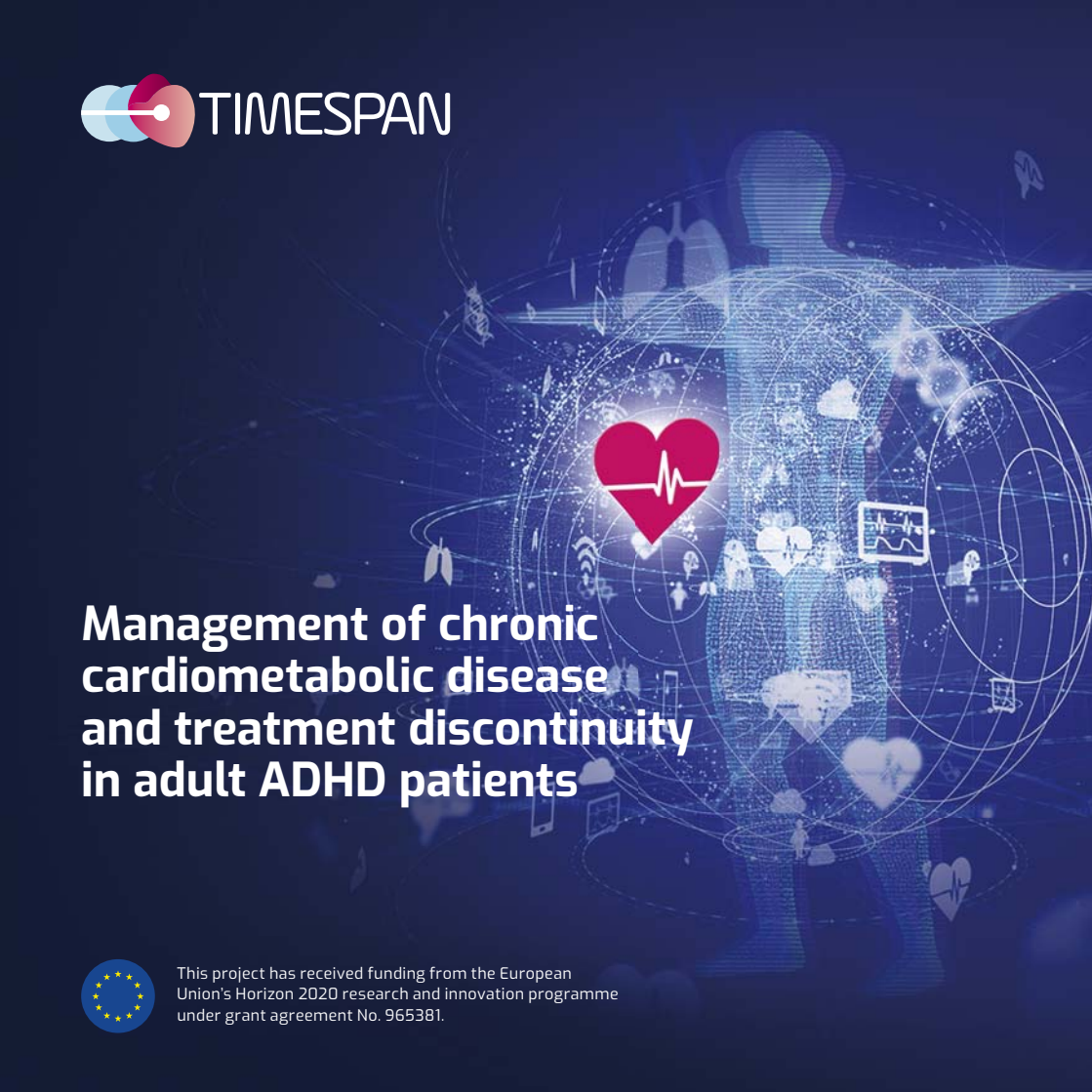
TIMESPAN



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.

OBJECTIVES

- Determine if and how ADHD in adults worsens prognosis and hampers the management of cardiometabolic disease, leveraging the largest data sets and population registries available world-wide.
- Identify the cardiometabolic risks and benefits of multidisciplinary treatment approaches in patients with ADHD, performing advanced pharmacological and epidemiological analyses on available data as well as acquiring new and unique real-world data using active and passive apps for smartphones and a groundbreaking new advanced smartwatch for continuous health monitoring.
- Pinpoint reasons for ADHD treatment discontinuity in adult patients with and without cardiometabolic disease. Capitalizing on so far unused real-world clinician's data through new algorithms, created utilizing Machine Learning (ML) and natural language processing techniques in conjunction with using state-of-the-art genomic approaches.
- Discern patients with ADHD at high-risk for poor cardiometabolic outcomes and treatment discontinuity by applying novel AI driven methods like deep learning neural networks (DLNNs) on existing large-scale cohort studies and linked electronic health record databases in multiple countries with different health care systems.
- Identify optimized and personalized treatment approaches across multiple disciplines, to minimize harm and maximize positive changes in disease prognosis and to improve treatment discontinuity.
- Improve clinical outcomes, as well as quality of life in adult ADHD patients with co-occurring cardiometabolic disease.

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

Photo credit: SDI Productions

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

Photo credits: DenKuvaiev, Blackjack3D

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.

Photo credit: EmbracePlus

Contribution to a healthier future for adults with ADHD

ART-CARMA

What is the purpose of the ART-CARMA research?

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

Our study aims to improve our understanding of these risks for adults with ADHD and how can we best improve their future health. Many adults with ADHD are offered medication as part of their treatment, as past research shows that ADHD medication improves ADHD symptoms for the majority of adults with ADHD. 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 ADHD medication, can contribute to a healthier future for adults with ADHD.

We have developed a set of remote measures for adults with ADHD, which will allow us to monitor their health and wellbeing, and how this relates to them taking ADHD medication and to lifestyle factors such as physical activity. We 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 **EmbracePlus** 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.

Scientific Coordinator
Consortium Partner

TIMESPAN IN A NUTSHELL

Full project title	Management of chronic cardiometabolic disease and treatment discontinuity in adult ADHD patients
Start date	1st April 2021
Duration	5 years
Participants	17 institutions from 14 countries
EC funding	€ 5 999 986
Project website	**timespan.eu**

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