iCARE4CVD project

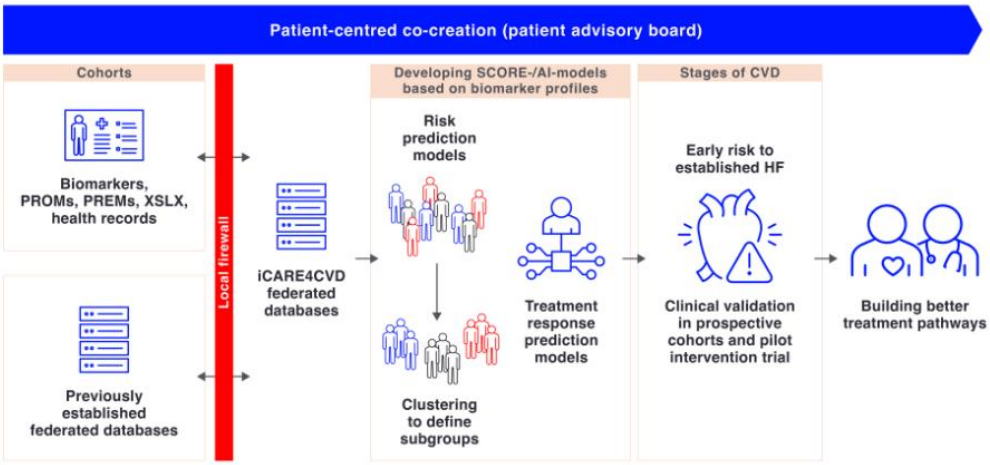
Can AI save your life?

Cardiovascular diseases (CVD) remain a primary global health challenge; they affect 85 million people in Europe alone, and cases are rising due to unhealthy lifestyles and an ageing population. Despite advances in treatment, many people with cardiovascular diseases eventually develop chronic heart failure, which carries a five-year mortality rate of 20 to 50%.

But what if we could use predictive algorithms to assess the risk in individual patients? What if AI could anticipate how patients will respond to therapy?

The iCARE4CVD-project aims to improve patient care across the board, starting from those at risk of developing CVD to those with advanced heart failure. To allow a more personalized approach to patient care, biomarkers will be used to assign those diagnosed to clinically-meaningful subgroups – this will make it easier to pick up on which patients are in most urgent need of treatment. Moreover, tools based on artificial intelligence (AI) could predict how individual patients will respond to different treatments.

This international project will gather data on over 1 million patients from existing cohorts, providing anonymous access to the data through a blockchain-supported federated database. Patients will be closely involved in iCARE4CVD to ensure that the project's results meet their needs. The overarching ambition of iCARE4CVD is to look for new strategies to shift **from a one-size-fits-all approach to personalized care**.



Our role

Thomas More University of Applied Sciences joins an internationally leading consortium of 35 partners from academia, industry and civil society. The role of Thomas More within iCARE4CVD is to focus on two key aspects: data analysis and AI modeling but also the implementation of PROMs (Patient-Reported Outcome Measures) and PREMs (Patient-Reported Experience Measures).

The algorithms which Thomas More is developing for the iCARE4CVD project are tested with the help of Artificial Intelligence. This is done in close consultation with pharmaceutical partner Novo Nordisk. For each individual heart failure patient, we aim to identify the optimal drug-dose combination to reduce re-hospitalization and even death.

Patient involvement is essential in every component within the iCARE4CVD consortium. Heart care is more than numbers. Scans, lab results, and survival rates only tell part of the story - they can't fully capture how patients feel, function, or experience their care. Without valid, shared measures of how patients describe their own health and care experiences, meaningful improvements in cardiovascular care become harder to achieve. The PROMs and PREMs offer a clear path to where we ultimately want to land.

Project scope

iCARE4CVD is a project spanning 4,5 years, supported by Horizon Europe and the Innovative Health Initiative (iHi) under call topic HORIZON-JU-IHI-2022-02-01 'Cardiovascular diseases – improved predication, prevention, diagnosis, and monitoring'. By ensuring active patient involvement across all project components, the consortium aims to deliver results that align with the needs of real-world patients.

For a short instruction video explaining the project, please visit: https://www.youtube.com/watch?v=Q6PHU_IFygY&t=7s

For more information on iCARE4CVD, please visit: https://icare4cvd.eu/

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