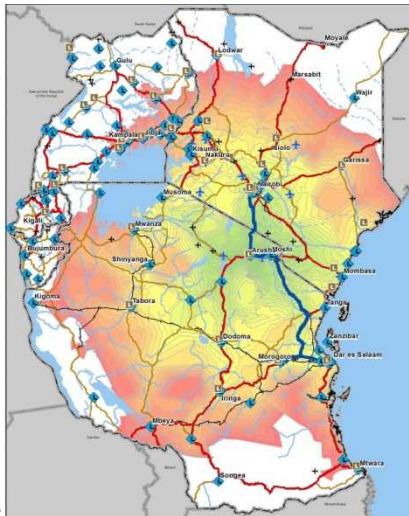
Reduce incident detection times & improve response by mapping lab and health infrastructure to

Simulation to optimize sample transport and coordinated activities

Contingency planning using model-simulation tools

Utilizes risk assessment methodology

**Tanzania - Arusha**  
Estimated Travel Time with No Impedances



# Health Security Strengthening: Veterinary Capacity Building

Veterinary professionals: on the forefront of infectious disease outbreaks

Therefore, we focus on:

- Developing policies to control infectious diseases
- Creating a stronger clinical sector
- Building indigenous capacity to confirm infectious disease outbreaks



# Health Security Strengthening: BioChem Readiness

BioChem Readiness encompasses how “ready” an entity is for an incident involving a biological or chemical agent release, whether intentional or unintentional.

BCR incorporates all of the following...

- Preparedness & Planning
- Detection
- Investigation
- Response
- Recovery



BCR requires systems-level, whole-of-community approach

# Purpose & Challenges

## Purpose for Strengthening BioChem Readiness (BCR)

Early detection, effective investigation and response require coordination of:

- Public & Animal health
- Haz-mat & fire
- Military & security
- Public & Private Sectors

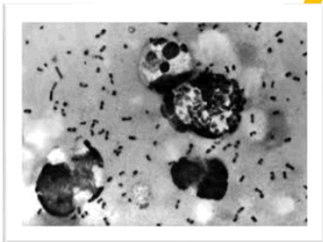
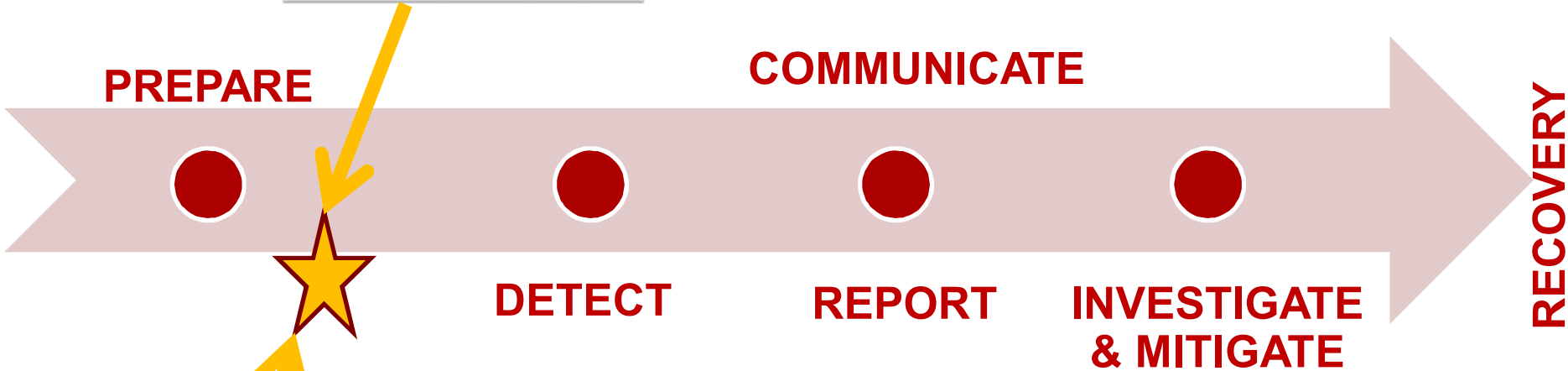
## Challenges in Existing BCR Programs

Lack of consistent, ongoing systems-level efforts for multi-sector joint:

