# PREDICT-2: a project of the USAID Emerging Pandemic Threats (EPT) program seeking to understand novel pathogens of pandemic potential that can be shared between animals and humans

## *Un projet du programme USAID Emerging Pandemic Threats (EPT) cherchant à comprendre les nouveaux agents pathogènes du potentiel pandémique commun entre les animaux et les humains*

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**Summary**

***Context and objective***. PREDICT, a project under the USAID-EPT program, aims at building capacity for countries in order to transition their disease surveillance and control measures from a purely reactionary to a more proactive paradigm. With a ONE HEALTH approach, PREDICT objective is to prevent, or at least control pathogens of pandemic potential at their origin, where they can emerge.

***Methods***. During the first phase (2009-2014), PREDICT has tested samples from wild animals, mainly non-human primates, rodents and bats from hot-spots, where pathogens are more likely transmitted from animals to humans. Using low-cost consensus PCR technics, PREDICT has detected globally at least 350 new viruses circulating at the animal-human interfaces in 20 countries in Africa, Latin America, Asia and South-East Asia. These data, combined with ecological and environmental data, rate and type of human-wildlife contacts, are being used to develop predictive models of risks and inform mitigation strategies. For the second phase (2014-2019), PREDICT will focus on identifying biological, ecological and behavioural drivers and host-pathogens dynamics at high-risk interfaces within 3 critical pathways of disease emergence: 1) land conversion for commercialization; 2) intensification of animal production systems; and 3) animal value chains.

***Results***. plans have been developed for standardized and concurrent sampling of wildlife, livestock and at-risk human populations; qualitative studies to better understand behaviours that put human communities at risk of viral spill over, detection and characterization of pathogens of pandemic potentials, and the establishment of national platforms for longitudinal monitoring of viral threats at high-risk interfaces, in collaboration with government entities and other partners.

**Keywords**: one health, animal, human, disease surveillance; novel pathogens

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