![Interreg ADRION ADRIATIC-IONIAN logo — European Union. European Regional Development Fund - Instrument for Pre-Accession II Fund]

SI4CARE

Social Innovation for integrated health CARE of ageing population in ADRION

OT3.1.1 - ADRION Strategy on the Integrated Healthcare for the elderly

T3: From Innovative Transnational Strategy to National and Regional action plans

Document	ADRION Strategy on the Integrated Healthcare for the elderly
Status	Final report
Version	1
Issue Date	May 2023

Project Partner	Contact Person
University of Ljubljana	Darja Šemrov (darja.semrov@fgg.uni-lj.si)
Jozef Stefan Institute	Bojan Blažica (bojan.blazica@ijs.si)
Miglierina Municipality	Pietro Hiram Guzzi (hguzzi@gmail.com)
University of Split School of Medicine	Katarina Vukojević (katarina.vukojevic@mefst.hr
Teaching Institute for Public Health Split-Dalmatia County	Željka Karin (ravnateljica@nzjz-split.hr)
Health Insurance and Reinsurance Institute of Federation of BiH	Vlatka Martinović (martinovic.v@zzofbih.ba)
National and Kapodistrian University of Athens	Sokratis G. Papageorgiou (sokpapa@med.uoa.gr)
Public Health Institution "Health Center" Tivat	Jovanka Vučetić (dztivat@gmail.com)
Special hospital for treatment and rehabilitation Merkur	Srdjan Kožetinac (srdjan@vrnjcispa.rs)
Regional development fund of Central Macedonia	Chrysanthi Kiskini (c.kiskini@rdfcm.gr)

TABLE OF CONTENTS

1. Executive summary

The remarkable gain in life expectancy in European countries stands out as one of the most important accomplishments of the 20th century. However, the ageing of population has become a significant societal challenge, with no exception for the ADRION area. In this context, the SI4CARE project aims to identify and tackle the issues linked to healthcare services for the elderly. Considering the transnational nature of the issue, project partners joined forces to develop a Transnational Strategy, drawing up a shared vision for an Integrated HealthCare (IHC) of the ageing societies based on Social Innovation. Such Strategy was then translated into regional and national action plans, which have been implemented and monitored by project partners through ad-hoc pilot actions, addressing the improvement of telemedicine tools/protocols and/or accessibility to healthcare facilities, besides contributing to the mainstream of project outcomes into regional and national policies. Based on the identified challenges, the Strategy sets out five pillars for enhancing quality of life of the elderly by sustaining independent living and providing opportunities for greater democratic and societal engagement, focusing the attention on the wider deployment of information and communication technologies (ICT). Among these pillars, the project led to the establishment of a SI4CARE Community, with a dedicated Competence Center for Social Innovations for Active and Healthy Ageing, to encourage an active, strategic approach to the field of social development and investment in it, requiring the attention and cooperation of all key stakeholders across the ADRION regions and beyond.

2. Preamble

2.1 Why a TS and what is the SI4CARE TS

The ageing of population is a crucial societal challenge affecting European countries, with no exception for the ADRION area. Within this context, the SI4CARE project aims to identify and tackle issues related to healthcare services targeting elderly population. Indeed, the projected increase in the share of elderly with declining functional capacities, and the continuous growth of healthcare expenditure levels in ADRION regions, driven by ageing population's demands, stresses the imperative of identifying and tackling current bottlenecks and barriers preventing innovation, effectiveness, and performance of healthcare systems in ADRION countries and regions.

Based on the transnational nature of the issues at stake in ADRION countries and beyond, concerning healthcare services targeting elderly, SI4CARE partners believe that the development of a transnational strategy is a key factor in order to jointly define a common vision on how to effectively respond to common challenges, translated into concrete actions, which will be implemented in national and/or regional contexts, in order to reduce disparities in healthcare systems, improve the overall wellbeing of elderly population, and to follow a common vision for improving the overall social innovation capacities in the medium and long term. A transnational and commonly agreed strategy would guarantee synergy and consistency among different actions undertaken in the ADRION area.

In order to accelerate change and boost social innovation application to healthcare services for elderly in the ADRION area, the SI4CARE Transnational Strategy will define a common vision for an Integrated HealthCare (IHC) of the ageing population based on Social Innovation, translated into regional and national action plans, to be implemented and monitored within pilots in telemedicine and accessibility to healthcare facilities. The Strategy will thus outline the medium-long term vision, setting out shared objectives for ADRION regions, and Action Plans will define concrete steps to be undertaken, for improving healthcare services for elderly in participating countries and/or regions, and for contributing to the upscale and mainstream of project outputs into regional and national policies.

The SI4CARE Transnational Strategy will be developed based on common standards defined in the WPT3 Working Methodology (D.T3.1.1). The document will include a brief description of challenges and opportunities for Social Innovation application to healthcare services in ADRION area and will outline a Wish List with "desired" policies, services and protocols, technical solutions, etc., to be implemented in PPs' regional and national contexts. Both challenges and the Wish list represent WTP1 inputs. The Strategy will also define main pillars of implementation, type of intervention measures and high-level recommendations. The pillars will be defined and the description developed on the basis of the main areas of intervention defined within the challenges. The Strategy will be integrated with results from pilot actions and merged with the integrated healthcare model derived from the Social Innovation Decision Support System- SI-DSS.

2.2 Creating a strategy: methodology (log-frame[1]), work-plan, debate management and adopted instruments

The development process of the Transnational Strategy (TS) will be led by the Lead Partner – University of Ljubljana. It will be defined within the context of the Living Lab, a common

---

[1] 'Logical Framework', or 'logframe', describes both a general approach to project or programme planning, monitoring and evaluation, and – in the form of a 'logframe matrix' – a discrete planning and monitoring tool for projects and programmes. Logframe matrices are developed during project/programme design and appraisal stages, and are subsequently

environment for the transnational cooperation, aimed to overcome current obstacles in healthcare services and related policies implementation, and to address upcoming societal changes in the area.

The TS is conceived as an integrated framework, able to foster scaling-up of Social Innovation practices in healthcare and influence regional/national policy schemes.

The present Transnational Strategy (TS) defines mission, vision and objectives needed for the improvement of the healthcare services provided to elderly in the medium-long run in the ADRION Area, and thoroughly describes keystones for subsequent development of the National and Regional SI4CARE Action Plans. The TS was elaborated within the Living Lab[2] by using the Logical Framework Approach (LFA)[3] . Following the LFA, 2 main analyses were made to arrive at the design of an efficient and effective TS: the **Context Analysis** – to have an overall picture of the context in which the Transnational Strategy would be implemented - and the **Critical Analysis** – to critically analyzed the identified context focusing on four main points: stakeholders, problems, objectives and strategy. Indeed, the critical analysis consists of 4 sub-phases:

1. The **Stakeholder Analysis** which allowed to:

   - identify and characterize the main SHs, target groups and beneficiaries, defining whose problems will be addressed by a future intervention and understanding which are the actors that in one way or another could be affected by the strategy;

   - determine SHs interests (benefits, expectations, resources they could mobilize and how they can participate the strategy implementation;

   - understand which is their power and influence with respect to the issues the Strategy should address;

   - formulate a participation strategy for the identified SHs in order to involve them in the Strategy implementation;

2. The **Problem Analysis** which allowed to identify the key problems that affects the TS' area of interests, namely the healthcare services for elderly in the ADRION Area. In order to identify problems, it was fundamental to involve, through the Living Lab, the SHs identified during the Stakeholders Analysis. This analysis led to a clear definition of the problems

---

updated throughout implementation while remaining an essential resource for ex-post evaluation.

As a methodology, the 'Logical Framework Approach' (LFA) is a systematic, visual approach to designing, executing and assessing projects which encourages users to consider the relationships between available resources, planned activities, and desired changes or results. At its core is a theory of change management which presents the logical flow of causal outcomes between achievement of a project/programme's activity targets, and the delivery of intended results. Logframes, to this end, enable planners to establish a hierarchy of objective or result statements – i.e. a development pathway – which articulate their best understanding of how change can be achieved.

[2] The Living Lab is a common environment for the transnational cooperation network, directly involving national and regional PAs, universities and researchers, innovators, technology providers and innovation experts, public service providers, in order to co-design, experiment, monitor and evaluate Social Innovation approaches, digital solutions, models, policies and action plans for healthcare services for the elderly

[3] LFA is a methodology for analyzing, planning, managing and evaluating strategies, programmes and projects, using tools to enhance participation and transparency and to improve orientation towards objectives.

that the TS aims to tackle and their hierarchy, namely how they are connected to each other (the cause-effect relationship clearly shown in the Problem Tree).

3. The **Objectives Analysis** during which TS' objectives were set out from the identified problems by turning negative aspects into future desired and realistic situations. The cause-effect relationship in the problem tree became a relationship between means and ends in the Objectives Tree.

4. The **Strategy Analysis** which allowed to define the Intervention Logic, namely the options, the ways to adopt in order to achieve the set objectives in terms of overall objectives, specific objectives and result.

2.3 European framework for SI, Telemedicine, etc.

Social innovation is about finding new solutions to social problems, new ideas that meet social needs, create social relationships and form new collaborations. People have always tried to find new solutions for pressing social needs. But a number of factors have spurred Social Innovation development recently, worldwide and especially in Europe. There is, of course, a link with the current crisis and the severe employment and social consequences it has for many of Europe's citizens. On top of that, the ageing of Europe's population, fierce global competition and climate change became burning societal challenges. The sustainability and adequacy of Europe's health and social security systems as well as social policies in general is at stake. This means EU needs to have a fresh look at social, health and employment policies, but also at education, training and skills development, business support, industrial policy, urban development, etc., to ensure socially and environmentally sustainable growth, jobs, and quality of life in Europe. Part of the current attractiveness of social innovation comes from the fact that it can serve as an umbrella concept for inventing and incubating solutions to all these challenges in a creative and positive way. And this is much needed in Europe today.

As concern Social Innovation, at EU level the European Commission is currently encouraging market uptake of innovative solutions and stimulating employment. The Commission's actions on social innovation stem from the Innovation Union initiative in 2010 and of the Social Investment Package in 2013. These actions facilitate the inducement, uptake and scaling-up of social innovation solutions. The main objectives are:

- promoting social innovation as a source of growth and jobs
- sharing information about social innovation in Europe
- supporting innovative entrepreneurs and mobilizing investors and public organizations.

Concerning the term »Social Innovation« itself, there is a wide range of definitions and interpretations across the EU, depending on the specificities of each country, which play a significant role. In the SI4CARE context, we might well define Social Innovation as the development and implementation of new ideas (services and models), as a response to burning social demands (adequate health and long-term care services), with the ultimate goal of improving welfare and wellbeing of elderly population.

Thus, the primary goal of »social innovations« is to generate social change, and if compared to »mainstream innovations«, they are mainly driven by social reasons, thus the value (economic and social) they create is a »shared value«. They rely on the creativeness of citizens, civil society organizations, local communities, businesses, and Public Administrations, allowing to co-create and implement better products, services, and models, in order to satisfy individual but also collective demands. In fact, social innovations are not only good for society, but also satisfy individual aspirations and needs.

Social innovation is a process, through which new responses to compelling social demands are developed, in order deliver social change. Such process is based on four main elements:

- Identification of new/unmet/inadequately met social needs (healthcare services for elderly);
- Development of new solutions in response to these social needs (adequate social and healthcare services for elderly through adoption of ICT - telemedicine/teleassistance/teleconsultation);
- Evaluation of the effectiveness of new solutions in meeting social needs (action plans development, implementation and monitoring);
- Scaling up of effective social innovations (mainstream of project outputs/results into regional and national policies across the ADRION area and beyond).

In reference to the European Union (EU) framework for social innovation, it should be highlighted that, over the years, the EU has provided a number of sources for promoting social innovation, ranging from financial resources to networking opportunities. Social innovation is present in EU policy initiatives such as the EU2020 Strategy and the Cohesion Policy.

EU2020 Strategy aims at a smart, sustainable, and inclusive social and economic development. It also points to social innovation as one of the means to effectively pursue and reach the stated objectives. Among its seven flagship initiatives, "Innovation Union, "European Platform against poverty", "A Digital Agenda for Europe" and the "Active and healthy ageing" innovation partnership, social innovation plays a prominent role for their implementation. Indeed, the declared objectives of stimulating innovation, promoting entrepreneurship and the knowledge-based society lies at the core of the EU2020 Strategy.

For the programming period 2014-2020, social innovation has been explicitly integrated in the Structural Funds Regulations, enabling Member States and European regions to invest in social innovation both through the ERDF (European Regional Development Fund) and the ESF (European Social Fund). One such example is the SI4CARE project, funded by a transnational cooperation programme (ADRION), contributing to the European Territorial Cooperation, which is one of the goals of the EU cohesion policy. The aim of the project is to identify and tackle issues related to Social Innovation application to healthcare services addressed to elderly population.

In reference to social innovation promotion in the EU, it is worth mentioning the EaSI programme, which starting from 2014, is composed by three axes (PROGRESS, EURES and Microfinance and Social Entrepreneurship), each supporting different objectives. Within the PROGRESS axis, social innovation acquires a prominent role. Indeed, its aim is to support policy-making and implementation by producing policy evidence, organising information-sharing and mutual learning activities, creating better conditions for social innovation, and helping to build capacity for EU and national organisations.

Indeed, one of EaSI goals is to provide space for social policy innovation to respond to social needs that are not met or are met insufficiently. The programme therefore provides catalyst funding for field testing of innovative solutions to identify the most effective, with a view to their scaling-up. In this respect, activities with clear EU added value and a multiplier effect are particularly emphasised in the EaSI funding.

In reference to the EU framework for telemedicine and telecare (both included within the concept of telehealth), it should be highlighted that this field (development and deployment of e-health solutions) remain under the sphere of competence of EU Member States. Nevertheless, the EU supports and promotes the development of telehealth, by providing funding and policy cooperation platforms to European countries, for collaboration on key aspects, such interoperability or quality standards for e-health solutions. Indeed, telemedicine and telecare is a particularly effective manner of Social Innovation that leverages ICT, widely diffused.

For a thorough understanding of Telemedicine and Telecare concepts, here below some definitions are proposed. In addition, the conceptual framework of the relations between eHealth, Telehealth, Telecare and Telemedicine is illustrated.

eHealth refers to the combined use of electronic communication and information technology in the health sector to share, store and retrieve electronic health data for prevention, diagnosis, treatment, monitoring, educational and administrative purposes, both at the **local site** or at **distance**. **Telehealth** is a subset of eHealth and refers to the delivery of healthcare **at a distance**.

Indeed, **Telehealth**, is defined as the use of electronic information and telecommunication technologies to support long-distance clinical health care, patient and professional health-related education, health administration, and public health.

Telemedicine is defined the use of ICT, for delivering health services to remote patients, and to facilitate information exchange between primary care physicians and specialists located at some distance from each other.