- BCR Training
- BCR Planning
- BCR Exercises & Plan Evaluation/Validation

Plans may exist but be disease specific...so no readiness for unknown agents

# Strengthening BCR at Every Step



***Cross-Sector Coordination Critical At Each Step***

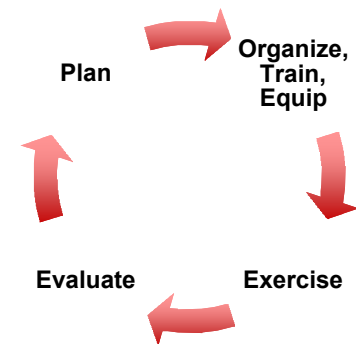
# Goal and Methods

## Goal

**Strengthen systems-level, cross-sector coordination to improve early detection of, effective response to & full recovery from BC incident**

## Methods

- 1) Identify Needs & Develop Plans
- 2) Validate & Evaluate Plans with Progressively Challenging Exercises
- 3) Revise, Update or Draft New Plans



# BCR Tools

## IBCTR Tools for Strengthening BCR

### Planning

- Scenario-based Workshops
- SOP workshops

### Evaluation & Validation

- Discussion-based Table-Top Exercises
  - Start with known agents, 1-2 agencies → unknown agent, multiple agencies
  - Virtual Exercise Tool as a type of Discussion-Based
- Operations-based Exercises
  - Drills: Chem Responsible Supplier, spill response
  - Full-Scale Incident Response

*....REPEAT Based on Multi-year Exercise Plan*

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# Discussion-Based TTX to Strengthen Systems Coordination

Carrie McNeil DVM MPH



# Discussion- Based TTX: SE Asia

**Purpose:** 5 countries with high risk of emerging zoonotic threats, existing multi-country plans never before evaluated

**Objective:** Evaluate Cross-Sector, Cross-Border One Health BCR

- Strategic / Policy Level based on existing preparedness plans
- Emerging, unknown zoonotic outbreak scenario



