



November 3, 2021

Foundational Phase Update

Davos Alzheimer's Collaborative

Rhoda Au



Objectives of Global Cohort Development

01

Build a global cohort that is representative of the world population

02

Empower LMICs to contribute as meaningfully as HICs

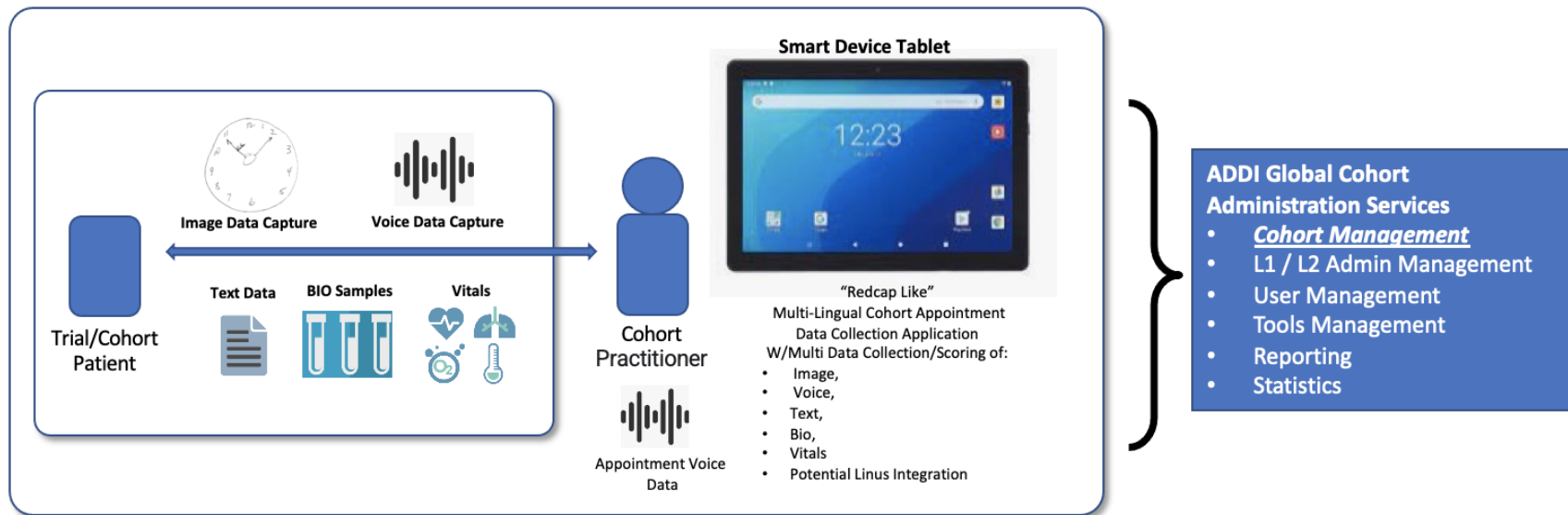
03

Accelerate discovery science by decentralizing data access and facilitating worldwide use



Clinician-free Digital Phenotyping System

Reliable Assessments without Highly-Trained Clinical Staff



In partnership with:



Straightforward Data Processing Pipeline

High Quality Data Analysis without Domain Specific Expertise

Clock Image Processing	Voice Processing	Genomics Processing	ADD'I Pipeline Plugins
Raw Data & Model Input	Raw Data & Model Input	Raw Data & Model Input	Raw Data & Model Input
ML Layer	ML Layer	ML Layer	ML Layer
AI Layer	AI Layer	AI Layer	AI Layer
Harmonization Layer	Harmonization Layer	Harmonization Layer	Harmonization Layer
Data Sharing Options			
ADWB Data Level 0	ADWB Data Level 1	ADWB Data Level 2	Other Data Services
ADWB Level 0	ADWB/ADDI L1 Reference	ADWB/ADDI L2 Reference	Other Data Access

ADDI Global Cohort

Administration Services

- Cohort Management
- L1 / L2 Admin Management
- User Management
- Tools Management
- Reporting
- Statistics

