



USAID
FROM THE AMERICAN PEOPLE

PREDICT

A Project of USAID's Emerging Pandemic Threats Program

PREDICT OBJECTIVES

PREDICT will creatively and efficiently expand on lessons learned in order to:

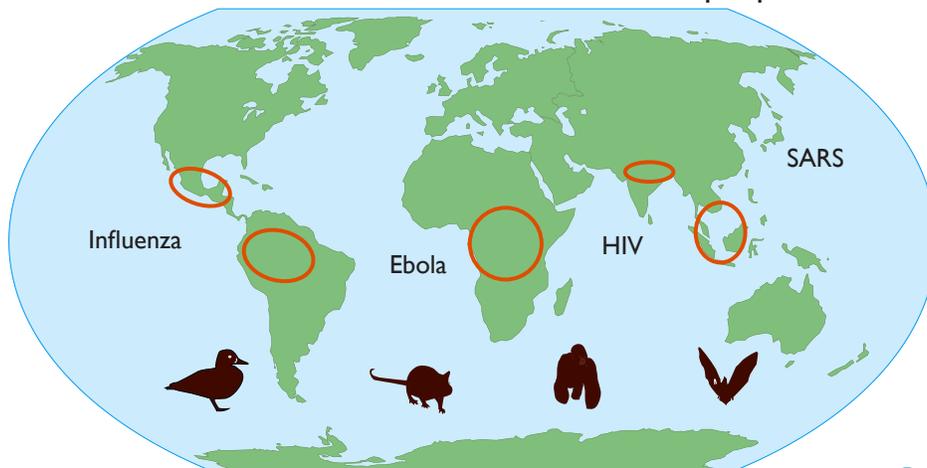
- Assess local wildlife surveillance capacity
- Increase the value of infectious disease modeling
- Implement targeted and adaptive wildlife disease surveillance systems
- Develop and deliver new technologies to improve efforts close to the source
- Use cutting-edge information management and communication tools to bring the world closer to realizing an integrated, global approach to emerging zoonotic diseases

In order to predict, respond to, and prevent the emergence of novel infectious diseases in humans, pathogens must be identified at their source. Explosive human population growth and environmental changes have resulted in increased numbers of people living in close contact with animals. Unfortunately, the resulting increased contact, together with changes in land use, have altered the inherent ecological balance between pathogens and their human and animal hosts. Our SMART (Strategic, Measurable, Adaptive, Responsive, and Targeted) surveillance method for PREDICT is responsive to the fact that zoonotic pathogens, such as influenza and SARS, account for the majority of emerging infectious diseases in people, and that more than three quarters of these emerging zoonoses are the result of wildlife-origin pathogens.

Nowhere in the world are the health impacts from emerging diseases of wildlife more important than in developing countries, where daily workloads and livelihoods are highly dependent on natural resources. The interconnectedness of human, animal, and environmental health is at the heart of the One Health approach, an increasingly important prism through which governments, NGOs, and practitioners view public health. Our strategy of SMART surveillance is designed to detect novel diseases with pandemic potential early, which will give health professionals the best opportunity to prevent emergence. It also targets important sentinel species at active human interfaces in hotspot regions to improve surveillance efficiency.

The PREDICT team is building a broad coalition of partners to develop the global capacity to monitor diseases at the animal-human interface and develop a risk-based approach to concentrate these efforts in surveillance, prevention, and response at the most critical points for disease emergence from wildlife.

PREDICT: Building a global early warning system for emerging diseases that move between wildlife and people





Programmatic Focus

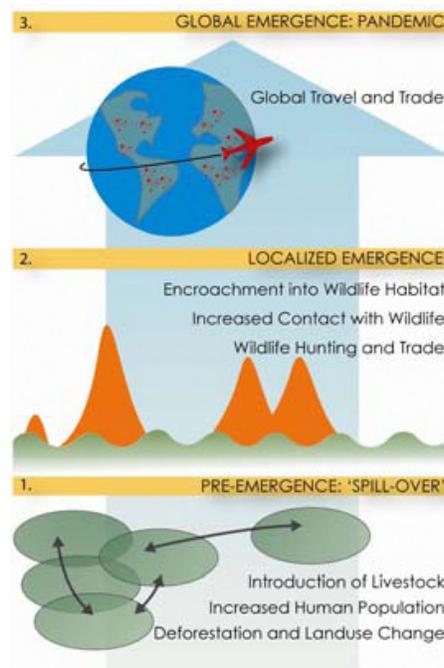
PREDICT is a risk-based approach focused in areas where zoonotic diseases are most likely to emerge and where host species are likely to have significant interaction with domestic animals and high density human populations:

- Amazon Region and Mexico
- Congo Basin
- Gangetic Plain
- Southeast Asia

Pathogens

Predict will focus on pathogens most likely to have a significant public health impact, such as:

- Alphaviruses
- Bunyaviruses
- Coronaviruses
- Filoviruses
- Flaviviruses
- Lyssaviruses
- Orthomyxoviruses
- Paramyxoviruses
- Retroviruses
- Emerging pathogens



Lead Institutions

- *UC Davis' world class School of Veterinary Medicine, with demonstrated leadership in program development and management, education, and research and service in zoonotic disease, wildlife epidemiology, pathogen pollution, and ecosystem health*
- *Global Viral Forecasting, Inc., which has made seminal discoveries on the role of hunting of nonhuman primates and food handling in moving animal pathogens to humans*
- *Wildlife Conservation Society, with ongoing programs to monitor wildlife diseases worldwide and the GAINS database designed to identify the movements of wild avian species for influenza and other viruses*
- *Wildlife Trust, the first group to identify bats as the reservoir of SARS-like coronaviruses and to define hotspots of disease*
- *Smithsonian Institution and the National Zoo, among the founders of the field of conservation biology*
- *Other partners include Columbia University; Harvard University (ProMED, HealthMap); Institute of Zoology, London; Praecipio International; Princeton University; University of Edinburgh; Yale University*

The authors' views expressed in this publication do not necessarily reflect the views of the U.S. Agency for International Development or the United States Government.

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