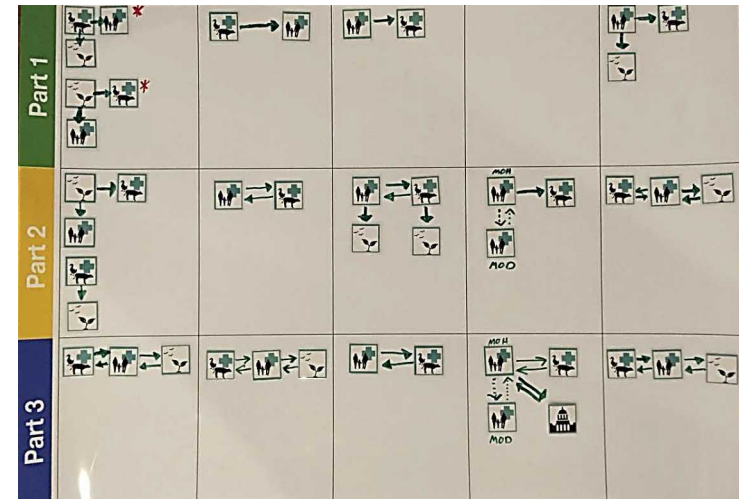
# SE Asia TTX

## Participants

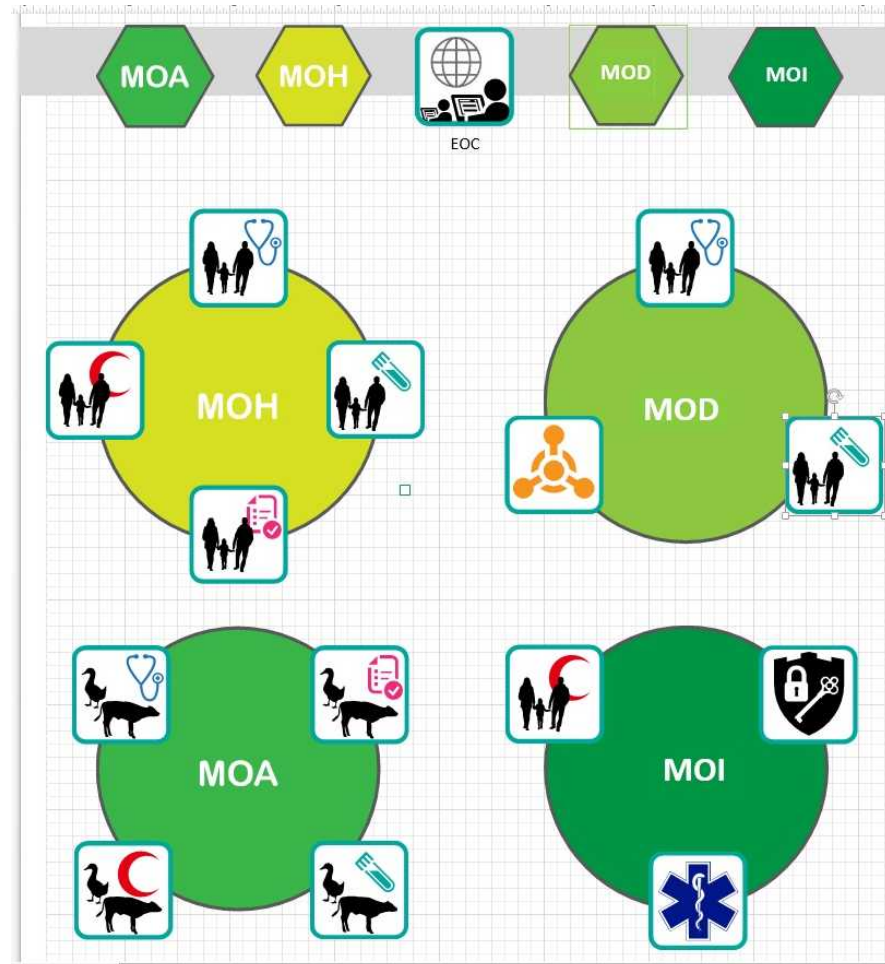
- Ministries of Health, Agriculture, Environment, Foreign Affairs
- External evaluators: AFRIMS, NAMRU-2, US Embassy, CDC

## Results

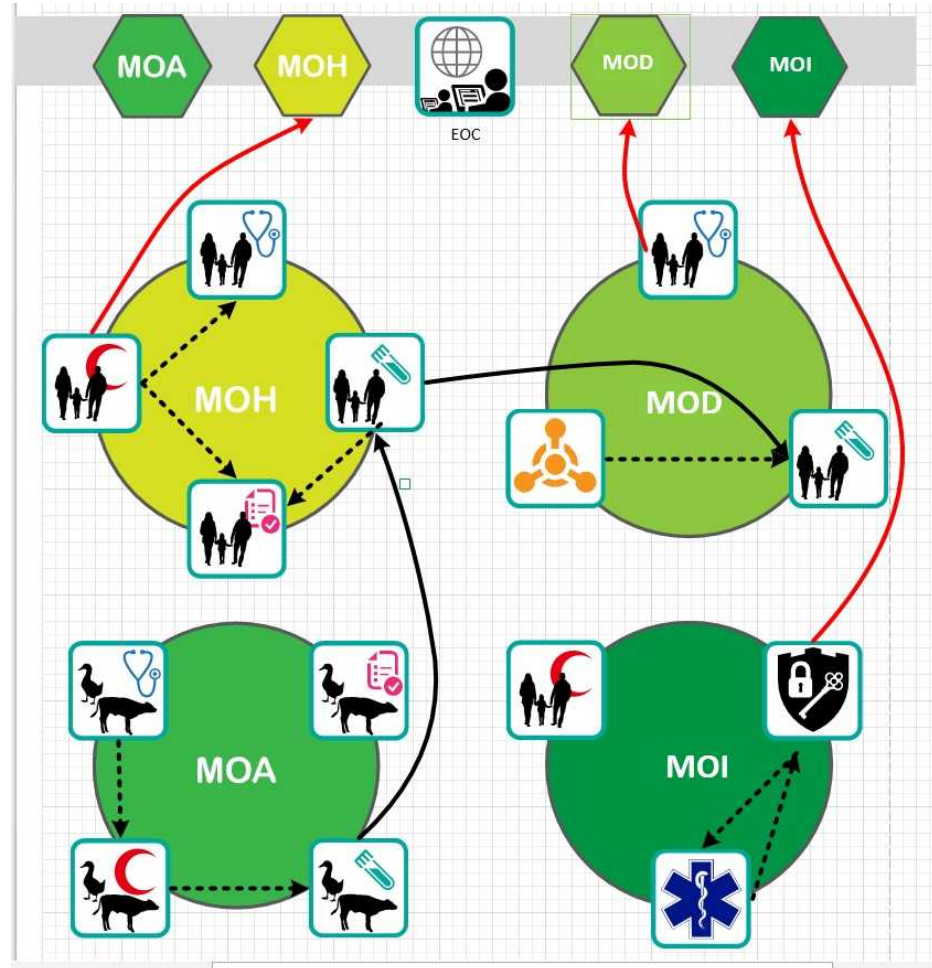
- Participant-driven After Action Report
- Participant-created local working groups



