



## EU-LAC collaboration on health research Infection Working Group

**Manuel Cuenca** (ESP)\*, **José Paulo Gagliardi Leite** (BRA)\*, **Pedro Cahn** (ARG), **Pablo Bonvehí** (ARG), **Stefano Vella** (ITA), **Fernando de la Hoz** (COL)

\*Coordinators of the working group

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## Short background

## Objectives and Sub-Areas



### Objectives:

- a) analyse the present situation and future scenario to promote the linking, integration and coordination of programs for infectious diseases research between EU-LAC countries;
- b) Improve the collaboration of researchers with social services, clinicians and companies.

### The study group identified five sub-areas:

1. Public health and social care services research related to infectious diseases
2. Early detection research including both screening and diagnosis
3. New treatments and development of new therapeutic strategies
4. Research in prevention of infectious diseases and promotion of well-being
5. Underpinning research



## Added value of the EU-LAC collaboration in Infection area



- Knowing regional, epidemiological and environmental differences in prevalence and morbidity of different infection diseases in order to develop better control programs.
- Developing intervention programs adapted to geographical areas but with a global perspective.
- Controlling infection diseases associated to immigration and traveling.
- Validation of new tools of screening and diagnosis by doing multicenter studies.
- Collaborative research in animal models of infection by sharing facilities and **alternatives to animal** models of diseases.
- Bridging the gap between underpinning research and public health microbiology.
- Increasing collaboration research, educational programs, funds getting and global research results.



## Long-term (5-10 y) impact of EU-LAC cooperation in Infection area



- Promotion the development of EU-LAC international disease-specific networks and to implement pre-existent networks.
- Design of multicentre studies to analyse emergence of resistance, microorganism interactions and immune response and other emerging topics in infectious diseases.
- Development of GPL (good laboratory practices) procedures and harmonization of techniques of research including proficiency tests (EQA-External Quality Assurance) using specific panels.
- Collaboration with companies interested in techniques related to personalized medicine.
- Scientific advice, training and advisory functions.



Sub-Area - priority 1

## Research in prevention of infectious diseases and promotion of well-being



**Specific Challenge:** infectious disease detection, monitoring, outbreak response and providing scientific evidence to prevent and control disease.

**Scope:** topics related to public health of infectious diseases such as frequency of those entities, communicable diseases, surveillance programs, notification procedures and their influence on control measures and management of cases by social care services.

### Expected Impact:

- Design of multicenter studies to know microorganism genetic, evolution, and ecology as well as the population genetics
- Development of standard operational procedures and harmonization of techniques of research foccusing in epidemiological responses
- Collaborative research in animal models, new vaccines and drugs, and bioinformatics

**Type of Action:** Promotion international disease-specific networks and participation in JPI on AMR (Joint Programming Initiative on AntiMicrobial Resistance)



## Early detection research including both screening and diagnosis



**Specific Challenge:** design new techniques to early detection of infections - screening methods and confirmation diagnosis procedures. National and international agencies require diagnostic procedures with very high accuracy and reliability. If not they cannot be licensed as clinical diagnostic techniques.

**Scope:** high morbidity and mortality still associated to many infections are related to difficulty for their early detection. Most of patients with risk factors to a number of infectious diseases are inappropriate treated since accurate and early methods to detect the infection do not exist.

### Expected Impact:

- Reduce the overtreatment, as well as the possibility of developing resistance to antimicrobial agents.
- Development of diagnosis system for non-cultured pathogens, and novel and emerging pathogenic microorganisms.
- Novel diagnostic approaches using new technologies for sequencing.

**Type of Action:** design of multicentre studies to develop new screening and diagnosis techniques



## Emerging food, water and vector-borne diseases



### Specific Challenge:

**a) Vector-borne related diseases:** borreliosis, chikungunya, dengue, malaria, plague, Q-fever, rabies, SARS, smallpox, tick-borne encephalitis, viral haemorrhagic fevers, West Nile fever, yellow fever, and some acute diarrhea.

**b) Food and waterborne diseases and zoonosis:** anthrax, botulism, campylobacter, cholera, echinococcosis, hepatitis A, rotaviruses, noroviruses etc

**Scope:** still have high rates of morbidity and in specific cases high mortality rate and both are associated to difficulties for early detection of the infection, therapeutic limitations, areas without adequate resources, and patients suffering from underlying conditions such as immunosuppression, chronic or debilitating illnesses.

### Expected impact:

- analysis of the potential differences in microorganism genetic, evolution, and ecology by different geographical areas
- Specific programs for prevention of endemic infections
- Better control of imported infections
- Increasing collaborative research, funds getting and global research results

**Type of action:** promotion the development of EU-LAC international disease-specific networks.



# EU-LAC Health Partners



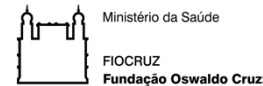
**Dr. Rafael de Andrés (Coordinator)**  
ISCIH, Instituto de Salud Carlos III, Ministerio de Economía y Competitividad, Spain



**Dr. Stephanie Splett-Rudolph**  
DLR, Deutsches Zentrum für Luft- und Raumfahrt e.V., Germany



**Dr. Luis Tacsan Chen**  
RIMAIS, Red Iberoamericana Ministerial de Aprendizaje e Investigación en Salud, Ministerio de Salud, Costa Rica



**Dr. Paulo Buss**  
FIOCRUZ, Fundação Oswaldo Cruz, Brazil



**Dr. Joaquin Guinea**  
INNOVATEC, Sociedad para el Fomento de la Innovación Tecnológica, Spain



**Eng. Águeda Menvielle**  
MINCYT, Ministerio de Ciencia, Tecnología Argentina e Innovación Productiva

The COHRED Group



**Dr. Gabriela Montorzi**  
COHRED, Council on Health Research for Development, Switzerland /Mexico



**Dr. Diassina Di Maggio**  
APRE, Agenzia per la Promozione della Ricerca, Italy



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