Telecare consists in the use of ICT for the remote monitoring of care needs, emergencies and lifestyle changes of elderly or vulnerable individuals with physical or mental disabilities, with the aim to provide personalized care services remotely, supporting patients' self-management and helping them to remain independent in their home environment.
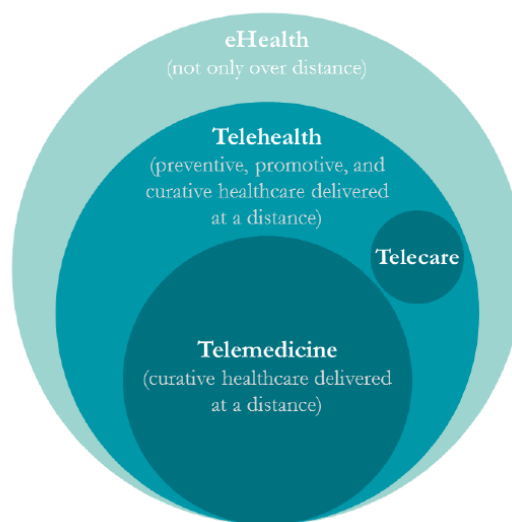
Concerning financial support in the field of eHealth, here below are listed some of the European financial instruments:

- The **Connecting Europe Facility** (CEF): supports trans-European networks and infrastructure in the sectors of transport, telecommunications, and energy. It finances projects that address common challenges through the provision of technical and organisational expertise.
- **Horizon 2020 programme**: supports research, innovation, and cooperation in the area of ICT for health and wellbeing. It also encourages SMEs to scale up eHealth solutions and to tap into markets abroad.
- The **third Health Programme** (2014-2020) supported the Joint Actions and has co-financed several projects in the area of eHealth.

- The **Innovative Medicine Initiative** (IMI) which aims to improve health by speeding up the development of, and patient access to, innovative medicines, particularly in areas where there is an unmet medical or social need.
- **ERA PerMed** aligns national research strategies, promotes excellence, reinforces the competitiveness of European players in Personalized Medicine (PM), and enhance the European collaboration with non-EU countries.

The **Ageing Well in the Digital World (ALL) funding programme**: aims to create better quality of life for older people and to strengthen industrial opportunities in the field of healthy ageing technology and innovation. This objective is being pursued through funding of projects (consists of SMEs, research bodies and end-user organisations) working towards creating market-ready products and services for older people. Since 2008, we have funded over 220 projects. The projects funded by ALL programme address several issues, namely: management of chronic conditions, social inclusion, access to online services, mobility, management of daily activities, and support from informal carers. AAL is co-financed by the European Commission (through Horizon 2020) and 17 countries until 2020 for an approximate budget of €700 million. Concerning the regulatory framework of eHealth, cross-border telemedicine is addressed in some EU legal acts, namely:

- **Directive 2011/24/EU** on the application of patients' rights in cross-border healthcare and licensing/registration of healthcare professionals;
- **General Data Protection Regulation** (GDPR) (EU 2016/679), for the procession of personal health data related to health.

The main **policy cooperation platforms**, made available by the EU for collaboration and cooperation of European countries on eHealth issues, are:

- The **eHealth Network**, set up under Directive 2011/24/EU on patients' rights in cross-border healthcare connects national authorities responsible for eHealth. Through this voluntary network, EU countries can give direction to eHealth developments in Europe and help shape policy on eHealth interoperability and standardization;
- The Joint Action supporting the eHealth Network, called **eHAction** (eHealth Action), was launched in 2018. Its primary aims are to support the eHealth Network with technical and scientific advice, to facilitate cross-border healthcare across the EU and to provide the necessary policy support to the eHealth Digital Service infrastructure (eHDSI);
- The **eHealth stakeholder group** (eHSG) is composed of representatives of European umbrella organisations/associations or organisations, with a European outreach, in the fields of research, industry, standardisation and associations representing users (patients, professionals, providers etc.) active in the eHealth sector. Its primary objective is to contribute to the development of eHealth policy at EU level;
- The Joint Action for the European Health Data Space, called **TEHDAS** (Towards the European Health Data Space) was launched in 2021. It will support the Commission's work on the European Health Data Space, by bringing together actors relevant to the use of health data for research and policy making in the EU, collecting the best practice available in the EU on the secondary use of data on governance, data quality, infrastructure and empowering citizens. The Joint Action is set up under the Third EU Health Programme.
- **ICF- WHO's framework for health and disability**- is the conceptual basis for the definition, measurement and policy formulations for health and disability. ICF is a universal classification intended for several uses in different sectors. **The most**

important purpose of ICF is being a planning and policy tool for decision-makers. In addition, it is a classification of health and health-related, helping to describe changes in body function and structure, what a person with a health condition can do in a standard environment (their level of capacity), as well as what they actually do in their usual environment (their level of performance). These domains are classified from body, individual and societal perspectives by means of two lists: a list of body functions and structure, and a list of domains of activity and participation. In ICF, the term functioning refers to all body functions, activities, and participation, while disability is similarly an umbrella term for impairments, activity limitations and participation restrictions. ICF also lists environmental factors that interact with all these components.

2.4 ADRION: Strategy, Objectives, EUSAIR, SI4CARE contribution

The SI4CARE project is funded by the ADRION Programme, a European transnational Programme that invests in regional innovation systems, cultural and natural heritage, environmental resilience, sustainable transport, and mobility as well as capacity building. Being a transnational cooperation Programme, ADRION contributes to European Territorial Cooperation, which is one of the goals of the EU cohesion policy, which aims to promote a harmonious economic, social and territorial development of the European Union as a whole and provides a framework for the implementation of joint actions and policy exchanges between national, regional and local actors from different Member States. By bringing together eight Partner States, ADRION aims to act as a policy driver and governance innovator for the benefit of more than 70 million people in the Adriatic and Ionian region.

As mentioned, ADRION covers eight Partner States, of which four are EU Member States (Croatia, Greece, Italy, and Slovenia), three are candidate countries (Albania, Montenegro, Serbia) and one is a potential candidate country (Bosnia and Herzegovina). The geographical area of each Partner State covers its national territory except for Italy, where Programme area covers 12 regions and 2 provinces4.

Moreover, the Programme supports the EUSAIR Strategy (EU Strategy for the Adriatic-Ionian Region) operating in the same cooperation area. The EU Strategy for the Adriatic and Ionian Region is an innovative concept concerning territorial development when dealing with the challenges and opportunities of a specific geographical area. It is built on four thematic pillars that have been identified as crucial for the Adriatic and Ionian region. Each pillar consists of topics, which represent the main areas where the macro-regional strategy can contribute to considerable improvements. Of course, ADRION goals and objectives are directly linked with those of EUSAIR. Additionally, as mentioned below, its priority axis No 4 supports the EUSAIR governance.

As a transnational cooperation Programme, ADRION main contribution will be to exchange and transfer experiences between regions, support transnational interventions and capacity building, as well as to answer to current needs and challenges within the region. To this end, the Programme focuses its investments in four Priority Axes, namely:

1. *Innovative and smart region* - Promoting business investment in R&I, developing links and synergies between enterprises, research and development centres and the higher education sector, in particular promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation,

---

4 i.e. Abruzzo, Molise, Puglia, Basilicata, Calabria, Sicilia, Provincia Autonoma di Trento, Provincia Autonoma di Bolzano/Bozen, Veneto, Friuli-Venezia Giulia, Lombardia, Emilia-Romagna, Umbria and Marche.

networking, clusters, and open innovation through smart specialisation. **The SI4CARE project is part of this priority axis.**

2. *Sustainable region* - Conserving, protecting, promoting, and developing natural and cultural heritage; Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000, and green infrastructure.

3. *Connected Region* - Developing and improving environment-friendly (including low-noise) and low-carbon transport systems including inland waterways and maritime transport, ports, multimodal links, and airport infrastructure, in order to promote sustainable regional and local mobility.

4. *Supporting the governance of the EUSAIR* - Enhancing institutional capacity of public authorities and stakeholders and efficient public administration by developing and coordinating macro-regional and sea-basin strategies.

In particular, the <u>**SI4CARE project**</u> contributes to reach the specific objective 1.1 of the first priority axis i.e. **"Supporting the development of a regional Innovation system for the Adriatic-Ionian region".** Indeed, one of the main challenges of the Adriatic Ionian area is to keep up with global competition. If on one side the region includes some regions leader in R&D and some highly skilled industrial sectors (e.g.: agriculture, agribusiness, chemicals, etc.), their potential is weakened by limited cooperation among companies, research centres and public agencies and by an overall lack of focus on specific issues that can strengthen the area competitiveness.

The specific issue the SI4CARE project intends to focus on is healthcare services for ageing population. The ageing of population is a common problem affecting both the ADRION area and European countries overall. In the ADRION area, population projections show that the share of elder adults with declining functional capacities will triple in the next 40 years (Eurostat 2019), largely dependent on the help of others and in need of long-term care services. In addition, ageing population is a driving expenditure for a healthcare (HC) and long-term care (LTC), without a visible improvement in the elderly's life quality. Healthcare industry indeed consumes 3-9% of GDP in ADRION regions, and its divide is unacceptably large with growing inequities.

Providing adequate healthcare services for an increasing number of ageing people is a crucial question, and one of the answers, given the technological advancement, is the ambient assisted living technologies. Social Innovation plays an important role: applied to a healthcare system, it creates social value with effective impacts on society, aggregating needs and interests, increasing civic participation and strengthening social cohesion. SI4CARE Partners will address:

i. the fragmentation of institutional capacities and actors' efforts in delivering healthcare services to the elderly;

ii. the lack of integration and coordination of existing innovative ICT tools for healthcare provision, usually tested and implemented in isolation;

iii. the lack of a shared vision across PAs on how to effectively face this changing health demand pattern in an integrated and social innovative way.

3. Context Analysis

The context analysis gathers and presents information collected from different reliable sources, including information deriving from previously produced project deliverables. Data collection has been carried out following clear methodological guidelines. As a result, the collected information provides a clear picture of the environment within which the problem is defined and needs to be solved and/or within which the need for change is recognized.

The situational analysis has been drafted based on data collected and presented in the Status Quo analysis, Challenges, Wish List, Best Practices review, and implementation of pilot actions.

- Status quo analysis has been used to show a comprehensive overview of the state-of-the-art of social innovation application to healthcare services for elderly in countries and regions represented in the SI4CARE project, providing a unified framework.
- The Challenges report illustrates the main healthcare challenges, obstacles, and bottlenecks, but also opportunities and areas for Social Innovation application to the Healthcare services in ADRION area.
- The Wish List outlines a list of concrete policies, services, protocols, procedures, technical solutions needed to be implemented in order to bridge existing gaps and improve the quality of the healthcare service for the elderly, and thus improve their life quality.
- The Best Practices review illustrates main best practices identified and analysed, and consequently used for the preparation of the TS.
- The results of the pilot actions feed the development of the TS.

In addition, the situational analysis identifies main the SHs involved in the TS development:
- Living Lab.
- Regional/National focus groups.

The Living Lab represents a common environment for the transnational cooperation network, involving directly national and regional PAs, universities and researchers, innovators, technology providers and innovation experts, public service providers, in order to co-design, experiment, monitor and evaluate Social Innovation approaches, digital solutions, models, policies and Action Plans for healthcare services for the elderly. Indeed, within the Living Lab, two main outputs have been developed: the Transnational Strategy and the Integrated Healthcare Model (ICH).

The Regional focus groups have been set up by PPs based on TGs they listed during the preparation phase. 8 focus groups have been set up as follows:
- LP/PP2 for Slovenia
- PP3 for Calabria (Italy)
- PP4/PP5 for Split-Dalmatia County (Croatia)
- PP6 for Federation Bosnia & Herzegovina
- PP7 for Attica Region (Greece)
- PP8 for Montenegro
- PP9 for Serbia
- PP10 for Central Macedonia (Greece)

The Focus Groups gather a variety of stakeholders, namely local and regional institutions, sectoral agencies, associations and networks, NGOs, federations, users, patients, citizens,

formal and informal caregivers, general practitioners, people involved in intervention, prevention, and support.

3.1 Status quo (including normative framework & governance models)

The specific issue the SI4CARE project intends to focus on healthcare services for ageing population. The **elderly population is the main beneficiary of healthcare services**, an important factor to consider in the context of European healthcare systems, given the increasing rate of ageing population in the European Union (EU) and the forecasted increase of the old-age dependency ratio[5]: from 27,5% in 2013 to 49,4% by 2050**.**

Healthcare systems are responsible for the organization and governance of health institutions, health financing and health care provision as well as for the healthcare performance. Management of different healthcare systems relies on the adoption of a set of policies and plans for provision of medical and social care to people, both through public and private sectors institutions. In the EU, the public sector plays a major role in the financing of health services and EU healthcare systems share common values including universality, access to good quality care, equity and solidarity.

Current social and economic situations in the provision of healthcare services are in direct contrast with the increase of life expectancy and demographic changes, that would require greater social, financial, and healthcare support. Many studies have been conducted to identify the problems and needs of healthcare systems. Identifying problems is even more important for the elderly, given the increase in life expectancy as well as their increased needs for medical care and quality of life. In many European countries there are significant shortcomings in the provision of modern, long-term and personalized health services.

One of the SI4CARE project goal is to provide a substantial framework for Social Innovation (SI) application to the healthcare sector, supported by an effective cooperation throughout the ADRION area. It will provide an assessment of the current situation of healthcare systems, integrating contributions from all participating countries & regions, setting up the basis for the development of more effective services to an ever-increasing ageing population. In this context, one of the project activities includes the state-of-the-art assessment of national/regional healthcare systems. In light of the above, here below an overview of each SI4CARE national/regional healthcare systems is provided.

SLOVENIA

Healthcare service in Slovenia is a public service organised by the state. To have access to the healthcare system you must have compulsory health insurance provided by the Health Insurance Institute of Slovenia (ZZZS). Compulsory health insurance in Slovenia covers the basic general healthcare services provided by primary healthcare centres and urgent healthcare services as well as a few specific treatments or services provided by clinical specialists. All other services (such as specialist examinations and services, hospital treatment, major dental procedures, certain medical prescriptions, etc.) require additional payment or complementary health insurance. Most citizens and residents of Slovenia choose to pay a complementary health insurance.

As concern legislation on **long term care and care for the elederly**, the Long-Term Care Act was accepted in December 2021 in Slovenia ("Zakon o dolgotrajni oskrbi (ZDOsk)"). The act was published on the 18th of December 2021 and is in use since the 18th of January 2022.

With regard to legislation for the **elderly with cognitive disorders and their caregivers**, no national strategy to prevent and combat dementia has been adopted since 2020, and the Long-Term Care Act is only a framework, lacking a number of subsidiary laws that will regulate the field of long-term care in more detail.

---

[5] The old-age dependency ratio is the ratio of the number of elderly people at an age when they are generally economically inactive (i.e. aged 65 and over), compared to the number of people of working age (i.e. 15-64 years old).

As regard **telemedicine**, there is no specific legislation covering the area of telemedicine in Slovenia. Moreovere, there is no real integration of telemedicine services in the healthcare system because they are not funded by the Health Insurance Institute of Slovenia. There have been some attempts funded via research and development projects and kept alive via volunteer work. Feedback from those involved was largely positive, but policy-makers were apparently not convinced.

