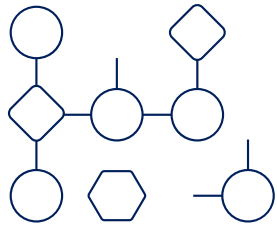# Collaboratory

A laboratory for pandemic and epidemic intelligence

Infectious disease modeling conference 2024

Julia Fitzner
Unit Head
Insights and Analytics
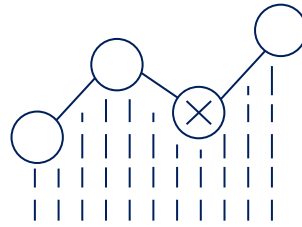WHO Hub for Pandemic and Epidemic intelligence

World Health Organization | **HUB**
Pandemic and Epidemic Intelligence

The need for better analysis in pandemic and epidemic intelligence

Data is fragmented and inaccessible

Analysis is often suboptimal

Results not used for decision making
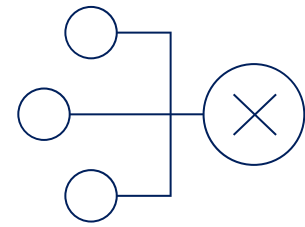
— Identification of relevant data is difficult

— Accessing and linking data is challenging

— Contextual information is often missing

— Data owners are often lacking tools or expertise

— Difficult to find relevant models

— Lack of transparency or comparability
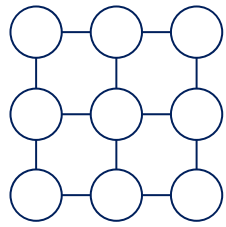
— Little possibility for federated analysis

— Insights do not respond to decision needs

— Conclusions are not understood by decision-makers

— Results and insights are not shared or too late

— Results are not comparable to draw conclusions

We need more meaningful cooperation during and in-between health emergencies; more transparency, more regular detailed exchange of real-time data and experiences at all levels, more reliability of interaction.
(IHR review committee 2021)
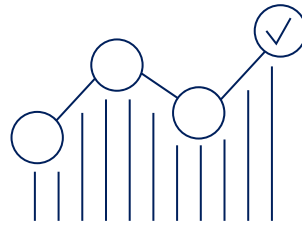
Collaboratory vision

A world where interconnected pandemic and epidemic intelligence communities collaboratively and rapidly respond with enhanced data, better analysis, and actionable insights

