

The Road To EPT-2

To Boldly Go Where No Program Has Gone Before



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The Road To EPT-2

History Shows Again and Again How Nature Points Out the Folly of Men



Blue Oyster Cult



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AI/EPT-1: Laying the Groundwork

- AI (2005) and EPT-1 (2009) work have been focused on building those capacities and expanding the evidence base that contribute to mitigating the impact of novel “high consequence viruses” arising from animals.
- Using a “**risk-based**” formula that targeted those places, populations and practices that contribute to the emergence and spread of new viral threats our EPT-1 and AI work have laid the foundation for a next generation of investments.
- EPT -1 Sub Agenda: an “experiment in action” – designed to answer the two-part question: is it possible to anticipate future pandemic threats before they emerge, and can their emergence be stopped?



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EPT -2: Building on a Legacy

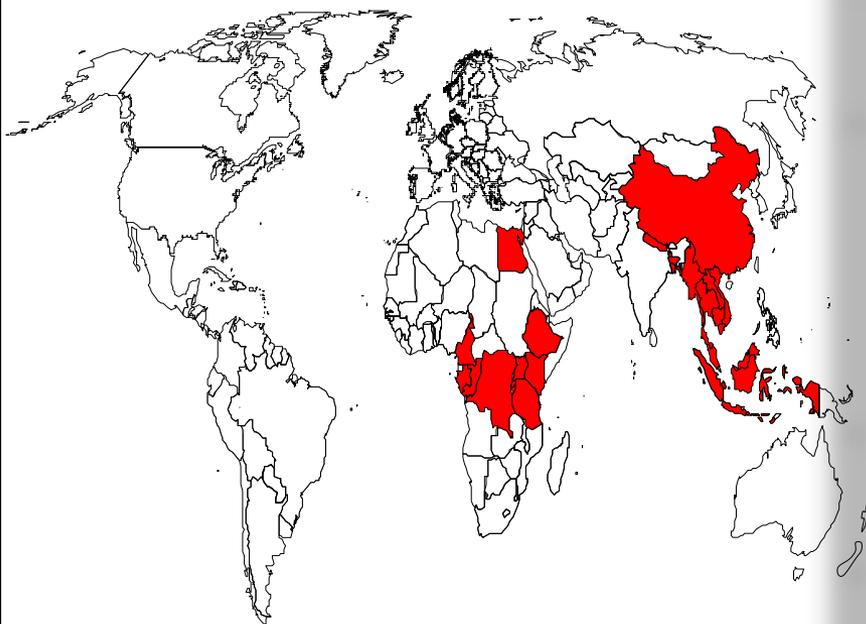
- EPT-2 has three overarching purposes: the **prevention** of new zoonotic disease emergence, the early **detection** of new threats when they do emerge, and their timely and effective **response**.
- EPT-2 will build upon and extend the accomplishments of our AI/EPT -1 program over the coming five years under **a consolidated program** that unifies investments in influenza and other emerging viral threats under one strategic umbrella.
- EPT-2 will build on the lessons and knowledge from its predecessors and bring heightened focus to those “places and practices” that enable not just “**spill-over**” of new viral threats, but potentiate its “**amplification and spread**”, and invest in the One Health policies and capacities needed for their prevention and control.



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EPT- 2's Strategic and Geographic Focus



■ = primary focus of EPT -2

20 countries = Bangladesh, Cambodia, Cameroon, China, Congo, DRC, Egypt, Ethiopia, Gabon, Indonesia, Kenya, Laos, Malaysia, Myanmar, Nepal, Rwanda, Tanzania, Thailand, Uganda, Vietnam

Strategic Focus

- Consolidate “AI/EPT” activities creating one coherent portfolio
- Build on “end-of-program” AI/EPT platforms for surveillance, risk characterization and mitigation, preparedness, and response – through a “One Health” lens.
- Focus on high consequence viral families
- Do “more” with less
- Leverage other partner interest

Geographic Focus

- Consolidate portfolio around “hot spots” in Central and East Africa, and South and Southeast Asia, including Myanmar and southern China.

