

# Grand Challenges ICODEA COVID-19 Data Science pilot initiative

Information Workshop, 07 January 2021



# Overview of the pilot Grand Challenges ICODA initiative

Professor Andrew Morris

Director, Health Data Research UK and Chair of ICODA's Executive Team

# Agenda

## 14.00 **Overview of Grand Challenges ICODA pilot initiative: objectives and criteria**

Andrew Morris, Director, Health Data Research UK and Chair of ICODA's Executive Team

## 14.20 **Global Grand Challenges: vision for larger scale data science initiatives**

Thea Norman, Senior Program Officer, Bill & Melinda Gates Foundation

## 14.35 **What the pilot initiative offers**

Julia Levy, Executive Director, ICODA

## 14.55 **Timeline for the pilot initiative**

Julia Levy, Executive Director, ICODA

## 15.00 **Open Q&A session**

Panel, chaired by Julia Levy

## 15.30 **Close**

# ICODA's Vision and Mission



## Vision



To unite international health research data to enable discoveries that benefit everyone, everywhere, by reducing the harm of COVID-19; and enable an efficient data response to future pandemics and other health challenges

## Mission



To build an open international partnership that demonstrates trustworthiness to support a rapid response to COVID-19 and a long-term alliance for making data accessible to researchers and scientists around the world.

**Launched 6<sup>th</sup> July 2020**

# Who we are: a broad global Alliance



## Our Partners... and growing



## Our Therapeutics Accelerator Funders



Convened by



[www.icoda-research.org](http://www.icoda-research.org)

@ICODA\_research

#GrandChallenge

# About the pilot Grand Challenges ICODA COVID-19 Data Sciences initiative



- Focus on reducing the harm of the current COVID-19 pandemic
- Builds on Grand Challenges and ICODA's existing global data science projects and approaches
- Driven by a shared commitment to building collaboration, uniting data and analysis infrastructure to enable discoveries that will benefit people everywhere
- Seeks to strengthen global research communities, involve patients and the wider public, and enable pace, scale and impact
- Projects that are selected will have access to ICODA's Workbench and other resources, and be part of our efforts to develop governance, infrastructure and processes to support future health data science studies

## What we are and are NOT looking for in a research study

- ✓ Focus on COVID-19 and its impact
- ✗ Focus on other diseases and/or research areas
- ✓ Bring clearly identified and accessible data sets for secondary analysis
- ✗ Involve generation and/or collation of new data through primary research
- ✓ Multinational and scalable, with potential to achieve impact in 6-12m
- ✓ Priority placed on studies involving LMIC researchers and data sets
- ✓ Commitment to patient and public involvement and engagement
- ✓ Must use and benefit from ICODA's Workbench, processes, tools and governance
- ✓ Commitment to providing access to data, methodologies and results, whilst ensuring appropriate information governance



“I am fundamentally an optimist.  
Part of being optimistic is  
keeping one’s head pointed  
toward the sun, one’s feet  
moving forward.”

