

# Introducing the BRIDGE NETWORK, an EDCTP3 project

One of the OHDSI African Chapter Achievements

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Prof. dr. Pascal Coorevits, PhD



**OHDSI**  
OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS







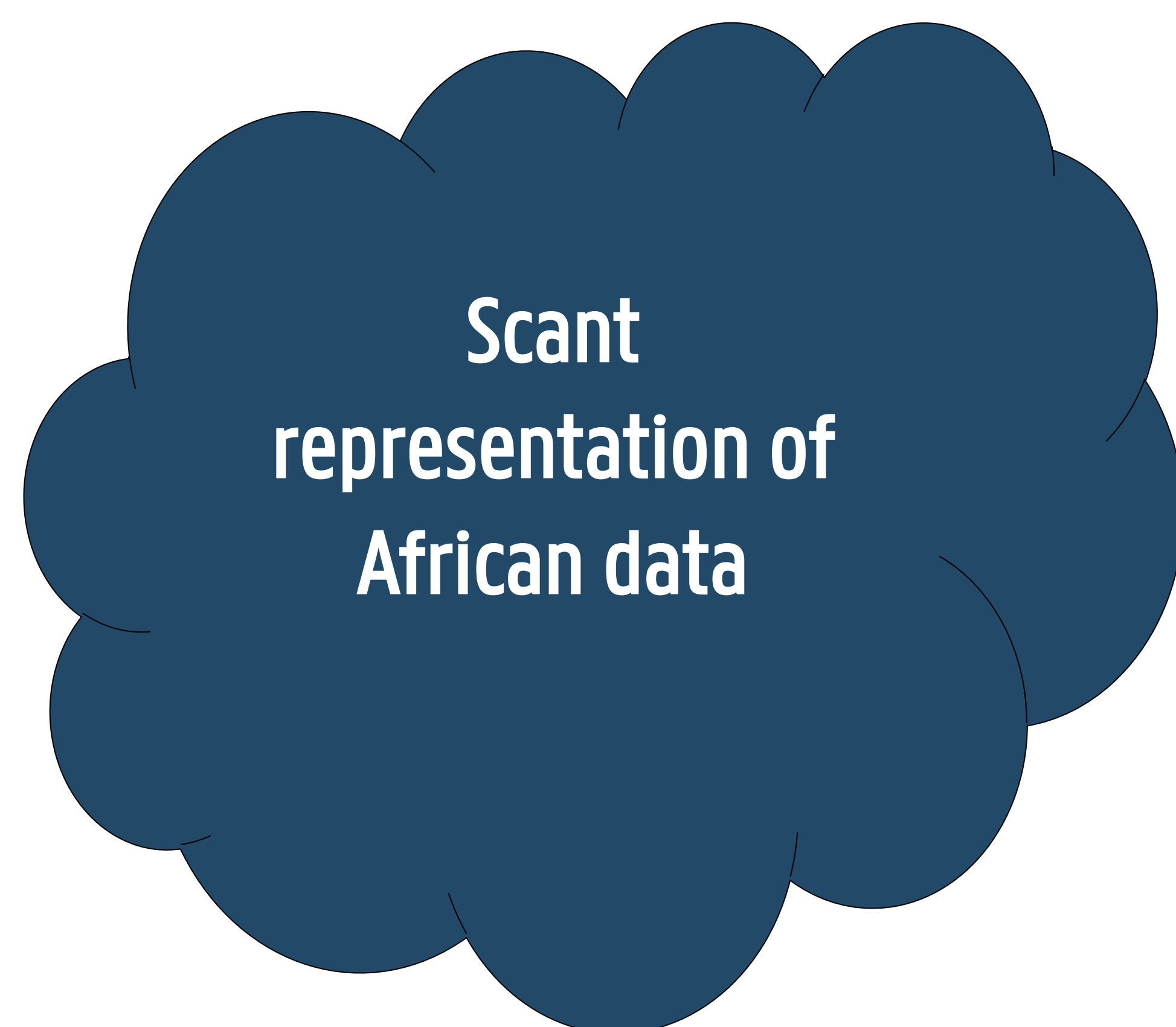
## The Africa Chapter is raising awareness of OHDSI in Africa to improve collaborative research, health data systems interoperability and promote collaboration across Africa and globally for data-driven insights and evidence-based health policies.

