

Laboratório Misto Internacional « Sentinela »

LMI Sentinela

2018 – 2022, 2023 – ... ?



Helen Gurgel

University of Brasília (UnB), Geography, environment and health laboratory (LAGAS), Brasília



Christovam Barcellos

Oswaldo Cruz Foundation (Fiocruz), Institute of scientific and technological communication and information for health (ICICT), Climate and health observatory, Rio de Janeiro



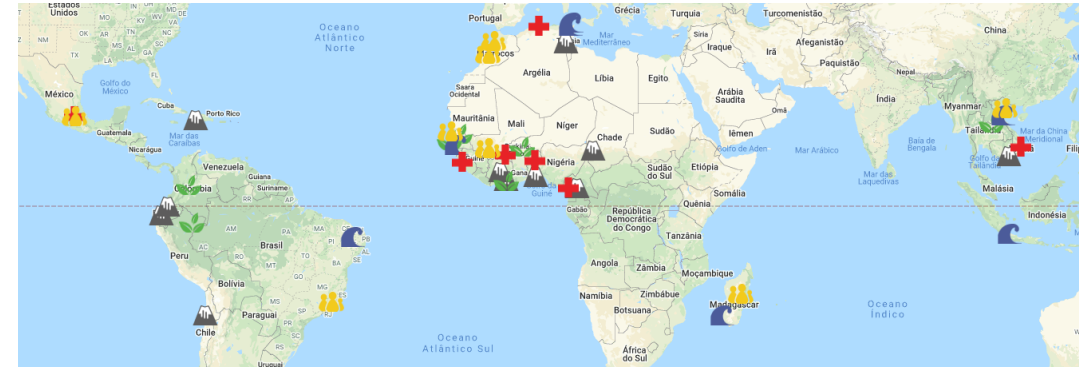
Emmanuel Roux

IRD/ESPACE-DEV, Montpellier, France

LMI? LMI Sentinela?

International joint laboratories (LMI)

- **Specific scientific question** associated with **key social problematics**
- **Shared platform** (data infrastructure, etc.)
- Towards a **permanent reference center**



LMI Sentinela

UnB – Fiocruz – IRD: <http://lmi-sentinela.unb.br/>

“Observatories of the environment and vector-borne diseases – sentinel sites of the Brazilian climate and health observatory”

Research, training and capacity building, dialogue with public policies, for an integrated and territorialised health Surveillance, including in cross-border areas

LMI Sentinela

39 members, including 9 non-permanent post-doctoral fellows

22 Brazilian / 17 French people

13 Laboratories

Hypothesis and working framework

Observatory concept

A conceptual and operational framework favouring interdisciplinarity and intersectorality



OC&S (FIOCRUZ/ICICT)

<https://climaesaude.icict.fiocruz.br>

Collect and combine multidisciplinary and multi-source information to build indicators and facilitate studies on the relationships between environment (climate) and health

[Barcellos, Roux et al., Pan American Journal of Public Health, 2016]

Hypothesis and working framework

Observatory concept

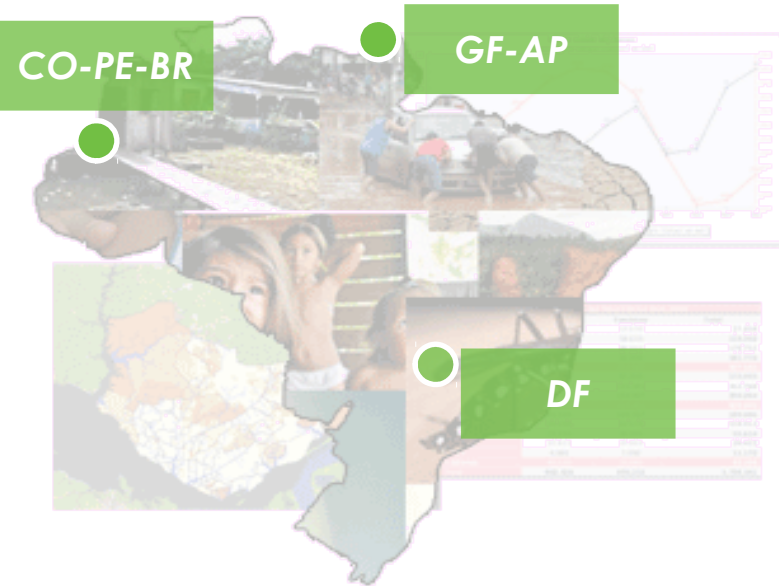
A conceptual and operational framework favouring interdisciplinarity and intersectorality

