

# AI with Roche

*Contributing to Health Equity through Open Science*

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The Turing-Roche Knowledge Share Series

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# The world needs better ways to prevent, diagnose and treat diseases



**2/3 of diseases**

are either still not treated adequately or not treated at all



**70%**

of all clinical decision making is influenced by in-vitro diagnostics, despite accounting for only about 2% of total healthcare spending.



**1/2 the world**

lacks access to essential health services



**only 4%**

of patients are in clinical trials; we are missing valuable insights and data from 96%

# Roche At a glance

Maintaining a long-term orientation

**1896**

Founded in Basel  
Family still holds  
majority stake



Reliable partner during  
COVID-19 pandemic



Leader in  
Diagnostics and  
Pharma



**CHF 14.1 billion**  
R&D investment in  
2022

**103,613**  
Employees worldwide

**14.2 million**  
People treated with our  
medicines



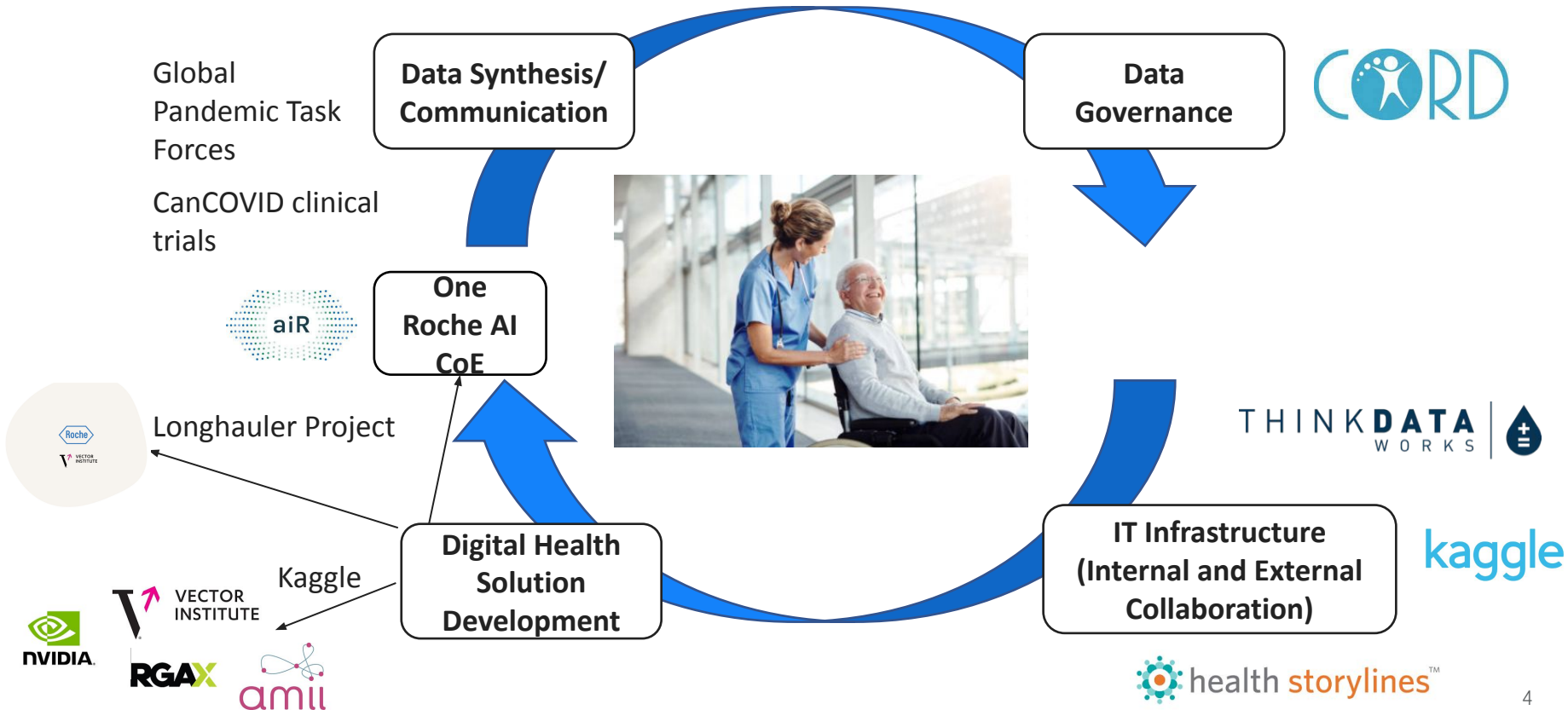
**32 medicines**  
on the WHO List of  
Essential Medicines



