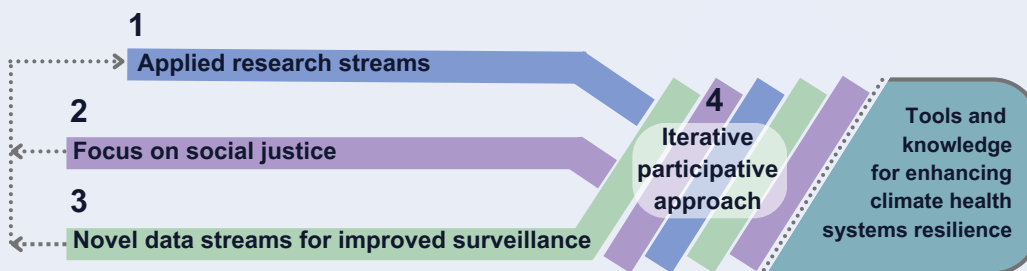


IDAAlert's framework for building climate resilient health systems

Climate change is causing vector-borne infectious disease outbreaks to become more frequent and spread to new areas in Europe. To tackle this challenge, IDAAlert is developing a range of decision support tools and early warning systems to help decision-makers to timely respond to the emergence and spread of climate-sensitive infectious diseases.

An integrated Knowledge-To-Action framework

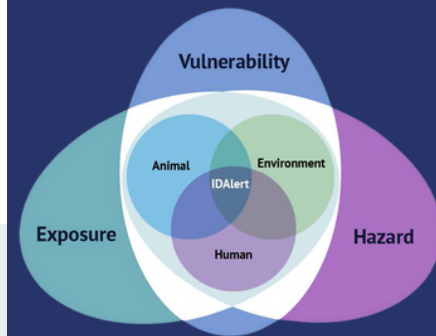
IDAAlert has created a holistic and comprehensive framework to turn knowledge into action. This framework is based on four components aiming to make a broader impact on society and strengthen the climate resilience of health systems.



Transdisciplinary research for a resilient Europe

IDAAlert's research is divided into four transdisciplinary research streams:

- **Indicators for monitoring climate-sensitive infectious diseases** and communicating complex climate-health trends in an accessible format.
- **Projections of infectious disease risk under adaptation and mitigation scenarios to support climate policies.** These long-term projections can support climate policies across various sectors of society at different temporal and spatial scales.
- **Early-warning and response systems** that alert of increased outbreak risks to help deploy public health response interventions that can mitigate the impact of an imminent outbreak.
- **Evaluation of climate-sensitive infectious disease risk adaptation and mitigation interventions** to enhance the public health system's resilience and identify unintended consequences.



Integrating Climate Risk and One Health

IDAAlert's framework is based on the IPCC's climate risk framework and the One Health approach, which integrates animal, human, and environmental health.

According to the Intergovernmental Panel on Climate Change (IPCC), risk is the result of a dynamic interaction between a climate-related hazard, exposure to it, and the vulnerability of the affected human or ecological system.

The One Health approach suggests addressing animal, human, and environmental health together. This integrated method aims to improve public health resilience in Europe and tackle the challenges posed by climate-sensitive infectious diseases.



Addressing unequal impacts and responsibilities

Climate change is expected to aggravate existing social inequalities. As with other climate-related health problems, disadvantaged groups suffer more from infectious diseases. These groups are defined by factors such as socioeconomic status, gender or location.

To address this issue, IDAlert's places a strong emphasis on social justice. By monitoring the emergence and transmission of climate-sensitive infectious diseases, combined with detailed knowledge of the most vulnerable populations and their location, we can help reduce the impact on high-risk population groups.

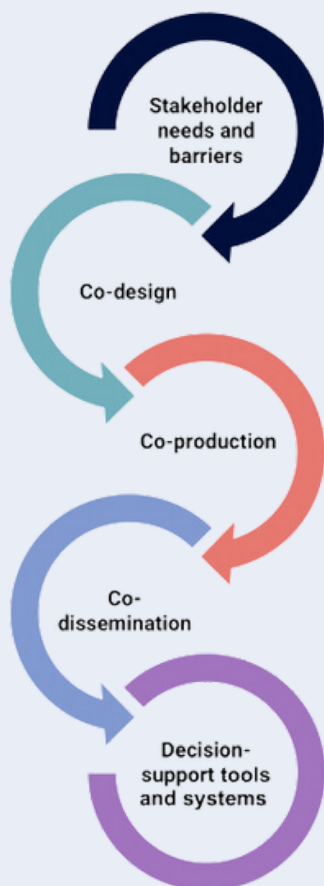
Novel surveillance systems for public health

A number of novel surveillance systems have been operationalized in Europe for public health purposes. IDAlert integrates these technologies and methods into its research streams to collect data. Some examples of these data streams include:

- **Citizen science** provides a scalable method for tracking arthropod vectors.
- **Digital tools** enable the implementation of health surveys and the study human mobility patterns.
- **Artificial Intelligence** aids in classifying mosquitoes and other vectors automatically.
- **DNA and RNA sequencing** technologies facilitate rapid screening for pathogens and vectors in field settings with mobile suitcase labs.

Stakeholder engagement at the core of IDAlert

Throughout the project's lifetime, stakeholders at European, regional, and local levels are involved to guide the research and ensure its findings meet actual needs. These stakeholders, including citizens, policymakers from human and animal health sectors, climate policy stakeholders, and landscape designers, are engaged in the whole research process following an iterative participatory approach:



Co-design is the first phase of the overall co-creation process. Within this phase IDAlert brought together consortium researchers and non-academic partners to jointly develop the research project and define research questions that meet collective interests and needs.

Co-production involves stakeholders' participation in the project research and the co-development of early warning and response systems. This collaboration aims to produce useful outputs and useable information to guide decision-making.

Co-dissemination and exploitation of research outputs implies the leverage of stakeholder networks to maximise impact, ensuring the relevance of the research for health and climate change decision-makers, and that outputs align with end-users' needs.

More info:

Rocklöv, Joacim, et al. "Decision-support tools to build climate resilience against emerging infectious diseases in Europe and beyond." *The Lancet Regional Health—Europe* 32 (2023). <https://doi.org/10.1016/j.lanep.2023.100701>

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