Sentinel sites

[Roux, Barcellos et al., ENVIBRAS, 2014]

- Understand mechanisms
- Calibrate models
- Provide recommendations for surveillance, prevention and control (and elimination)

<https://climaesaude.icict.fiocruz.br/amapa-guiana-francesa>



OC&S (FIOCRUZ/ICICT)

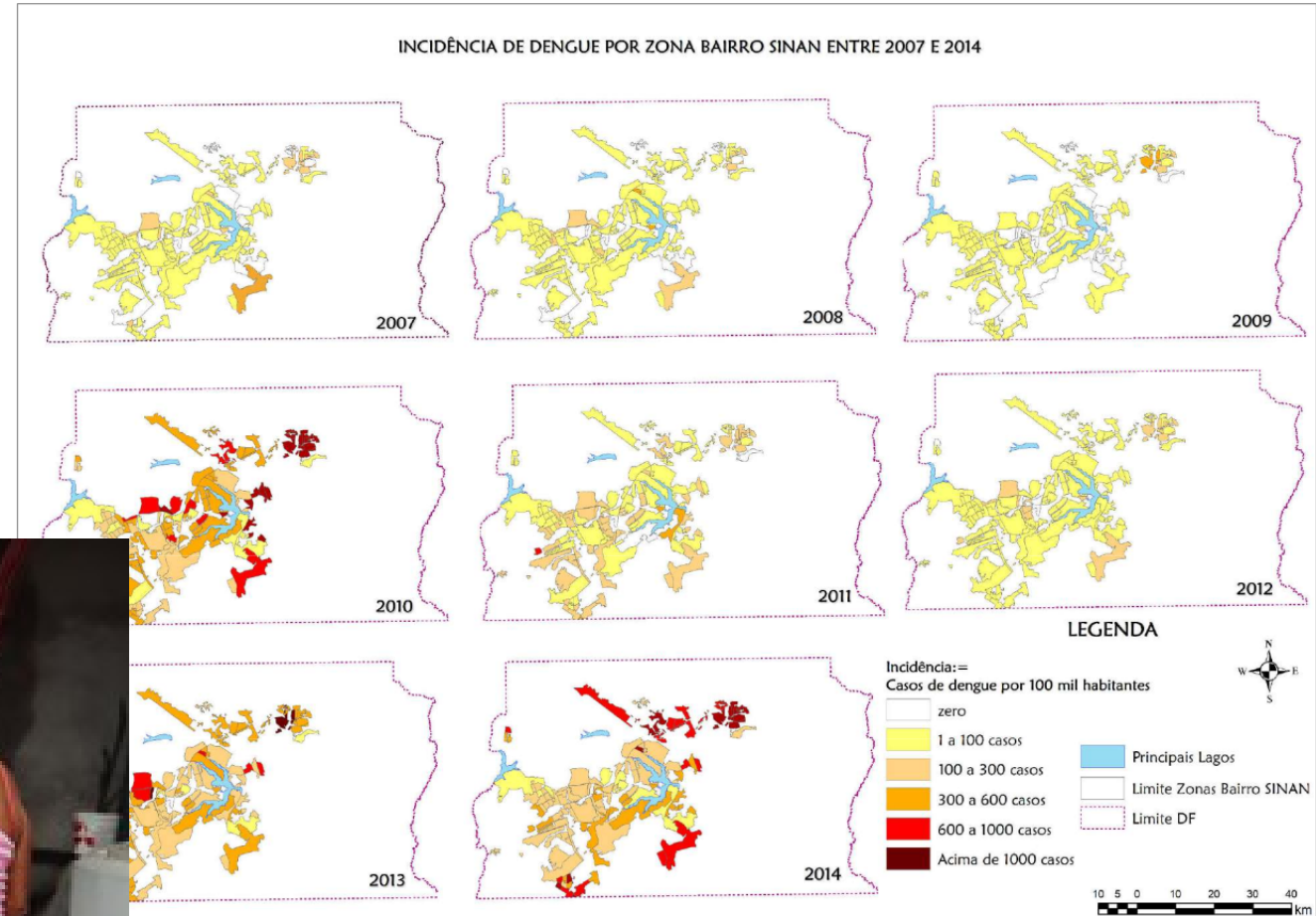
Collect and combine multidisciplinary and multi-source information to build indicators and facilitate studies on the relationship between environment (climate) and health

