

# Decentralized Trial Designs for Clinical Trial Diversity

---



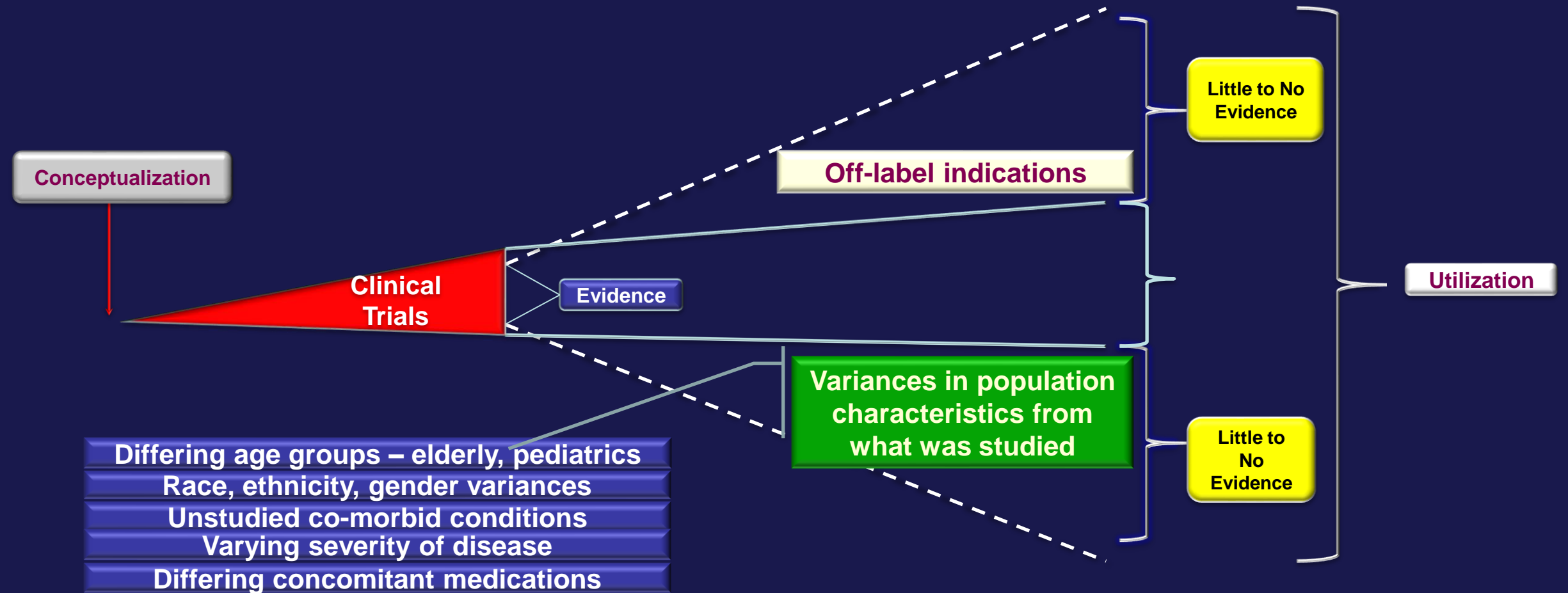
## **Prof. Otavio Berwanger**

Executive Director - The George Institute for Global Health UK

Chair in Clinical Trials, Imperial College London

London, United Kingdom