*- Nelson Mandela*



BILL & MELINDA  
GATES foundation

*ki* knowledge  
integration

# Knowledge Integration Grand Challenges

Thea Norman, PhD

Quantitative Sciences, Bill & Melinda Gates Foundation

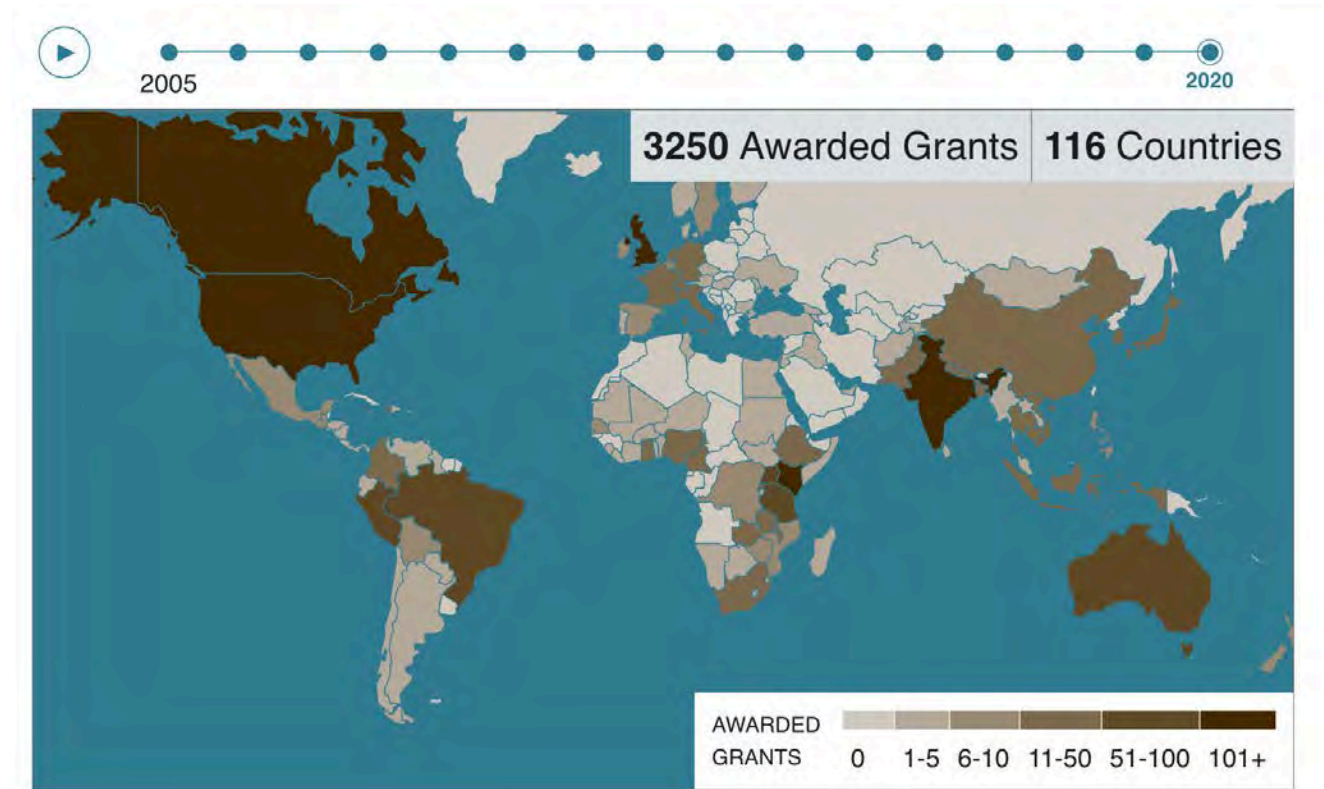
# What are “Grand Challenges”?