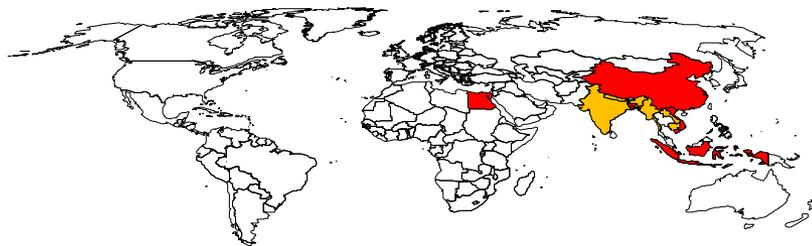


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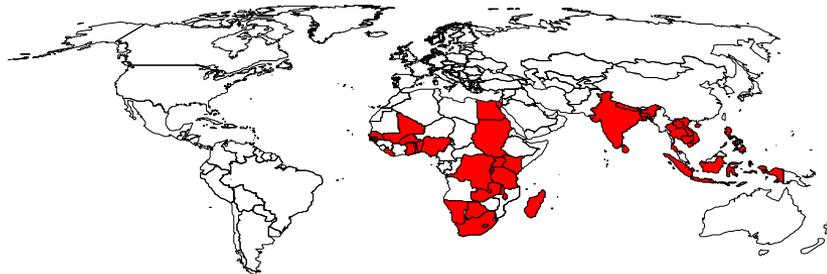
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EPT-2: Building on “Legacy” Platforms

■ = secondary focus

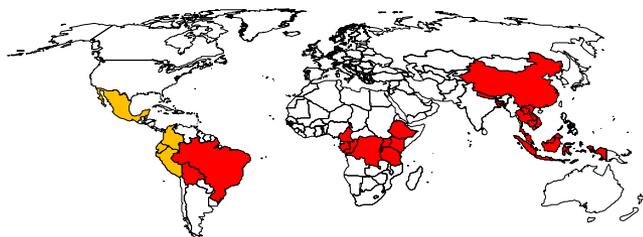


Avian Influenza



Pandemic Preparedness

■ = primary focus



Emerging Pandemic Threats



EPT *plus*



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EPT -1/AI “priority countries were: Africa: Cameroun, DR Congo, Republic of Congo, Egypt, Ethiopia, Gabon, Kenya, Rwanda, Tanzania, Uganda. Asia: Bangladesh, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Thailand, Vietnam. Americas (PREDICT only): Brazil, Bolivia, Peru.

EPT -2: Strategic Areas of Focus

- 1. Developing longitudinal data-sets for understanding the biological drivers of disease emergence**
- 2. Understanding the human behaviors and practices that underlie the risk of “spill-over, amplification and spread” of new viral threats**
- 3. Promoting policies and practices that reduce the risk of disease emergence**
- 4. Supporting national One Health platforms**
- 5. Investing in the One Health workforce**
- 6. Strengthening national preparedness to respond to events of public health significance**
- 7. Strengthening global networks for real-time bio-surveillance**



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1. Developing longitudinal data-sets for understanding the biological drivers of disease emergence

- Under EPT-1 significant progress was made in identifying the primary wildlife reservoirs involved in “spill-over” of new viral agents and in the profiling of those viral families and some of their genetic variants most commonly circulating in these animal populations.
- Under EPT -1 *plus* important progress was made in describing how the interplay between ecosystems and genetics contributes to the emergence of new influenza variants.
- Under EPT-2 heightened focus will be brought to expanding these efforts by developing longitudinal data-sets spanning select high consequence viral families and their ecologies for the development of models describing the drivers and dynamics that underlie the emergence of new viral variants.
- EPT -2 (*plus*) will further refine its scope to address the emergence of new influenza variants. Collectively, this information will be critical to better forecast future threats and further target resources to where the risk of emergence is greatest.



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2. Understanding the human behaviors and practices that underlie the risk of “spill-over, amplification and spread”

- EPT-1 and AI were important windows for appreciating the central importance of “amplification” and “spread” for a new viral pathogen to pose a significant public health threat.
- When “spill-overs” involve human populations living in remote, poorly connected geographic areas the end result is frequently an “epidemiologic dead-end”.
- For a new viral agent to pose a significant public health risk the “spill-over” event must be closely linked to conditions which favor the further “amplification and spread” of the virus broadly among human populations.
- Under EPT – 2 particular focus will be brought to identifying those geographic areas where the risk of “spill-over, amplification and spread” are greatest and characterizing those behaviors and practices that underlie disease emergence.