Digitalization of the health care system is making progress, and COVID-19 helps. There are some nationwide e-health services / infrastructure (e.g., e-prescriptions), but there is a lot of fragmentation of IT systems at individual healthcare providers, and IT literacy is poor. A new strategy and investment plan is being developed for the period 2022 – 2027 with emphasis on the implementation of a single interoperable electronic health record, establishing an implementation plan for the national telemedicine framework.

ITALY – CALABRIA REGION

Italy's healthcare system is a regionally based national health service (Servizio Sanitario Nazionale - SSN) that provides **universal coverage free of charge**. The national level is responsible for ensuring the general objectives and fundamental principles, while the regional governments are responsible for ensuring the delivery of a benefits package through a network of population-based health management organizations (Azienda Sanitaria Locale, 'local health enterprises' - ASLs) and public and private accredited hospitals. There are **considerable differences between the north and the south of Italy** in the quality of health care facilities and services provided,

Due to the north-south gapa phenomenon called **health tourism** is well known in Italy. Patients emigrate from south to north to have better health services and, in general, to have the best support for their health conditions.

As concern Calabria Region, from 2010 until today (2022), the regional healthcare system is **under the control of the central government due to mismanagement issues**, and the situation has worsened with the global pandemic.

As far as **legislation on long term care and care for the elderly** is concerned, in Italy long-term care for the elderly includes three types of assistance: home-based interventions, residential and monetary services. However, these interventions do not fully exhaust long-term care policies: indeed, even today, most elderly people rely on informal assistance provided by relatives, friends, volunteers and above all immigrant women from eastern Europe, who take care of thems and the home where they live.

As regard legislations for the **elderly with cognitive disorders and their caregivers**, in October 2014 the National Dementia Plan was approved entering into the Italian legislation. The plan consists of a series of strategies for promoting and improving the quality and appropriateness of care interventions in the field of dementia.

As concern **telemedicine**, in Italy there is no real legislation governing telemedicine. However, there are precise guidelines published by the Ministry of Health, which frame it at European and Italian level and define its purposes and areas of intervention. Moreover, the strengthening of home-based healthcare services is a key objective of the Italian Resilience and Recovery Plan, currently under implementation.

Currently **integration of technologies** is often demanded to single hospitals. However, the Resilience and Recovery Plan aims also to foster digitalization of the health care system thanks to two reforms related to (1) technological and digital updating (to modernize the hospital technology and digital devices, make hospitals safer and more sustainable) and (2) training, scientific research and technology transfer (to enhance and strength the biomedical research in the NHS and better develop technical, professional, digital, and managerial competencies of the health system workforce).

CROATIA

Healthcare system in Croatia is divided into three categories: primary, secondary and tertiary. Primary healthcare is provided in healthcare facilities regardless of state property and organization. It includes various preventive measures, healthcare and health promotion measures, outpatient and home treatment, general practitioner, hygienic-epidemiological services, the ambulance services. Secondary healthcare refers to hospital healthcare, i.e. diagnostics and stationary (hospital) treatment as well as specialist-conciliar healthcare. Tertiary healthcare is also mainly implemented within hospitals. It includes healthcare activities in most complex forms, namely related to specialist activities at clinical facilities and public institutes.

Health and social care of the elderly persons in the Croatia is governed by Healthcare Law, Law on Mandatory Health Insurance, Healthcare Program Planning and Implementation 2019-2021, Social Care Law and Family Law.

As concern legislations for the **elderly with cognitive disorders and their caregivers**, there is no official national strategy/action plan to fight against dementia. However, Tthere is a National strategy for the palliative care including Alzheimer's disease and other types of dementia, covering only the area of progressed (and terminal) stage of the disease.

As regard **telemedicine**, the Healthcare Act (2020) has ensured the development of telemedicine system as well as the design and the maintenance of information and communication infrastructure in Croatia. Telemedicine services are provided at primary, secondary and tertiary level of healthcare, whereas users and providers of health services are included in various health facilities, from clinical hospital centers in big cities up to health centers. In accordance with the Healthcare Law from 2018, the Telemedicine Department was integrated into Croatian Institute of Emergency Medicine, integrating services of telemedical systems into the health system of the Republic of Croatia.

The **integration of new technologies** has been established in the primary healthcare, hospitals and specialist-conciliar healthcare as well as both mutual information exchange and with central information system.

BOSNIA AND HERTZEGOVINA

According to the constitutional solutions, the field of health care is under the jurisdiction entities Republika Srpska, FBiH and Brcko District. Thus, three Laws on Health Care and three Laws on Health Insurance are currently in force in BiH. In the FBiH, there is currently a Federal Ministry of Health and 10 cantonal ministries of health, as well as the FBiH Health Insurance Institute and 10 cantonal health insurance institutes. The health care system in the FBiH is decentralized. Some competencies are at the level of the FBiH and others are at the level of cantons. The health sector is divided into public and private. The **decentralized health care system** of the Federation of Bosnia and Hertzegovina (FbiH) is one of the main reasons for the **lack of data on leading diseases in the elderly population and the provided health services**.

As regard the **legislation on long term care and care for the elderly**, the Strategy for the Advancement of the Elderly in the Federation of Bosnia and Herzegovina was developed with the financial and technical assistance of the United Nations Population Fund (UNFPA), the United Nations Department of Economic and Social Affairs (UN DESA) and the Swiss Embassy in Bosnia and Herzegovina.

However, there is no legislation for the **elderly with cognitive disorders and their caregivers** as well as on **telemedicine.** Telemedicine in FBiH is in its infancy, there are indications of testing in the private sector, in the public there are none.

With regard to **integration of new technologies in the health care system**, there's no precise data because of the decentralized health system. Hoeever, healthcare institutions have the opportunity to introduce new technologies individually.

GREECE

The healthcare system in Greece is a mixed one where the NHS, public insurance funds and the private sector are all involved significantly in the funding and provision of healthcare services. For the public sector, the Greek NHS and the social health insurance (SHI) play an important role. SHI and tax, account for approximately 30% each, while the remaining 41% is accounted to the private spending. Patients covered by the NHS (Greek acronym ESY), which is financed by the state budget via direct and indirect tax revenues and social insurance contributions, are mainly provided services by the public sector. The private sector includes profit making hospitals, diagnostic centers and independent practices financed by Out-of-Pocket payments and private health insurance.

As far as legislations regarding strategies for **long term care and care for the elderly** is concerned, in Greece, the sector of long-term care is not an independent, institutionalized policy, but in recent years it has been developing in parts within the framework of Health, Welfare, insurance funds, local self-government bodies. MFI services are also offered by non-profit organizations (church institutions, NGOs). The private sector provides longterm care services through Elderly Care Units, private clinics, home care programs, etc. care is also shouldered by the insured. The Greek state, in addition to services, also offers non-compensatory allowances to meet the needs of dependents. There is no single longterm care policy, as cash benefits are designed to meet the individual needs of the elderly or disabled.

As regard the legislations for the **elderly with cognitive disorders and their caregivers**, in Greece the rights of people with dementia - in particular personal freedom, personal safety, physical integrity, freedom of movement, the right to privacy,family life and health - must be in line withthe ECHR and the Oviedo Convention, as well as EU legislation on personal data and clinical trials. More specific disease-related legislation exists in regulatory acts. In Greece, there is also a National action plan for dementia, with the aim of:

(i) The effective treatment of dementia and the better quality of life of patients and caregivers.

(ii) The prevention of dementia and the promotion of the health of the population.

(iii) The implementation of economically advantageous measures.

As concern **telemedicine**, the basic legal framework that governs the operation of telemedicine in Greece is Law 3984/2011, article 66, par. 16. Extensive legislative initiatives on telemedicine have not yet been undertaken in Greece. There is only one main provision for telemedicine services in the Greek legislation.

Although many attempts have been made towards the **integration of new technologies** in the healthcare system in Greece, in general, their application is mainly at a pilot level and not widely incorporated.

MONTENEGRO

The network of health institutions founded by the state, on primary level, consists of eighteen health centers. The Public Health Institute provides services of primary health protection.There are eight hospitals that are providers of health care and three specialized hospitals. In addition to general and special hospitals, there are hospitals that provide health care on secondary and tertiary level. Provider of the service of emergency medical care on the primary level is the Emergency Medical Service, while the blood transfusion is covered by the Office for Blood Transfusion.

National health care system in Montenegro is based on compulsory health insurance for all employed citizens. The government covers health insurance costs for vulnerable groups. Although insured persons and their families are covered by this type of insurance, there are significant costs "out of pocket" for various types of additional health services (laboratory analysis, dental services, medicines, etc.).

The system is relatively centralized: most public health institutions' managers are appointed and dismissed by the Minister of Health.

As regard legislations regarding strategies for long term care and care for the elderly, the basic documents that deal with the issue of protection of the elderly and their rights are the Law on Social and Child Protection and the Strategy for the Development of the Social Protection System for the Elderly for the period from 2018 to 2022. In addition to these two documents, there are others, such as the Law on Pension and Disability Insurance, the Family Law and various regulations / ordinances, as well as plans at the local level, which regulate the rights and relations with the elderly.

With regard to legislations for the elderly with cognitive disorders and their caregivers, in Montenegro, there is the Law on Protection and Exercise of the Rights of Mentally Ill Persons. In accordance with the Law, mentally ill persons are provided with the exercise of rights and freedoms in accordance with international documents and general rules of international law. Psychiatrists and other health professionals are obliged to treat mentally ill persons in such a way as to restrict their freedoms and rights as little as possible, as well as not to cause physical and mental inconveniences that offend their personality and human dignity.

The only reference to telemedicine is Article 30a of the Law on Health Care of Montenegro: "Health care institutions at the primary, secondary and tertiary levels of health care can provide health services using telecommunications and information technologies, regardless of the geographical location of the health care provider, citizen who provides health care, medical information or equipment, with the transfer of medical data (telemedicine), in accordance with the law." Despite the fact that the Law on Health Care prescribes the possibility of telemedicine, it should be noted that in Montenegro this type of health services is still not developed and is in its infancy.

As concern incorporation of new technologies in the health care system, the health institution is obliged to provide, and health workers and health associates to apply only scientifically proven health technologies and medical methods and procedures used in the prevention, diagnosis, treatment and rehabilitation of patients. Health technology, includes interventions and applied knowledge used in health care, and includes: safe, quality and effective drugs and medical devices, equipment, medical and surgical procedures and organizational, administrative and logistical systems that provide health care to citizens.

SERBIA

National health care system in Serbia is based on compulsory health insurance for all employed citizens. Coverage is provided and provided to all employed persons, pensioners, self-employed persons and contributing farmers, including their spouses, dependent children and elderly parents of the insured. The government covers health insurance costs for vulnerable groups (disabled, unemployed, etc.) in accordance with Article 22 of the Law on Health Insurance. Although insured persons and their families are covered by this type of insurance, there are significant costs "out of pocket" for various types of additional health services (laboratory analysis, dental services, medicines, etc.). The private health sector is still at an early stage of development, especially in the area of hospital treatment.

As regard legislations regarding strategies for **long term care and care for the elderly**, the Strategy for Palliative Care was developed in accordance with the Recommendations of the Committee of Ministers of the Council of Europe "REC 24 (2003)" relating to the organization of palliative care, as well as in accordance with the Recommendations of the European Conference held in Belgrade in 2005.

As concern legislations for the **elderly with cognitive disorders and their caregivers**, in Serbia the law on the protection of persons with mental disabilities regulates in more detail the basic principles, organization and implementation of mental health care, manner and procedure,

organization and conditions of treatment and accommodation without the consent of persons with mental disorders in inpatient and other health care institutions.

In Serbia there is no legislation on **telemedicine** and currently there are no draft laws or regulations related to the integration of telemedicine in the healthcare system.

As concern incorporation of **new technologies in the health care system**, in Serbia new health technology can be applied - Health institution, - another legal entity for which a special law envisages performing health care activities - private practice provided - to have trained appropriate staff for that, as well as - to have adequate space, equipment, medicines and medical devices. The request for the issuance of a license for the use of new health technology is submitted to the Ministry.

3.2 Challenges

Even though countries and regions involved in the SI4CARE project inevitably differ from each other in many respects, the status quo analysis highlighted that they also share many common features in the provision of health and social care services. The aim of this paragraph is to make a step further, focusing on the common challenges identified thanks to the analysis of the status quo. Therefore, here below are listed the main challenges common to SI4CARE countries and regions in the provision of health and social care services:

1. **Lack of human resources and facilities**: the status quo analysis highlighted that one of the main reason why the healthcare needs of the elderly are not adequately met is the lack of human resources and facilities, in terms of lack of availability of specialized medical professionals. The consequence is that elderly population's needs are unmet with regard to timely and effective access to healthcare services.

2. **Lack of technological equipment and digital illiteracy**: another reason why elderly needs are not adequately met is the lack of technological equipment in terms of provision of up to date medical and technological equipment. Digitalization of services and telemedicine appear to be of fundamental importance in the near future for improving elderly's access to healthcare services. However, at the same time, the digital illiteracy of elderly population represents a major issue which, if not addressed, could represent the greatest obstacle for the diffusion and the success of technological improvement and social innovation.

3. **Lack of social support**: the lack of social support in elderly population is another challenges emerged and that should be addressed since is cause of real societal costs and can lead to elderly's poor health. Indeed, social support is an important social determinant of health, consisting in addressing tangible physical and emotional needs, such as assistance with transportation, home and personal care, as well as emotional support. At the same time, lack of social support means that older people do not receive the necessary support and adequate and timely care and that hospital discharge is then delayed, representing a heavy burden on healthcare systems' budgets.

4. **Low Accessibility issues of rural areas**: accessibility of health and social care services prepresents a major issues in all SI4CARE countries and regions especially for those elderly who live in rural areas. Indeed, many elderly people live in remote rural areas and often they live alone since younger people move to urban areas to work. As a result, they cannot rely on family support or local public transport (LPT) to reach healthcare facilities, since the LPT connection between rural and urban areas is often lacking, if not completely absent in some context.

5. **Inadequate facilities for the elderly with mobility disorders**: apart from healthcare facilities location (point highlighted in the previous challenge) their infrastructure is also a significant factor that in many cases represents an obstacle to healthcare accessibility for elderly with mobility limitations. Any obstacle that hinders the accessibility of elderly people to the provision of healthcare may have long-term negative consequences on their

health status and overall quality of life. For example, for people with sensory limitations, the provision of clear information should be considered, or the accommodation of elderly individuals with mobility limitations when faced with long waiting lines.

6. **Inedequate facilities for the eelderly suffering of cognitive disorders and dementia:** the architecture and adaptation of spaces that open up and encourage activities - both indoors and out - play an important role in the diagnosis and treatment of dementia. In many countries and regionas there do not exist guidelines for dementia friendly environment. Dementia-friendly living environments are environments that are not closed units - because of the risk of wandering should also be adequately equipped with ICT devices - with various devices such as a sensor to open doors, windows, a bracelet or other GPS device if needed. In ADRION Countries and regions most dementia units are closed and there is also a significant lack of adequate ICT equipment.