Cynthia Sung, Agnes Kiragga, Kofi Agayre, OO Aluko, David Amadi, Daniel Ankrah, Chidi Asuzu, Adam Bouras, Geert Byttebier, Aize Cao, Ahmed El-Sayed, Chris Fourie, Yacob Gebretensae, Nega Gebreyesus, Jay Greenfield, Lars Halvorsen, Jared Houghtaling, Katherine Johnston, Andrew S. Kanter, Mack Kigada, Sylvia Muyingo, Maureen Ng'etich, Michael Ochola, Henry Ogoe, Bolu Oluwalade, James Orwa, Mariette Smith, Amelia Taylor, Marleen Temmerman, Jim Todd, Daniel M Wanga, Andrew Williams, Pascal Coorevits, Marc Twagirumukiza on behalf of the OHDSI Africa Chapter Consortium

African countries represented among OHDSI Africa chapter members



### Why Africa Chapter of OHDSI now?



- Africa faces significant health challenges from a high burden of infectious diseases, maternal health issues, and rising incidence of non-communicable diseases.
- African governments are striving to establish efficient systems for sharing health data and promoting interoperability among various repositories as health data are increasingly migrating to electronic data capture.
- The OHDSI framework for data standardization and collaboration through a federated approach, as well as the extensive suite of programs for quality checks, visualization and rigorous analysis of observational data can accelerate efforts of African entities to strengthen health information systems and analyze large health data sets, both within and across African countries, to generate evidence for improving health systems and patient care, in a manner that is privacy protecting, transparent in methodology, and economical through use of open-source tools.

### How does OHDSI Africa chapter creates value?

- To leverage the OHDSI community and tools to harmonize fragmented and scattered health data in Africa **(Value 1: Improved data-driven insights & healthcare outcome).**
- To conduct faster and more reliable collaborative studies across a series of datasets and data types **(Value 2: Ease of international collaboration to generate large-scale studies with greater generalizable conclusions. Generate evidence to support healthcare and public health decisions).**
- To provide tools for data analysis, reducing costs for developing core software components to access the data **(Value 3: Cost savings).**
- To support result exchange in remote multi-center database studies without having to share the actual data **(Value 4: Seamless data access with data privacy preserved by design).**

### Expected Africa Chapter Outcomes




Key outcome from OHDSI Africa Chapter activities include:

- **Harmonized hospital patient data** and other healthcare data from various data sources: surveys, laboratories, clinical trials, etc.
- **Data Readiness** to generate standard reports and analytics for Ministries of Health to track trends in disease incidence or have stronger data-driven development of health policies (Specific Request from Authorities)
- **Data Readiness to monitor the safety and effectiveness of drugs** and vaccines under real world usage as well as diseases surveillance.
- **Empowered system** for comparative- and cost-effectiveness analyses.
- **Qualified data** to understand the natural progression of disease under current standard of care or the outcome of new intervention.



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## Highlights on African Use-Cases:

- LAISDAR Project (2020-2023) 
- **DRIVE TB Project (2024-2025)** 
- **BRIDGE Training Network (2024-2029)** 
- **INSPIRE datahub: a pan-African integrated suite of services for harmonizing longitudinal population health data using OHDSI tools** 
- **Malawi Open Health Data Lake –MoH** 
- **Much more not listed here: Ghana, Senegal, Kenya, Tanzania, etc.**



# LAISDAR Project (2020-2023)

<https://www.ehden.eu/the-laisdar-project-mapping-rwandan-hospitals-to-the-omop-cdm-cc11/>

Nishimwe, A., Twagirumukiza, M. et al (2022). Leveraging artificial intelligence and data science techniques in harmonizing, sharing, accessing and analyzing SARS-COV-2/COVID-19 data in Rwanda (LAISDAR Project): study design and rationale. BMC Medical Informatics and Decision Making, 22(1). DOI: 10.1186/s12911-022-01965-9

## Leveraging Artificial Intelligence and Data Science Techniques in Harmonizing, Accessing and Analyzing SARS-COV-2/COVID-19 Data in Rwanda (LAISDAR Study).