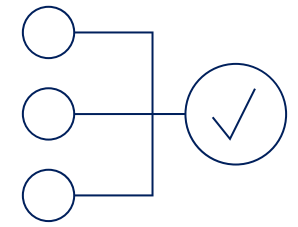### Analysis with better data

Trusted network to share data/results and information, including context data

Analysis improved

Joint, transparent, reusable and comparable advanced federated analysis supported
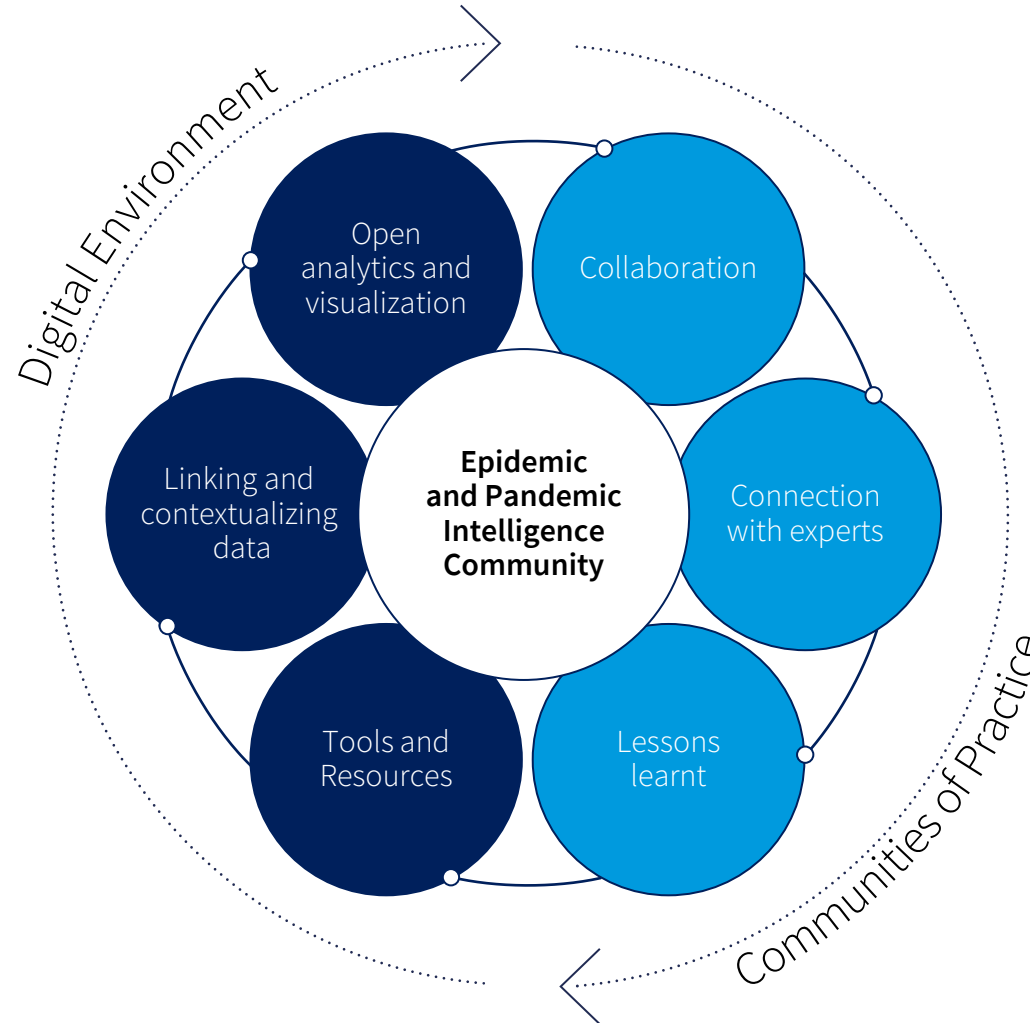
Analysis used for decisions

Analysis and insight targeted to support decisions. Outputs communicated and shared

A digital environment for communities

Digital Environment

Building a digital environment facilitating exchange of data, analysis, and insights