Use challenges to focus attention and effort on specific problems

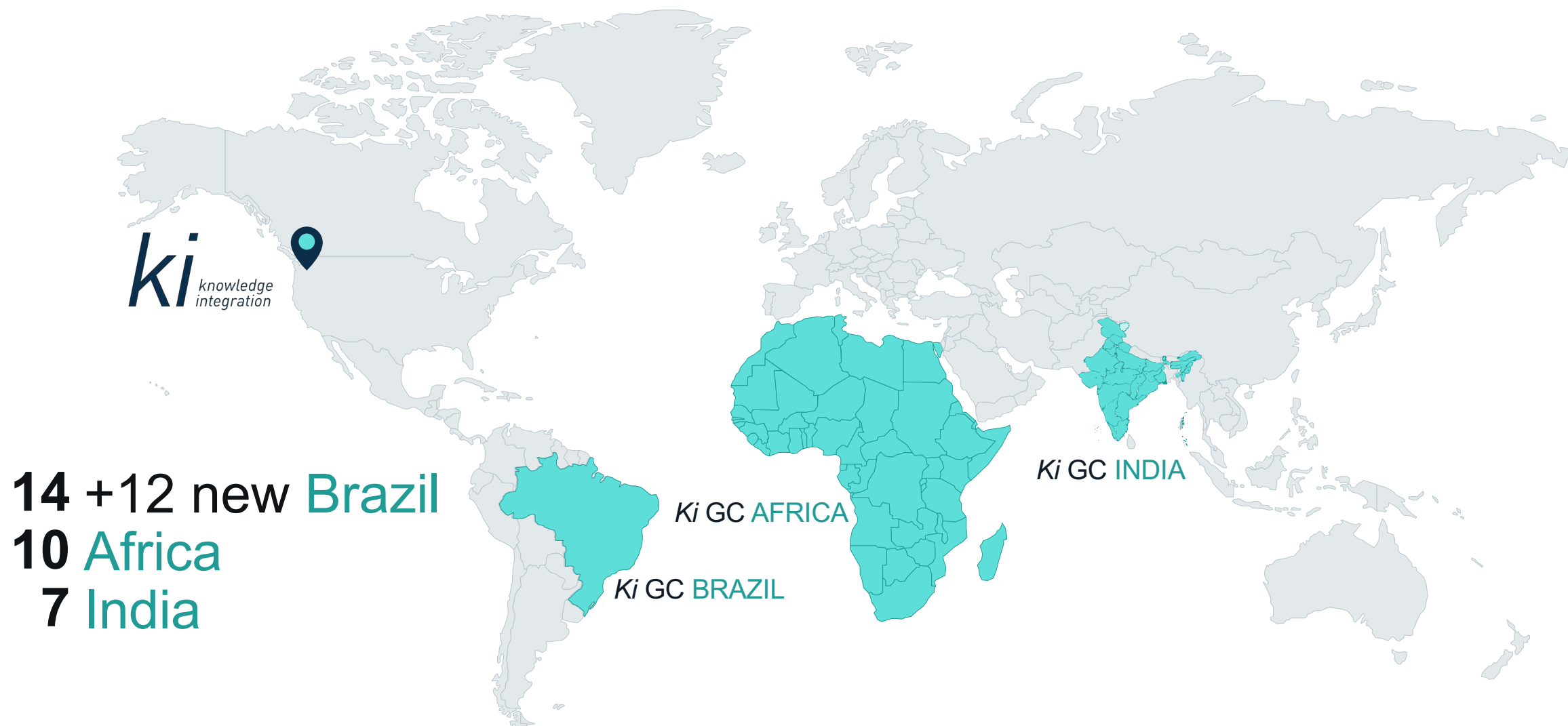
Open requests for grant proposals

Focus innovation on making an impact

Seed grant programs that foster collaboration to accelerate impact



# Three data-focused Ki Grand Challenges focusing on MNCH



# Building global collaborations between data scientists and public health experts

## Desired outcomes and key objectives



- 1 Discussing data priorities and how the Ki GCs can support these

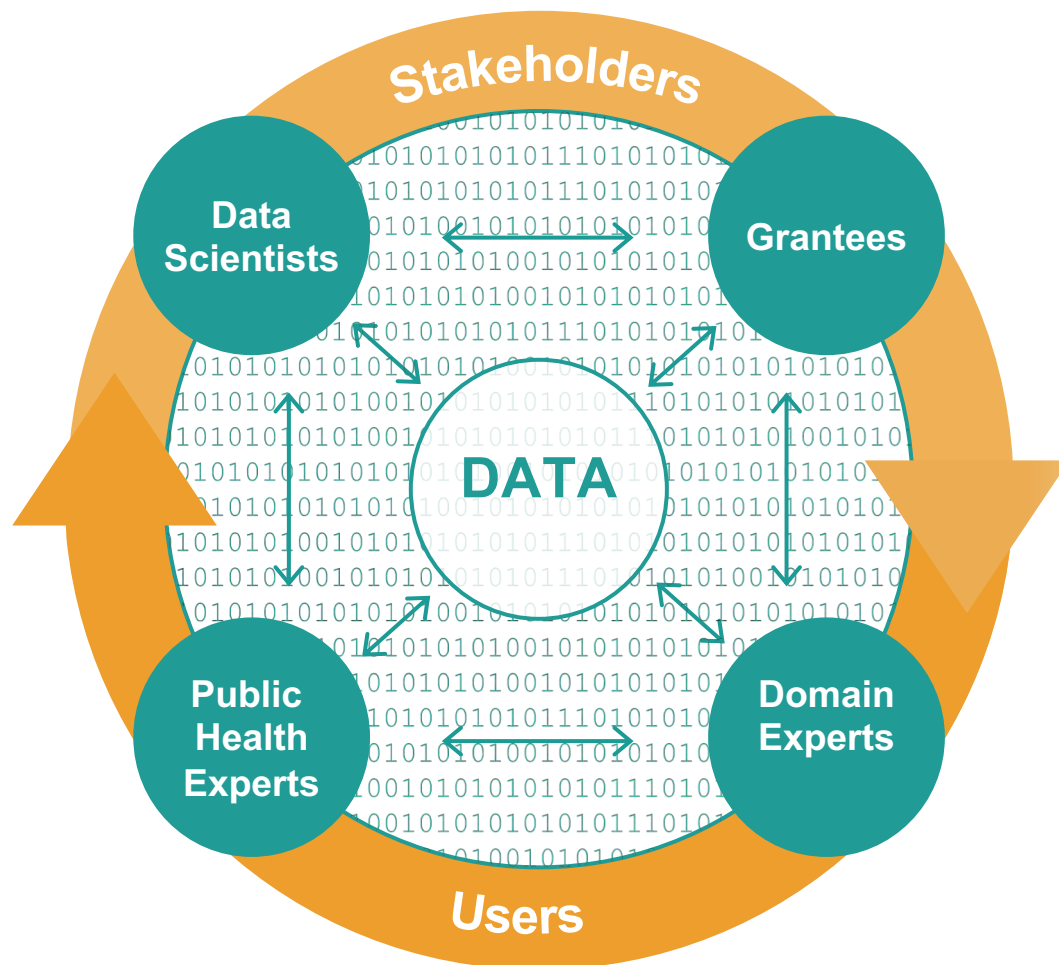


- 2 Discussing how to make progress and impact with data (i.e., data, capabilities, and incentives)



- 3 Communicating the results produced by grantees across all regions to make change