7. **Lack of incorporation of new technologies as a significant component of healthcare services:** new technologies (such as sensors, SOS button, GPS positioning/tracking, fall detection systems, telemonitoring, virtual reality, "smart houses") are not sufficiently incorporated in healthcare services even though they can help older people to improve their physical and mental well-being, as well as their social lives. In particular, new technologies could be particularly useful for the elderly with cognitive disorders or mobility disorders. This challenge is particularly interlinked with the second one *Lack of technological equipment and digital illiteracy*. Indeed, in order to successfully and widely introduce new technologies in healthcare services it appears fundamental to firstly address the digital illiteracy issue.

3.3 Best Cases

In parallel with identification of **Challenges**, gathered in an unique report mapping both common and country/region-specific issues (e.g. short & long-term healthcare challenges related to adequacy, access and quality of the services provided to elderly population, financial sustainability and promotion within policymaking), PPs carried out in-depth desk research with the aim to collect and analyze social innovation **Best Cases** in healthcare systems targeting elderly at ADRION and EU level, to be used as a reference for the development of pilot actions, Action Plans and an integrated healthcare model (ICH).

Best Cases selection criteria were set out in a specific working of methodology (A.T2.1). Each Project Partner had to collect and analyse at least two Best Practices. The partnership agreed to select at least 20 Social innovation Best Practices, as a basis for drafting pilot actions, Action Plans, and an integrated healthcare model. All best practices selected for pilot implementation are also included in the Best Cases catalogue. Based on main obstacles in the provision of health and social care services, identified within the Joint Status Quo report in WPT1, Best Cases identified and described by Project Partners focus on two project strategic areas:
(i) tele-medicine/homecare assistance

(ii) healthcare systems accessibility/mobility

Furthermore, Best Cases showcasing positive examples of contribution to the improvement of healthcare systems for the elderly, inside and outside ADRION regions, are categorized based on their type, namely:
- ✓ service
- ✓ ICT solution/tool
- ✓ healthcare process/protocol
- ✓ healthcare policy
- ✓ regulation
- ✓ directive
- ✓ other

In order to guide Project Partners in the development of pilot actions in their country/region, with the aim to address main obstacles in the provision of health and social care services to elderly, Challenges are matched with the most suitable Best Cases. Following, it is provided a brief description of Best Cases selected by Partners for the development of pilots in their country/region, based on Challenges identified above.

Lack of human resources
- **MOST - Integrated Care project:** represents a system of measures, services and activities aimed at persons suffering from illness, injuries, disability, lack or loss of intellectual ability for a period of time or permanently, dependent on the assistance of other persons in performing the basic and supportive daily tasks. The aim of the project is to establish effective coordination between social and health care providers and newly established entry points with the aim of providing an integrated service to the user.
- **USEFIL:** Unobstrusive Smart Environments For Independent Living, provides advanced but affordable in-home monitoring and web communication solutions that are unobtrusive. It addresses the gap between state-of-the-art technological research and the practical needs of elderly people.

Lack of social support
- **SOPO:** the Sopotniki Institute for Intergenerational Solidarity was created to help older people to integrate into active social life. Through intergenerational cooperation, they aim to prevent or break the isolation and loneliness of older people, especially in smaller, more remote places, who hardly leave their homes because of distance, lack of a car or poor transport links.
- **Let's Talk**: one of the newly developed services of the Serbian Red Cross is the digital application for mobile phones, tablets and computers, "Let's Talk", the purpose of which is to help fellow citizens who need free, confidential advice from psychologists to get it. The aim is to emphase the protection of mental health and building the resilience of older persons and persons with disabilities to overcome the challenges they face during this pandemic, such as loneliness, isolation, lack of information and communication, which can lead to deterioration of their mental health.
- **SMARTCARE:** aims to define a common set of standard functional specifications for an open ICT platform enabling the delivery of integrated care to older European citizens. A total of 23 regions and their key stakeholders will define a comprehensive set of integration building blocks around the challenges of data-sharing, coordination and communication.
- **Social innovation - Integrated care for people with dementia in home for elderly in Slovenia.** This model was developed through the case of care for the residents with dementia in one of the old people's homes in Slovenia. The integrated care of residents with dementia puts an individual at the centre of care provided by the experts employed there.
- **Dementia Friendly Point**: is aimed at people with dementia, their relatives, staff (police officers, traders, bank and postal workers, pharmacists, firefighters and neighbors) and also others in the community where the point is located. Dementia Friendly Points staff provide information on how to recognize the early signs of dementia, how to communicate with dementia patients, and where to refer people who are lost and do not know where they are. The aim of this awareness raising and information is to help people with dementia and their families to promote their independence and maintain their dignity through shared support. With the help of community support, people with dementia can remain active and in their home environment for longer.

Accessibility issues of rural areas
- **SMART VILLAGES FOR TOMORROW:** The main benefit of Smart Silver Villages for Tomorrow is development of social infrastructure in rural areas to support older adults, patients and home care users to live longer in rural communities and postpone or even prevent moving to a nursing home. Spatially distributed digitally supported social infrastructure for older

adults living in rural areas, Mobility support (for easier access to health care and long-term care services).

- **Greece's National Telemedicine Network (EDIT)**: equity, accessibility, cost-effectiveness and quality are key issues of heath care especially for patients living in rural or remote regions. In this context, the applications of Telemedicine in Greece, which has approximately 60 islands, would significantly facilitate the clinical management of patients isolated from specialized healthcare services.

Lack of technological equipment and digital illiteracy

- **HeartMan – self-management of congestive heart failure with a mobile application**: Congestive heart failure (CHF) is an incurable disease with the average life expectancy of five years after diagnosis. The focus of the treatment is preventing deterioration, managing symptoms and maintaining a good quality of life. The HeartMan mobile application supports patients in self-management of their disease, which includes a personalized exercise programme, nutrition advice, medication reminders and advice on self-monitoring. It also provides psychological support consisting of cognitive behavioral techniques and mindfulness. The application can be used by CHF patients at their homes and is appropriate for most patients. It is self-contained and independent by any services (such as a call center or connection to a hospital).
- **OLOK Power**: is a biomechanical measuring device for fitness/wellness centers. It measures peak torque and muscular asymmetry (isometric measurement) - data crucial for proper planning of performance training and rehabilitation (to prevent injuries or speed up recovery). Data is gathered in the cloud and analyzed automatically or on-demand by our experts (20+ years of experience with lay people and Olympic medalists). The main objective of OLOK Power is to give objective data about musculo-skelatal imbalances and/or weakness to be the basis for targeted training and rehabilitation programmes. The device itself is designed to be affordable, easy to use and enables remote assistance and analysis if the data.
- **Digistat - Reliability and accuracy in patient data management:** In the ambit of a project of department computerized management, AUSL in Piacenza has introduced the Digistat suite into the hospital structures of Piacenza and Castel San Giovanni, obtaining an improvement of the workflow traceability, more security, better organization, and efficiency. The project consists in the creation of predictive tools on hospital hyperflux. Originally designed to deal with the peaks of the flu season, it has made it possible to develop a valuable tool for predicting access to the emergency room and intensive care during the Covid-19 pandemic. The considerable review of the National and Regional data allowed to identify the most significant factors to explain and anticipate the development of the criticalities due to the pandemic in the National Health System.
- **BDA4PHR – Big Data Analytics for Personal Health Record**: Innovative platform in the health and wellness sector for the provision of Big data analytics services associated with mechanisms for collecting health data on the Cloud. On this platform, information related to the health and habits of citizens can be analyzed using Artificial Intelligence and Big data technologies. The data can also be processed through interconnection between biomedical sensors integrated in mobile devices, biomedical instrumentation, dedicated diagnostic devices, etc. The aim consists in the definition of models, cost analysis, population stratification, prevention for the monitoring of all parameters of interest in the health sector.
- **Wearables for COVID-19**: A new bracelet that provides real-time symptom monitoring and contact tracing. The bracelet detects and monitors vital signs including temperature, heart rate, respiration rate, and oxygen level. It detects vital signs and generate alerts that are sent to both the wearer and a caregiver so that a health-care provider can intervene. Paired with a smartphone app, the bracelet can be used to track the movements and record the date, time, and location information. Since many other diseases share similar vital sign analysis, this bracelet can be used in a wider scope, not only for combatting COVID-19.

- **Monitoring Bracelet for Health Use:** the world's first wearable health monitoring platform for automated, continuous supervision of pulmonary, heart and sleep related diseases generating preventive alert. The bracelet measures, processes, transmits and documents patients' key vitals taken entirely from the wrist and generates a Dynamic Health Status with minute (60 second) resolution, enabling preventive and emergency alert based on real-time correlative analysis of the key vital signs that includes blood oxygen saturation, pulse rate and variability, breathing rate, skin temperature, medical grade activity and sleep pattern.
- **University Clinical Hospital Mostar**: has a unique hospital information system, collecting data on provided health services, treatment costs, monitoring the health condition in a single electronic health card of the patient with the aim to computerize operations of health care institutions as well as improving health services, reducing costs and better access to health care.
- **Tele-psychogeriatric web based program**: the main objective was the development of unique ICT service based on a prevention philosophy that promotes "normal ageing" that focused on the improvement of old age depression and dementia care. It is a telemedicine web-based community and home-based service, between an academic specialized psychogeriatric unit and remote underserved areas.
- **Digitalization of the services offered in the Day Care Center:** the pandemic and especially the quarantine, was a quite challenging period for all Alzheimer Associations. In this period, there were offered remote and digital services for the people with dementia and their caregivers.
- **SMARTCARE**: aims to define a common set of standard functional specifications for an open ICT platform enabling the delivery of integrated care to older European citizens. A total of 23 regions and their key stakeholders will define a comprehensive set of integration building blocks around the challenges of data-sharing, coordination and communication.
- **CAPTAIN project methodology (Coaching Assistant via Coach Assistant via Projected and Tangible Interface):** the design of a framework that will facilitate CAPTAIN to solve effectively and with high flexibility the complex project's developments required to achieve its goals, which are the creation of an ICT tool that coaches and support older adults in their everyday living at home.

3.4 Wish List

By combining the challenges and needs identified and improvements requested by the Regional Focus Groups, PPs prepared a Wish List for Social Innovation in the healthcare service for the elderly. The Wish List contains desired healthcare policies, services, procedures, protocols, regulations and technical solutions, which should be implemented in national/regional contexts in order to bridge existing gaps and improve the quality of the healthcare service for the elderly, and thus improve their life quality. The Wish List, matched with the best cases of Social Innovation, represents the basis for the elaboration of the Pilot Actions, the definition of the Action Plans, which will be implemented and monitored during the second phase of the pilots, and for the model for the integrated healthcare, which will be tested with SI-DSS (Social Innovation Decision Support System).

Here below, wishes identified by each SI4CARE country/region are briefly illustrated.

SLOVENIA

Wish #1 - Digitally supported integrated long-term care for the elderly population
The population in the European Union is ageing fast. Social innovations that are based on digital technologies can enable a digital transformation of integrated long-term care systems and empower the elderly population to live autonomously in their own community and postpone or even prevent their migration to a care home. Continuing with the emphasis on contemporary technological advancements, personalization in care is more realistic and is possible for a wider number of individuals when it is connected to digital solutions as they enable more ways of how we can connect data, people, and information systems. Key elements of modern care systems will include a greater emphasis on patient-centered care, an individual approach to planning care needs and greater engagement from patients. Therefore, our wish is to enhance and promote the gradual introduction of digital solutions in the field of integrated long-term care that are especially relevant for the elderly population. Policy makers are advised to explore the possibilities for the provision of digitally supported integrated long-term care service both in the city environment and in rural (remote) areas

Wish #2 -Training, education and human resource management programme for integrated long-term care
Ensuring an adequately skilled workforce should be part of national and transnational strategies of integrated long-term care organizations (Lay, 2007). To ensure high quality services in the future, we should equip employees with new qualifications, certain knowledge and skills and develop their capabilities in educational programs. National policymakers in ageing societies should acknowledge that the challenges related to integrated long-term care have become transnational and global issues. Specifically, we propose to develop sufficient capacities of the educational system and training programs to provide education to required numbers of adequately skilled personnel to ensure that there are enough human resources for the provision of integrated long-term care in practice for the growing number of the elderly population. There are also necessary changes in the working environment as many graduates quickly realize that this is not the profession they imagined and quickly drop out, contributing to high turnover rates that are related to the integrated long-term care profession. The ones that stay in the profession are more prone to experience burnout or extensive workloads. Staff in such demanding working positions has already identified potential initiatives that would improve their overall working experience. Such initiatives include adequate staffing, support with wisdom and knowledge and enabling them with opportunities for professional development (Dietrich Leurer et al., 2007). To contribute to the long-term sustainability of such systems, we must improve the educational system, the transition from educational institutions to the labour market, and improve on retaining them in their profession. More specifically, we propose to develop sufficient capacities of the educational system and training programs to provide education to required numbers of adequately skilled personnel to ensure that there are enough human resources for the provision of integrated long-term care in practice for the growing number the elderly population. Steps needed for implementation in the first phase include the development of a framework that is focused on the content-based plan of the training, education, and human resource management programme. When the programme is prepared, it will be necessary to gain engagement from important national and local stakeholders in the field of integrated long-term care and their help with starting the programme in practice as a response to current pressing needs to ensure adequately skilled workforce in integrated long-term care on different organizational levels. The programme is intended to cover all organizational levels, including employees performing activities in practice such as carers, nurses, doctors, and middle and top management in organizations. To formalize the programme, it would be necessary to link it to an existing or new formal entity, which is the organization responsible for preparation, organization, and implementation of the programme. Part of their responsibilities include connection with existing networks and other organizations that cover the field of education and training in integrated long-term care. More specifically, in practice, it would be necessary to collaborate with human resource management departments in organizations that are providing integrated long-term care in practice in order to gain detailed insight into potential knowledge gaps and other

important aspects of their functioning. The programme would then function on a yearly basis for organizations in the field of integrated long-term care and would continuously educate existing, new and future workforce members in the field of integrated long-term care.

Wish #3 - Integrated home care

The wish of most elderly and their relatives is that they can stay at home as long as possible and that they do not have to go to a care home. Many elderlies are still able to take care of personal hygiene themselves but may need help with shopping, cleaning the home, and perhaps getting dressed ... In this case, there is a wide range of home help services provided by various providers or private contractors. The current form of home help for the elderly provides:

- assistance with basic daily activities (help getting dressed/undressed, assistance with washing, feeding assistance, basic needs, maintenance and care of personal orthopedic aids);
- housekeeping assistance (bringing a prepared meal or buying groceries and preparing a meal, washing dishes, basic cleaning of living area with trash removal, bedding and basic care of sleeping area);
- assistance in maintaining social contacts (building a social network with the environment, volunteers and relatives, monitoring the beneficiary in the fulfilment of urgent obligations, informing institutions about the beneficiary's situation and needs, and preparing the beneficiary for institutional care).