[Barcellos, Roux et al., Pan American Journal of Public Health, 2016]

Main studies/results

- **Health system in the DF: characterisation and evaluation**

- Dengue incidence dynamics in time and space (Gregorio et al., 2019)
- Care pathways
- Cross-sectional study on arboviroses



Main studies/results

- Health system in the DF: characterisation and evaluation

- **Cross-border surveillance**

- **Cross-border malaria data harmonization**

<https://climaesaude.icict.fiocruz.br/amapa-guiana-francesa>

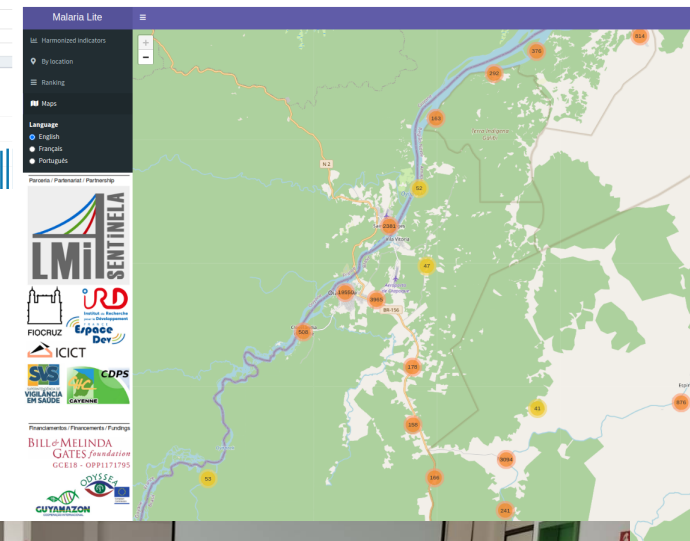
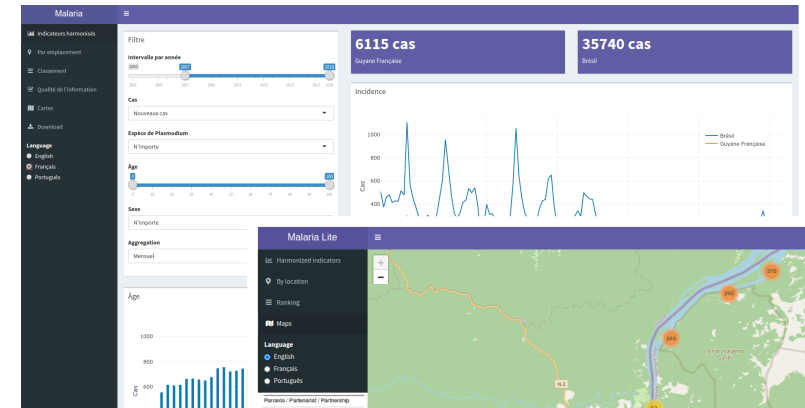
- New **cross-border participatory surveillance** model (VigiFront-Saúde project, P. Peiter & M. Mutis, Fiocruz/IOC, LMI Sentinela)