# Collaborative team science community to answer hard but important questions



## Ki: From data, to discovery, to decisions

### DIFFERENT DATA SOURCES

#### Data

Stakeholders and potential users of tools and results



### COLLABORATIVE TEAM SCIENCE

#### Discovery

Apply multiple modeling methods to answer questions faster and more deeply



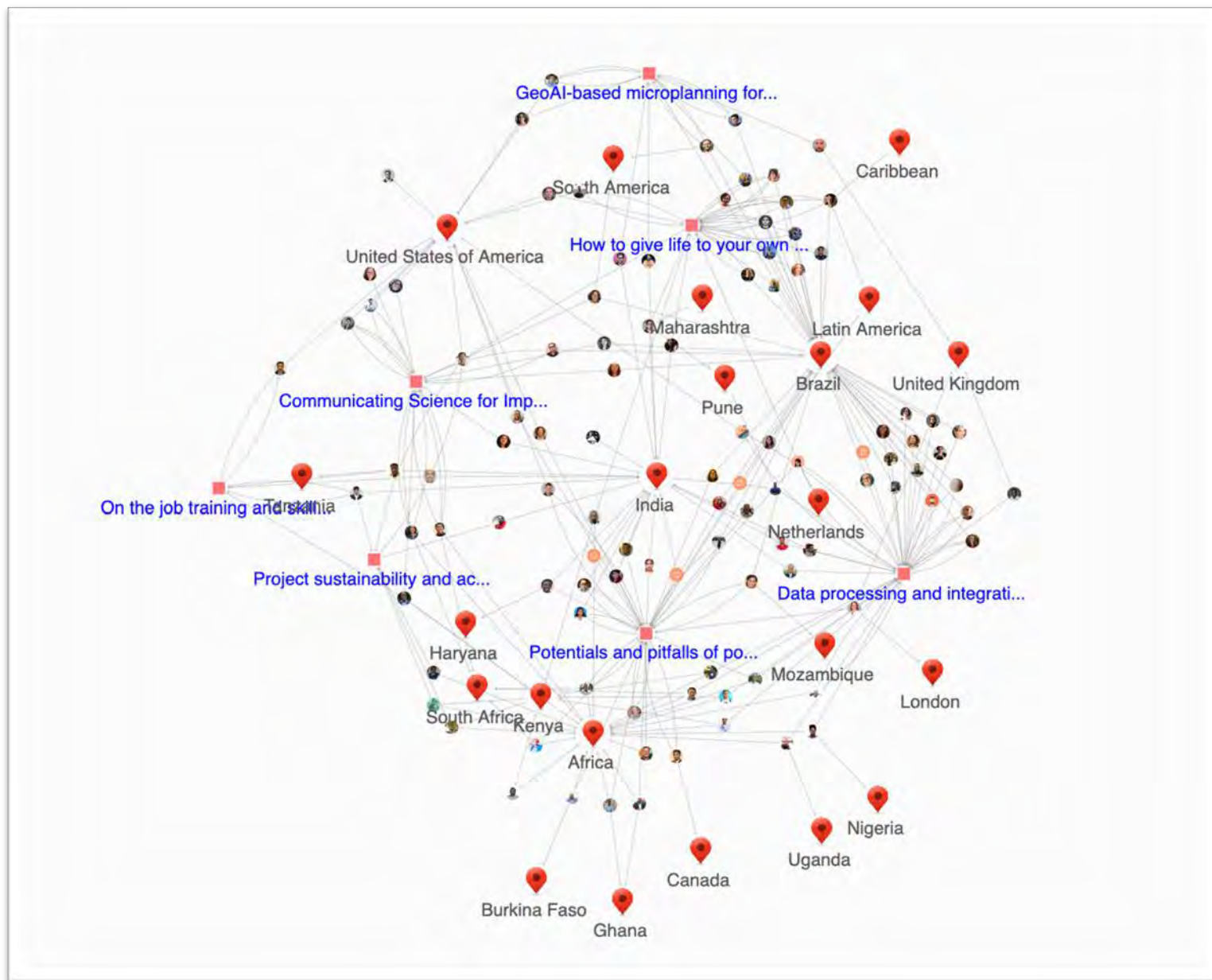
### INSIGHTS & IMPACT

#### Decisions

Inform comprehensive intervention decisions to prevent preterm birth, growth faltering, and neurocognitive deficits

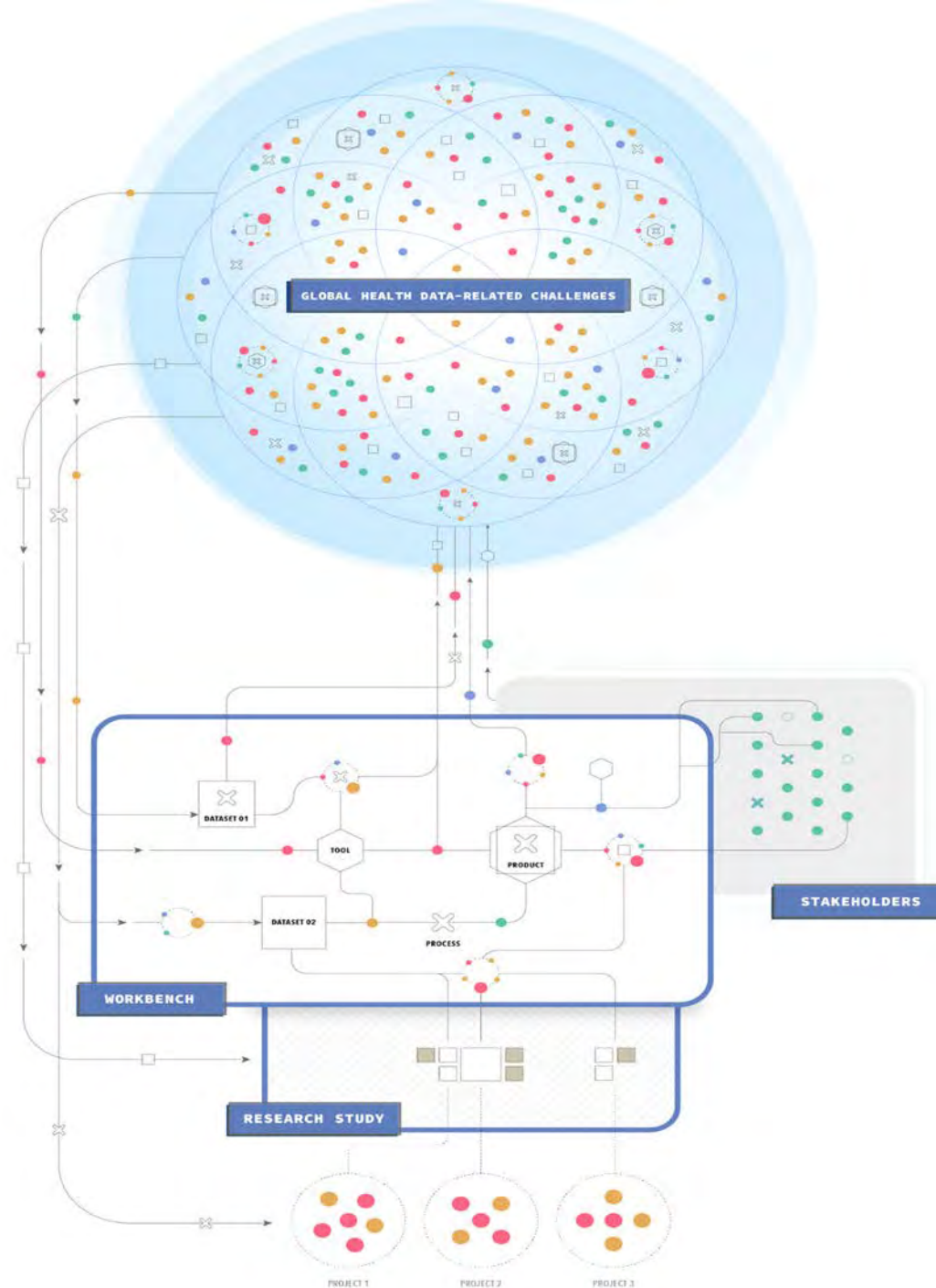
## Data Science and public health experts community