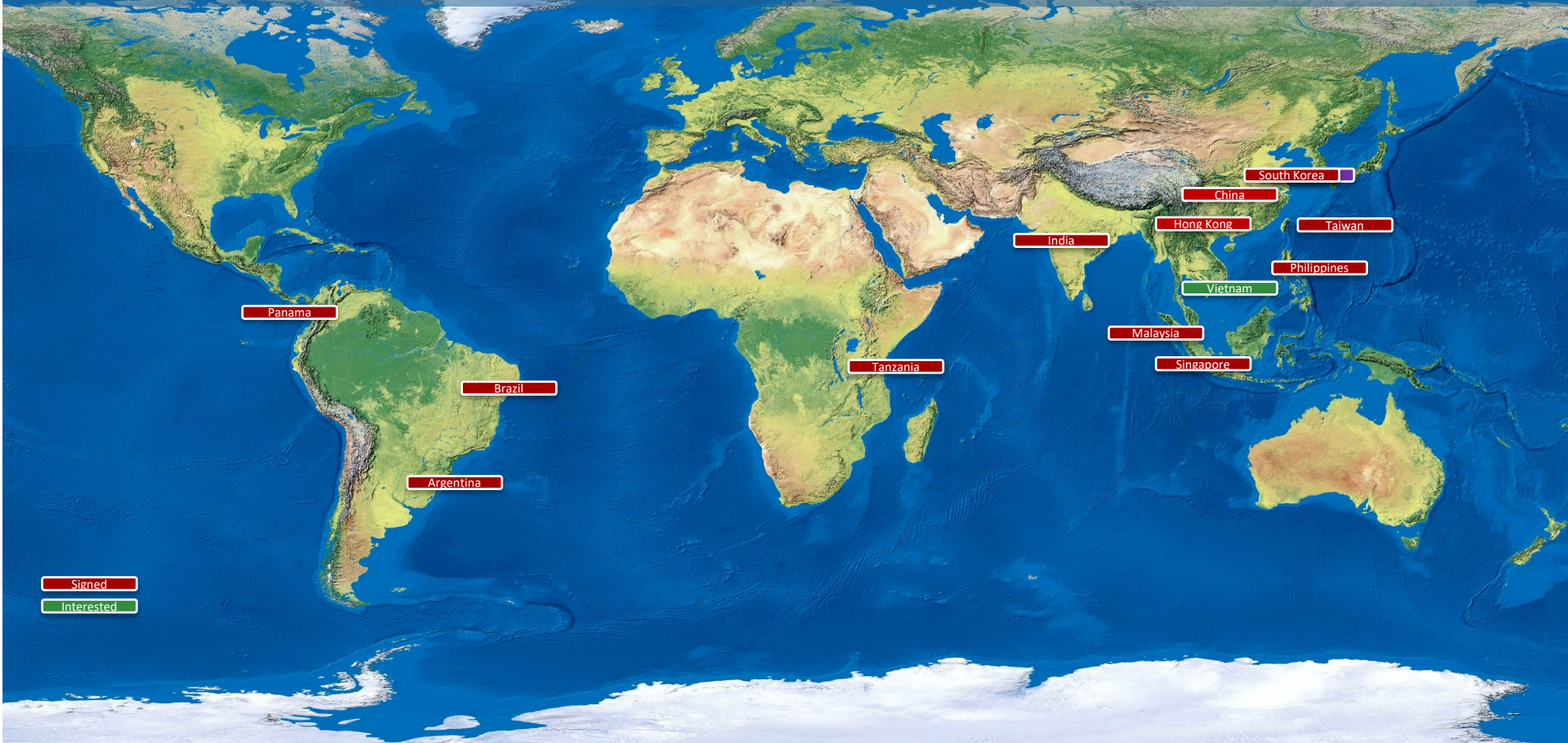
Features

- Set of ADDI and third-party data plugins
- Distributed design enables data organizations to run/operate/maintain the pipeline in their own clouds/environments
- Includes sets of Administration Services to enable/manage/operate the pipelines

In partnership with:



Current DAC Cohorts



FLENI Cohort (Buenos Aires)