— Enable collaboration on tools and analysis

— Linking and finding data and insights

— Provide library for tools and resources
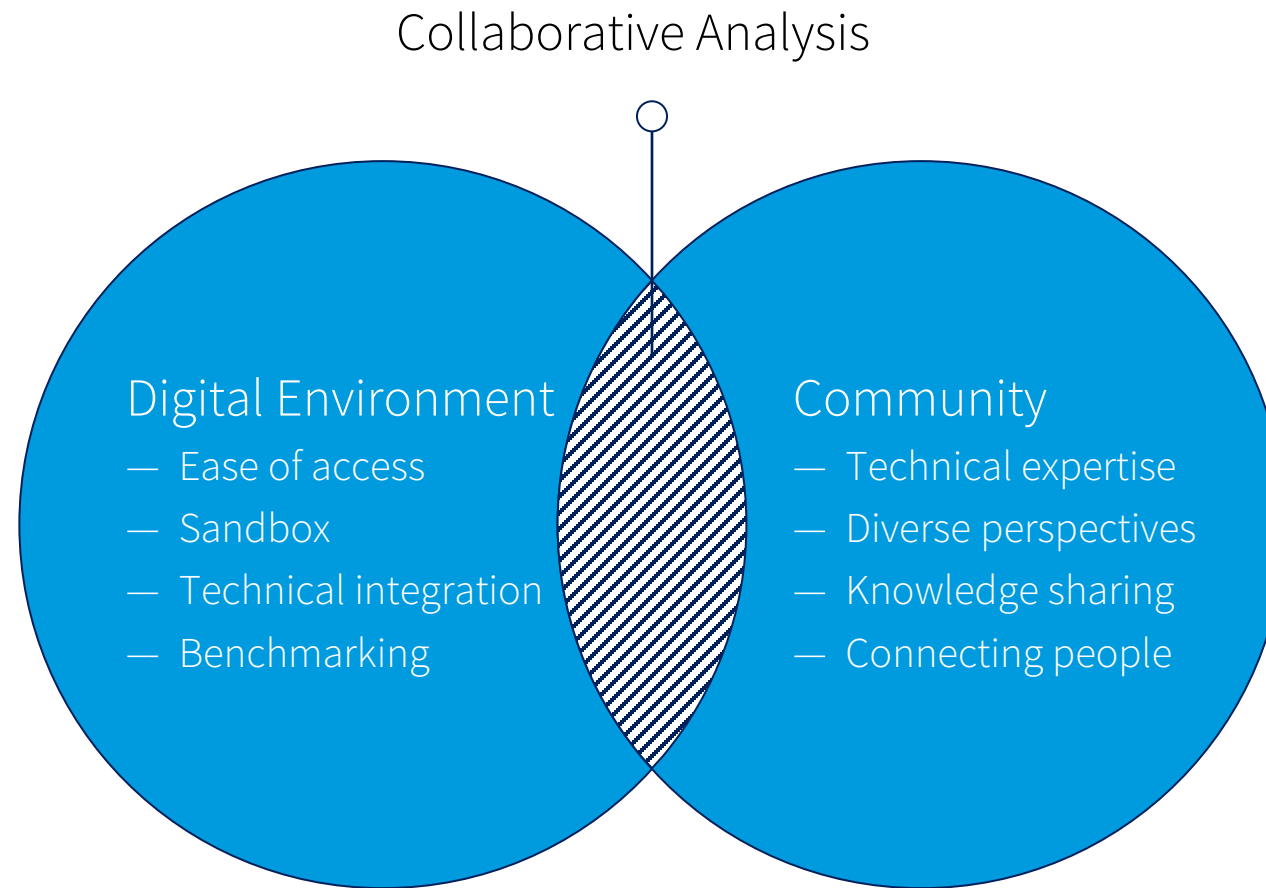
— Access to analytic platform

Community

Using the convening power of WHO to connect, build and strengthen communities

— Enhance and strengthen collaboration

— Enable connection and exchange between experts

— Share information and lessons learned

— Co-create analysis and tools

Collaborative Analysis

Collaborative Analysis

Digital Environment
— Ease of access
— Sandbox
— Technical integration
— Benchmarking

Community
— Technical expertise
— Diverse perspectives
— Knowledge sharing
— Connecting people

Co-creation of useful, quality analysis for action
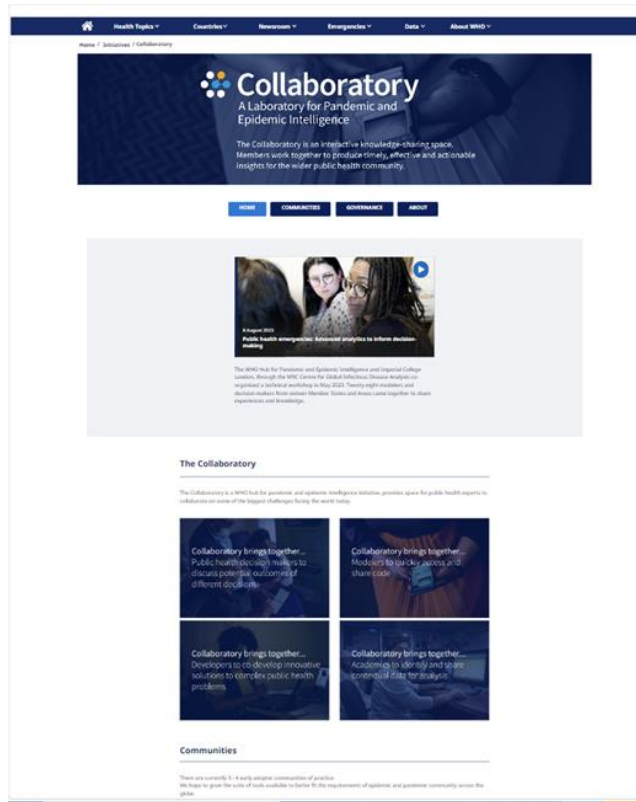with reusable methods and modularity