# Just 5% of eligible patients participate in clinical research!





**Clinical trial participants travel 67 miles to study sites on average**

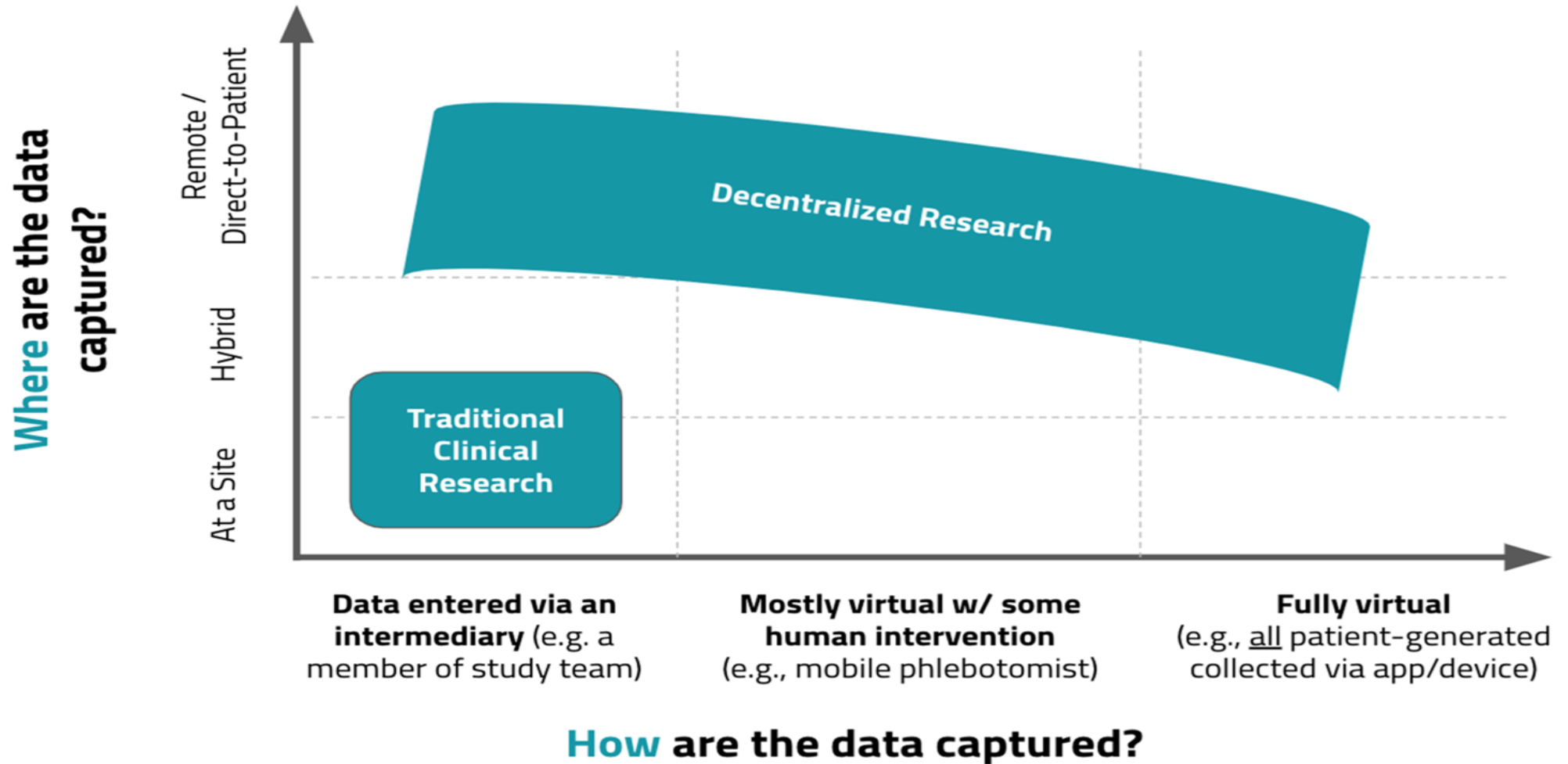


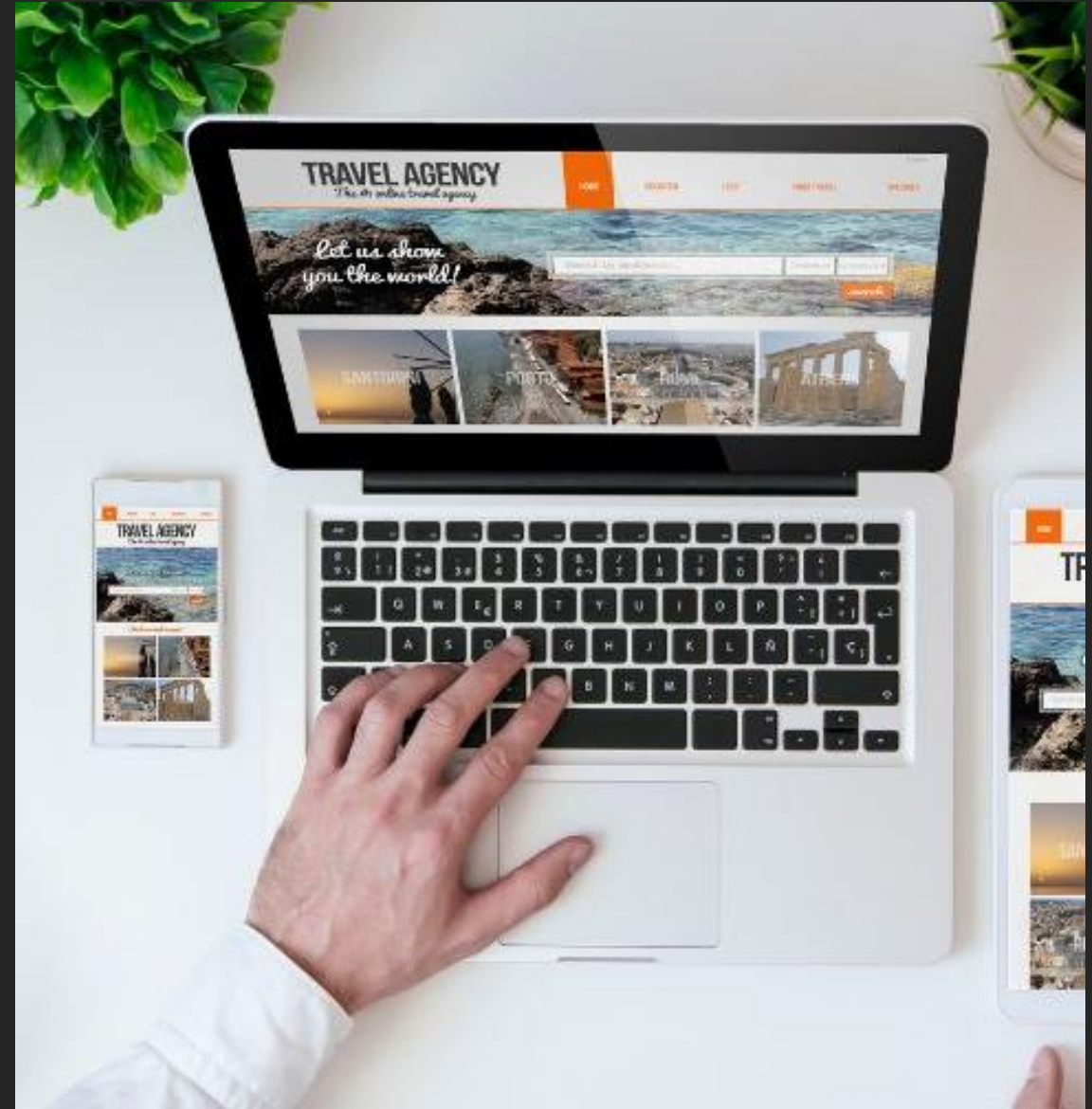
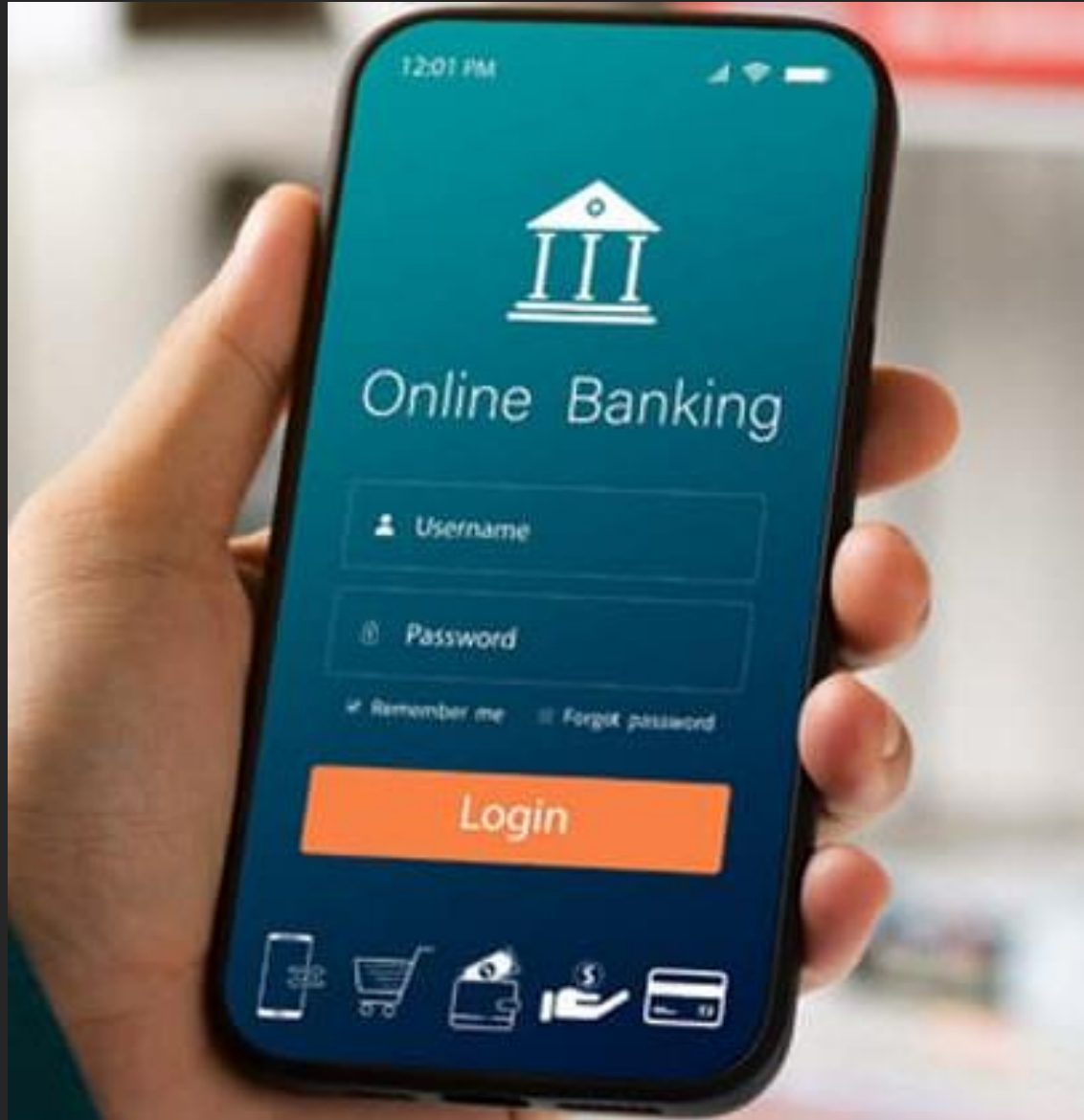
**In 2021, ClinicalTrials.gov had about 350,000 national and international trials registered, which, using the average calculated by the Sustainable Clinical Trials Group, would give a carbon emission of an estimated 27.5 million tonnes of carbon dioxide equivalent (CO<sub>2</sub>e)**