2020 - 2023 under funding of IDRC Canada





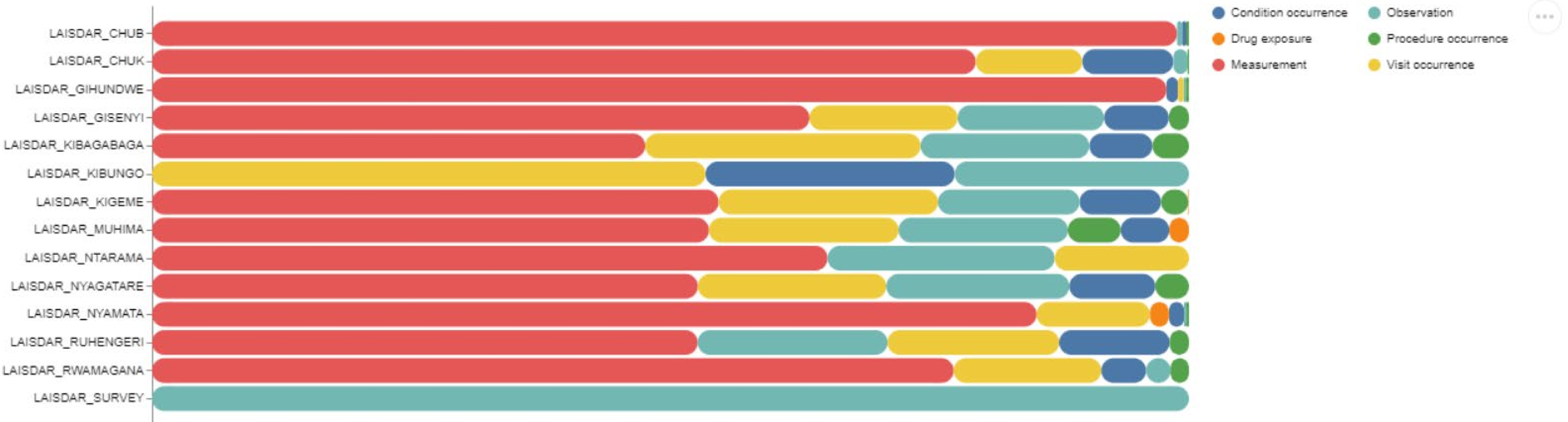
# OHDSI/Ares: A Research Exploration System –Network/Data Quality



Report Category  
Data Network

Report  
Data Strand Report

## Data Strands



Data strands are simple visualizations that describe the composition of a data source across the various CDM domain tables. Each individual strand shows the percentage of the data source comprised of data from a particular domain table. Across the network, the strands can be visually compared and contrasted.



[View export query.](#)

