PANDASIA Project's Synopsis

PANDASIA is a five-year project (2023-2027) funded by the European Union's Horizon Europe research and innovation program under Grant Agreement No. 101095444 and co-funded by the UK Research and Innovation Council (UKRI).

The PANDASIA specifically aims to: (i) achieve a better understanding of viruses with spillover potential in Thailand, including their transmission, and spillover to humans, domestic animals, and wildlife (ii) provide health care providers and practitioners access to appropriate medical countermeasures, e.g., diagnostics, and digital solutions; and (iii) provide health authorities the evidence-base and tools they can use for better public health decision-making and measures. This project will be carried out between January 2023 and December 2027.

The project applies research advances in prediction to determine, analyze and model viral pathogen spillover potential guided by the One Health (OH) and EcoHealth (EH) perspectives. It employs community-driven, co-created interventions and communication strategies to improve pandemic health literacy and preparedness among local communities, animal health, and human health authorities.

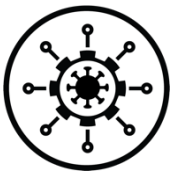
In the medium term, the project expects to support healthcare providers and authorities, the scientific community, and Thai citizens by informing them, preparing them, and increasing literacy about communicable disease threats. In the long term, pandemic preparedness community interventions will be implemented in select villages in Thailand's Chiang Rai and Chanthaburi provinces.

The project brings together a transdisciplinary team that offers specific expertise to operationalize PANDASIA's work packages (WP), namely:

WP1: Society and Spillover Risk is tasked with identifying and tracking human and social characteristics important for spillover events, zoonotic disease emergence, and potential pandemics. Researchers in this WP will review human, wildlife, and livestock surveillance data from relevant ministries and stakeholders in Thailand.

WP2: Spillover Risks from Wildlife, Livestock & Land Cover Change is tasked with selecting, observing, and collecting biological samples from wild and domestic animals for virological and population dynamics assessments. The team will also assess historical land use/land cover (LULC), climate, and population data to determine their potential importance for spillover risk.

WP3: Viruses and Spillover Risk will identify known and previously uncharacterized viruses with spillover potential. They will specifically target viral groups in vertebrate animal hosts (including circulating viruses in samples from biotic (wildlife, domestic animals, mosquitoes, flies, and leeches) and abiotic sources (air, water, and sediment), to determine viral occurrence, diversity and spillover in Thailand.



WP4: Modelling of Spillover Risk will apply process-based mathematical modeling to develop a new innovative risk assessement for spillover management building on local data from potential EID hotspot areas in Thailand. The WP aims to uncover the ecological, epidemiological, and socioeconomic factors contributing to zoonotic viral spillover by utilizing mathematical modeling approaches and developing strategies to prevent and control their spread, benefiting humans and animals.

WP5: Pandemic Prevention and Preparedness Literacy Intervention is tasked with generating evidence for critical public health measures to reduce the transmission of viruses among wildlife, domestic animals, and humans. It fosters the co-creation of community-based pandemic prevention literacy interventions to improve pandemic prevention and preparedness in Thailand.

WP6: Communication, Exploitation, and Dissemination (CED) is tasked with promoting the project's activities, outputs, and results to audiences in Thailand , European stakeholders, and citizens of both regions in order to enhance pandemic literacy. It facilitates effective internal communication among all partners and supports the other work packages.

WP7: Coordination and management ensure efficient and transparent project management and coordination according to the PANDASIA project plan and European Commission guidelines and regulations. It provides oversight of PANDASIA's work plan implementation according to the planned timeline and budgetary resources.

WP8: Ethics ensures compliance with ethical principles and relevant legislation in EU countries and Thailand.

The participating consortium members taking advantage of the many synergies among the institutes to follow "One Health" principles are as follows:
Norwegian University of Life Sciences (NMBU); Norwegian Veterinary Institute (NVI); Heidelberg University Hospital (HUH); Leibniz Institute for Zoo and Wildlife Research in the Forschungsverbund Berlin e.V. (Leibniz-IZW); The Wolfson Institute of Population Health (WIHP) of the Queen Mary University of London (QMUL); Chulalongkorn University (CU); Umeå University (UM); Khon Kaen University (KKU); Mahidol University (MU); and SUPA71 Co., Ltd (SUPA71).