IHI Call Days | Call 12

EU Anti Viral Health Threats

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Challenges and objectives

- **What problem(s) are you trying to solve**
  - **Preparedness for the expansion of viral threats to Europe because of Climate Change**
    - **Crimean-Congo Haemorrhagic Fever Virus (CCHFV)** is an expanding threat in Europe due to climate change, increased tick vector range, and lack of approved treatments or vaccines.
    - **Dengue Virus (DENV)** is increasingly seen as a potentially endemic threat in Europe due to the northward spread of Aedes mosquitoes, especially Aedes albopictus (tiger mosquito), driven by climate change.
    - **Nipah Virus (NiV)** is a high-fatality zoonotic virus (40–75%) with pandemic potential and no approved treatments.
    - All three viruses are high-level priority pathogens for the WHO

- **Which IHI specific objective(s) are you addressing?**
  - Objective 1 : *Contribute towards a better understanding of the determinants of health and priority disease areas*
  - Increased understanding of health and disease mechanisms at a molecular level.
  - Novel tools or hypotheses for new treatments tested preclinically and/or in early-stage clinical or in silico trials

- **Which unmet public health need are you addressing?**
  - Patients benefitting from Improved Healthcare
  - Reduction in healthcare costs associated with the treatment of resistant infections
  - Development of treatments for high impact disease that currently have no effective treatment options or Vaccines
  - ***Increased preparedness of EU healthcare systems for disease outbreaks***

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Your approach to solve the problem

- Promote R&D through enhanced collaboration to develop and optimize new CCHFV antiviral molecules
- Accelerate progression of several assets against Nipah and Dengue for translational/preclinical studies.
- Progress assets targeting DENV into early clinical studies
- Develop new diagnostic tools
- Monitor changes in the epidemiology of the diseases (Vector Infestation and seroprevalence studies)

Pilar 1 Discovery	- Discovery of new antiviral molecules against CCHF through a multidisciplinary approach. - Target-based screening to unravel entry and replication mechanisms. - Target identification. - Vector target screening and validation.	AI modelling and simulation
Pilar 2 Translational	- Progress Nipah / Dengue assets to C2CS	
Pilar 3 Clinical	- Progress Dengue assets to clinical studies (Phase 1/1b/II)	
Pilar 4 Diagnostics and Epi	- Diagnostics and Epidemiology	

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Is your project suitable for IHI?

- Requires the input of multi sector stakeholders in
  - The understanding of viral disease pathways, and
  - Critical infrastructure for high impact pathogens
  - Drug Discovery and Development Expertise
  - Development of diagnostics and
  - Surveillance tools to monitor risk

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Outcomes and Impact

- **What do you expect out of your proposal in terms of concrete results/outcomes and impact**?
  - Greater understanding of Viral mechanisms related to entry, replication and persistence in host cells
  - Validated new targets for viral pathogens
  - Models to identify anti viral molecules
  - Pipeline of promising molecules for further development
  - Better understanding of EU threat level related to emerging vector borne disease

- **How do you envisage your proposal to ensure translation from research to innovative solutions that can be integrated/implemented into the healthcare ecosystem**
  - Early stage drug discovery and development into Ph1 ready molecules ?

- **How does your project proposal contribute to strengthening the competitiveness of the Union's health industry?**
  - Development of networks, expertise and preparedness for emerging infectious disease threat to Europe

- **How does your project proposal contribute to the expected benefits for patients?**
  - Treatments currently have no effective medical interventions

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Expertise and resources

- We have ongoing discussions with :
  - Pharma : GSK, Evotec ?
  - Public Partners : Karolinska Instituet, ERINHA
  - DNDI ?
  - **Access to BSL4 Facilities**

- Please Contact us if you :
  - Are partners with discovery programmes or technologies for vector borne infectious disease threats
  - Are developing of have Diagnostics for Viral Threats (esp CCHF)
  - Experts in Modelling of disease emergence in EU
    - Vector movement related to Climate Change (esp CCHF)
    - One Health : Epidemiology related to vector movement and climate change
    - AI for target identification/DD and vector movement