Based on the practical experience and modern approaches, the form of so called "Modern home care" also "Integrated home care" was developed, which, in addition to the "classic home support services" includes:

- basic daily and support daily tasks;
- new services to maintain and improve autonomy;
- strengthening the autonomy of individuals in institutional care for the elderly and in the community;
- new e-care services;
- centralized preparation of medications;
- palliative care in the community.

Modern home care includes various stakeholders in the field of care for the elderly (care home, health center, family doctor, nurses, pharmacists, occupational therapists, caregivers, social workers etc.). All profiles are connected through the home care coordinator, who plans and coordinates the activities of all involved based on a personalized plan for each user. Thus, the user does not have to worry about when, how, and where to use an individual service. This form of home help is particularly welcome in rural areas, where one of the biggest problems is transporting elderly people from their homes to, for example, a physiotherapist or pharmacy.

Wish #4 - The Dementia Observatory

Systematic and population-level monitoring and evaluation of health and social care data provide improve accessibility to, and coordination of care for people with dementia and allow better understanding and detection of population-level changes and trends. The Dementia Observatory will provide a network of knowledge, information, and related activities aimed at improving prevention, detection of dementia, and care for people with dementia - both at diagnosis and in support after diagnosis. The Observatory will also be an education and research center.

Wish #5 - Dementia friendly environment

Many countries have moved in recent years to support this preference and increasingly promote community care and delaying institutionalisation for as long as possible. Delaying onset into residential care and improving community living for people with dementia is a major policy goal in many countries and is mentioned in many national strategies. To create a dementia-friendly environment, we need to develop recommendations for safe and quality living with dementia in the home environment that will help both people with dementia and their caregivers and delay the move to a care home. Destigmatization of dementia also plays an important role, which can be achieved through dementia awareness and recognition campaigns by a primary care physician. It is also important to provide a suitable living environment in care homes at all stages

of dementia, whereby we design an environment and services that appeal to the various senses of people with dementia, even in the final phase.

Wish #6 - Tele- and m-health for congestive heart failure and other chronic diseases

Generally speaking, our wish is that technological solutions are used more intensively in the management of health, particularly of chronic diseases. There are two approaches possible that differ in cost and capability:

- Telehealth and similar solutions require the involvement of the healthcare system or some other institutions that offer human expertise, since they involve collecting data on patients that is eventually reviewed by a human who decides what action to take. We wish that such solutions be reimbursed by health insurers – in the case of Slovenia that means Health Insurance Institute of Slovenia. The reimbursed solutions should be cost effective based on a long-term evaluation (more QALY/EUR than other treatments currently reimbursed).
- Mobile application and similar solutions do not require the involvement of the healthcare system (and require minimum or no involvement of any organisation). Since they rely on pre-prepared content and (intelligent) technology alone, without human experts, their capabilities are lower, but they can be quite inexpensive. We wish for policies that would encourage the use of such solutions. One possibility would be to establish a body that would curate the solutions and offer recommendations through the healthcare system. While this would require some resources, we believe a lot of benefit could be achieved at a low cost. We are open to different policies pursuing the same goal.

Both approaches should also:

- Address patients' lack of knowledge about disease management, their comorbidities that may prevent them from managing it well, and their motivation and other psychological aspects.

Be user-friendly and adapted to the patients' low digital literacy.

Wish #7 - Policy-makers should facilitate translation of solutions from research to practice

We wish for more public funding to bring research prototype to sufficient maturity for large-scale piloting and eventual practical use/commercialisation. There should be a straight path from receiving funding to develop the prototype to receiving funding to improve it. This funding would probably have to come at the expense of funding earlier stages of research. The goal should be, for example, that a research group does not develop five prototypes that are never used, but rather develops three prototypes, and the best of these actually is used in practice. We wish for more public funding for large-scale evaluation of research solutions for health and elderly care. The reasoning is the same as in the previous wish. Policy makers should make an effort to bring together representatives of the research community, the relevant industries and users of health and elderly care solutions. The policy makers are better placed and typically have more ability for this kind of endeavour than the other stakeholders. Their goal should be to work out how to best implement the previous two wishes.

Wish #8 - Biomechanical measurements for targeted training protocols

The whish is to make biomechanical measurements and objective and personalized training protocols based on such measurements the norm in everyday practice as we believe it would bring many benefits to individuals and their quality of life and society in general through a healthier and more content population and lower costs for healthcare. To achieve this, we need a change on the policy level and work on popularization and promotion of this approach. Biomechanical measurements as part of telerehabilitation and tele-medicine in general should not only be recognized and financed by the healthcare system, but also pushed and promoted among practitioners and the general public.

Wish #9 - Tools and data for dietary planning and monitoring

To unleash the full potential of nutrition as a prevention measure to avoid illness as well as a treatment when an illness happens, we first need data, i.e. food composition data about products sold in the Adrion region. The most straightforward solution would be to enforce policies that oblige companies to share data about their products in a standardized and freely accessible way. A fallback option is to extend the methods successfully applied in Slovenia to crowdsource data in the whole region.

ITALY – CALABRIA REGION

Wish #1 - Use of ICT tools to decrease healthcare services costs for the elderly
Taking into consideration the low income of elderly population in Calabria Region, a decrease in the healthcare services costs is needed through the adoption of innovative tools (i.e. ICT tools). These tools will be enabled by the matching of demand (PAs knowledge and investment, patients acceptance and training) and supply sides (ICT providers), also supported by awareness campaigns to reach a common vision and knowledge transfer to support elderly in using ICT tools. This will also contribute to the creation of a favorable ecosystem able to trigger public funding and new policies.
Wish #2 - Telecare and telerehabilitation to reduce spatial distance
Taking into account the spatial distance between users and healthcare facilities, telecare and telerehabilitation will represent the solution for delivering services at citizens' residences, thus reducing the demand of mobility and counteracting the phenomenon of depopulation of inland areas. Furthermore, better mobility services (i.e. through the involvement of younger generation and NGOs/associations working in the healthcare field to provide mobility services additional to the LPT and thus support mobility of elderly population) will optimize, in synergy with mobility ICT solutions (SI-DSS), the transport options, reducing once again the mobility demand. Moreover, a better quality of the healthcare services in Calabria may also reduce the 'healthcare mobility' phenomenon towards other Regions.
Wish #3 - Telecare and social assistance to do prevention and reduce the demand for healthcare assistance
Taking into consideration the time currently needed to get access to healthcare services, due to long waiting lists resulting from high number of patients and scarce availability of data, the provision of better services and above all telecare and social assistance will improve the health of citizens thus reducing the demand of health care through prevention (and therefore reducing waiting lists).
Wish #4 - Contributing to reduce healthcare services' fragmentation, by mapping existing (1) virtuous models and (2) services in the field of telemedicine and teleassistance in Calabria Region
In order to contribute combating negative effects produced by governance fragmentation of the healthcare service: 1. It would be useful to map already existing virtuous models in field of telemedicine and teleassistance in the area (Calabria Region), fostering their replication from one territory to another, thus trying to overcome obstacles created by governance fragmentation.   2. It would be useful to map existing services that deal with social and health assistance to ensure that they are well defined and complementary to each other, as well as known to citizens, so as to make it easier to identify the most suitable structure to which the citizen should turn.

CROATIA

Wish #1 - Development of elderly daycare in rural and remote areas
Taking into consideration the growing number of elderly people and their need for care and socialization, an increase in the number of daily elderly centers is necessary. The purpose of the activities and services provided within these facilities is to reduce feelings of loneliness, isolation, and alienation, to raise selfawareness and confidence as well as to improve general quality of life. The increase in the number of daily elderly centers will contribute to increase in daily recreational activities which will consequently improve physical well-being, emotional health, and cognitive functioning of the elderly. The daily elderly centers and the centers' activities offer elderly opportunities to socialize with their peers. Given that daily elderly centers will be inaccessible to a portion of the elderly population living in more rural areas, even as their numbers increase, an increase in the availability and accessibility of daily centers, as well as homecare assistance is required.

Wish #2 - Sensibilization of policy-makers and wider regulations affecting problems elderly face
Considering the current state of the social and healthcare system where services are characterized by inadequate spatial coverage and financial inaccessibility for the elderly in Croatia and Split-Dalmatia County, it is crucial to change the way policy makers make decisions and create regulations that have a major impact on the social and healthcare system. It is necessary to change the existing legal and regulatory framework in order to create a basis for the development of actions and measures that make the social and healthcare system more spatially and financially accessible, modern and flexible

Wish #3 - Implementation of ICT solutions in field of health and social care and homecare
Significant financial and human resources are required to maintain the current healthcare system due to the growing demand for healthcare services by the ageing population and the current deficiencies of the system. Implementation of ICT technologies and tools is required to create a more efficient smart system that is more financially viable and provide faster, more accurate and efficient services and care. The implementation of proposed ICT technologies (Best Practices) will enable healthcare professionals to gather more useful information and data in a shorter amount of time and acquire early warning indicators which will allow them to act preventively and react faster, thus reducing the demand for longer more costly secondary services and processes.

Wish #4 - Increase the efficiency of health and social care institutional capacity by horizontal and vertical cooperation
Ensuring adequate and high-quality healthcare services to an increasing number of elderly people is a central question of the SI4CARE project. Effective horizontal and vertical cooperation between social and healthcare sectors institutions is necessary to address this problem. It is inevitable to adapt and modernize institutions so that they can respond more quickly, accurately and appropriately to the emerging problems and questions posed by increasing number of elderly people and their needs.

Wish #5 - Increase the number of staff working with elderly and helping them to work efficiently, especially with patients who require 24/7 care
Given that the lack of institutional capacity in healthcare system to cope with the growing number of elderly people results in a shorter time for each patient, slower diagnosis and a long waiting list, increasing the number of healthcare professionals will be particularly beneficial in terms of the efficiency of the system, especially among patients that require 24/7.

Wish #6 - To use existing network of HC services to organize immediate assistance for the end-users; this refers especially to elderly living in rural areas
Uneven quality of services provided and unequal availability of immediate assistance require the existing network of healthcare services to be adapted so that assistance is quick and effective. The adaptation of the existing network and the organization of more efficient immediate assistance are possible through the introduction of new ICT tools and solutions. The introduction of ICT tools will introduce professionals with labor-saving solutions, better time management and thus ensure that more of their time dedicate to patients. That way the care services would be provided more effectively and quickly.

BOSNIA AND HERZOGOVINA

Wish #1 - Development of central information system for healthcare and social care institutions
The software will enable the collection of information on the population from all counties in the Federation of Bosnia and Herzegovina. The introduction of this system will also increase the effectiveness of the health and social care system and it will enable networking of all relevant stakeholders as well as improvement of care provided and ultimately the health of its users especially vulnerable groups.
Wish #2 - Development of patient e-health records
The digitalization of patients' records will enable insight into the overall health information on every resident in the Federation of Bosnia and Herzegovina. Also, the e-health records will boost the efficiency and effectiveness of the care system and ultimately the health of its users especially vulnerable groups. Moreover, the use of these record can be interlinked with caregivers in private sector and increase the use of other digital technologies in the care system. This way the holistic approach to the patient's information will be enabled.
Wish #3 - Establishment of elderly daycare centers and homecare
Taking into consideration the growing number of elderly people and their need for care and socialization, the establishment of elderly daycare centers will provide a place for the elderly to fill those needs. The elderly daycare centers will be places that offer daily socialization and activities that are beneficial to elderly physical well-being, emotional health, and cognitive functioning. Concerning that daily elderly centers will be inaccessible to a portion of the elderly population living in remote areas, an increase in the availability and accessibility of daily centers, as well as homecare assistance is required. The elderly daycare centers can in this aspect, offer daily homecare services in their territory.
Wish #4 - Increase the number of staff working with the elderly
The institutional capacity in the health and social care system has to cope with the growing number of elderly people. However, the lack of staff in the system results in a shorter time for each patient, slower diagnosis and a long waiting list that consequently affects the quality of care provided i.e., received. Increasing the number of staff in the institutions will be beneficial not only in the terms of care quality, but it will also affect increase in services provided especially for elderly population and boosting efficiency of the system in general

GREECE - ATTICA REGION

Wish #1 - Accessibility of the elderly in remote areas to specialized healthcare (telemedicine)
In order to remove the challenge of physical transportation to specialized healthcare facilities and to provide timely and valid diagnosis and treatment, appointments with specialized healthcare professionals could be arranged through a secure network provided by public authorities, allowing elderly individuals with various health conditions and especially with cognitive and mobility limitations to be assessed through an online platform and participate in the development of an appropriate treatment plan for their needs.
Wish #2 - Consultation of caregivers of patients with dementia through telecare
Providing counseling services to caregivers of people with memory disorders/ dementia. Counseling through telecare will lead to better access to health care by specialized professionals. Through counseling sessions, caregivers will gain a better understanding of howthey could provide better care which will lead to a) a better quality of life for patients and b) a reduction in the psychological burden of caregivers
Wish #3 - Non-pharmacological treatments for the elderly with dementia through telemedicine & telecare
Online specialized physical activity programes exclusively targeting the elderly patients with dementia, especially those living in remote rural areas or islands, under the supervision of a specialized medical institution, by trained personnel. Online classes can be organized via video-conference, and the patients will be able to stay at their own homes without the need of transportation. This should not require any out-of-pocket payment to receive the prescription for the physical activity program.   Main Target Group: the elderly with cognitive impairment/ dementia especially those living in remote/rural areas.   Developing a mechanism for enhancing the accuracy of recommendations for safe driving in the elderly drivers and the prediction of safe driving behavior in the elderlydigital illiteracy among the elderly with dementia and their caregivers, decreased awareness of the provided services, lack of trained personnel, and lack of specific protocols and guidelines.   Main aims: improved cognitive function and quality of life of the elderly people with dementia, social engagement of the elderly with dementia, equal and affordable access to specialized healthcare for people with dementia living in remote areas in Greece, reduced costs, reduced transportation of the patients and care-givers, decreased working hours of care-givers, effective use of new technologies for the enhancement of active ageing
Wish #4 - Developing a mechanism for enhancing the accuracy of recommendations for safe driving in the elderly drivers and the prediction of safe driving behavior in the elderly
With respect to the socioeconomic impact, the main challenges concern the improvement of road safety that may be achieved for the driving population of Greece, with the development of a unified, valid and easy to administer procedure with ecologically valid guidelines that can be applied during the license renewal process of older drivers. More specifically, the implementation of an individualized approach to decisions regarding driving cessation is expected to improve overall the major societal problem of road safety by reducing the probability of road fatalities which is of particular prevalence in Adrion Region and by alleviating their current social and economic burden both on a personal and a national level. What is more, due to the recent changes in the Greek legislation system under which each driver over the age of 74 is obligated to complete an simulated driving evaluation, it is expected that the load for the driving assessment professional will be significantly increased. Hence, the current research has the capacity to tackle this issue by supporting the work of the driving assessment professionals in a period of time that the effective integration of various sources of information could be of high importance.