- Formalization of **cross-border collaboration network at the triple border** CO-PE-BR

- **Promoting the Cross-border health concept:**

e.g. GEOMED special session on « cross-border health »

12-14/10/2022 <https://sites.uci.edu/geomed2022/>

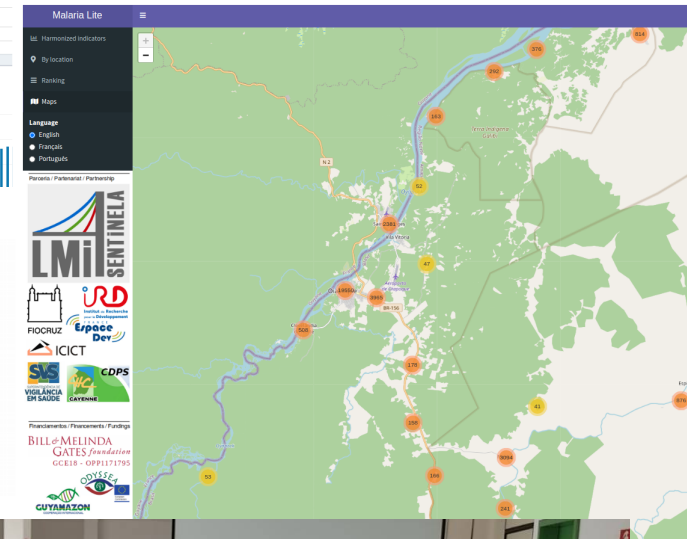
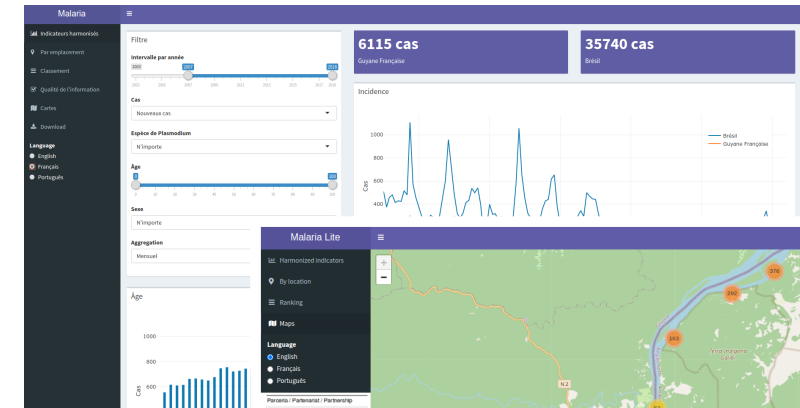


Main studies/results

- Health system in the DF: characterisation and evaluation
- **Cross-border surveillance**
 - **Cross-border malaria data harmonization**
<https://climaesaude.icict.fiocruz.br/amapa-guiana-francesa>
 - New **cross-border participatory surveillance** model (VigiFront-Saúde project, P. Peiter & M. Mutis, Fiocruz/IOC, LMI Sentinela)
 - Formalization of **cross-border collaboration network at the triple border** CO-PE-BR
 - **Promoting the Cross-border health concept:**
 e.g. GEOMED special session on « cross-border health »

