

Objectives and Impact

The main purpose of my-AHA is to prevent cognitive and functional decline of older adults, through early risk detection and tailored intervention by ICT-based promotion and support of active and healthy ageing based on improved health literacy. The multinational and multidisciplinary consortium collaborating on this proposal will develop an innovative ICT-based platform to detect subtle changes in physical, cognitive, psychological and social domains of older adults that indicate an increased risk of subsequent vicious cycle of disability and diseases, including dementia, depression, frailty and falls.

The ICT-platform will continuously monitor individuals' risk profile including their lifestyles with cognitive, physical, nutritional and social capabilities. This information will be used to determine individuals' risk profiles and to provide personalized intervention strategies for sustainable use. The ultimate purpose of my-AHA is to contribute to the slow-down of cognitive and physical decline and, possibly, delay the onset of associated end-stage diseases through empowering citizens to manage their own health by improved health literacy due to ICT support.

In addition, my-AHA platform will provide an innovation driven marketplace for other SMEs and NGOs to integrate their platforms with new health Apps (intervention) and devices (risk monitoring) by providing an evidence-based platform of AHA related solutions of different service providers, especially in the intervention domain. This includes also a trading platform for the end-users to monitor and control their relevant health data, share it on own demand with approved institutions (e.g. NGOs, research centers or health companies as well as health insurances), all based on a secure ethical roadmap (user, legal, security) as part of my-AHA project.

For this purpose, my-AHA will implement and explore the following specific objectives, designed to be realistic and deliverable within a four-year long project:

Objective 1

my-AHA will aim to improve early detection and minimization of risks associated with ageing, including cognitive impairment, frailty, depression and falls. My-AHA will provide a new ICT-based ecosystem for the self-management of health for users with an increased risk of physical frailty and cognitive decline, and thus the risk of onset of degenerative syndromes and diseases. This will be achieved by unobtrusive behavioral sensing, and large scale collection and analysis of data readily available in the daily living environment of older individuals.

Objective 2

my-AHA will research and provide new ICT-based interventions tailored to the needs of older adults in Europe, in order to prevent physical, cognitive, psychological and social decline. By providing a new supportive environment, users will be assisted in improving their quality of life, decrease the risk of physical and cognitive decline, prevent psychological and social frailty and thus, become co-producers of their own health.

Objective 3

my-AHA will propose and design ICT tools that are able to continuously support changes in behaviour of older adults in daily life, in order to tackle subsequent negative consequences of ageing and frailty. My-AHA will provide advanced user-centred and participatory design adjusted to the capabilities of older adults to leverage usability and accessibility of the platform, improving the overall user experience and acceptance.

Objective 4

my-AHA will evaluate the proposed concepts in an international multicentre randomized controlled trial (RCT) involving participants from different cultural environments, end-user organisations and households in the participating countries from Europe, Asia and Australia.

Objective 5

my-AHA will establish a new social business model and marketplace for European SME and NGOs to provide a dedicated market and stakeholder analysis enabling for go to market phase after the project end.

Impact

Main expected impact of the my-AHA project is **to increase the awareness and use of new early risk assessment tools for tackling physical, cognitive and social frailty** due to a better self-management of health, and following a healthy lifestyle and adherence to the proposed new intervention plans, thus having a beneficial impact on the health status and quality of life of older adults in Europe and worldwide.

At the same time, my-AHA will have **a strong socio-economic impact on related European industries (SMEs) and societies as a whole as it will be exploited in terms of new technological innovations** (new system for risk assessment and intervention tools for active and healthy ageing), **together with an accompanying welfare mix in different social settings**, which works in parallel with the ICT-based self-management of health by the older adults and his/her peers.

In Europe, as well as in most high-income countries (from Japan to the United States) and in several emergent economy countries like China and India, the increased lifespan of population has led to a high number of elderly people, with a need for prevention, daily assistance and care, and following an increasing socioeconomic burden for the health systems and societies.

One of the major problems will consist in the occurrence of a vicious cycle of physical, cognitive and social decline that include (among others) cognitive impairment, frailty, depression and falls. This will negatively affect the independence and Quality of Life of individuals and their peers, as well as the underlying social and healthcare systems. Therefore, an increased self-management of most common health risks, and to follow a healthy lifestyle and adherence to the needed interventions, will have a strong socioeconomic impact on society, and would be of critical importance for quality of life of individuals and may also help prevent, or delay, further decline.

Thus the main goals of my-AHA are:

- To develop and evaluate new ICT-based personalized risk assessment and intervention tools and strategies in the field of public health and behavioural medicine, to (re-) activate the most important individual resources of the older adults themselves to reduce their health risk factors for physical, cognitive and social decline, and thus prevent associated diseases like dementia, frailty, and depression in later life.
- To motivate user in improving their lifestyle by promoting short-term gains such as individual wellbeing and positive experiences (entertainment, games, fun, enjoyment, social networking etc.) and mid-term aims (like fast improvements in physical and cognitive performance) in order to achieve long-term behavioural changes and health literacy.
- To provide a modular system for the integration of risk assessment and intervention services for use in existing platforms for active ageing that can be used by different suppliers, e.g. industry, SMEs and welfare organizations, among others like physicians and health insurances.