Decentralized studies have two components: decreased reliance (1) on an intermediary and (2) on a physical location





# Decentralized clinical trials meet patients where they are.

## Clinical-trial designs

Fully decentralized ← Hybrid → Fully centralized



All trial procedures are conducted virtually, enabled by digital technologies and supply delivery

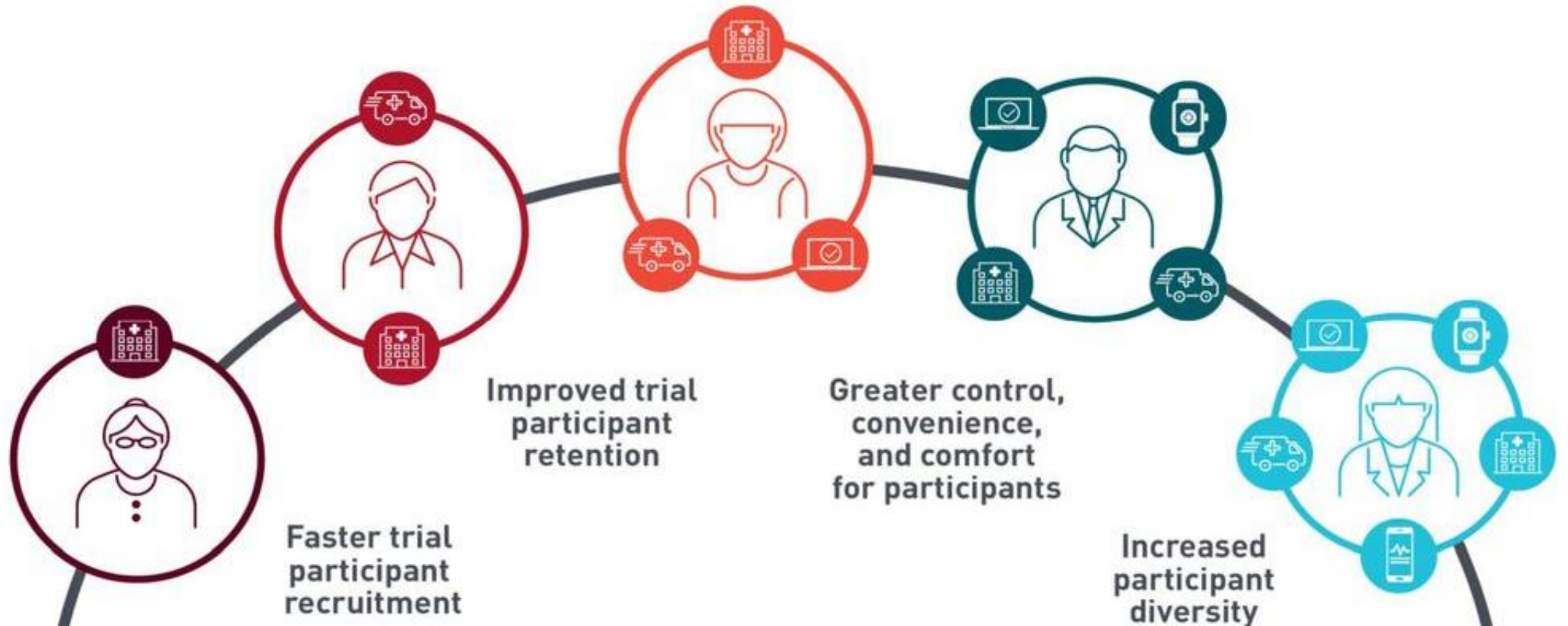
Less complex trial procedures that don't require in-person visits (eg, vital