GREECE – CENTRAL MACEDONIA REGION

Wish #1 - Enhancement of digital skills of professionals
By acquiring well-trained and educated healthcare professionals, as well as experts in the fields of older adults' care the quality of the provided services in terms of digital health & care will be improved. The digitally literate professionals will better perceive and integrate the new technological solutions to their everyday working/service provision practice. Moreover, they will be able to train older adults in order to acquire both trust for the new technologies, as well as the necessary skills to use them. As a result, the social inclusion of older adults will be enhanced in a world that gets more & more "digital", while this will also contribute the ageism phenomena to be tackled. Systematic "Train the Trainers" seminars, workshops & hands-on sessions of professionals with the new technologies could be organized by the regional healthcare authorities & promoted to the local community of professionals.
Wish #2 - Increase confidence and acceptance of digital tools from older adults through education
Specially designed & provided training programmes for older adults by welltrained professionals, who can "speak their own language", as well as self-paced training and experiential "learning by doing" sessions, could increase both the digital literacy of older adults and their confidence of using new technologies. Repetition & simple guidelines (step-by-step) are the main requests from professionals in order to perform effective training. The effective training of older adults and the adoption of new technologies would improve their everyday independent living, as well as the more effective management of chronic diseases, including dementia.
Wish #3 - Increase of information exchange between different disciplines that support the health and social care of older adults
Cultivation of fertile ground for new (cross-sectional) synergies & expansion of the existing networks in a sustainable way. Close collaboration with all the stakeholders from the Quadruple Helix[6] at the regional level (academic/research partners, civic society, older adult associations & day care centers, policymakers, healthcare providers, the public & private sector) Mutual exchange of knowhow and creation of opportunities for mutual training and added value for the involved stakeholders. "Train the trainers" networks & activities, with the active involvement & interaction of older adults, so as to eliminate the cultural stigma and ageism stereotypes towards them.

---

[6] The quadruple helix framework describes **university-industry-government-public-environment interactions** within a knowledge economy. In innovation helix framework theory, used in innovation economics and theories of knowledge, such as the knowledge society and the knowledge economy, each sector is represented by a circle (helix), with overlapping showing interactions.

MONTENEGRO

Wish #1 - Digitally supported the Integrated care in a community

The Constitution of Montenegro guarantees equal and affordable health care to all its citizens. Furthermore, the umbrella laws in health care (the Health Care Act and the Health Insurance Act) prescribe the procedure for providing health care. Citizens of Montenegro living in rural areas have poor access to health care due to lack of medical staff, as well as insufficient connectivity of the system, which affects the formation of waiting lists, and ultimately affects their health.

In the part of the questionnaire conducted by the Tivat Health Center within the Si4Care project: "How easy is it for an elderly person to be examined by a doctor online (telemedicine)?" and "To what extent are newer technologies (virtual reality, 'smart homes') being used to make life easier for older people?" grades are very poor and ultimately barely exceed 1.3

By developing telemedicine services, we want to improve this situation in a way that will enable citizens to complete the examinations that are possible and necessary for them without visiting a doctor and waiting. The application will be developed in a way that is adapted to the elderly population and easy to use. Through the application, patients will be able to make direct contact with their chosen doctors.

In order to provide insured citizens living in rural areas away from health facilities with access to health services to exercise their legally guaranteed rights, work should be done on the development of telemedicine and new IT solutions, as staffing is a long-term problem. The development of telemedicine and new services will improve the quality of health care services, reduce waiting lists, ect. We need to follow the models developed in Croatia by the Institute of Telemedicine.

In particular, we wish to develop a functioning model of health care for the elderly in the Municipality of Tivat, with a small number of inhabitants, which will be effective and which can later be used in other parts of Montenegro. Especially considering the fact that the state of Montenegro itself, measured by the number of inhabitants, is a small country.

The idea is that users of health services can communicate directly with their doctor, from any location. In this way, clients and health workers will be increased, without physical contact, with the aim of solving a medical dilemma or giving medical advice.

Information and communication technologies enable this type of consultation, and for the needs of diagnosis, therapy and disease prevention, as well as the needs of continuous education, which is all in the interest of preserving the health of individuals and the community.

The wishes are that in the future, through the application, it will be possible to issue a doctor's opinion, a prescription, as well as the option of exchanging messages or calls with the doctor, i.e. enabling electronic consultations.

To begin with, the idea is to include COPD patients in the project. COPD (chronic obstructive pulmonary disease) is a problem for a large number of smokers / ex-smokers and is our target group because comorbidity is the third most common cause of death in the world.

The treatment of these patients is very expensive, and improper and irregular therapy affects the way of deterioration, absence from work and is often the cause of disability (due to muscle weakness, osteoporosis, cardiovascular complications) and social isolation due to depressed mood.

The poor quality of life of these patients, the impact of the disease on the family and society are the reasons for the need for rehabilitation of these patients and their social reintegration. This can be achieved by recognizing the problem:

- early diagnosis of this disease

- motivating patients to quit smoking

- it is important to determine the level of satisfaction with the provision of health services

The goal is to participate in maintaining health with the help of a professional, and if they refuse help, what is the cause of dissatisfaction and how can it be corrected.

Through a specially developed application for phones / smart tv / tablets, they would be animated so that they could apply the following at home or in nature:

- how to breathe properly

- how to adjust breathing during daily activities if an oxygenator is used,

- how to properly use an oxygenator,

- Muscle strengthening exercises

- Regular and correct taking of inhalation therapy (showing how to use which pump)

- Adequate nutrition will adapt to their health problems and the importance of taking certain foods (Nutritional Guidelines for people with COPD)

- Motivational messages and advice from psychologists Possibility to ask questions to your doctor or therapist. People with these diseases who are over 60 years of age often get tired and have difficulty breathing, which significantly affects their mental health and therefore antisocial. Through this application we want to improve the quality of their lives.

Wish #2 - Strengthening preventive action in the function of the health of the elderly

Given that the Internet offers a plethora of health information (both real and fake), it is difficult for older people to find a relevant source. Therefore, the desire is that doctors, through the video and application of the Health Center, offer relevant and verified information that will help the elderly to act preventively in order to preserve their health. Although the application reduces the need for older people to come to the Health Center, it does not mean that older people should move less and engage in physical - recreational activities. Therefore, the desire is to guide older people through concrete advice on the need for continuous exercise and health maintenance, in accordance with the needs and specific health condition of the patient.

Wish #3 – Improving efficiency of the health care system

Increasing the use of software solutions will generate savings both in terms of time and costs. Thus, the problem of staff shortage will be reduced. This mode of operation will provide a faster response to the needs of service users and their greater satisfaction.

SERBIA

Wish #1 - Development of telemedicine for health care services
Taking into consideration the aging population in Serbia does not receive adequate healthcare service, and the time currently needed to access healthcare service is too long, introduction of the software solution in healthcare is an important development task because the large number of elderly people would receive health care at home without visiting a doctor which would reduce staffing needs and reduce large crowds as well as long waits in them.
Wish #2 - Reduce costs of health care services
Taking into consideration the low income of elderly population in Serbia, the software solutions for social innovation enable the elderly to receive some specialist examinations at their home. Likewise, this will contribute to the creation of an ecosystem that should trigger public funding and new policies.
Wish #3 - Health care services at home for elderly in rural areas
Taking into consideration issues of some primary healthcare institutions – health stations and clinics in rural areas are closed, access of the rural population to primary healthcare services, telemedicine overcomes the problems that most often occur when it comes to health care for the elderly, namely the distance of the location for receiving the service, difficult transport to the location, unavailability of public or personal transport and lack of human assistance. The COVID-19 pandemic has exacerbated these problems many times over. Telemedicine overcomes this problem for the elderly by providing health care at home services without the need to come to primary health care institutions. Creating opportunities for the use of telemedicine in the future.

3.5 Pilots lessons learnt

By matching Best Cases (chapter 3.3) with the Wish list (chapter 3.4), all PPs designed transnational Pilot Actions focusing on two strategic areas:
1. Telemedicine & homecare;
2. Mobility & accessibility to healthcare facilities.

In particular, PPs firstly capitalized on the knowledge collected from best cases holders. Secondly they customized and adapted best cases in their context through pilot actions, taking also into consideration wishes expressed by local and regional stakeholders during Regional Focus Groups.

The transnational Pilot Actions on one side test services during the first phase by combining innovative solutions designed and monitored by researchers, innovators and enterprises within the Living Lab. On the other side, during the second phase of the pilots, Action Plans will be implemented and monitored by PPs and PAs within the Living Lab. More specifically, during first phase of Pilot implementation, PPs learnt lessons which will inspire the definition of actions of the Action Plans. Then, Action Plans core services will be tested in the second phase of pilot actions implementation. Therefore, PPs will monitor implementation progresses of their action plans through the second phase of pilot actions.

Here below lessons learnt by PPs in the first phase of pilots implementation are reported. As a general definition, lessons learned are the key – both positive and negative – experiences collected throughout the first phase of pilot implementation. Reflecting on this knowledge and understanding, you can convert what's learned into actions (in the Action Plan) needed to improve the current systems and processes and secure the success of your pilot during phase 2.

PILOT	LESSONS LEARNT
LP01.01 Slovenia - **Accessibility**	In Slovenia passed a law on long-term care in December 2021. However, services still need to be (better) developed. Services at the municipal level - especially in rural areas - need to be improved. Municipalities' active ageing strategies do not focus enough on supporting older people in remote rural areas with poor accessibility.
	In Slovenia, many activities for the elderly are carried out by non-governmental organizations (NGOs), which are very understaffed, have no money for advertising and therefore often do not pass on information about their work to users.

PILOT	LESSONS LEARNT
LP01.02 Slovenia – **Renovation of the interior and exterior spaces for dementia to encourage activities**	Renovating existing spaces in care homes is challenging due to the lack of space. Nevertheless, it is possible to transform existing facility living spaces into a dementia-friendly environment. Residents have the opportunity to go out in the garden, take nature walks and engage in a wider range of activities in the home. Innovatively designed corridors help improve spatial orientation. However, the process of transitioning care is lengthy.

PILOT	LESSONS LEARNT
PP02.01 Slovenia - **HeartMan**	Navigating medical device regulation is difficult. Users of the HeartMan application for self-management of heart failure would clearly benefit from physiological monitoring, but this makes the application a medical device in the regulatory sense. As a consequence, commercialising it or offering it for free is much more difficult (essentially impossible without involvement of a company with experience with medical devices).
	Designing a mobile application that is feature-rich and usable for people with poor digital literacy is challenging and few companies have the required expertise.
	Medical organizations do not have a great motivation to participate in activities such as SI4CARE pilots, most likely because they get few direct short-term benefits and are overworked.
	Recruiting patients is challenging because of their poor digital literacy and perception that this will be an additional burden. This is a problem that will persist after the pilot and should be counteracted by information and promotion campaigns. We expect it will gradually resolve itself as technology becomes more and more normal and accepted among older people.
	The previous problem was in a small part counteracted by additional the attention the patients received due to their participation in the pilot. This will unfortunately not be the case during regular use of the application.
	From all the activities the application supports, physical exercise probably has the greatest potential to improve the patients' health and quality of life. Despite clear exercise guidance, reminders and other design choices aimed at improving adherence, the adherence was relatively low. Poor exercise tolerance is a key symptom of CHF and so even though exercise improves it, most patients are reluctant to do it.
	The application managed to improve disease management through reminders and education. A part of the reason is probably that other disease management activities are physically less taxing than exercise, but it may also be that the patients wanted to manage their disease better and could not do

	it without the application, whereas ability was not the main barrier for exercise.
	The application was successful at psychological improvement, which came as a surprise since this seems like something requiring the human touch. However, in light of well documented success of digital mental health interventions, this outcome is actually not that surprising.
	In summary, while not successful in all respects, the HeartMan application still improved the patients' disease management and quality of life. Considering that such an intervention is relatively easy to implement and has a low cost, we find it worthwhile. In the future, we should explore how to make the application itself better, particularly more persuasive regarding physical exercise. Perhaps more importantly, we should improve both health and digital literacy of seniors, which will enable them to better understand why the activities supported by applications such as HeartMan benefit them, and to use them more easily. In addition, we should come up with effective ways for seniors to learn about such applications and select those that are evidence-based and user-friendly.

PILOT	LESSONS LEARNT
PP02.02 Slovenia - **Biomechanical**	It is easier to recruit participants for the in-person setting than for the remote one.
	It is important to properly group participants into groups with similar abilities, especially when practicing online.
	The social aspect of the in-person training played an important role in the satisfaction of the participants with the provided service. Each group usually had a coffee together in the nearby bar after the training was finished.
	Online training is not as efficient as the in-person training – differences were found in muscular asymmetries in the online group compared to the in-person group after the intervention while there was no difference before the intervention.
	Both online and in-person training are well received by the participants, but the in-person one is preferred.
	Working in small groups provided a more relaxed atmosphere than 1 on 1 training while keeping the quality of the service and attention to detail at an individual level as there were 2 to 3 coaches working with the group. It was also possible to implement games in the training process.
	Exchanging experiences with a similar project offering training for the elderly lead to the conclusion that there is not enough supply of such services as neither of the projects had problems finding participants despite some fears about it.
	There was little drop-out in the participation as 237 out of 824 participants completed the 3 months programme, the one participant leaving was due to unrelated health issues. 6 participants asked to continue with the service (self-paying) once a week after the piloting 3 months phase was over. The group later broadened with people outside of the pilot.
	Working with this demographic group was a pleasure for the coaches involved. The participants were hard working and very grateful. An additional benefit is that this demographic can occupy the usually empty hours of the fitness center giving the coaches the possibility to work in more family-friendly schedule.

PILOT	LESSONS LEARNT
PP03.01 Calabria IT - **Access to public social services by TM & Mobility optimization**	Elderly express initial skepticism towards innovative solutions that require change, thus it is not easy to propose new initiatives, moderated by the need to change approach. Confidence towards "braded" solutions, from a technological point of view, as opposed to completely ad hoc products. There's a large potential for future development if experiences prove positive.

PILOT	LESSONS LEARNT
PP04-PP05.01 Split Dalmatia County HR - **Nursing by monitoring - institutionaliz ation timely reaction of services**	A more thorough analysis of use-case scenarios in nursing home for better understanding which radio technology for the smart bracelet would provide best fit and ensure smooth data transmission; Since frail elderly are not prone to use mobile phone, the bracelet's data delivery options are limited. Mobile phones are usually used as a gateway for data transmission.
	For the equipment that represents an implementation candidate, technical requirements/performances in terms of the quality of acquired measurements are being assessed; Low-cost smart bracelets are representing wellness-based devices which are not medically certified. It is important to statistically understand values that are being measured in respect to the medical device.
	The GDPR requirements for pilot implementation are being currently analyzed.
	In order for the monitoring phase to be successful, it is extremely important to hold educational workshops for the employees of the Nursing home Lovret, as well as training for the elderly population.

