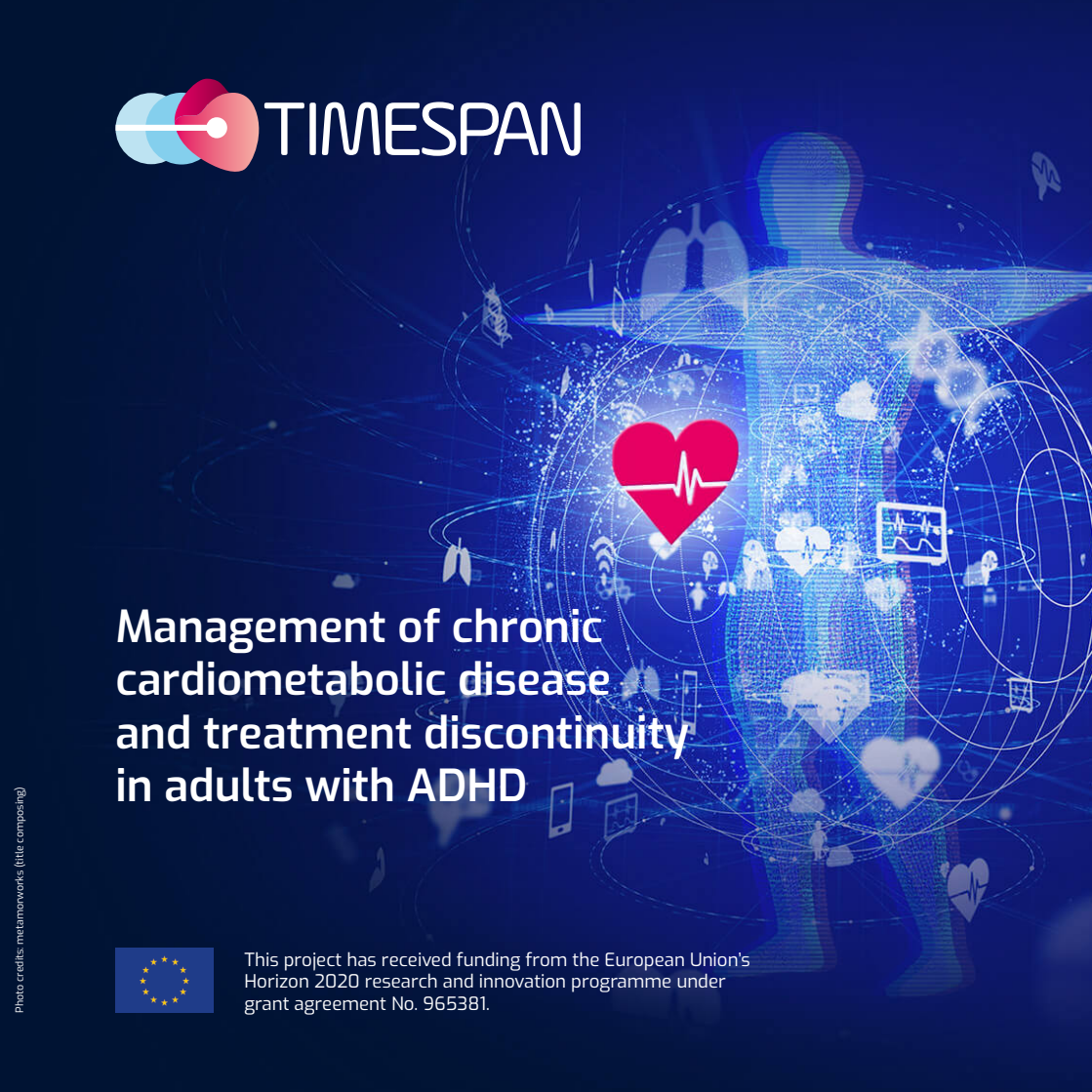
TIMESPAN

Management of chronic cardiometabolic disease and treatment discontinuity in adults with ADHD



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ADHD is one of the most common neurodevelopmental conditions, affecting 3–5% of adults worldwide.

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OUR VISION

Research increasingly highlights a significant association and shared genetic factors between adult ADHD and cardiometabolic conditions such as obesity, type-2 diabetes, and cardiovascular disease. When not adequately managed, these conditions can contribute to serious health complications and increased societal costs.

TIMESPAN is an international, interdisciplinary consortium of experts, including clinicians, epidemiologists, biostatisticians, geneticists, and AI specialists, working together to advance clinical research. By leveraging data from 10 countries across 4 continents, we aim to develop improved tools for data management, analysis, and clinical application that meet the needs of healthcare providers, regulatory agencies, and industry stakeholders. A key goal is to develop tailored treatment approaches for individuals with ADHD and co-occurring cardiometabolic conditions.

Our mission is to improve health and wellbeing for individuals with ADHD and cardiometabolic conditions by updating consensus statements, refining treatment guidelines, and widely disseminating findings to patients, clinicians, and decision-makers.

