

Strategies to Prevent (STOP) Spillover

Impact Brief

Cambodia

Syndromic and active surveillance at bat-human interface in Kang Meas district, Kampong Cham Province

Activity 2.2.2.2: Coordination and Capacity Building of Sentinel Surveillance Team

INTRODUCTION

From January 8th to 12th, 2024, a program combining symptom-based screening and active monitoring was implemented in Kang Meas district of Kampong Cham province, Cambodia. This initiative focused on the bat-human interface in communities with bat guano farms, aiming to identify individuals with signs suggesting a possible viral infection, particularly those related to respiratory illness (including coronaviruses).

Beyond early detection, the program also strengthens the local healthcare system's capacities at the point of contact between bats and humans. Early identification of cases will trigger real-time data sharing and surveillance measures, allowing for a swift response to any potential spillover event of coronaviruses from bats to humans and livestock.



Surveillance team reviewing the case information sheet, laboratory submission form, and Standard Operating Procedure before work

FIELD SAMPLE COLLECTION'S OUTCOMES AND RESULTS

Outcomes

A team of 15 well-trained individuals from the OH-DReaM Working Group led the syndromic and active surveillance effort. STOP Spillover Cambodia established and trained this team in 2023 specifically for such work.

Leveraging their expertise from rigorous training by the project, the team flawlessly put their sampling and participatory surveillance skills to work. Throughout the operation they adhered to the Standard Operating Procedures (SOPs) set by the project, meticulously wearing personal protective equipment (PPE) for their safety.

Their professionalism extended to sample collection, covering not only human and domestic animal samples but also bat guano and urine from farms connected to identified human cases.

Results

Samples were gathered from Varint 1, 2, and 3, villages within the designated high-risk zone. These villages share Khchao Commune Health Center, where local residents typically seek health care services. The team specifically collected samples from humans within the center, aiming to identify potential coronavirus infections linked to the index case, particularly during the ongoing bat lactation season



Surveillance team members collecting naso- and oropharyngeal swabs from a symptomatic case at Khchao Commune Health Center

(October-January). To track potential transmissions livestock, and bat guano and urine from the symptomatic cases' farms were also sampled.

A total of 155 samples were collected for analysis, comprising 22 human samples, 36 chicken samples, 14 duck samples, 24 cattle samples, 40 bat guano samples, and 19 bat urine samples. Adhering to established protocols, the human-related samples were meticulously prepared and dispatched to the Institut Pasteur du Cambodge for the detection of and subsequent sequence analysis for coronaviruses. Concurrently, the livestock and bat samples were transported to the National Animal Health and Production Institute for identical investigative procedures.

The team's thoroughness extended beyond sampling. Upon completion of the fieldwork, all biological waste was swiftly dispatched to the Khchau Commune Health Center's incinerator for complete and safe destruction.



Use of Khchau Commune Health Center's incinerator to destroy biological wastes after sample collection



OH-DReaM Working Group members collecting chicken oral and rectal swabs at a symptomatic case's household in Varint 1 village

OH-DReaM Working Group members collecting nasal and rectal swabs from cattle at a symptomatic case's household in Varint 2 village



OH-DReaM Working Group members collecting bat guano and urine swabs from a bat guano farm associated with a symptomatic case in Varint 3 village



A OH-DReaM Working Group member labelling livestock samples

STOP Spillover Cambodia support to Cambodia's GHSA and JEE scores

Year 4 Activities	GHSA priorities	JEE score (2016)
Activity 1.2.6.1 Bat guano farm study (continued from Y3) Activity 2.2.2.2 Coordination and capacity building of sentinel surveillance team	Category 1: Preventing the emergence or release of pathogens with potential for international concern: Zoonotic diseases (1.2) and biosafety (1.4)	Indicator P.5.1 Surveillance of zoonotic diseases (JEE Score 2 for P4.1 surveillance systems in place for priority zoonotic diseases; and JEE Score 2 for P6.2 biosafety training and practices)
Activities 2.2.2.1 and 2.2.2.3: Community level risk reduction interventions	3.5 Risk Communications	Risk Communication and Community Engagement (RCCE), Indicator R5.2: Risk Communication and R5.3 Community Engagement (JEE score 3 for R5.4 Communication engagement with affected communities)

This brief is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of STOP Spillover implementing partners and do not necessarily reflect the views of USAID or the United States Government.