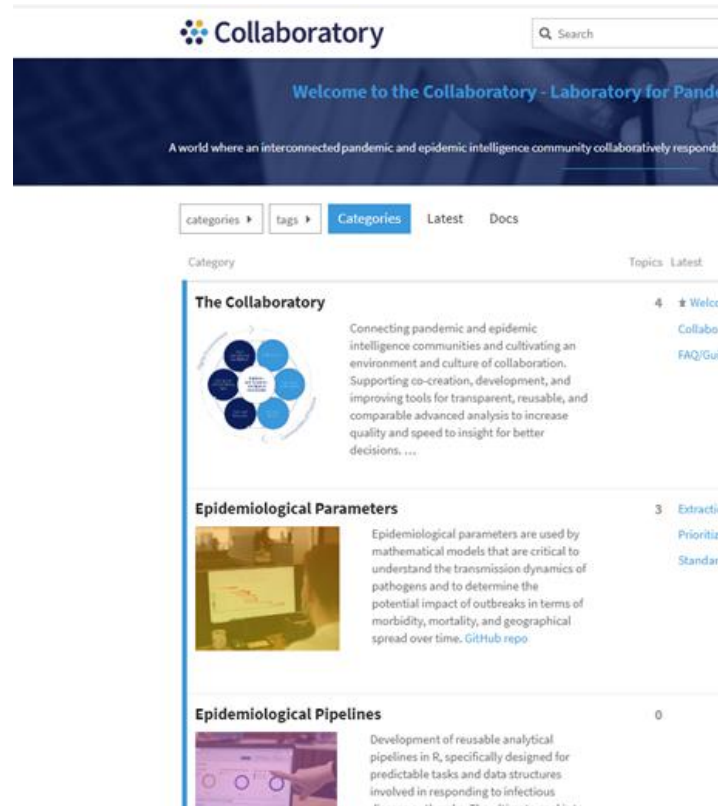# Collaboratory Platform and Communities

Collaboratory

Collaboratory digital environment

Stepped approach to meeting the requirements of modelling communities
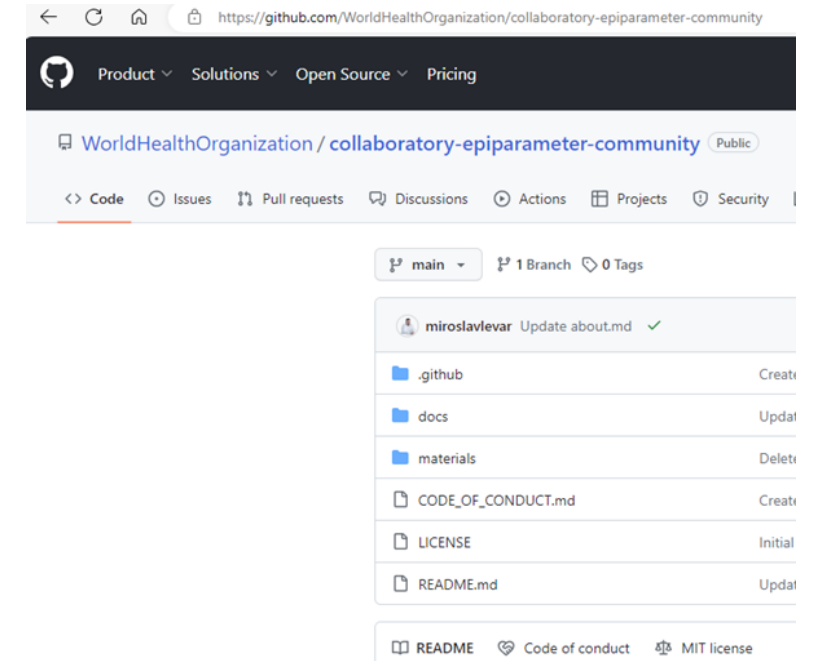
Portal