# Coordination- Communication Map



# Coordination- Communication Map



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# Virtual Tools for Systems Strengthening

Carrie McNeil DVM MPH

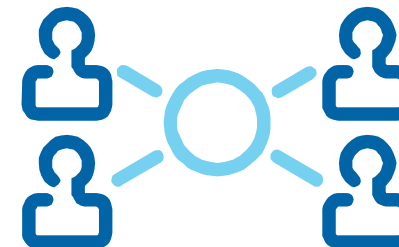
Todd Noel

Tam Le

# Pros & Cons of Virtual Format

## Pros

- Collects key actions & quantitative data for after action evaluation
- Relatively low cost
- Increased repeatability and control
- High engagement
- Time saving
- Safety
- Easily adaptable to All Hazards (CBRNE)
- Online and App- Available anywhere



## Cons

- Network reliability (international)
- Choices pre-determined
- Scenarios currently limited but can be expanded

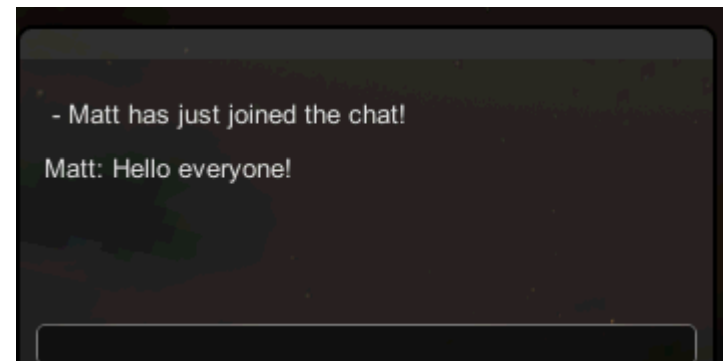
### **IBCTR Tool is unique...**

- Multi-player, first person
- Can be used in training or exercise
- Evaluation & Reporting Tool
- Comm Tool



# Features/Additions

- $\text{\LaTeX}$  formatted feedback file
- Multilingual possibilities
- Multiple environments
- Complications/Injections
- PPE choices throughout
- Multiplayer continuous chat
- Local/Wide Area Multiplayer



# Multi-player, 1<sup>st</sup>-person Role Play



# IBCTR Tools in Summary

**IBCTR BioChem Readiness (BCR) Tools enable entities to strengthen systems-level coordination in detection, response & communication.**

- Implemented in person or in a virtual setting
- Modular for use in all-hazards, including systems-level interactions across health, security, communications & other sectors
- Flexible scalability—intra-department to multiple-agency/national level
- Based on HSEEP standards—domestic & international

**Questions?**

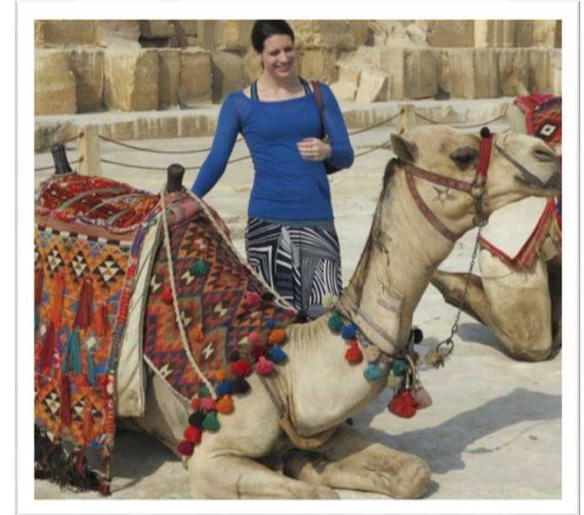
# International One Health & Systems Coordination