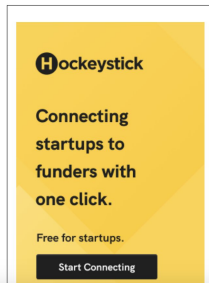
**Sustainable**  
one of the most sustainable healthcare company  
in the Dow Jones Sustainability Indices

**29 billion**  
tests conducted with  
our Diagnostics  
products

# Roche Data Science Coalition 2020



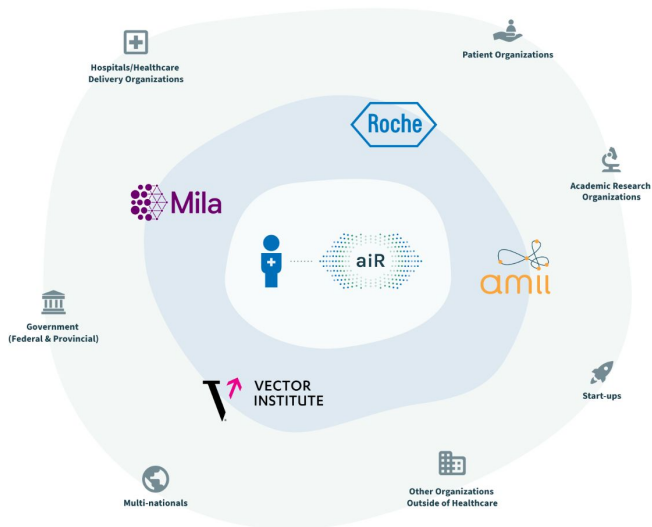
## ROCHE LAUNCHING NATIONAL AI, DIGITAL HEALTH INITIATIVE ALONGSIDE AMII, MILA, VECTOR INSTITUTE



## AI with Roche



- Through AI with Roche, our goal is to collaborate with others to create better health outcomes and a more equitable future in health
- We aim to bring the healthcare ecosystem together with a shared purpose of advancing scientific research and putting patients first. For us, this means all patients.



# Supporting an Open Science Movement



Article >

## UNESCO's toolkit can help accelerate the transition to global open science

3 April 2023 - Last update: 4 April 2023

### For OA Week 2022, PLOS explores how Open Science can advance Climate Justice

October 24, 2022 / PLOS / Open Access Open Access week Open Science

*"For climate research, the immediacy, reach, and demonstrable rigor that Open Science offers is particularly vital."*

*"In climate research, every moment counts and all research matters"*

### In a similar manner, this relates to healthcare as well:

- Faster disease understanding, treatment development, and access to data and tools