Community platform

GitHUB linkage

Collaboratory Communities

Since Launching the Collaboratory platform in March 2024

12 Active Communities of Practice

Core COPs

Collaboratory

Collaboratory: connecting pandemic and epidemic intelligence communities and cultivating an environment and culture of collaboration.
- 🔒 Collaboratory Technical Advisory 1 unread
- 🔒 Collaboratory Summit
- 🔒 Secretariat 6 unread
- 🔒 Community Management
- 🔒 data.org and Collaboratory

Data-to-Decision

Data-to-Decision: A community developing an evaluation framework for modelling and analytics in the public health data-to-decision process.
- 🔒 Evaluation Workshop 2024
- 🔒 Summary of Evaluation Workshop … 2 new

Epidemiological Pipelines

Epidemiological Pipelines: A community to foster the development of generalised analytical pipelines for epidemiological analysis. [GitHub]
- 🔒 Pipeline Development

🔒 Dengue Modelling

A community of dengue and other arbovirus modellers

Mpox Analytics

Mpox Analytics: A community to facilitate communication, collaboration and timely sharing of findings between mpox analysts from around the globe.
- 🔒 South Africa   🔒 Coworking Space

Epidemiological Parameters

EpiParameters: A community consisting of a global collaborative working group coordinated by WHO, which aims to develop a global repository of epidemiological parameters which will be publicly accessible by modellers, epidemiologists, subject matter experts and decision makers to inform mathematical…

Hub led COPs

🔒 International Pathogen Surveillance Network (…

The International Pathogen Surveillance Network (IPSN) is a global network of pathogen genomic actors, hosted by the WHO Hub for Pandemic and Epidemic Intelligence, to accelerate progress in pathogen genomics, and improve public health decision-making.
- 🔒 IPSN_COP_Data
- 🔒 IPSN_COP SSER - mpox 1 unread

Epidemic Intelligence from Open Sources

The Epidemic Intelligence from Open Sources (EIOS) initiative is a unique collaboration between various public health stakeholders around the globe. Joint under a common vision, it brings together new and existing initiatives, networks and systems to strengthen public health intelligence (PHI) by cr…
- 🔒 EIOS Trainings of Trainers

🔒 PEI Innovation Forum

The Pandemic and Epidemic Intelligence Innovation Forum is a space dedicated to promoting idea exchange, coordination, and alignment among diverse stakeholders across these fields. Experts and practitioners from governments, NGOs, foundations, academia, and other sectors connect quarterly to share t…

Surveillance and Outbreak Response Tools

This category is for discussions on strengthening the ecosystem of tools used by WHO Member States in surveillance and outbreak response.
- 🔒 Surveillance Data Standards
- 🔒 Maintainability   🔒 Data Analytics

Other COPs

🔒 Influenza Modelling Mongolia

Welcome to the Influenza Modelling Mongolia channel, the central hub for all communications, collaborations, and resources related to our joint efforts in modeling influenza trends in Mongolia. This channel has been established to facilitate smooth interaction and exchange among all team members and…

🔒 Pandemic Influenza Severity Assessment

PISA (Pandemic Influenza Severity Assessment) is a WHO framework for interpreting and communicating influenza data by assessing the severity of current epidemics and pandemics compared to historical data.