Outbreaks (& TTXs) highlight need for multi-sector coordination

- Asia: SARS, HPAI
- Africa: Ebola, Rift Valley Fever, HPAI
- Middle East: MERS, RVF, HPAI

System challenges across the globe

- Animal Health
  - Private – public coordination
  - Quarantines-security
- Local-State-Multistate-Federal-Multicountry-International
- One Health: Animal Health- Human Health- Environmental Health



# International One Health & Systems Coordination

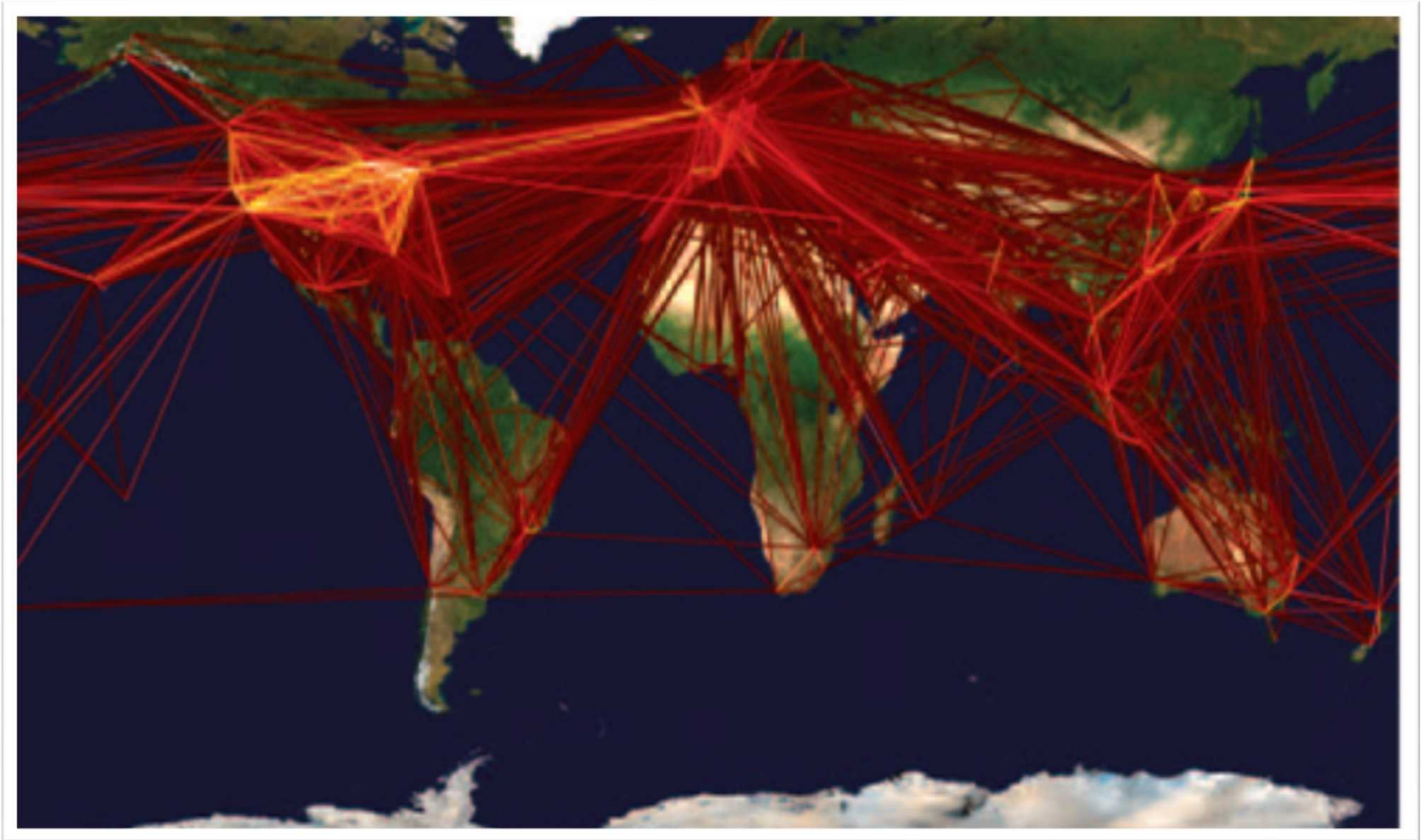
## What is working

- Programmatic Units Between Agencies
  - Kenya ZDU: Joint Response & Planning, OCHEA
- Government Departments under PM:
  - Cameroon: Separate One Health Entity
- Rapid Response often Coordinated Cross-Sectors
  - Most countries: Not so coordinated for planning, training or research



[www.afro.who.int](http://www.afro.who.int) ; [zdukenya.org](http://zdukenya.org)

