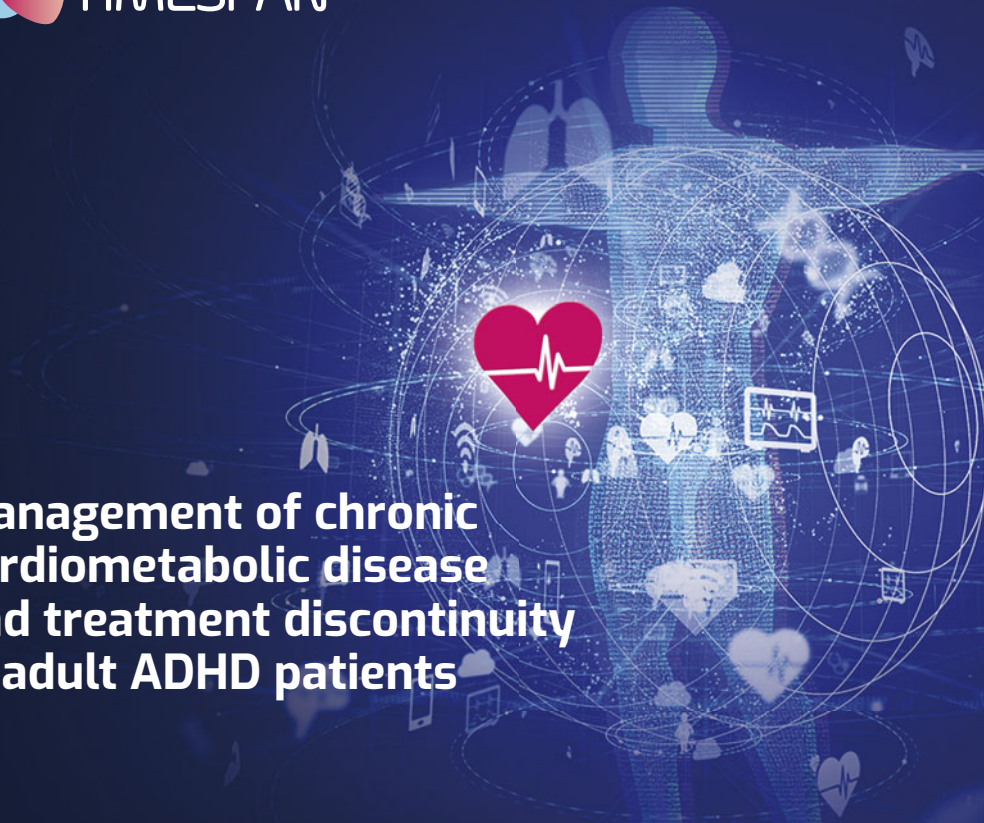
TIMESPAN



Management of chronic cardiometabolic disease and treatment discontinuity in adult ADHD patients

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 965381.

ADHD is one of the most common neurodevelopmental disorders affecting between 3% and 5% of adults worldwide.

Photo credits: DenKvalev, Blacklack3D

OUR VISION

Emerging evidence points at a significant association and shared genetic traits between adult attention-deficit/hyperactivity disorder (ADHD) and cardiometabolic conditions such as Obesity, Type-2 Diabetes, and cardiovascular disease, which, when inadequately treated, can lead to adverse outcomes and significant costs to society.

TIMESPAN is a stellar consortium led by international recognised research leaders working together on an interdisciplinary basis, consisting of clinicians, epidemiologists, biostatisticians, geneticists and artificial intelligence computer scientists. Multidisciplinary approaches using multiple data sources from 10 countries in 4 continents will allow TIMESPAN to advance the clinical research and deliver new tools for data management, analytics and data collection that fits market needs (e.g. health authorities, health care systems and providers, pharmaceutical companies). One of our clinically relevant goals is to create personalised treatment for people with ADHD and co-occurring cardio-metabolic diseases.

Our vision is to improve the lives and well-being of people with ADHD and co-occurring cardiometabolic diseases by updating consensus statements, providing recommendations for treatment guidelines and disseminating results widely to patients, clinicians and other stakeholders.

OBJECTIVES

- Determine if and how ADHD in adults worsens prognosis and interferes with cardiometabolic disease treatment, using the largest datasets and population registries available worldwide.
- Identify the cardiometabolic risks and benefits of multidisciplinary treatment approaches in persons with ADHD.
- Perform advanced pharmacological and epidemiological analyses of available data and obtain new and unique real-world data by using active and passive apps for smartphones and a groundbreaking, new advanced smartwatch for continuous health monitoring for ADHD adults.
- Pinpoint reasons for ADHD treatment interruption in adults with and without cardiometabolic disease. Leveraging on so far unused real-world clinical data through new algorithms developed using machine learning (ML) and natural language processing techniques in conjunction with state-of-the-art genomic approaches.
- Recognize individuals at high risk for poor cardiometabolic outcomes and treatment discontinuation by applying novel AI-driven methods such as Deep Learning Neural Networks (DLNNs) to existing large-scale cohort studies and linked electronic health databases across multiple countries with different healthcare systems.
- Discern optimized and personalized treatment approaches across multiple disciplines to minimize harm, maximize positive changes in disease prognosis, and improve treatment interruption.
- Improve clinical outcomes and quality of life in adult ADHD individuals with accompanying cardiovascular disease.

Advance clinical management of adults with ADHD and co-occurring cardio-metabolic disease

Photo credit: EmbracePlus

Contribution to a healthier future for adults with ADHD

ART-CARMA

What is the purpose of this research?

Adults with ADHD have an increased risk to develop so-called cardiometabolic illnesses, such as cardiovascular disease and obesity, even though these illnesses are common among adults in general.

Our study aims to improve our understanding of these risks for affected adults and how can we best improve their future health.

Many of them are offered medication as part of their treatment, as past research shows that ADHD medication improves ADHD symptoms for the majority of affected adults. However, we need to learn more about the long-term, real-world effects of ADHD medication. We also need to learn more about how physical activity, on its own and together with medication, can contribute to a healthier future.

We have developed a set of remote measures, which will allow participants to monitor their health and wellbeing and provide us with the necessary data on how this relates to them taking ADHD medication as well as to the influence of lifestyle factors such as physical activity. We cordially invite adults, who are currently on an adult ADHD waiting list, to take part in our study. Participation in our study involves baseline assessments and remote monitoring over a 12-month period using a wearable device, the new **Embrace-Plus** developed by the SME partner **Empatica**, smartphone apps, and monthly physical and web-based tasks at home.

This study will give us important real-world information about the extent to which ADHD medication treatment and physical activity may influence cardiovascular health in adults with ADHD. This study will also help us understand patterns and reasons for not taking ADHD medication.

CONSORTIUM PARTNERS

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

TIMESPAN IN A NUTSHELL

Full project title	Management of chronic cardiometabolic disease and treatment discontinuity in adult ADHD patients
Start date	1st April 2021
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Participants	17 institutions from 14 countries
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Project website	**timespan.eu**

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