475 Collaboratory members

Members include, modelers, epidemiologist, data scientists', developers, public health experts and decision makers from ministries of health or public health agencies, international organizations and 52 academic institutes from across the globe

Collaboratory

Global Repository of Epidemiological Parameters
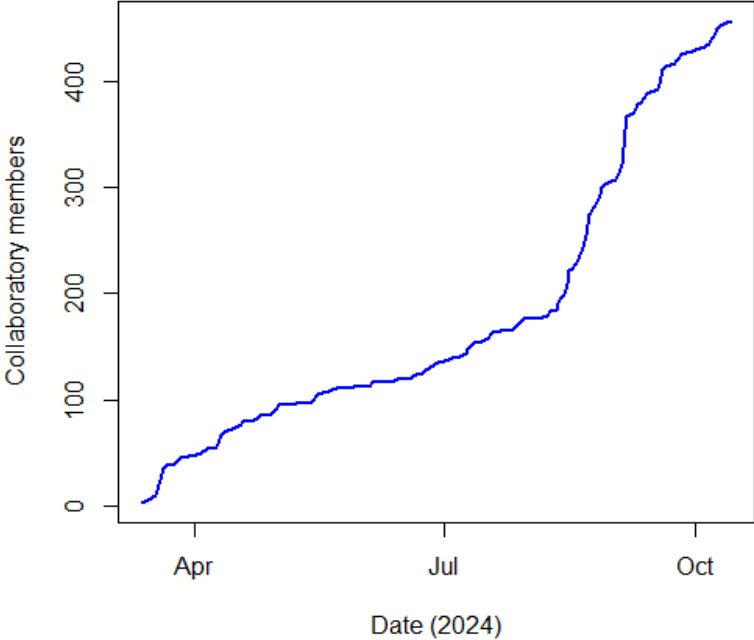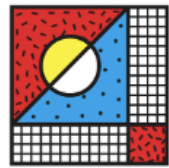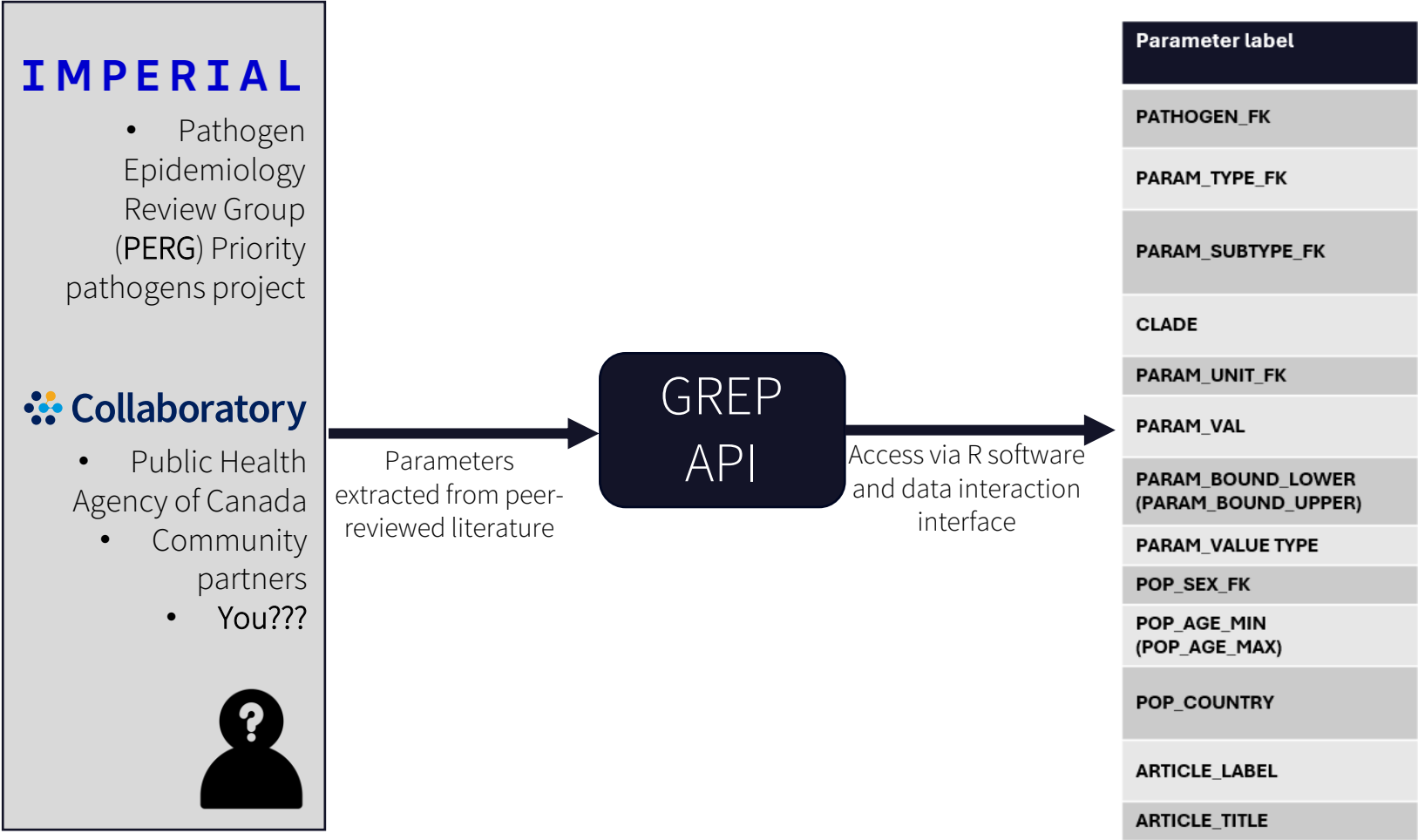
Epidemiological Parameters