OBJECTIVES

- Determine whether and how ADHD in adults affects cardiometabolic health outcomes and treatment effectiveness, using the largest datasets and population registries available worldwide.
- Identify the cardiometabolic health impacts of multidisciplinary treatment approaches in individuals with ADHD.
- Conduct advanced pharmacological and epidemiological analyses of existing data and collect new, real-world insights through smartphone-based active and passive monitoring, as well as an innovative smartwatch for continuous health tracking.
- Investigate factors influencing ADHD medication discontinuation in adults, with and without cardiometabolic conditions. This will involve analyzing real-world clinical data using machine learning (ML), natural language processing, and genomic approaches.
- Develop AI-driven methods, including Deep Learning Neural Networks (DLNNs), to recognize individuals at increased likelihood for adverse cardiometabolic outcomes and treatment discontinuation, using large-scale health data from multiple countries with different healthcare systems.
- Optimize personalized, multidisciplinary treatment strategies to support positive health outcomes and minimize barriers to effective care.
- Enhance clinical outcomes and quality of life for adults with ADHD and co-occurring cardiometabolic conditions.

Advancing clinical management of adults with ADHD and cardiometabolic conditions

Photo credit: SDI Productions

Contributing to a healthier future for adults with ADHD

Photo credit: EmbracePlus

ART-CARMA

What is the purpose of this research?

Adults with ADHD have an increased likelihood of developing cardiometabolic conditions, such as cardiovascular disease and obesity, conditions that are also common in the general population. ART-CARMA (ADHD Remote Technology study of cardiometabolic risk factors) seeks to better understand these risks and explore ways to improve long-term health outcomes.

Using the ART system from King's College London, ART-CARMA gathers real-world data from 300 adults with ADHD. The study examines how ADHD medication and physical activity, both separately and together, may influence cardiometabolic health.

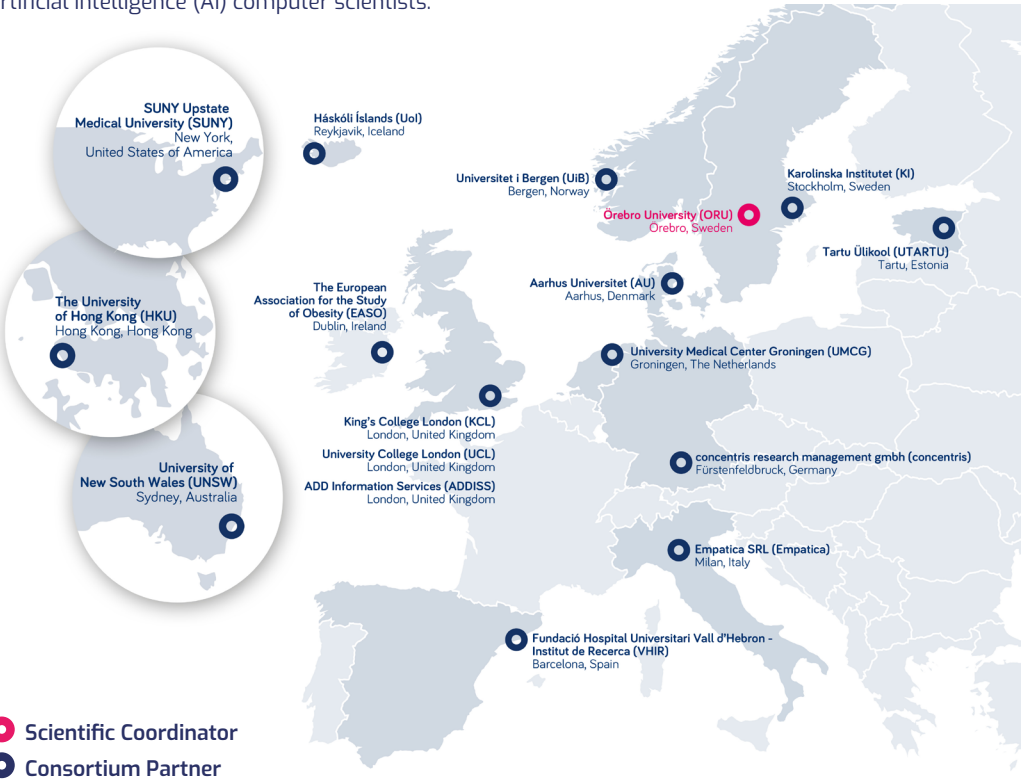
Many adults with ADHD are offered medication as part of their treatment, as research shows it can help manage symptoms. However, we need more insight into its long-term effects, especially in everyday life. We also want to understand how lifestyle factors, like physical activity, contribute to overall health.

To achieve this, participants will monitor their health and well-being over 12 months using a wearable device (EmbracePlus), smartphone apps, and monthly home-based tasks.

By analyzing these real-world data, we hope to gain a clearer picture of how ADHD treatment impacts cardiovascular health and why some individuals stop taking medication.

CONSORTIUM PARTNERS

17 institutions from 14 countries working together on an interdisciplinary basis, consisting of clinicians, epidemiologists, biostatisticians, geneticists and artificial intelligence (AI) computer scientists.



Scientific Coordinator

Consortium Partner

TIMESPAN IN A NUTSHELL

Full project title	Management of chronic cardiometabolic disease and treatment discontinuity in adults with ADHD
Start date	1st April 2021
Duration	5 years
Participants	17 institutions from 14 countries
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