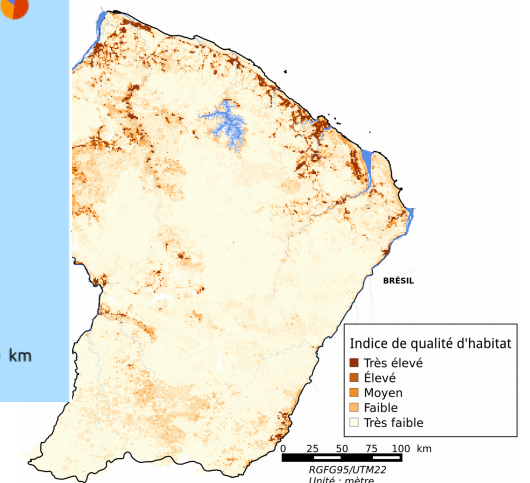
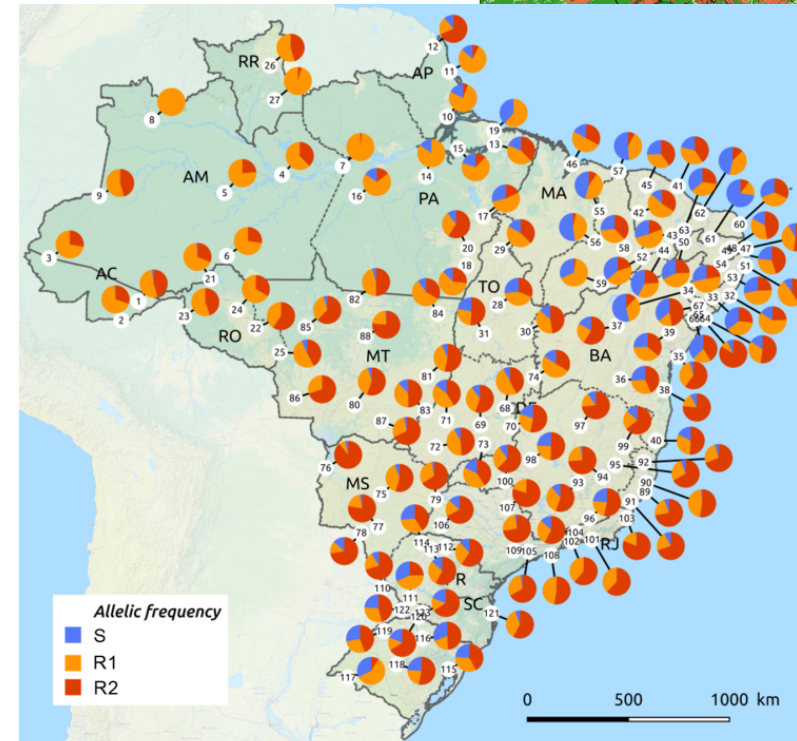
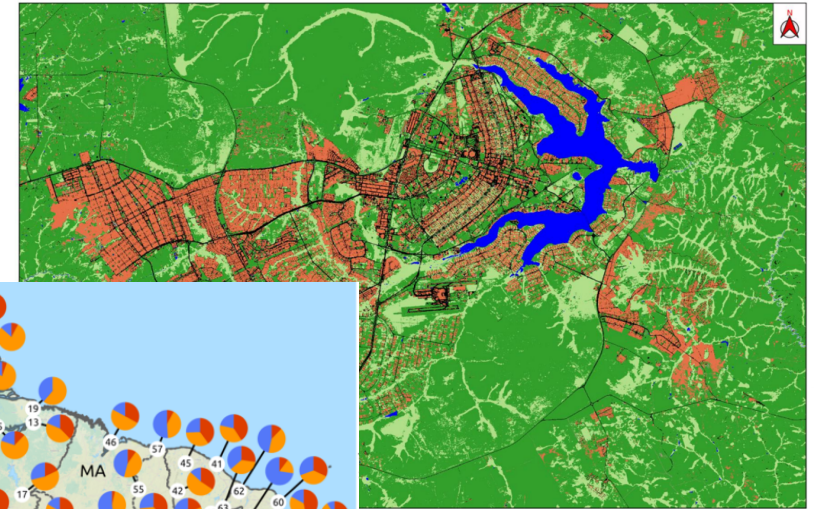
➔ 12-14/10/2022 <https://sites.uci.edu/geomed2022/>