- 100+ people from across the globe
- Beyond funded GC projects, grantees work on collaborative projects they co-developed around:
  - Data sharing
  - Data harmonization
  - Science communication



# Global data-related Grand Challenges

- A key objective for this pilot initiative is to lay the groundwork for future data-related Global Grand Challenges that are accessible to all and bring together multi-disciplinary researchers working in close collaboration to solve complex public health research questions.
- Develop and refine processes, tools and governance that maximize the impact of data-focused research studies.



# What the pilot initiative offers

Julia Levy, Executive Director, ICODEA

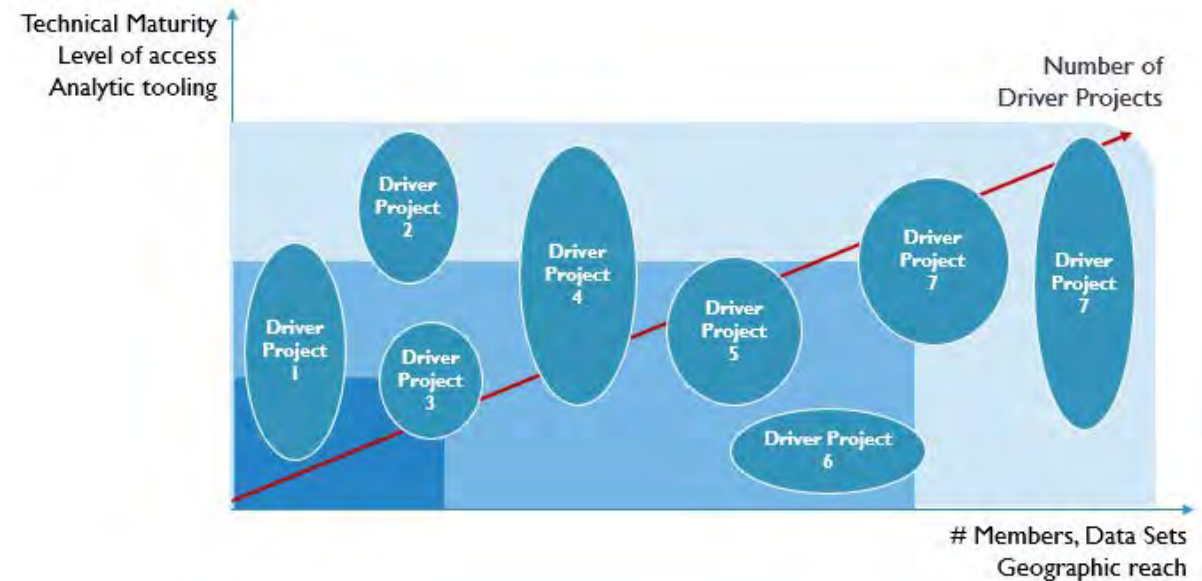
## What we are offering to award holders