PILOT	LESSONS LEARNT
PP06.01 Federation Bosnia & Herzegovina – **Access to public health services**	In the FBiH there is no single healthcare or social care register that comprises data about elderly population. Moreover, there is a lack of data communication and transfer between counties and health and social care institutions in FBiH that reflects on the provided services. However, the FBiH has adopted a Strategy for improving the rights and position of the elderly in the FBiH for the period 2018-2027, and Strategy for Social Inclusion of the Federation of Bosnia and Herzegovina for the period 2021-2027 to improve the elderly's wellbeing. Accordingly, some of the counties began the implementation process of more systematic ICT solutions in healthcare system.
	The implementation of the pilot action will speed up the networking process, eliminate re-entries of the same data, reduce the workload of employees, as well as monitor and control contracts with other health and social care institutions.
	The possibility of creating services with accompanying estimated costs, creation of price proposals, controls, and records of health services with contracted health care institutions will greatly improve the quality of services provided to patients, as well as create the possibility of services expansion.

PILOT	LESSONS LEARNT
PP07.01 Attica Region HE– **Outpatient clinic carried out exclusively online**	Telemedicine has proven to be a very important service for elderly patients of remote areas, improving the diagnosis especially for rare or atypical forms of dementia, identifying secondary causes of dementia and rapidly progressive dementia, treating effectively behavioral problems, and discussing with the patients and caregivers about the importance of non-pharmacological treatments (exercise, social interactions, treatment of comorbidities etc.)
	Telemedicine can enhance the collaboration of different healthcare services and stakeholders (healthcare providers of Health Centers and General Hospitals of remote areas, University Hospitals, Medical Societies, NGOs etc.)
	Patients, caregivers, and health care professionals of remote areas reported a great satisfaction so far with telemedicine services. [27 Satisfaction Questionnaires received, with general Satisfaction from Telemedicine examination through our unit: 3,7/4 (patients), 3,6/4 (caregivers), 3,4/4 (healthcare providers of the remote areas)]
	Neurological and Neuropsychological assessment can be adequately and effectively adapted to the requirements to remote examinations.
	Rare cases of neurological disorders have been successfully identified and referred to the University hospital for most specialized examination (e.g. CSF, genetic testing)
	The identification and participation of patients with rare forms of dementia to clinical studies is feasible, via their referral for furthermore specialized examination in the Aiginition University Hospital.

PILOT	LESSONS LEARNT
PP07.02 Attica Region HE – **Online physical activity programs for dementia**	Tele-exercise for the elderly in groups by specialized physical trainers in real-time is feasible, providing an innovative method for physical exercise as a non-pharmacological approach.
	The elderly who participate in this activity are highly satisfied with tele-exercise programs, mentioning convenience and pleasure. One reason for this is the opportunity to be trained in groups, which increases their motivation.
	So far, the elderly who participate have mentioned that tele-exercise improves their physical and emotional health, as well as their general functional capacity.
	Although difficulties have been identified in regard to the use of the technological equipment, prior training and clear instructions for the use of the digital equipment significantly aid in the facilitation of their participation.
	The motivational and encouraging approach of the specialized physical trainer is extremely important for their satisfaction and regular participation in the program.
	The cooperation with Doctors of the World was crucial for increasing the number of participants. Therefore, successful collaboration among various organizations, and especially NGOs, is of paramount importance for the sustainability of this kind of programs.

PILOT	LESSONS LEARNT
PP07.03 Attica Region HE - **Driving**	The legislation in Greece includes general guidelines for medical conditions that could affect driving as well as about the time period that the driving license is valid, and the procedures for issuing a new driving license. However, the existing legislation not only in Greece but also in several EU countries regarding the renewal of driving license includes very general directives and cannot be considered to cover sufficiently questions that arise with regards to an individual's driving competence, especially under the prevalence of a medical condition.
	Older population (drivers) acknowledge that they have driving difficulties, admit that their driving behaviour has been deteriorated through the last years, but they keep driving even long distances as they don't have any other transportation options.
	An assessment protocol is missing, the older people are asking for it and we had to work in order to facilitate the job of the doctors and practicians when it comes to fitness (or not) – to – drive for the older drivers.

PILOT	LESSONS LEARNT
PP08.01 Montenegro – **Encouragement of the use of ICT solutions for the purpose of better protection of elderly people**	Older patients show resistance to using devices to monitor their health. A number of them believe that it threatens their privacy. They fear misuse of certain private information. In this context, it is necessary to take strict care of the GDPR.
	Healthcare workers need additional training in digital skills.
	Despite the fact that initially it requires more effort and the need to adapt to new working conditions through the application, after successful implementation, employees feel satisfied. Especially in the context of the fact that the future of healthcare is in e-health and networking.
	Employees also have some resistance to recording video clips for public release purposes.
	The gradual introduction of innovations, with a careful and motivational approach by project managers, is necessary for the purpose of successful implementation and acceptance of changes.

PILOT	LESSONS LEARNT
PP09.01 Serbia - **ICT solutions for monitoring the health of patients**	Patients older than 65 have difficulty activating and using the application.
	Patients are not digitally literate enough and therefore have a problem in fulfilling their tasks through the application.
	After finishing their stay in SH Merkur when they are at home, most of them turn to their bad life habits, which leads to a lack of interest in participating in the improvement and monitoring of their health through the application.
	Merkur doctors have difficulty identifying new patients because few of them use smartphones.

| PILOT	LESSONS LEARNT
PP10 Central Macedonia HE – **Access to public social services by TM monitoring**	Confrontation with urgent health issues, with limitation of essential daily activities, with social issues of other family members, with extreme poverty living, with inappropriate housing, etc. require systematic coordination of the Click for Life Telephone Center with the relevant public services units, health professionals, NGOs. Possible solutions: • Coordination with doctors health care workers • Coordination with the National Emergency Center – Regional Units • Coordination with Social Care Services Units of Municipalities, Church and NGOs – complementarity and synergy with care programs and projects for seniors, such as the Help at Home program • Coordination with NGOs and other public services dealing with specific social issues, such as domestic violence, drugs, psychosomatic disorders, extreme poverty, etc.
	A problem is represented by Project sustainability in the long term. Click for Life project is co-funded by the current Regional Operational Program for CM 2014-2020 until 2023. Possible solutions: • CM Regional Authority should continue the operation of the Project after 2023 ensuring the funding, through own funds or through the new CM ROP 2021 – 2027 • Consultation with Ministry of Health and the Unified Social Security Fund (EFKA) regarding the integration of the Project's services with the services provided by the National Organization for the Provision of Health
	Click for Life project currently runs as a pilot project with a capacity of 3000 beneficiaries. It could be beneficial to include a larger group of beneficiaries, through broader eligibility criteria and increasing project's budget, by including also younger ages with mobility problems or other disabilities.
	It is challenging to deal with sensitive personal data management and related monitoring procedure. Compliance with GDPR directive could be beneficial.

4. Critical Analysis

The critical analysis presents information defined by the phenomenon in focus considered as a threat or as a real problem to be prevented. Thus, the critical analysis provided in this chapter represents a framework for providing concrete answers to problems there are identified.

This stage includes preparation of the synthetic benchmark between ADRION Countries and, in case, with other best cases countries; preparation of the SWOT/GAP analysis and integration of the DSS data results. Based on collected **Best Cases**, identified **Challenges** and **Wish List**, PPs were developing pilot actions in their country/region. Pilot actions' aim is to address some of the challenges identified through the status quo analysis. The effectiveness of pilot actions will be measured based on **SPIs/KPIs**, defined by PPs and supported by their stakeholders. Data collected during pilots will be included in the **SI-DSS**, a tool providing data and information to policymakers, enabling to evaluate the optimal allocation of local/regional/national investments, funds and research efforts, for the improvement of elderly care. Therefore, the **SI-DSS** provides the model for integrated healthcare (IHC), included in the present Strategy, containing implementation measures and high-level recommendations.

4.1 SWOT Analysis

By using the SWOT analysis technique, the aim of the present paragraph is to illustrate strenghts, weakenesses, opportunities and threaths emerged from the Status Quo and Challenges analysis, Best Cases, Wish List and Pilot lessons learnt as concern the Social Innovation in Healthcare for the ageing population of ADRION area. In particular, the factors that make up the SWOT analysis can be divided into endogenous (strengths and weaknesses - internal factors on which the TS should intervene) and exogenous (opportunities and threats - external factors that the TS should consider) as well as helpful (strengths and opportunities) and harmful (weakenesses and threaths).

- ➢ **Strenghts** are endogenous and helpful since are internal factors that the project and its partners can control and/or have an influence on and that make likely the project to reach its objectives.

- ➢ **Weakenesses** are endogenous and harmful since are internal factors that the project and its partners can control and/or have an influence on but that make it difficult for the project to reach its objectives.

- ➢ **Opportunities** are exogenous and helpful since are external factors that the project and its partners cannot control and/or have an influence on but that are favourable for the project to reach its objectives.

- ➢ **Threaths** are exogenous and harmful since are external factors that the project and its partners cannot control and/or have an influence on and that are are unfavourable to the achievement of the project objectives.
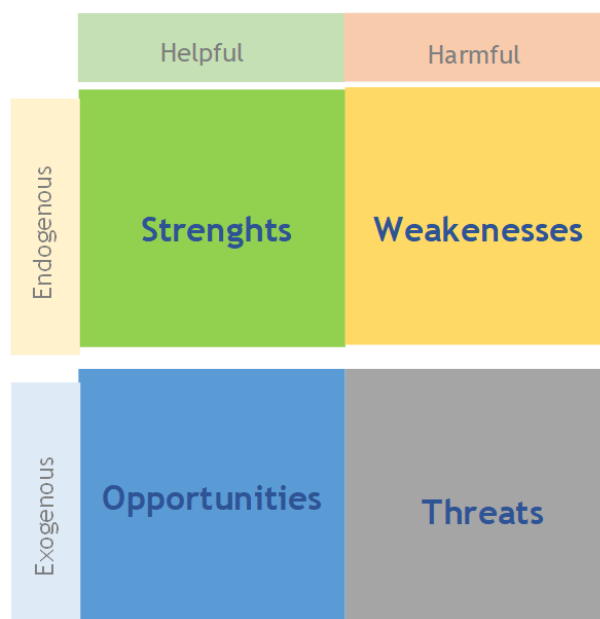
STRENGHTS
OPERATIONAL AND SOCIAL MEDICAL CARE

- Telemedicine and telemonitoring can significantly facilitate the clinical management of patients with mobility impairment and/or living in rural/remote areas isolated from specialized healthcare services, representing an alternative method of offering high-quality and innovative healthcare services that could cover the gaps created by elderlies' accessibility difficulties to healthcare facilities.

- Telemedicine can also contribute to diffusion of the provision of non-pharmaceutical services, promoting the adoption of holistic approach in healthcare services.

- Telemedicine can also help in improving the diagnosis especially for rare or atypical forms of dementia. Moreover, neurological and neuropsychological assessment can be adequately and effectively adapted to the requirements to remote examinations. Indeed, rare cases of neurological disorders have been successfully identified and referred to hospitals for most specialized examination.

- Telemedicine can help to develop interventions either through an online platform or via the telephone that will focus on early diagnosis and personalized treatment specifically tailored to the patient in question. This approach promotes independent living of the elderly for the longest time possible.

- Telemedicine can also enhance the collaboration of different healthcare services and stakeholders.

- Telemedicine allows a large number of elderly people to receive health care at home without visiting a doctor which would reduce staffing needs and reduce long waiting lists.

- Patients, caregivers, and health care professionals of remote areas reported a great satisfaction so far with telemedicine services. In particular, it allows caregivers to have direct access to information regarding the condition of the patient and experienced professionals to provide online/remote support.

- Digital applications for mobile phones, tablets and computers can support patients in self-management of their disease, such as through personalised exercise programmes, nutrition advices, medication reminders, advices on self-monitoring etc. This kind of applications can provide also psychological support consisting of cognitive behavioural techniques and mindfulness. The great plus of such applications is that patients can use them at their homes and are appropriate for most of them.

- Digital applications as the above mentioned can be connected with bracelets that provides real-time symptom monitoring and contact tracing. The bracelets can detect and monitors vital signs including temperature, heart rate, respiration rate, and oxygen level.

- In-home monitoring and web communication solutions that are unobtrusive can address the gap between state-of-the-art technological research and the practical needs of elderly people.

- An outpatient clinic addressed mostly to the needs of the elderly population can facilitate all challenges of accessibility that elderly individuals usually face. In order for this model to be applicable, the utilization of new technologies at the field of healthcare should be applied, to facilitate the accessibility of the elderly population to a wide range of services, such as diagnostic services and follow-ups. the use of ICT devices would also allow an objective collection of data that could facilitate long-term follow-ups of patients.

- Based on the practical experience and modern approaches, the form of so called "Modern home care" also known as "Integrated home care" was developed, which, in addition to the "classic home support services" includes:
  ➢ basic daily and support daily tasks;

- ➢ new services to maintain and improve autonomy;
- ➢ strengthening the autonomy of individuals in institutional care for the elderly and in the community;
- ➢ new e-care services;
- ➢ centralized preparation of medications;
- ➢ palliative care in the community.

- Dementia Friendly Points with staff providing information on how to recognize the early signs of dementia, how to communicate with dementia patients, and where to refer people who are lost and do not know where they are. The aim of this awareness raising and information is to help people with dementia and their families to promote their independence and maintain their dignity through shared support. With the help of community support, people with dementia can remain active and in their home environment for longer. This can also help to destigmatize dementia.

- It is possible to transform existing facilities living spaces into a dementia-friendly environment. Residents have the opportunity to go out in the garden, take nature walks and engage in a wider range of activities in the home. Innovatively designed corridors help improve spatial orientation.

- Providing counseling services through telecare to caregivers of people with memory disorders/dementia.

DIGITALIZATION

- Intergenerational cooperation can be useful to prevent or break the isolation and loneliness of older people, especially in smaller, more remote places, who hardly leave their homes because of distance, lack of a car or poor transport links.

- Specifically designed & provided training programmes for older adults by well-trained professionals, who can "speak their own language", as well as self-paced training and experiential "learning by doing" sessions, can increase both the digital literacy of older adults and their confidence of using new technologies

- Innovative platforms in the health and wellness sector can be used for the provision of Big data analytics services associated with mechanisms for collecting health data on the Cloud. On these platforms, information related to the health and habits of citizens can be analysed using Artificial Intelligence and Big data technologies.

- Development of unique ICT service based on a prevention philosophy that promotes "normal ageing" that focus on the improvement of old age depression and dementia care. It is a telemedicine web-based community and home-based service, between an academic specialized psychogeriatric unit and remote underserved areas.

- Social innovations that are based on digital technologies can enable a digital transformation of integrated long-term care systems and empower the elderly population to live autonomously in their own community and postpone or even prevent their migration to a care home.

- The implementation of ICT technologies can enable healthcare professionals to gather more useful information and data in a shorter amount of time and acquire early warning indicators which will allow them to act preventively and react faster, thus reducing the demand for longer and more costly secondary services and processes.

- The adoption of a patient/citizen-centred approach encourages patients and citizens to share their data and report the results while at the same time ensuring the confidentiality and safety of the data from mis usage, results in increased implementation quality of digitalised healthcare.

