IDAlert

Infectious Disease decision-support tools and Alert systems

IDAlert aims to tackle the emergence and transmission of pathogens by developing a range of decision-support tools and systems to enable decision-makers to act on time with improved responses.

As our planet heats up due to climate change, outbreaks of zoonotic diseases are increasing and expanding to new parts of the world, in particular Europe. Warmer temperatures, more variable rainfall, and the loss of biodiversity, influence the survival and spread of zoonotic pathogens, and the reproduction and geographic location of their vectors, such as mosquitoes or ticks. Past and recent health crises, including the COVID-19 pandemic, have shown there is a need for stronger and more inclusive preparedness and responsiveness to epidemic-prone pathogens at the EU and global level.

Objectives

- Develop innovative indicators and monitoring mechanisms to assess the health-relevant outcomes of climate policies and actions
- Develop predictive models and early warning systems for exposure and health impacts of climate change based on transparent assumptions and architecture
- Develop tools for health impact and cost-benefit assessment of climate-change adaptation and mitigation measure
- Investigate health co-benefits and unintended consequences of climate adaptation and mitigation policies
- Determine the societal implications of climate change on health systems, including occupational health, and development of adaptation measures
- Develop training materials and guidelines to educate relevant actors in citizens' daily life on climate change health impacts and to facilitate adaptation of health systems and practices
- Deliver FAIR data on positive and negative health impacts of climate change, including impact on groups at higher risk or vulnerability

A unique approach

IDAlert will undertake an innovative co-creation, participatory, and citizen science approach, involving stakeholders to integrate needs and address gaps, and an **EcoHealth and One Health** systems perspective, taking account of the close connection between humans, animals, and the environment, and the increase in infectious diseases.

Hot spots

The validity of the tools and methods developed in the project will be demonstrated in key hotspot sites in Spain, The Netherlands, Greece, Sweden, and Bangladesh, which are experiencing rapid urban transformation and climate-induced disease threats.

Work packages & objectives

WP1 Coordination and management
Ensure smooth execution of the project work plan and provide genuine coordination and management for the implementation and operations.

WP2 Indicators for monitoring climate-induced infectious disease risk and emergence
Ensure all key stakeholders have easy access to timely, accurate, spatially-relevant data, disaggregated by socio-economic parameters, and tools, that enable monitoring of climate-sensitive zoonotic diseases and improved design of policies and interventions.

WP3 Seasonal indicator platform for targeted early warning and response
Co-create an early warning tool to protect Europe from existing, increasing, new and emerging zoonotic disease threats with key stakeholders and users of the European Climate and Health Observatory. A seasonal risk indicator platform, linking reanalysis and sub-seasonal to seasonal (S2S) climate predictions with a selection of validated indicators developed in WP2 will be designed.

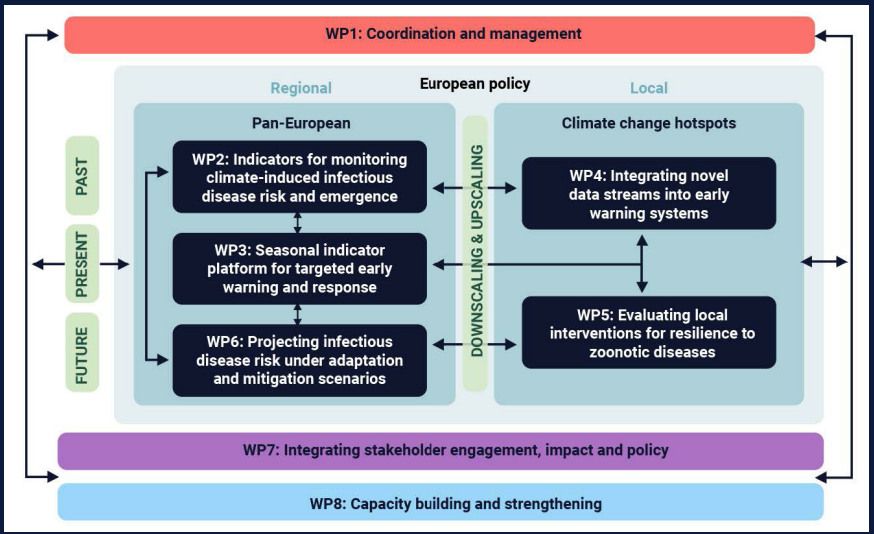
WP4 Integrating novel data streams into early warning systems
Generate operational and actionable infectious disease intelligence using novel surveillance approaches for rapidly detecting and responding to growing pathogen, vector, and wildlife disease risks in the context of climate change and through the lens of One Health preparedness.

WP5 Evaluating local interventions for resilience to zoonotic diseases
Evaluate local adaptation strategies and interventions to reduce zoonotic transmission and emergence at multiple scales. The causal effect of three local adaptation interventions designed to mitigate zoonotic disease risk using quasi-experimental approaches, leveraging empirical data collected in WP4 will be quantified.

WP6 Projecting infectious disease risk under adaptation and mitigation scenarios
Generate and deliver information on long term-changes in health risks related to infectious diseases, given a range of greenhouse gas emission and socio-economic future scenarios (20-50 years into the future), that will be used to develop Europe-wide projections.

WP7 Integrating stakeholder engagement, impact and policy
Communicate and disseminate the knowledge and outputs generated in IDAlert to key stakeholders to raise awareness and support the adaptation and preparedness of health systems and policies.

WP8 Capacity building and strengthening
Identify the key stakeholders of IDAlert who influence policy understanding, decisions, attitudes and behaviour at the pan-European level, create a 'sphere of indirect influence' to help the project navigate and find ways to iteratively engage and encourage stakeholders to use and apply the evidence to seed change.



Consortium

The consortium involves 19 organisations with world leading experts in a wide range of disciplines including zoonoses, infectious disease epidemiology, social sciences, artificial intelligence, environmental economics, and environmental and climate sciences.

1. Umeå Universitet
2. University College London
3. Benaki Phytopathological Institute
4. Universidad Autónoma de Barcelona
5. Irideon SI
6. Universidad Pompeu Fabra
7. Helmholtz-Zentrum hereon Gmbh
8. Universitatsklinikum Heidelberg
9. Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici
10. London School of Economics and Political Science
11. Stichting International Red Cross Red Crescent Centre on Climate Change and Disaster Preparedness
12. Erasmus Universitair Medisch Centrum Rotterdam
13. Agencia Estatal Consejo Superior de Investigaciones Científicas
14. Barcelona Supercomputing Centre Univertaet Leipzig
15. Universitaet Leipzig
16. Three O'clock
17. Statens Veterinaermedicinska Anstalt
18. International Centre for Diarrhoeal Disease Research Bangladesh
19. Agencia de Salut Pública de Barcelona

IDAlert - Infectious Disease decision-support tools and Alert systems to build climate Resilience to emerging health Threats

Start date: 1 June 2022
Duration: 5 years
Budget: € 9.18 million

Connect with us:
contact@idalertproject.eu
www.idalertproject.eu
Twitter: @IDAlertproject
Linkedin: IDAlert

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