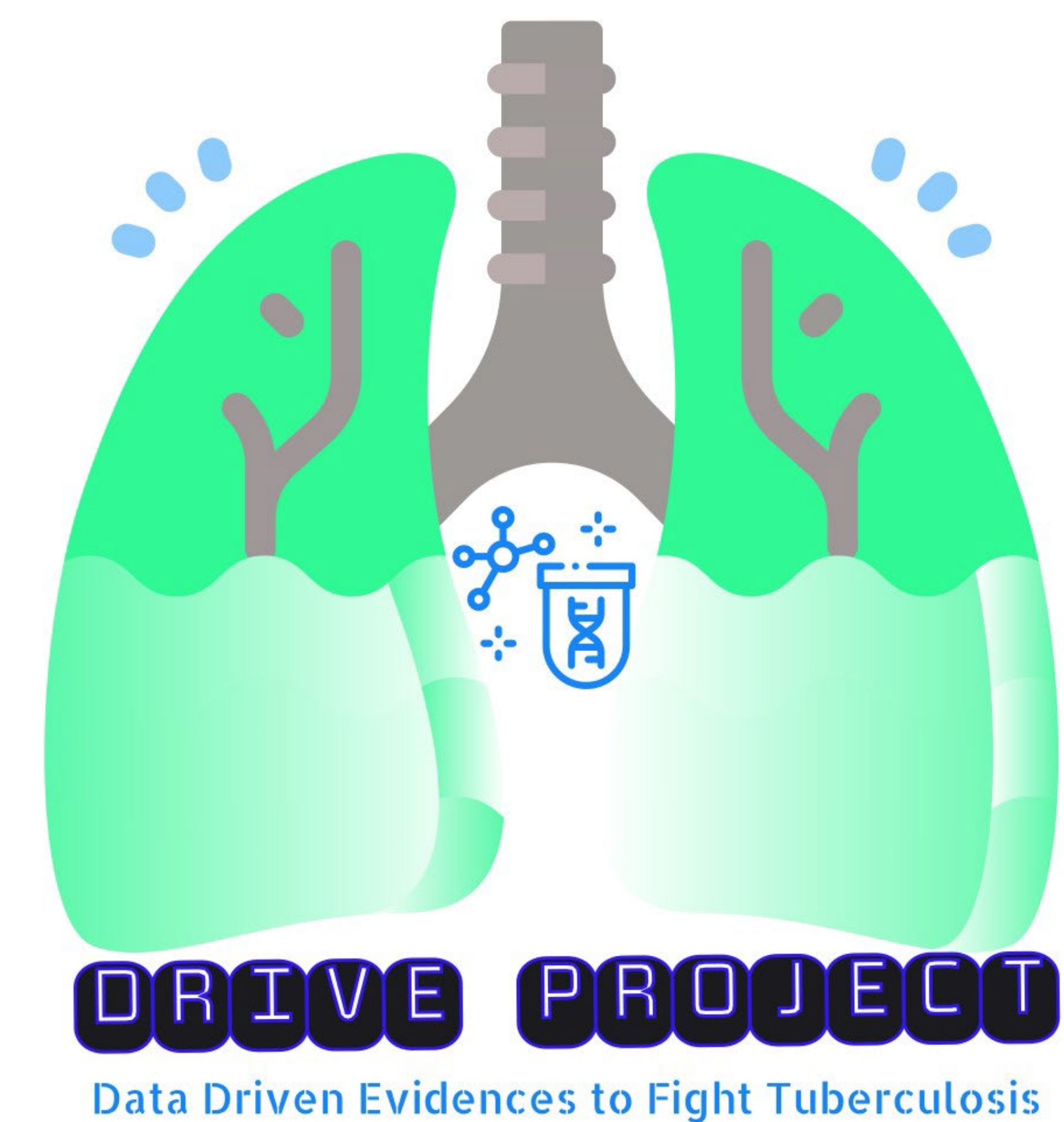


In collaboration with 10 Health Facilities in Rwanda

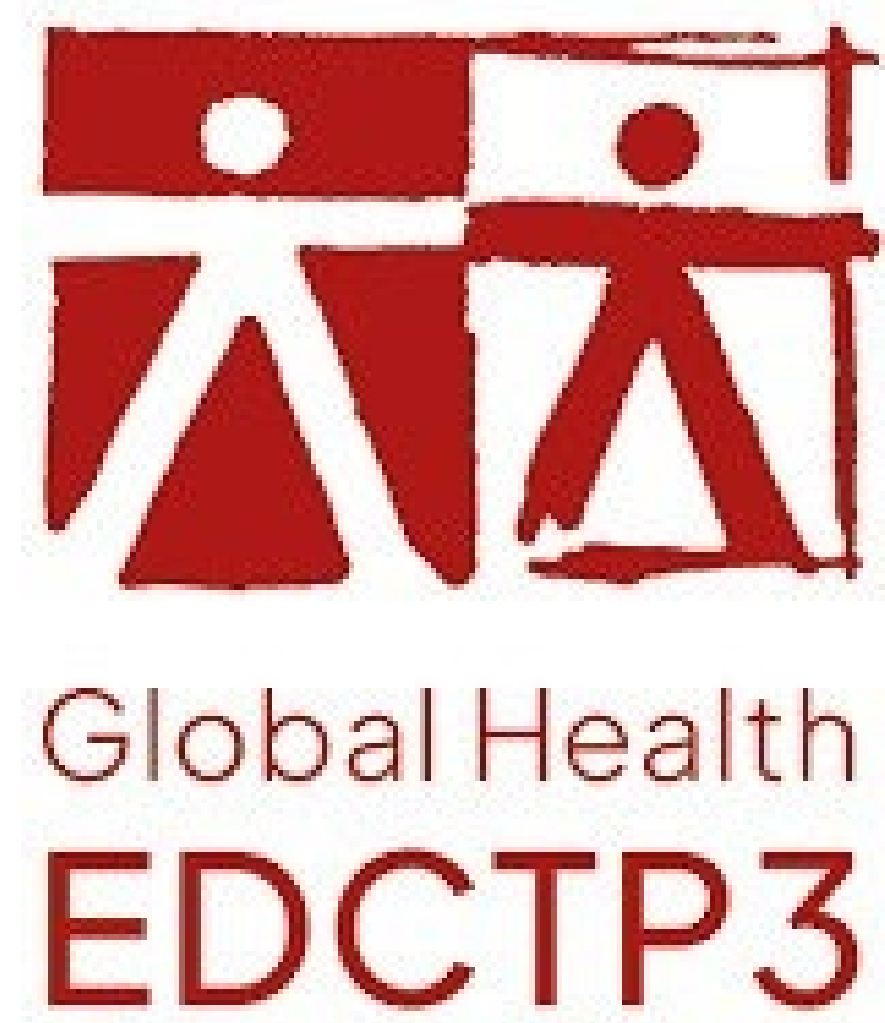


**Drive Comprehensive Care to Tuberculosis Patients in Sub-Saharan Africa through Data and Digital Tools: Harnessing Multisource, Federated, Harmonized, Integrated and Enriched Electronic Health Records.**