**!/ \ Registration until 30/09 !/ **



Main studies/results

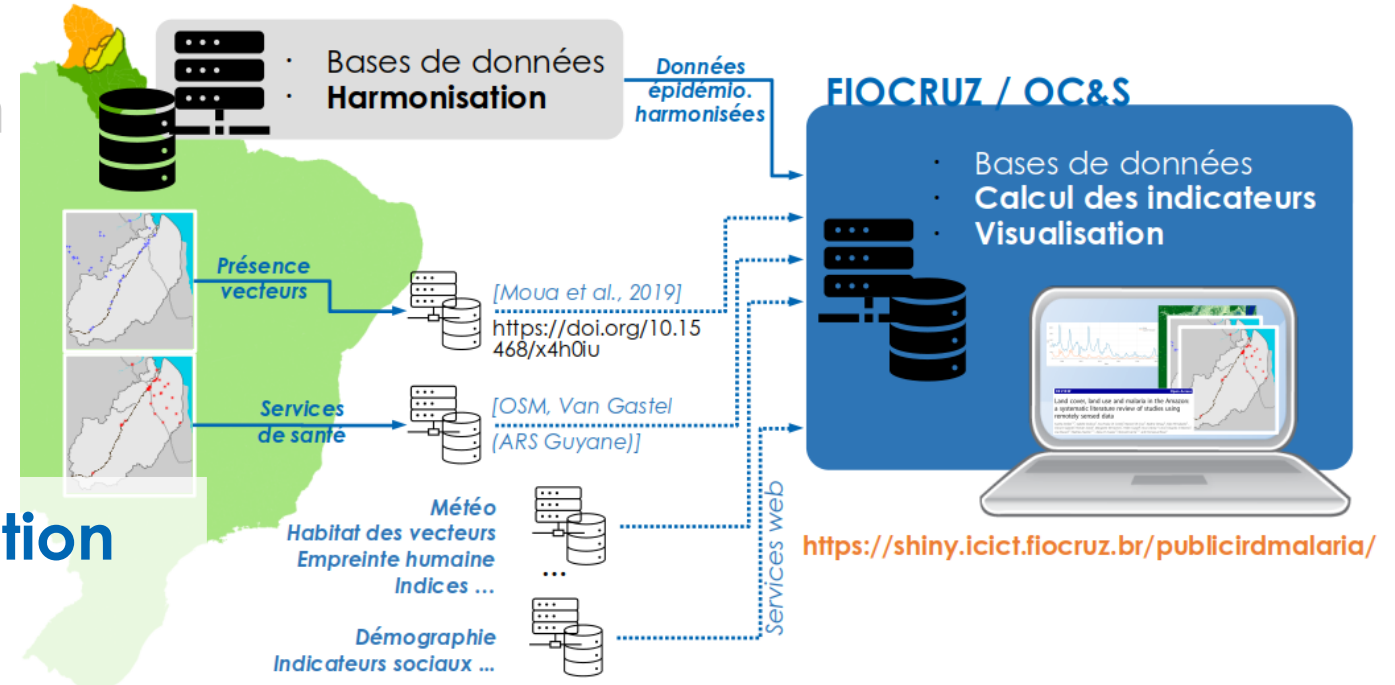
- Health system in the DF: characterisation and evaluation
- Cross-border surveillance
- **Environmental and ecological monitoring**
 - Remotly sensed environmental monitoring
 - Vector bio-ecology study/modelling
 - Spatial analysis of mosquito resistance



Main studies/results

- Health system in the DF: characterisation and evaluation
- Cross-border surveillance
- Environmental and ecological monitoring
- **Data infrastructures and information systems**

Rely as much as possible on distributed and open data infrastructures to make data Findable, Accessible, Interoperable and Reusable (FAIR)