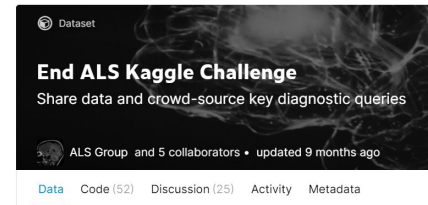
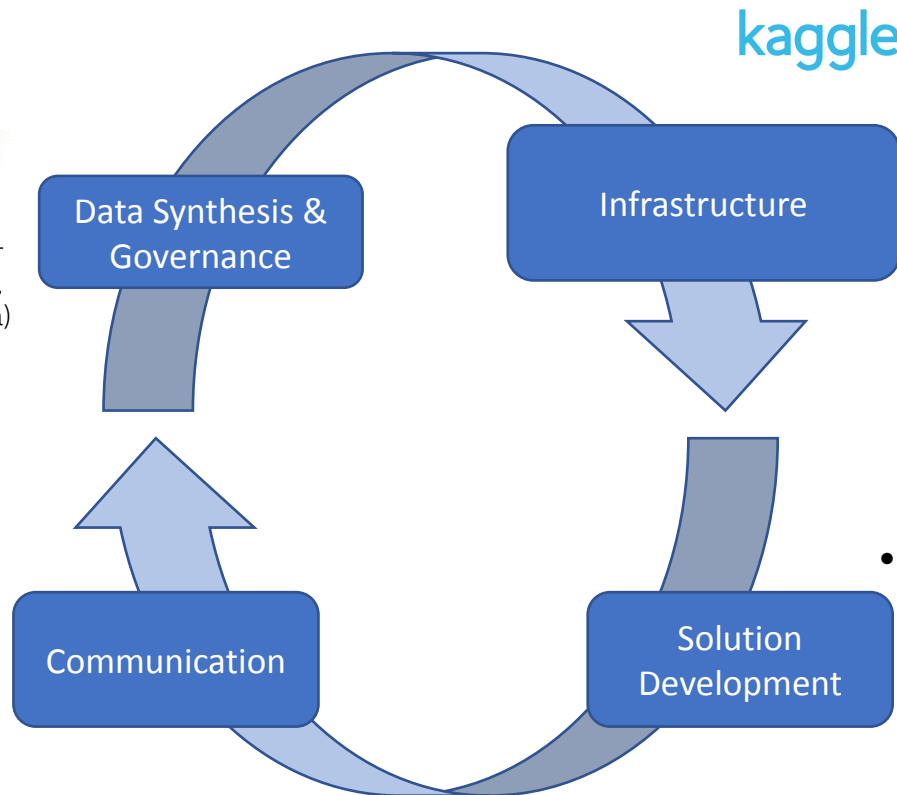
*Embracing Open Science as one approach to improve health equity*

# END ALS Challenge



- Key research questions
- Dataset of individuals with ALS or motor neuron disease (genomics, transcriptomics, and clinical data)

- Communicating outputs and gathering feedback from different communities



- Generate active data science community engagement around ALS
- Public solutions supported confirmation of key biological pathways in ALS and identified new genes of interest
  - Winning teams: UC Irvine and TU of Munich collaboration, Bowhead Health, Ryan Cloke

# Contributing to Health Equity through Open Science



**Rare-X Data Challenge** - Partnering with RARE-X to launch an Open Science Data Challenge in May 2023 aimed at addressing key research questions in rare pediatric neurodevelopmental diseases.

Working with DREAM Challenge through the non-profit Sage Bionetworks to launch the challenge.



- **Tentative data set includes patient reported symptoms, validated patient reported outcome measures and genetic test reports**

- Aim is to shorten the diagnostic odyssey, identify previously unrecognized symptoms, and advance research in this area



**Seneca Hackathons** - Over the last three years, we have sponsored an annual hackathon at Seneca College (Applied Arts and Technology Institution in Ontario, Canada).

Previous themes included COVID-19, Digital Health, and Sustainability.



- Raise awareness and engagement with open data sets (OECD, Orphanet) among student communities

- **Supporting Wasauksing First Nation on upcoming Seneca Hackathon at end of April 2023 with a focus on “First Nations People Diabetes Healthcare”**



# Call-to-Action: Let's Collaborate to Build an Equitable Future in Healthcare

- **“AI with Roche - aiR”**
  - Open Science Challenges (RareX, ALS, First Nations)
  - Open Science Approaches (Platforms, Administration)
  - Working Groups - COIs/COPs
- You can reach us at: ***<https://aiwithroche.com>***



**Doing now  
what patients  
need next**