*(Funded by Johnson & Johnson Foundation - Grant N°91542753)*







**BRIDGE NETWORK**  
Train, Innovate, Discover, Inform, Scale



THE AGA KHAN UNIVERSITY



# SCALING UP RESEARCH IN SUB-SAHARAN AFRICAN COUNTRIES IN INFECTIOUS DISEASES: AFRICAN-EUROPEAN TRAINING NETWORK IN INTEGRATED HEALTH INFORMATICS AND DATA SCIENCES

An African-European consortium that will train African infectious diseases experts in integrated program of health informatics and data sciences (EHRs Data Harmonization to OMOP CDM).

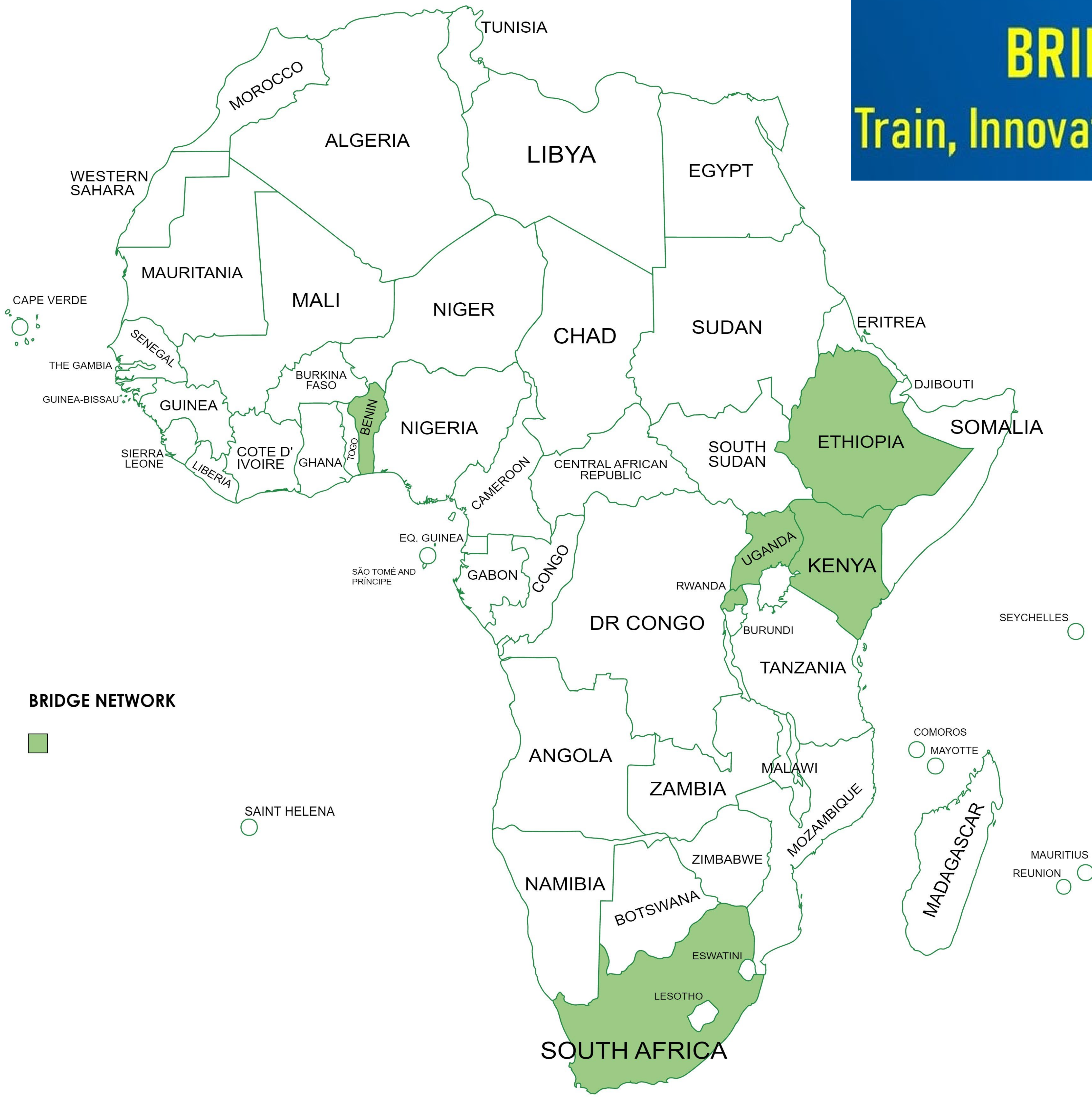
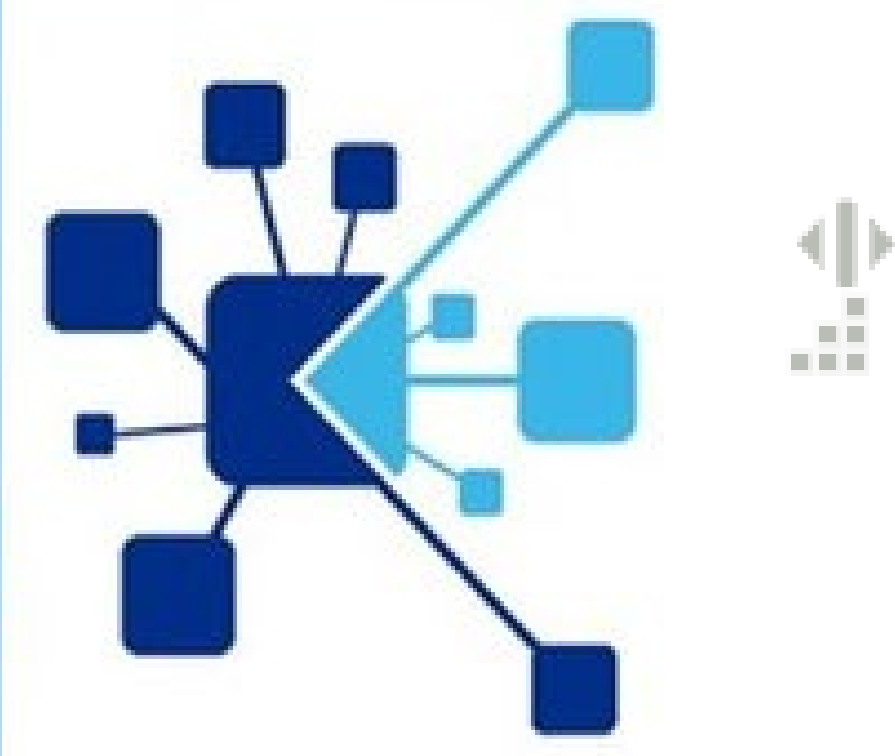
Post-graduate certification program | Doctoral, PhD | Post-doctoral  
54 Months: October, 2024 - March, 2029