Primary Investigator	Ricardo Allegri		
Country	Argentina		
Participant count	1,284	Gender	Not specified
Start date	2011	Cadence	Not specified
Study type	Hospital-based (Instituto de Investigaciones Neurológicas (FLENI))		
Ages	Not specified		
Ethnic representation	Not specified		
Existing data	Partial APOE genotyping, stored plasma & CSF, Brain MRI, PET imaging		

AGELESS 1 - LRGS TUA Neuroprotective Model for Healthy Longevity among Malaysian Older Adults



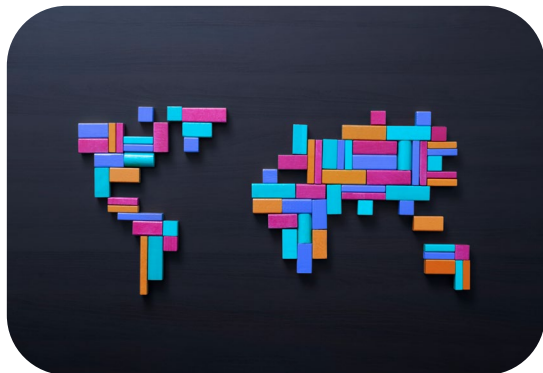
Primary Investigator	Dr. Tan Maw Pin, Dr. Suzana Shahar		
Country	Malaysia		
Participant count	2,322	Gender	48.1% Male 51.9% Female
Start date	2012-2013	Cadence	18 & 36 months, 5 years
Study type	Population/Community-Based		
Ages	60 or older		
Ethnic representation	60.5% Malay, 34.3% Chinese, 5% Indian		
Existing data	Health and lifestyle factors, stored whole blood samples, buccal, toenail, hair		

Customized Benefits: Value Proposition for Cohorts



Expansive dataset and open-source analytic tools

- Accessed through the free Alzheimer's Disease Data Initiative (ADDI) tool



International network of collaborators



Participation in XPRIZE style challenges builds local analytic capabilities

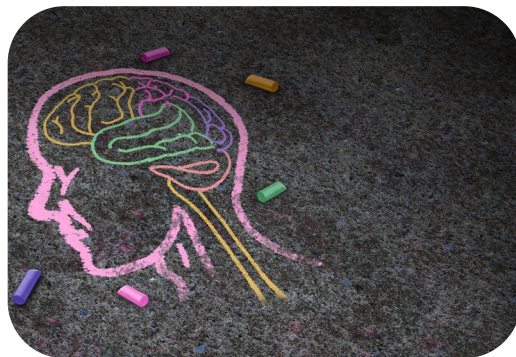
- Motivate change, inspire ideas

Customized Benefits: Low-income Countries



Targeted penetration strategy

- Find motivators for low-income countries, especially for ones with younger populations.
- Piggy-back on current priority programs such as worm eradication
- Help developing economies bypass the “mistakes” of developed economies



Align with current
health priorities &
economic development
interests



Prevention focus from
a lifespan approach
reduces later life risk

Customized Benefits: Budget Stretching



Pilot data needed for traditional grants



Use the connections and credibility of DAC to secure funding for denser omics & phenotypic characterization

- Co-funded government grants (FNIH, NNSF, HK I&T, etc.)
- Attract private capital investment (e.g., pharma, private equity, VC)

Making-The-Leap Solutions

Turning “Can’t...” into “Can!”



Digital Phenotyping

- Reliable/consistent collection without need for highly trained clinicians/staff
- Push data directly into automated QC, data harmonization
- Generate common data elements in real time



Expertise Gap Solutions

- Build community-based cohorts to get true population level estimates
- Identify/validate digital surrogates for imaging biomarkers
- Identify/validate digital surrogates for clinical diagnosis



Global Data Access

- Analysis ready curated and representative data resource
- Biospecimen bank inventory
- Free analytic workbench
- Data analytic challenge program to create scientific precedent where none currently exist

WORLD
ECONOMIC
FORUM

COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

GLOBAL
CEOINITIATIVE
ON ALZHEIMER'S DISEASE

Davos 
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THANK YOU