signs, electrocardiograms) are conducted via telehealthcare, remote data collection, or direct-to-patient supply

Less complex trial procedures that require in-person visits (eg, injections) are conducted via mobile clinicians or alternative sites (eg, mobile clinics, retail sites)

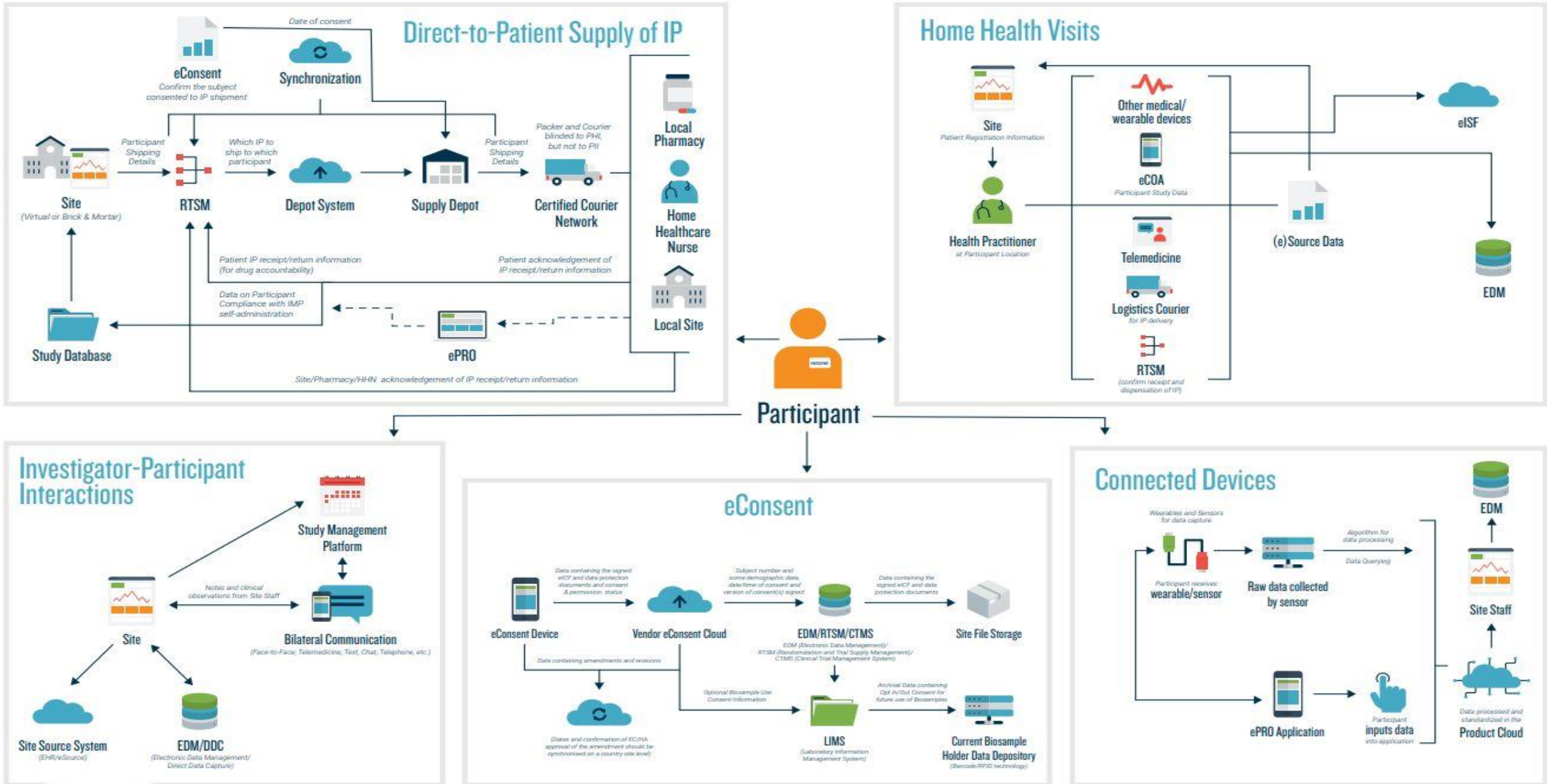
Complex trial procedures (eg, complex screening protocols, cell therapy, magnetic resonance imaging) are conducted via research sites (eg, academic medical centers) or local hospitals