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Scientific Lead  
rbc Rwanda Biomedical Centre

Partners  
UNIKHAN UNIVERSITY  
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Health EDCTP3 Training Networks - Clinical Research Fellowships  
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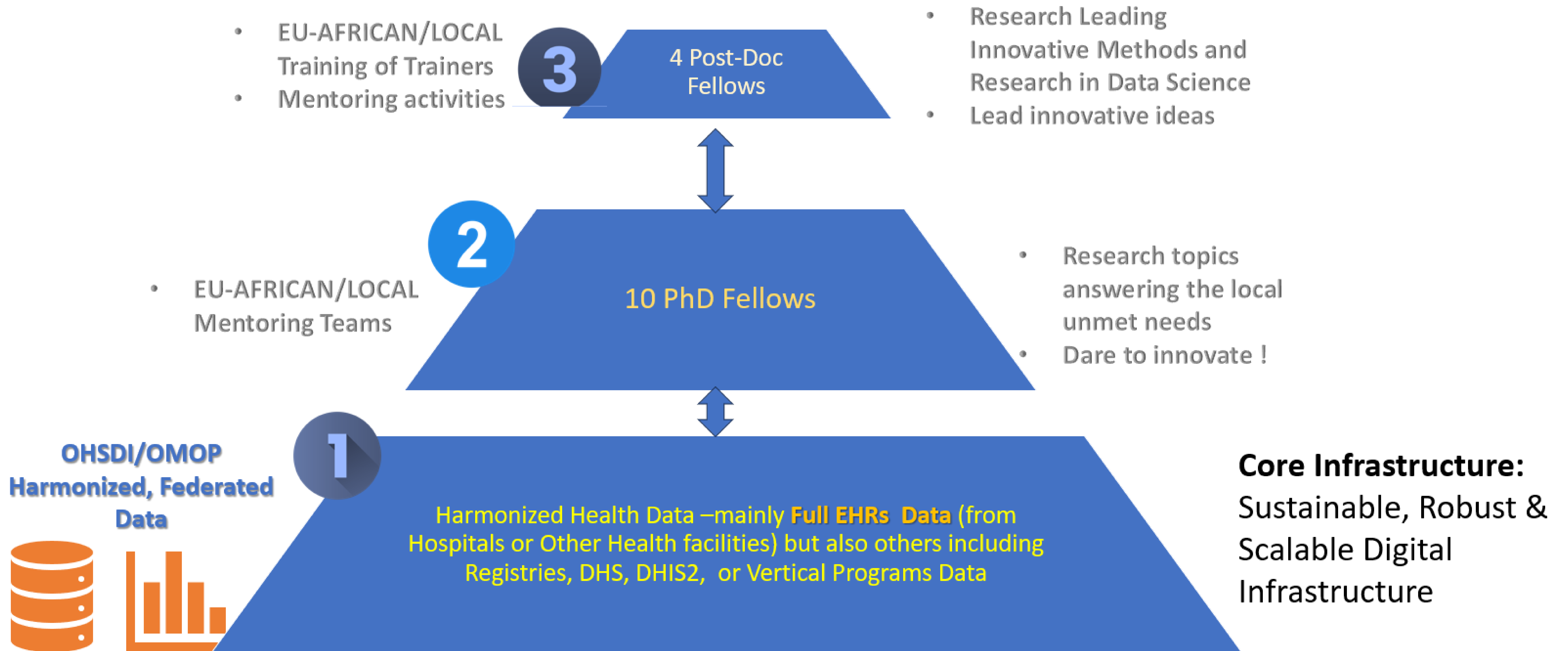