EpiParameters: A community consisting of a global collaborative working group coordinated by WHO, which aims to develop a global repository of epidemiological parameters which will be publicly accessible by modellers, epidemiologists, subject matter experts and decision makers to inform mathematical...

IMPERIAL

- Pathogen Epidemiology Review Group (**PERG**) Priority pathogens project

Collaboratory

- Public Health Agency of Canada
- Community partners
- You???

Parameters extracted from peer-reviewed literature

GREP API

Access via R software and data interaction interface

Parameter label
PATHOGEN_FK
PARAM_TYPE_FK
PARAM_SUBTYPE_FK
CLADE
PARAM_UNIT_FK
PARAM_VAL
PARAM_BOUND_LOWER (PARAM_BOUND_UPPER)
PARAM_VALUE TYPE
POP_SEX_FK
POP_AGE_MIN (POP_AGE_MAX)
POP_COUNTRY
ARTICLE_LABEL
ARTICLE_TITLE

Collaboratory

Community for influenza advanced analytics

with a subcommunity focusing on H5N1

Influenza Epidemiology and Advanced Analytics

Community to exchange on advanced analytics on influenza and related areas.

- 🔒 Influenza Modelling Mongolia
- 🔒 Pandemic Influenza Severity Assessment
- 🔒 H5N1 - Influenza Containment Mod... 1 new

15	Virtual consultation: Preparing for containment and mitigatio... ● 27m
1 new	PISA publications 3d
	Call for presentations - Threshold setting in the post-COVID-19 pa... 3d

Please join the community to enable a discussion on the topic also between webinars.

URL:
https://collab-forum.who.int/t/about-the-influenza-epidemiology-and-advanced-analytics-category/919
The focused group on H5N1 modeling
https://collab-forum.who.int/t/about-the-h5n1-influenza-containment-modelling-category/931

Collaboratory