All trial procedures are conducted at a research site (eg, academic medical center)

# Benefits of Using Decentralized Trials



# Overview of a Decentralized Clinical Trial









**Augment delivery with DCT medication adherence solutions, e.g., reminders, photos, videos, smart packaging**

**At-home self-collection kits increasingly familiar due to COVID-19, home healthcare visits, collect samples through local labs or pharmacies**

**Trial Procedures  
Decentralized Directly to  
Participants' Homes**



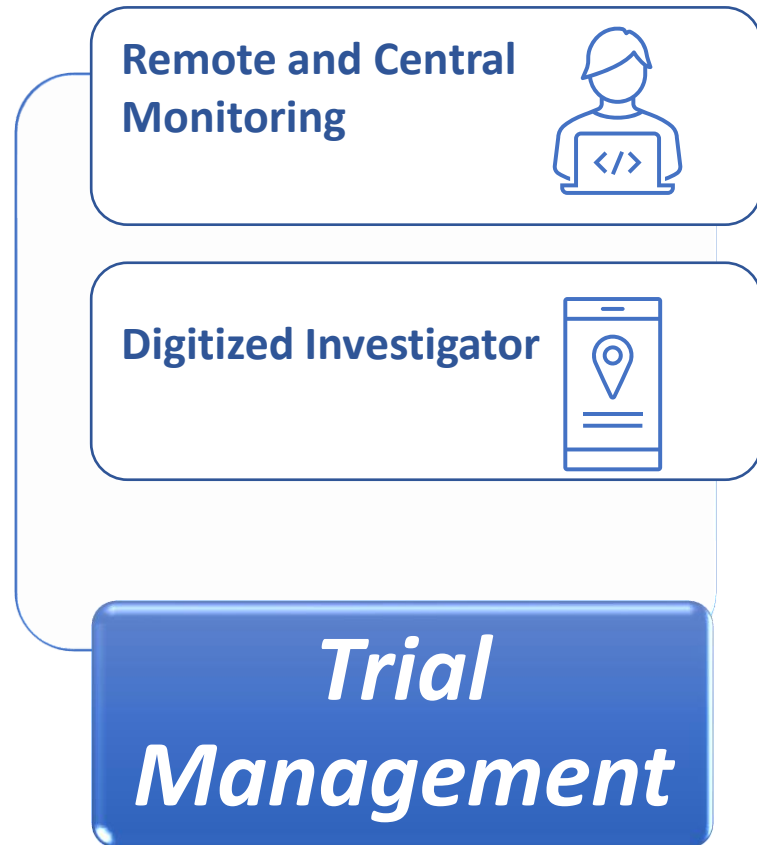
**eCOA**



**ePRO**



***Trial Conduct***



**Involve diverse groups in participants in the trial design, conduct and interpretation**

**Share results with study participants in a language and format that is easy to read**

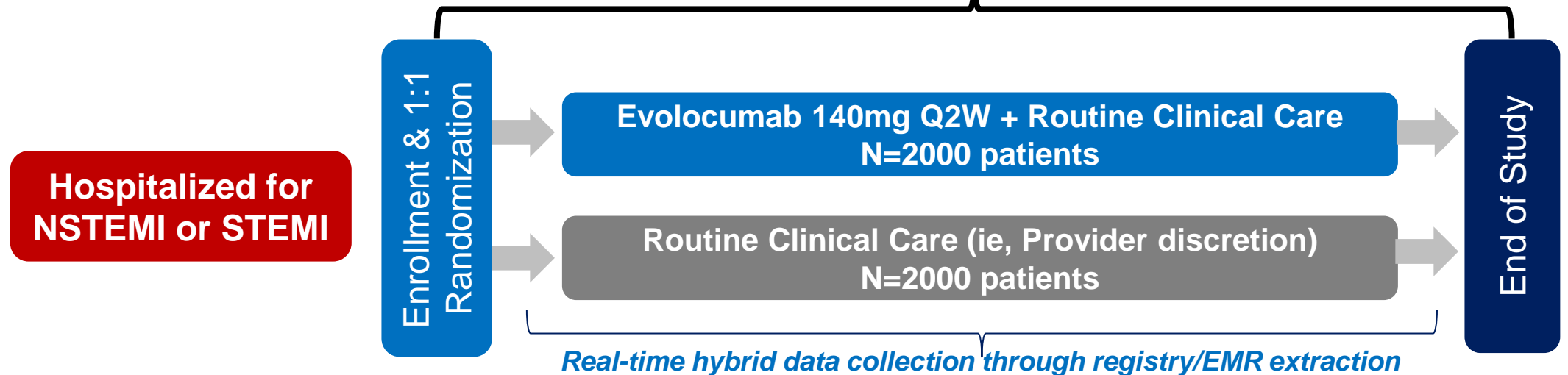


# Mobile Clinical Trials Unit



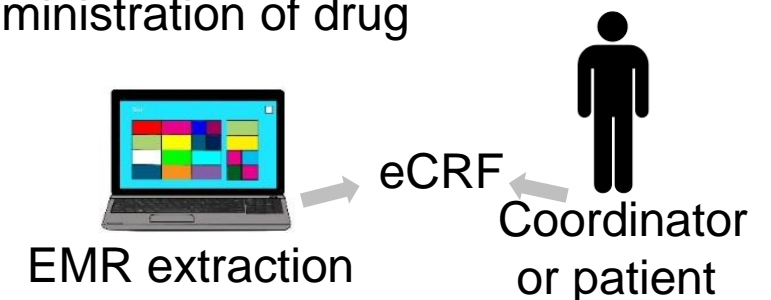
# EVOLVE-MI: EVOLOCUMAB VERY EARLY AFTER MI – STUDY DESIGN

~3.5 Year Median Follow Up



1° endpoint: total (first and subsequent) MI, ischemic stroke, any arterial revascularization, all-cause death

- Evolocumab dosed within 10 days of index MI. Home delivery and self-administration of drug
- **Pragmatic data collection through EMR, patient- or coordinator-completed eCRF and national registries (in Sweden)**



eCRF electronic case report form, EMR electronic medical record, NSTEMI non-ST elevation myocardial infarction, STEMI ST elevation myocardial infarction



ALBERT EINSTEIN

SOCIEDADE BENEFICENTE ISRAELITA BRASILEIRA



CPC

Clinical Research



# Potential Networks for Large-Scale Pragmatic Decentralized Trials



- HF Trial (N=18,000 patients)
- Type 2 Diabetes and Atherosclerotic Cardiovascular Disease (N=9,000 patients)

**MESSAGE**  
Medical Science Sex and Gender Equity



## The Future (or The Present?)

---

**THINK  
BIG**  
*STAY CURIOUS*

- “Giant Simple Trial” (1MM, 5MM, 10MM...)
- Global
- Very Few (if any) Inclusion and Exclusion Criteria
- 99% CIs
- No Sample Size Calculation