Health EDCTP3 Training Networks - Clinical Research Fellowships  
Grant N° 101145734

**Kick-off meeting on 10 & 11 December 2024 in Nairobi (Kenya)**



# Training Centered on Infectious Disease Data & Health Informatics

## 💡 3 High level Output:





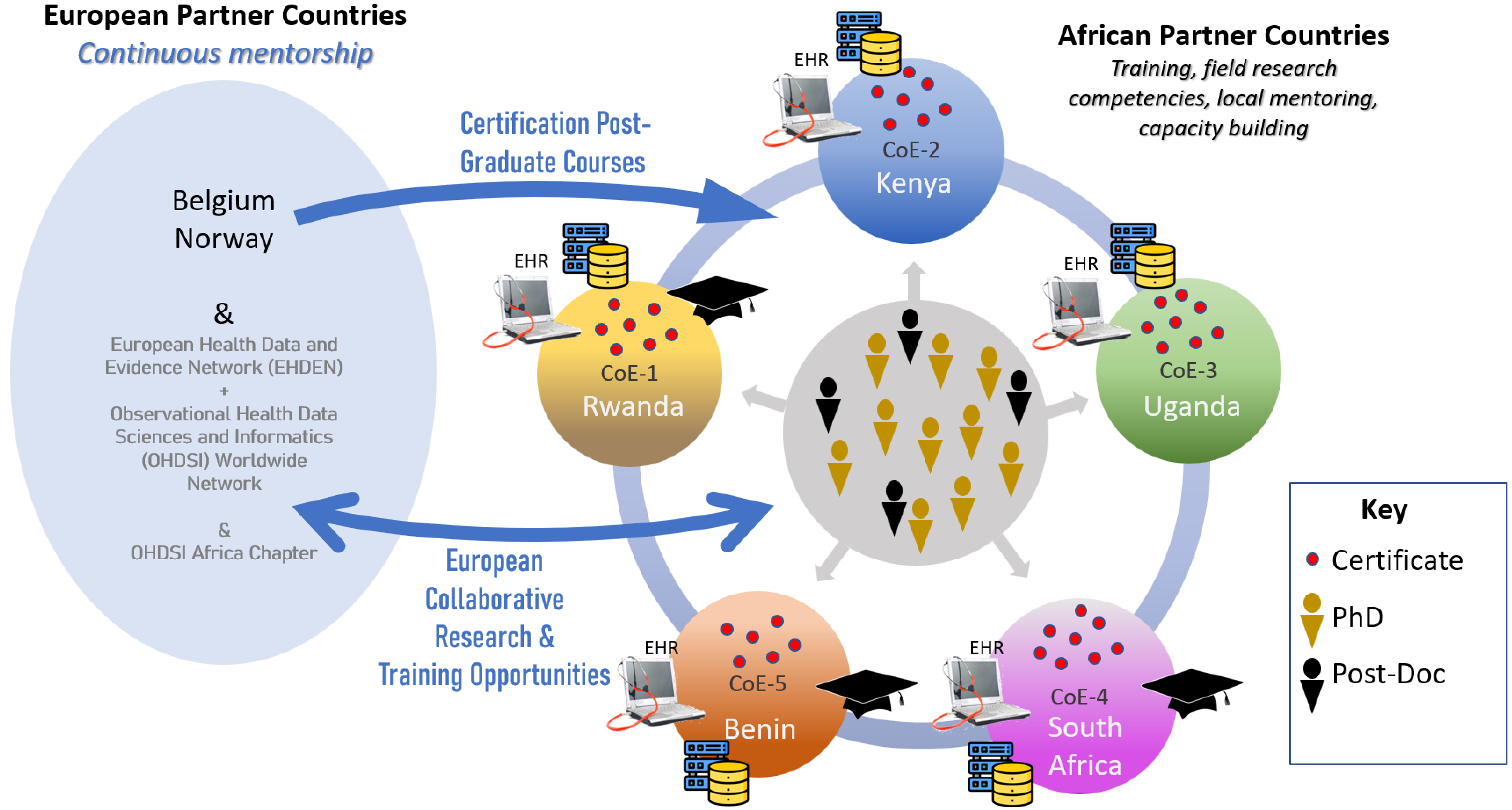
# 5 COUNTRY-LEVEL CENTER OF EXCELLENCE (COES) SET UP