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3. Promoting policies and practices that reduce the risk of disease emergence

- Under AI and EPT -1 efforts to promote individual behaviors to lower infection to disease threats that were exceedingly rare were highly ineffective.
- Rather, mitigating the risk posed by new infectious diseases could be more effectively addressed by focusing on policies and regulations that affect the population-based behaviors and practices that contribute to “spill-over, amplification and spread”.
- Under EPT -2 there will be particular focus on promoting policies and regulations that can impact on industrial and/or community scale practices that to “spill-over, amplification and spread” of new infectious diseases.
 - The Extractive Industry
 - Urban/peri-urban markets
 - Livestock “value chains” in Asia
 - Africa Livestock Futures



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4. Supporting National One Health Platforms

- Under AI and EPT -1 it became clear that sustained and successful One Health practice requires that a broad range of government and non-government stakeholders come together and stay engaged in the collaboration as part of a normative practice.
- The role of the One Health Platform is generally one of strategic planning, promoting a positive policy environment, information sharing, assessing national capacity for One Health engagement, and harmonizing systems.
- Under EPT -2 focus effort will be made to facilitate and support the formation and/or strengthening of One Health Platforms in the EPT -2 focus countries.
- Particular emphasis will be on advancing cross-sectoral collaboration, promoting measures and/or practices that mitigate the risk of disease emergence, sharing of data and best practices, enhancing country preparedness for outbreaks of new or emerging infectious diseases, harmonizing cross-sectoral surveillance, honing cross-sectoral response skills.



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5. Investing in the One Health workforce

- Under EPT-1 our experiences with the “prevention, detection and response” of disease outbreaks reveal that the traditional skills, approaches, and relationships are inadequate to address the complex interplay between animals, humans, and the environment.
- Professional skill sets and practice must reflect that complexity, enabling collaboration across disciplines.
- Under EPT -2 we will build on the One Health University Networks of Africa and Asia and FETP to target the long-term workforce needs for an effective implementation of One Health preventive, detection and response capacities.
- Under EPT-2 we will work closely with university partners and national governments to define national One Health workforce needs and strategies for their realization.



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6. Strengthening national preparedness to respond to events of public health significance

- Under the International Health Regulations all member States of the World Health Organization (WHO) are required to achieve core capacities for preventing, responding to, and reporting on Public Health Events of International Concern (PHEIC).
- A key activity under EPT -1 has been to support WHO, particularly its regional offices in Africa and in the Western Pacific, to develop and test the guidance document for preparing for and responding to Public Health Events of Unknown Etiology.
- Under EPT -2 expanded support will be provided to assist EPT- target countries in the Africa and Asia region to apply this guidance in the development and implementation of National Preparedness Plans for responding to PHEIC.
- This work will be done in concert with CDC efforts to develop national-level Emergency Operation Centers and the Defense Threats Reduction Agency (DTRA).



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7. Strengthening global networks for real-time bio-surveillance

Under EPT -1 we invested in several distinct streams of laboratory strengthening.

- Targeted 7 labs in the Africa region for enhanced capacities in influenza diagnosis and reporting (GISRS and CDC).
- Strengthened 31 human health labs; 39 animal health labs in 20 EPT-1 countries in Africa and Asia capacities in safe handling, diagnosis and reporting of major endemic human and animal diseases (IDENTIFY);
- Targeted 25 laboratories in 20 EPT-focus countries for enhanced capacities in handling, diagnosing and characterization of known high consequence and novel viruses in wildlife (PREDICT and CDC);
- Under EPT -2 we will align our laboratory investments to reflect the following priorities:
 - A global data-base of respiratory pathogens
 - Enhanced biosafety
 - Linking bio-surveillance data to response
 - Maximizing potential of web-based portals (ProMed, HealthNet)



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EPT2 - Challenges to be Met

Challenges: Building our Team

- In "high-investment" EPT countries we struggled with providing a steady/reliable "footprint" that could provide routine interactions with country counterparts, USAID missions and other in-country partners
- We didn't exploit as fully as we could in drawing on in-country/regional expertise in building our senior technical teams



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EPT2 - Challenges to be Met

Challenges: Maximizing our In-country Impact

- Beyond labs we were not as successful in leaving a post-EPT-1 legacy of enhanced in-country institutional capacities in core EPT technical areas
- We could have done better in investing in country/regional institutions as core partners
- We could have done better in maximizing the monies spent in-country (country vs US expenditure ratio)



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EPT2 - Challenges to be Met

Challenges: Program vs. Project

- We expect to be better at maximizing synergies across EPT-2 partners

Challenges: Leveraging Beyond EPT

- We expect to do better at maximizing synergies across non-EPT-2 partners



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EPT2 - Four Actions to Address Challenges

1. Targeting in-country institutions as key technical partners
 - Leveraging institutional capacities
 - Platform for staffing
 - Upgrading technical capacities
 - Acting as platform for in-country representation
2. Identifying key technical staff from within region/countries
3. Cross-EPT2 synergies – the “Program Effect” (Predict2, OHWF, P&R, FAO, WHO and CDC)
4. Maximizing opportunities to leverage/synergize non-EPT2 investmentes (DOD, IDRC, WB, etc)



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<http://www.usaid.gov/what-we-do/global-health/pandemic-influenza-and-other-emerging-threats>



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