Predicted ‘In kind’ Budget ~10M

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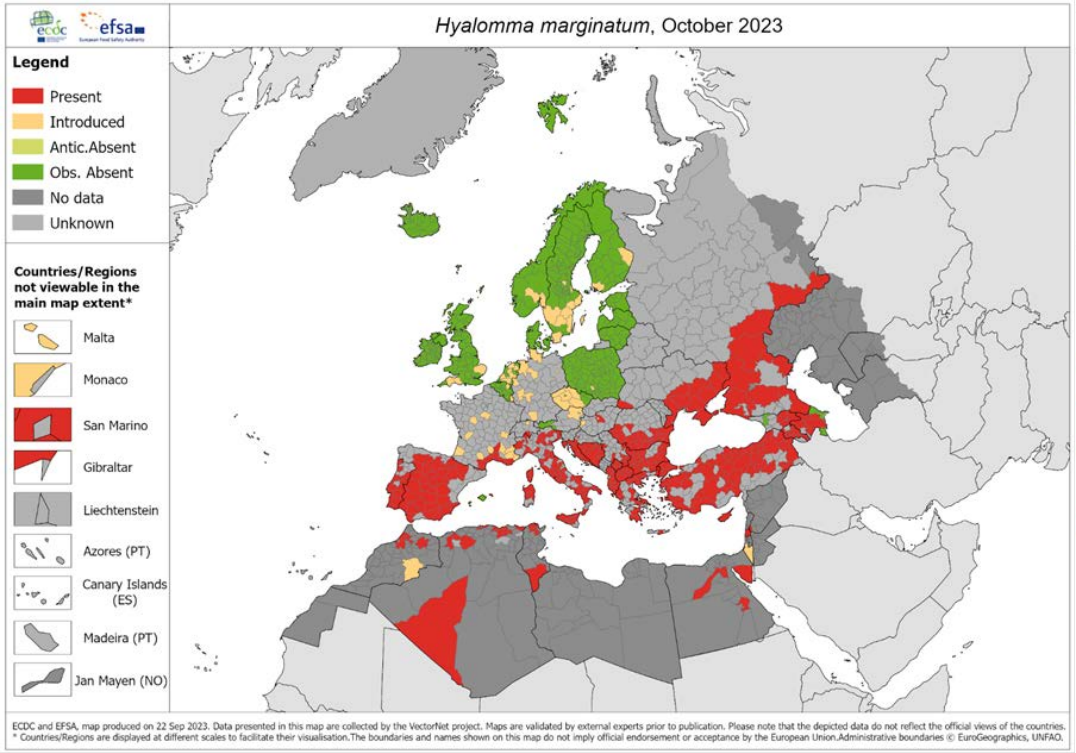
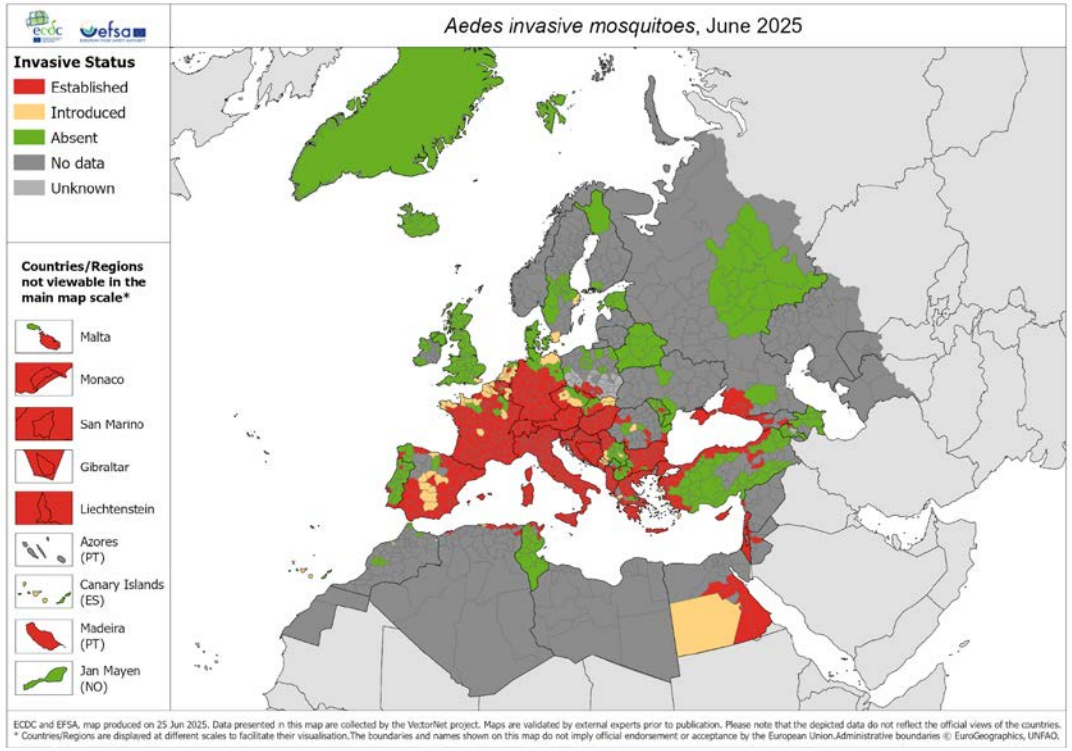
Additional information





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