## DATA HUBS

### African-European BRIDGE Network

European Partner Countries  
*Continuous mentorship*

African Partner Countries  
*Training, field research  
competencies, local mentoring,  
capacity building*









*Illustration design credits: Cynthia Sung*



# DATA HARMONIZATION & DATA CATALOG PORTAL & ENABLING COLLABORATIVE RESEARCH

## Training Centered on Infectious Disease Data & Health Informatics

Targets	30 Health Facilities (or 30 Data Sources)	1 Public Health Facilities (or 5 Data Sources including analysed samples)	3 Health Facilities (or 5 Data Sources)	3 Health Facilities (or 5 Data Sources)	1 Health Facilities (or 5 Data Sources)	1 Health Facilities (or 10 Data Sources)
Domains of Interest	Malaria, HIV, TB + (TB data from DRIVE Project)	Infectious Diseases in Maternal & Child Health	Virological Data (Respiratory)	Dengue, Nematodes, Malaria	?	Genomics Data (General), ?
Current Situation: Harmonized Data	14 Hospitals (20 Data Sources)	0	0	0	0	0
Current Situation: Available Data (Electronically)	<ul style="list-style-type: none"> <li>National Datasets: COVID-19, Antenatal Care, Nutritional, DHS, DHIS2 (eTB, etc)</li> <li>Registries?</li> <li>Vertical Program Data: PEPFAR?</li> <li>EMRs +++</li> </ul>	<b>Kilifi County Health Facilities (via existing collaboration MoUs)</b> + <b>Data at AKU/CoEWCH Samples to be analysed</b>	• TBD	• TBD	• TBD	• TBD
						



# How the OHDSI community can support these transformative initiatives and foster global collaboration?

## Case of BRIDGE NETWORK Project:

- **PhD students and Post-doctoral Fellows in health informatics and data science.** [The calls are opened.](#) Would you circulate this information to the potential candidates in your network?
- **Participate in the Scientific Advisory Board** – Call will be opened soon (also accepting anticipatory expressions of interest)
- **Be part of mentoring / training team** – Call will be opened soon (also accepting anticipatory expressions of interest)
  1. Training missions in participating African countries
  2. Research topics suggestions – Will be picked by PhD / post doc fellows
  3. Submit Datasets for harmonizations – Will be part of the catalog
  4. Networking and Collaboration research initiating – Linked to a PhD / Post-docs



Join the OHDSI Africa Chapter biweekly meeting Monday at 10 AM ET





# Call to Action: How the OHDSI community can support these transformative initiatives and foster global collaboration?



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