Topic 3.2: Health - Infectious diseases

Title: Infectious diseases

Why is this area relevant and which societal challenges does it address?

Infectious diseases have profound impacts on global health, economies, and social stability and continue to be leading causes of illness and death worldwide.
Diseases as tuberculosis, malaria, and HIV/AIDS cause millions of deaths each year, especially in low-income countries. Emerging and re-emerging infections, like Ebola, Zika, and COVID-19, among others, have also shown how rapidly infectious diseases can spread and disrupt societies. Migration and international travels have changed the global epidemiology having an important impact in the propagation of diseases. Moreover, populations with limited access to health care are disproportionately affected. Also, vulnerable groups as children, elderly, and immunocompromised Individuals are specially affected.
In addition, the overuse of antibiotics and other antimicrobial agents has led to an increase in drug-resistant pathogens. Certain diseases are becoming sometimes impossible to treat due to resistance.

Precise scientific research question including added value gained from EU-LAC cooperation for both regions

Understanding infectious diseases is essential to improve the management of patients and their final outcome. It is also critical for pandemic preparedness, as it enables health systems to detect, respond to, and contain outbreaks more effectively. Development of rapid diagnostic tests, antimicrobials, and personalised medicine will improve the outcome of patients. Genomic surveillance has been shown also be essential.
Cooperation between both regions will allow the exchange of knowledge as the epidemiological characteristics are different. The concrete experience in one region can be transmitted to the other region with mutual benefit. Also, it will allow strengthening surveillance, diagnostic and response: Improved surveillance infrastructure enables rapid response to outbreaks, benefiting both regions. This cooperation also will reinforce the previous existing individual collaborations among researchers.

Expected impact for both regions Expected impact for both regions

- Development of joint research projects for the creation of surveillance, diagnosis or treatment tools adapted to diverse needs and resources in the different regions
- Knowledge exchange: the different epidemiological profiles in the different regions enrich the understanding regarding epidemiology, pathogenicity, antimicrobial resistance, transmission and prevention.
- Strengthening surveillance and response: Better surveillance infrastructure allows for rapid response to outbreaks, benefiting both regions.
- Training and education: Cooperation promotes training programs that better prepare health professionals in both regions.

This joint work in EU-LAC community promotes scientific advances and strengthens global public health.

Additional information: strategic, tactical and operational topics

Strategic:

- Global Health policies: establishing regulatory frameworks and policies that promote international health cooperation in preparedness and response, antimicrobial resistance, one health etc.
- Sustainable financing: ensuring adequate financial resources, including investment in infrastructure in the different regions
- Research and development: promote collaboration in research in different areas

Tactical:

- Exchange of information: to develop systems to share databases and other data regarding statistics, outbreaks information etc.
- Training and education: to develop joint training programs for researchers and health professionals in the different regions
- Preparedness and response: to develop joint protocols to implement a coordinated and improved response for infectious disease outbreaks and other threats

Operational:

- Promote joint research projects in the different areas
- Promote Educational activities: webinars, workshops etc.
- Promote collaboration among institutions

Added value gained from the inclusion of research infrastructures

The inclusion of Research Infrastructures (RIs) enhances the quality and impact of the partnership. It will allow sharing and having access to:

- Facilities: high biocontainment laboratories, veterinary facilities, biobanks, NGS platforms etc.
- Databases: genomic databases, proteins, culture collections etc.
- Scientific Networks in different fields
- Research services and resources to support research projects

Also, it will allow to optimise the use of the scientific and technological resources available in the EU-LAC community and thus play a major role in supporting and advancing all research fields. Connecting RIs across regions strengthens global research networks, promoting the co-creation of knowledge and addressing global challenges regarding infectious diseases more effectively.