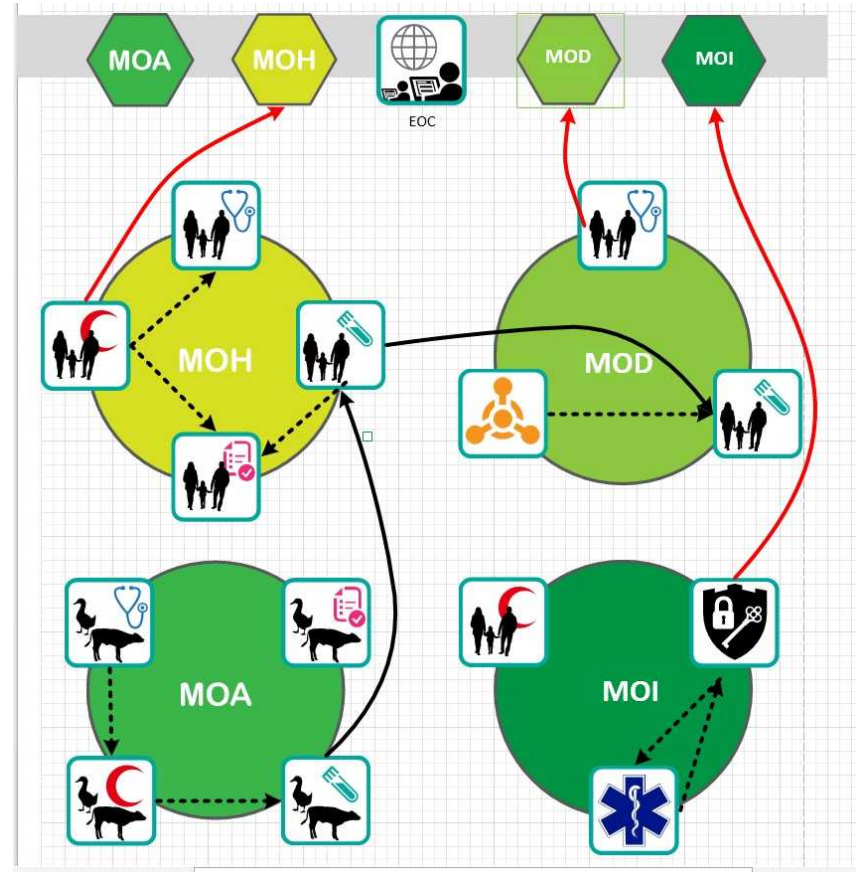
# Questions?



# MultiState Partnership

## System Coordination Mapping

- Within States
  - What is working?
  - Gaps
- Across States
  - What is working
  - Gaps



# First Project: State Brief-Assessment Sandia National Laboratories

Do you coordinate in: Planning? Training? Response? Recovery?

Are your interactions formal or informal ? Is it working?

Map out all the cross-coordination...are there gaps?

# 2<sup>nd</sup> Project: MSP Brief-Assessment

List agencies, departments, companies, universities involved in your state for ag-related biosecurity, disease detection, investigation

Do you coordinate in: Planning? Training? Response? Recovery?

Are your interactions formal or informal ? Is it working?

Map out all the cross-coordination...are there gaps?