- Funding of up to \$100,000 over 6-12 months
- Be part of ICODA's portfolio of Driver Projects
- Access ICODA's Workbench, processes, tools and governance to enable and accelerate research
- Project Management support and processes for rapidly standing up and managing project delivery
- Research Manager support to accelerate researcher accreditation and data access
- Communications and Engagement support with stakeholder involvement and research impact
- Membership of a global data science and global health community
- Help shape the next phase of a larger scale Global Grand Challenges Data Science programme

# Selected research studies will become “Driver Projects” that help guide and shape our work

Driver projects have two simultaneous goals:

- To use data and analysis tools to generate answers to priority questions without current solutions for COVID-19 patients, treatments, and vaccines
- To refine and improve our systems, tools, and processes to best enable current and future health data science studies



Award holders will become part of a portfolio of Driver Projects that demonstrate proof of concept and facilitate a design-led approach.

To learn more about existing Driver Projects, visit:  
[icoda-research.org/research/driver-projects/](https://icoda-research.org/research/driver-projects/)

## COVID-19 Workbench Tools

- The Workbench is a secure cloud-based and scalable Trusted Research Environment with audited airlocks for input and output
- Providing Workspaces as a “Safe Setting” for researcher teams to work together
- Includes free compute capacity
- Tooling includes:
  - R Studio, SQL, Python support
  - Libre Office Calc
  - Visual analysis and Metadata analysis apps
  - Windows and Linux Virtual machines
  - Command line & scripting support
  - the ability to bring further tools as “mini apps” into the secure Workbench environment as dockerised images
- An open Common API for Federated data access

# We expect applicants to bring their own data but can offer some support



- **Applicants are expected to bring clearly-defined data sets for their research study**
- For this pilot phase, ICODA is:
  - Offering some clinical trial data sets via the Workbench, e.g. Certara's Clinical Outcomes Database Explorer CODEx
  - Facilitating data access requests from existing data sets searchable from [HDR UK's Gateway](#)
  - Providing a strategic data bank partner (SAIL) who can securely receive data from data contributors
  - Publishing reference list of relevant data sources building on our [Landscaping Report](#) (next week)
  - Developing an information pack that you can share with potential data contributors to facilitate data access
  - Enabling connections with potential data contributors via ICODA Cognitive City community

## Patient and public involvement and engagement

- ICODA is committed to embedding meaningful public and patient involvement across all our activities
- Patient representatives have already been involved in shaping and communicating the pilot initiative and will be involved in the final review process
- ICODA will provide support in developing plans for patient and community involvement and engagement for individual driver projects
- Award holders will have demonstrated a commitment to involving patients and wider communities in design and governance of their research studies

# How Grand Challenges ICODA pilot differs from a “classic” grant award – a true collaboration at every stage

- More rapid project stand-up and access to expertise
- Access to scalable infrastructure, governance and processes
- Data contributors can contribute in ways aligned with their data governance, transparency and auditability of processes
- Be part of an initiative that benefits the broader data community

## Application process

- Community building from the outset
- Rapid, scalable approach
- Multi-site collaboration

## Resources

- Joint team – PM, RM, Comms, PPIE support
- Access to technical expertise
- Part of a "family" of initiatives across ICODA and GC
- Access to Workbench and tools

## Governance

- Benefit from broader ICODA governance
- Infrastructure aligns with data contributors' data governance
- Commitment to, and support with PPIE

