Implementing USAID Emerging Pandemic Threats Program
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What we know about “disease emergence”

• Three-quarters of emerging disease threats arise from animal reservoirs

• The “human-animal-ecosystem interface” is at the center of new disease emergence

• Emergence is closely linked to geographic “hot spots” where there are intensive animal-human interactions amplified by environmental changes

Source: Dr. Rob Henry, USAID EPT
The “Drivers” Behind these New Threats

Threat emergence is closely linked to factors that intensify animal-human interactions.

- Population Pressures: 7 billion and counting
- Food Security: Search for arable land, trade in bushmeat
- Economic Growth: Expanding extractive industry, increased demand for animal protein
- Globalization: It’s not local anymore
- Changing Habitats: Climate Change

Source: Dr. Rob Henry, USAID EPT
Public health as part of the “ecosystem”

The One Health approach

- Human Cases
- Wild Animal
- Domestic Animal

Wildlife Surveillance/Forecasting

Animal Amplification

Early Detection and Control Opportunities

Source: Dr. Rob Henry, USAID EPT
Standard Model for Outbreak Detection and Response

Detection

Lab Confirmation

Response

First Case

Source: Dr. Rob Henry, USAID EPT
Emerging Pandemic Threats program

2009-2014 (phase 1)

• **PREDICT:** UC Davis, Wildlife Conservation Society, Wildlife Trust, the Smithsonian Institute, Global Viral Forecasting, Inc.

• **RESPOND:** DAI, Tufts University, UMN, TRG and E&E

• **IDENTIFY:** WHO, FAO, OIE

• **PREVENT:** Academy for Educational Development, GVFI
USAID’s Emerging Pandemic Threats Program

PREDICT forecasting and early detection

Source USAID EPT
USAID’s Emerging Pandemic Threats Program

PREVENT

minimizing “high risk” practices

Source: USAID/EPT
USAID’s Emerging Pandemic Threats Program

Human Cases
Wild Animal
Domestic Animal

IDENTIFY
timely laboratory confirmation

Animal Amplification

SPILL OVER

Human Amplification

Source USAID|EPT

TUftsCGPH Global Public Health
RESPOND early and effective control

USAID’s Emerging Pandemic Threats Program

C A S E S

TIME

Source: USAID/EPT
Emerging Pandemic Threats program
Phase 2

2009-2014 (phase 1)
• **RESPOND** (Tufts)
• PREDICT
• IDENTIFY
• PREVENT

2014-2019 (Phase 2)
• PREDICT
• PREPAREDNESS
• **ONE HEALTH WORKFORCE** (Tufts)
RESPOND Key Activities

• One Health core competencies
• Curricula reviews
• Multidisciplinary field practicum
• Faculty interactions (twinning program)
• Creation of One Health platforms
RESPOND Key Activities

• One Health core competencies
  – Domains have been identified and agreed upon
    • Management
    • Communication
    • Values and Ethics
    • Leadership
    • Collaboration and Partnership
    • Systems Thinking
    • Culture, Belief, and Gender
    • Policy and Advocacy
    • Research
RESPOND Key Activities

• Curricula reviews
  – DRC: Epidemiology course
  – Kenya: Veterinary program
  – Uganda: Veterinary Preventive Medicine program

DRC Epidemiology faculty from medical, veterinary and nursing, public health schools
RESPOND Key Activities

Multidisciplinary field practicum (DRC, Tanzania and Uganda)

Fifth year University of Lubumbashi - DR Congo veterinary students at work in the laboratory and at a farm.
RESPOND Key Activities

• Faculty interactions (twinning program in DRC)
  – 9 faculty participated
  – Areas
    • Teaching methods
    • Infectious diseases
    • Participatory epidemiology
    • Health economics
    • Parasitology
    • Immunology
    • Histopathology
    • Zoonotic diseases (wildlife)
    • Environmental health
RESPOND Key Activities

Creation of One Health platforms

– Regional university networks
  • One Health Central and Eastern Africa (OHCEA)
  • South East Asia One Health University Network (SEAOHUN)

– Country Coordinating Committees
  • Members from academia and government

– Health professionals association and councils
  • Federation Une Santé – DRC (Physicians, Veterinarians, Nurses, Pharmacist, Para-veterinarians)
Challenges

• Leadership struggles
  – University networks (OHCEA and SEAOHUN)
  – Country Coordination Committees
  – Fédération Une Santé
  – Avian Influenza experience in DR Congo
  – Development national zoonotic disease plan in Cameroon

• Structural and “cultural” barriers
  – Pre-set silos
One Health Workforce

Five objectives

• Define One Health workforce needs
• Assist government ministries to train the future OH workforce
• Assist government ministries to train the current OH Workforce
• Strengthen faculty capacities for OH teaching, research, and community outreach
• Position the One Health university networks as long-term sustainable leaders in One Health
Thank you