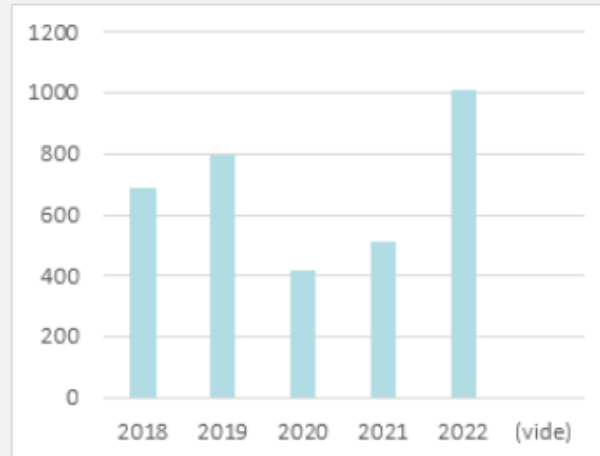
Teaching/Capacity building

- LMI members involved in **11 master courses or doctoral schools** in Geography, Geoprocessing, Public Health, Tropical medicine, Epidemiology, Information and communication for Health ... (~700 h/year)
- Supervision of **73 students (25 masters, 27 PhD)**

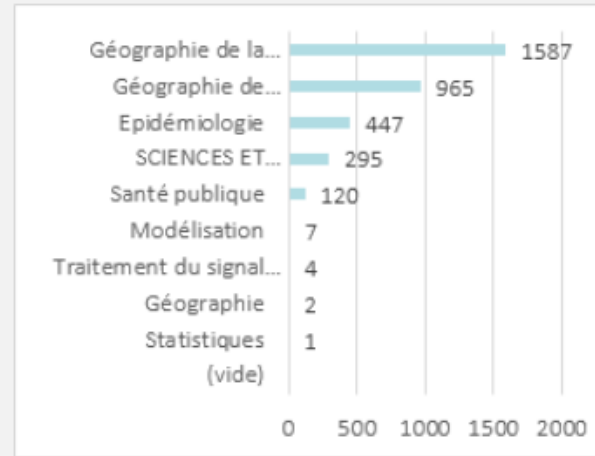
3428 H DE COURS DISPENSÉES

686 H/AN
En moyenne

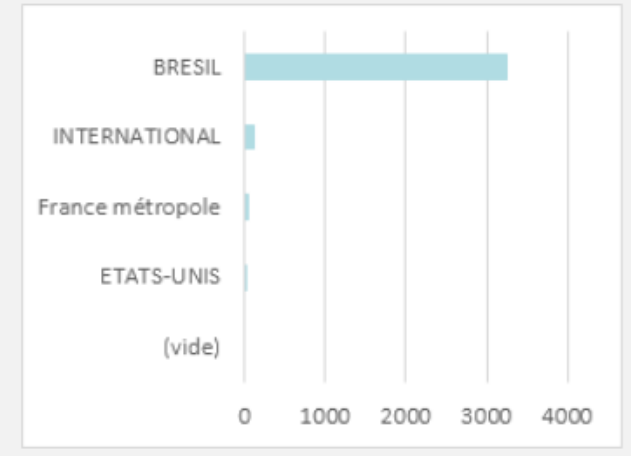
H DE COURS / AN



H DE COURS PAR DISCIPLINE



H DE COURS PAR PAYS



The Future ...

- **Deploying solutions**
 - to **other diseases**, to **all the LMI sentinel sites**
- **Integration**
 - **Heterogeneous data integration and joint analysis** : towards transdisciplinarity
 - **Intersectoriality**: articulation between LMI Sentinelita and projects of cross-border situation rooms for epidemiological surveillance and control (MH, OPAS/WHO)
 - **Interoperable sentinel site network** to spatial integration and optimal distributed ressource managment
- **Support (financially, institutionally) multi-disciplinary (and multi-institutional) academic pathways**: towards young scientists with One Health, Global Health, ... profiles

Thanks, Merci, Obrigado