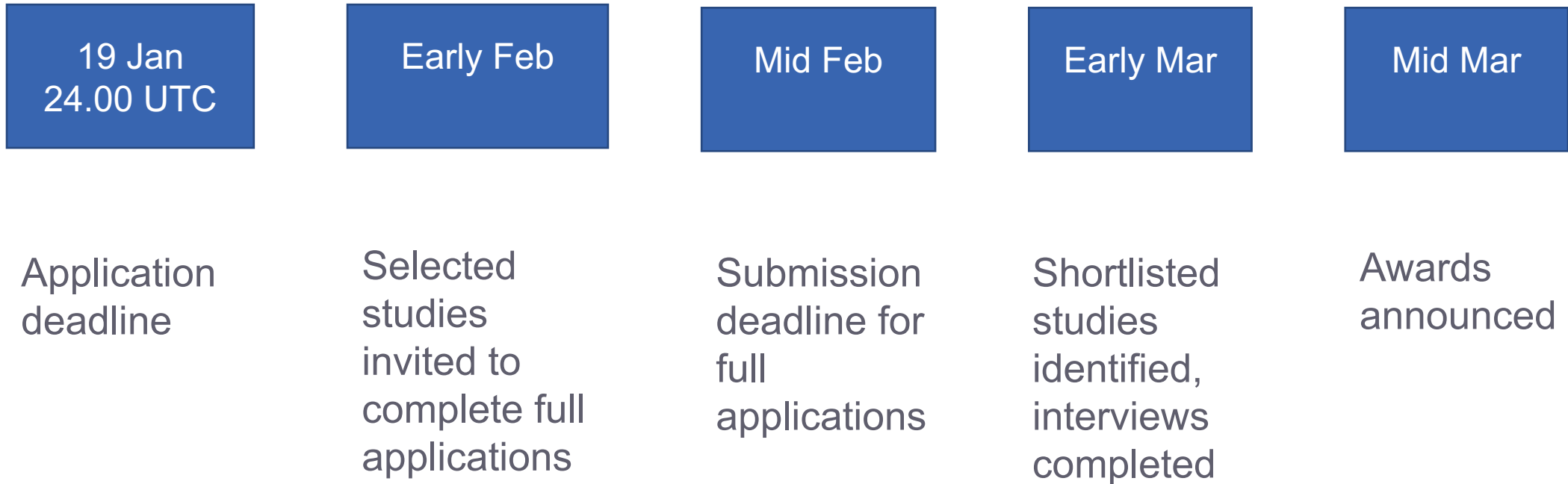
## Impact beyond project insights

- Contribute to development of governance, processes and infrastructure to benefit the entire research community to address current pandemic and future health challenges

## Additional benefits to to the broader community

- Information and resources that help to identify and signpost relevant datasets related to COVID-19
- Access to a facilitated, global health and data science community that fosters collaborations and knowledge sharing to accelerate scientific progress
- Opportunities for developing data and wider partnerships with ICODA
- Knowledge sharing on principles, tools and approaches for open science and information governance, as well as patient and public involvement and engagement

## Timeline for the pilot initiative



## Stage 2 application process

Applicants selected for the 2nd stage will be asked to provide some further information:

- A more detailed description of the proposed research study and data sets that will be used
- Breakdown of the proposed budget
- Explanation of how the research study will benefit from access to ICODA's Workbench, tools and processes, as well as wider ICODA resources
- Letter of support from the host organisation that will be receiving the grant award
- Confirmation that permission has been given for use of data sets

Short turnaround so please plan ahead

# Open Q&A session

Panel, chaired by Julia Levy, Executive Director, ICODA

## Frequently asked questions

**Will the awards support research studies that involve the generation and/or collation of new data?**

No. Applicants are expected to bring and use existing data sets to undertake secondary research and analysis.

**Can research studies focus on diseases other than COVID-19?**

No. The pilot initiative focuses on COVID-19 and its impact.

**What costs will be covered by the grant awards?**

We are currently finalising the full terms of the grant awards, but it's likely the following will be covered:

- Costs associated with salaries/back fill costs for the research team
- Equipment, up to a maximum of \$5,000 equivalent
- Indirect costs, up to a maximum of 10% of total budget
- Reasonable travel costs

## Thank you and next steps

Thank you for participating in today's workshop and interest in our initiative.

Key reminders:

- Deadline for applications 24:00 UTC on **Tuesday 19 January 2021**
- Further information on ICODA's website: <https://icoda-research.org/grandchallenge>
- Submit questions before **Thursday 14 January**: <https://icoda-research.org/grand-challenges-contact-us/>