- Building Blocks approach can enable the interoperability of healthcare systems.

- Raising awareness of all citizens on digital transformation in healthcare and its interoperability while encouraging use of e-health services will increase quality of the healthcare system and stimulate feeling of security especially in cross-border healthcare.

- Educational workshops on the subject of e-health and incorporation of such into healthcare professional's education can broaden and improve the implementation and use of digital health services. Additionally, continuous training of the healthcare personnel on the use of new digital technologies and at the same time improving digital literacy among elderly will result in empowerment of social care services and integration of health network.

- Increase of information exchange between different disciplines that support the health and social care of older adults.

ECONOMIC & FINANCIAL

- The adoption of innovative tools (i.e. ICT tools) can contribute to the decrease of healthcare services costs.

- Clearly define the framework of an economic model of integrated long-term care that is sustainable in the long term.

- Development of future new economic and social programs that are aimed at optimizing funding of integrated long-term care services.

- Definition of the main options for financing integrated long-term care services and provide policymakers with the necessary information to enable them to implement the appropriate financing option for the provision of the aforementioned services in practice.

- Development of a financing model of integrated long-term care services for ADRION countries involved in SI4CARE project.

GOVERNANCE & POLICIES

- The creation of a Dementia Observatory can provide a network of knowledge, information, and related activities aimed at improving prevention, detection of dementia, and care for people with dementia - both at diagnosis and in support after diagnosis. The Observatory can also be an education and research centre.

- Development of recommendations to create a dementia-friendly environment, for safe and quality living with dementia in the home environment that will help both people with dementia and their caregivers and delay the move to a care home.

- Mapping the already existing virtuous models in field of telemedicine, teleassistance and Long-Term Care (LTC) in the ADRION area to foster their replication from one territory to another, thus trying to overcome obstacles created by governance fragmentation.

- Mapping of existing services that deal with social and health assistance to ensure that they are well defined and complementary to each other, as well as known to citizens, so as to make it easier to identify the most suitable structure to which the citizen should turn.

- Accessibility and affordability of the integrated LTC services depend essentially on the spatial allocation of users and service centres. Therefore, platforms as enablers and facilitators of the integrated LTC services in one place, like a map of all long-term services in a local community, should be established.

- Enhancement of digital skills of professionals. The digitally literate professionals will better perceive and integrate the new technological solutions to their everyday working/service provision practice. Moreover, they will be able to train older adults in order to acquire both trust for the new technologies, as well as the necessary skills to use them.

- Development of:

- ▪ Training programs for informal carers and migrant workers in order to provide quality and safe LTC services;
  - ▪ Trans-national education and training system for knowledge, scholars, and students exchange should be developed as important part of strategy, policies and operations;
  - ▪ Training programs for the management of institutions providing long-term care.

- Join forces to develop a common investment policy and create common public facilities. Most often, this joining is done through administrative hierarchical grouping into regions, which is not always the best solution. One of the ways of linking areas of common interest that has proved successful in Europe is from the bottom up, as shown by the Local Action Groups (LAGs) that have so far proved successful in European agricultural policy.

- The set-up of a location-based database containing different variables on, for example, household size and age structure, care needs and access to integrated long-term care facilities at local, regional and national levels can lead to policies that improve the quality and capacity of those facilities, the allocation and organisation of human resources and enable the optimal provision and access to ILTC services. Here, geographic information systems (GIS) and spatial analyses in GIS can play an important role in spatial decision support.

WEAKENESSES

OPERATIONAL AND SOCIAL MEDICAL CARE

- Designing a mobile application that is feature-rich and usable for people with poor digital literacy is challenging.

- Patients who suffer of congestive heart failure do not have good sources of help: unless there is an emergency, they see the doctor infrequently; some attend cardiac rehabilitation programs, but participation in Europe is only around 20% and technological solutions (telehealth, mHealth) are used even less frequently. Because of that, the patients often manage the disease poorly, which reduces their quality of life and shortens it, and also results in costly hospitalizations – CHF is a leading cause of hospitalizations.

- Currently, many individuals suffering of musculoskeletal issues seek help outside the institutionalized health-care system due to long queues and in search for a better, personalized service. This trend is recognized by many fitness professionals that offer individualized coaching, but more often than not, these services are too aggressive, lacking deep knowledge and result in even more damage.

- Lack of sufficient transport option for elderly living in remote/rural areas to reach healthcare facilities. Therefore, healthcare services are not accessible for many elderly. Thus, a wide range of services (early diagnosis, follow ups) is often neglected by the elderly due to high difficulties in having access to those services, either through proper information or through physical transportation.

- Renovating existing spaces in care homes is challenging due to the lack of space.

- Elderly express initial skepticism towards innovative solutions that require change, thus it is not easy to propose new initiatives, moderated by the need to change approach. Moreover, confidence towards "branded" solutions, from a technological point of view prevails as opposed to completely ad hoc products.

- Need of a more thorough analysis of use-case scenarios in nursing home for better understanding which radio technology for the smart bracelet would provide best fit and ensure smooth data transmission. Since frail elderly are not prone to use mobile phone, the bracelet's data delivery options are limited. Mobile phones are usually used as a gateway for data transmission.

- Patients older than 65 have difficulty in activating and using digital applications.

- After finishing their stay in healthcare facilities, when patients return home, most of them turn to their bad life habits, which leads to a lack of interest in participating in the improvement and monitoring of their health through digital applications.

DIGITALIZATION

- Lack of official data regarding demographic variables of the elderly population and the most prominent conditions that they face. As a result, the design and implementation of proper interventions is usually based on partial data that represent only a very small portion of the general population and is rarely applied on a long-term basis.

- Lack of data on the incidence and prevalence of dementia.

- Elderly digital illiteracy.

- Lack of incorporation of new technologies as a significant component of healthcare services

- With digital transformation of the healthcare systems elderly people are those who mostly struggle with innovation such as modern internet information and application. The risk is that with the rapid digitalisation of healthcare services people who are most in need are cut off.

- e-health services, mainly through tele-health, have been incorporated into healthcare system for the general elderly population. However, although the technology has been introduced, it hasn't been successful, whereas, regarding incorporation of telecare and smart housing, the incorporation was either unsuccessful or it hasn't happened at all.

ECONOMIC & FINANCIAL

- It is extremely challenging to assume how the optimal financing of integrated long-term care services should look. It is becoming increasingly likely that there is not one size fits all approach as theory suggests that the best financing model depends on economic, social, cultural and demographic factors of a specific country or region.

GOVERNANCE & POLICIES

- Lack of social support.

- Long-Term Care (LTC) services still need to be (better) developed. Services at the municipal level - especially in rural areas - need to be improved. Municipalities' active ageing strategies do not focus enough on supporting older people in remote rural areas with poor accessibility.

- Navigating medical device regulation is difficult.

- lack of knowledge about the demographic and geographic (location, accessibility) data of the elderly population and their need for ILTC services.

- Older people and their relatives do not have a simple and uniform overview of institutionalised and non-institutionalised elderly care services.

- Various spatial data pertaining to Integrated LTC are scattered among many ministries and agencies at national/regional and sometimes local levels. As a result, the design and implementation of appropriate policies are usually based on incomplete data that are not coordinated between ministries, agencies and local communities. The spatial dispersion and diversity of access to health and care services also make it impossible to determine the optimal policy for building social infrastructure and space-based services for elderly.

OPPORTUNITIES
OPERATIONAL AND SOCIAL MEDICAL CARE

- Increase in the number of daily elderly centers.

- Process of modernization of the healthcare institutions to respond more quickly, accurately and appropriately to the emerging problems and questions posed by increasing number of elderly people and their needs.

- Increasing the number of healthcare professionals will be particularly beneficial in terms of the efficiency of the system, especially among patients that require 24/7 care.

- The COVID-19 pandemic highlighted the need to reconsider the accessibility to healthcare services and how healthcare services could be offered without in person presence.

DIGITALIZATION

- To unleash the full potential of nutrition as a prevention measure to avoid illness as well as a treatment when an illness happens, data are needed, i.e. food composition data about products sold in the Adrion region. The most straightforward solution would be to enforce policies that oblige companies to share data about their products in a standardized and freely accessible way.

- Equipping both households and healthcare institutions with ICT infrastructure and internet access enables equal accessibility and high availability of e-health services for both for patient and healthcare providers.

- The interoperability of health information and artificial intelligence supports decision-making in secure and ethical manner, respecting individual integrity.

- Technology is the key driver for innovation in health and care sector. It provides better cost-effective solutions with high impact, tailored to the specific needs of patients. Additionally, several advanced technologies that enable usage of vast amount of data and digitalisation offer big opportunities for transforming health and care as well as promoting well-being of citizens.

- Digital Service Infrastructures (DSI) called building blocks are developed to enable faster information flow, up-to-date and detailed health records, generic and reusable. Building blocks ensure interoperability between IT systems so that citizens, businesses and administrations can benefit from seamless digital health services wherever they may be in Europe.

ECONOMIC & FINANCIAL

- More public funding to bring research prototype to sufficient maturity for large-scale piloting and eventual practical use/commercialization.

- The implementation of ICT infrastructure results in reduction of transportation costs and supports financial stability as well as benefit the affordability of the healthcare services.

- Diffusion of voluntary insurance schemes, where an individual accumulates assets for their own future risk. Another alternative is the establishment of public-private partnerships, where the public organization may benefit from improvements in services quality and their overall cost-efficiency, while the private organization can improve its investment potential, can create profit and is exposed to more opportunities to expand its business opportunities.

GOVERNANCE & POLICIES

- Slovenian legislation on long-term care was recently (December 2021) accepted by Slovenian government and is in preparation for reaching the discussion in the parliamentary benches. The debate on this law is still ongoing.

- Definition of a common set of standard functional specifications for an open ICT platform enabling the delivery of integrated care to older European citizens.

- Policy makers are advised to explore the possibilities for the provision of digitally supported integrated long-term care service both in the city environment and in rural (remote) areas

- Ensuring an adequately skilled workforce should be part of national and transnational strategies of integrated long-term care organizations. To ensure high quality services in the future, we should equip employees with new qualifications, certain knowledge and skills and develop their capabilities in educational programs.

- Develop sufficient capacities of the educational system and training programs to provide education to required numbers of adequately skilled personnel to ensure that there are enough human resources for the provision of integrated long-term care in practice for the growing number of the elderly population.

- To change the way policy makers make decisions and create regulations that have a major impact on the social and healthcare system, it is necessary to change the existing legal and regulatory framework in order to create a basis for the development of actions and measures that make the social and healthcare system more spatially and financially accessible, modern and flexible.

- The improvement of road safety may be achieved with the development of a unified, valid and easy to administer procedure with ecologically valid guidelines that can be applied during the license renewal process of older drivers.

- Development of national treatment protocol for dementia according to the specific needs of the elderly.

- Local and national policymakers need to develop social infrastructure and adapt the existing living environment in a way that enables the accommodation of the elderly so that they can stay longer in the community and postpone or even prevent their relocation to a care home.

- Improvement of the existing national legislations to remove the barriers of national and transactional bureaucracy, making decision-making easier and solutions more acceptable to users and integrated LTC providers.

- Development of policies on the quality of long-term care in institutional and in home environment (standards, education, in job training and monitoring of integrated long-term care provided) and financing of e-care for the elderly in a home environment.

- Creation of a common framework for the quality of integrated long-term care, applied according to the specificities of each country.

- Development of national dementia awareness programs (both public and GP), the establishment of a registry for people with dementia, the adoption of a national dementia management strategy, and the establishment of post-diagnostic support for people with dementia and their families or caregivers.

- Creating a management framework that supports digitalization in healthcare is one of the main challenges. The EU eHealth Network, established with the role to foster cooperation between Member States to ensure EU wide interoperability of electronic health systems and wider use of eHealth, and eHealth Governance Initiative (eHGI), whose mission is to enhance cooperation between Member States, develop a joint vision for eHealth and create a mechanism linking the political and operational level, are serving to organize the governance for the eHealth across EU and as such contribute to the development of framework related to the digitalized healthcare.

- Access to long-term care is heavily dependent on where the person in need lives.

THREATHS

OPERATIONAL AND SOCIAL MEDICAL CARE

- Increasing rate of ageing population in the European Union (EU) and the forecasted increase of the old-age dependency ratio: from 27,5% in 2013 to 49,4% by 2050. [also opportunity for the diffusion]

- Due to the ageing of population (especially the age group 80+), the number of people with dementia is growing rapidly.

- Young people emigrate for getting a job in urban areas. The older cohorts live alone facing the most difficulties in access to public services from the remote rural areas and have low possibilities to make their homes safe when their functional capacities are decreasing.

- Congestive heart failure (CHF) is an incurable disease with the average life expectancy of five years after diagnosis, which affects around 2% of the population in Slovenia.

- Musculoskeletal issues measurement equipment is expensive and writing rehabilitation or training protocols requires knowledge and experience that can only be gained through years of practice.

- Dementia is a syndrome in which there is deterioration in cognitive function beyond what might be expected from the usual consequences of biological ageing. Currently more than 55 million people live with dementia worldwide, and there are nearly 10 million new cases every year. Dementia is currently the seventh leading cause of death among all diseases and one of the major causes of disability and dependency among older people globally.

- Since dementia is a chronic degenerative condition, environmental factors have been shown to significantly affect the course of the disease, both in terms of preventions as well as in terms of treatment.

DIGITALIZATION

- Lack of data on leading diseases in the elderly population and the provided health services due to decantralized health care systems.

- Lack of technological equipment.

ECONOMIC & FINANCIAL

- Current social and economic situations in the provision of healthcare services are in direct contrast with the increase of life expectancy and demographic changes, that would require greater social, financial, and healthcare support.

- Income of many elderlies is low.

- Significant financial and human resources are required to maintain the current healthcare system due to the growing demand for healthcare services by the ageing population and the current deficiencies of the system.

- Expenditure on integrated long-term care services is expected to rise significantly due to population ageing, thus making its financing one of the most pressing societal challenges.

- Continuing with the predicted cost pressure in the future, traditional pay-as-you-go systems expressed with taxes and social security payments might become problematic, as due to demographic change and the increasing number of older adults, the working population will decrease, while the number of beneficiaries will increase.

GOVERNANCE & POLICIES

- Availability of trained personnel is limited.

- Lack of adequate healthcare facilities.

- There do not exist guidelines for dementia friendly environment. Most dementia units are closed. The trend towards open units and thus deinstitutionalization should be a national strategy as well as guidelines for dementia friendly environment. There is also a significant lack of adequate ICT equipment.

- There are great differences in the quality of healthcare services provided between regions. This lead to the health tourism phenomenon.

- In the ADRION region, there is a shortage of caregivers, which leads to the employment of migrant workers and a shortage of qualified caregivers.

- Most rural municipalities are ill-prepared to take on the responsibility for integrated long-term care and are not in a position to make major investments on their own.

- Remote rural areas, in particular, have poorer access to services, but there are also parts of larger functional urban areas with poor access to services. However, in the ADRION region, residents of small and remote islands and mountainous areas also have poorer access to ILTC services.

5. Strategy definition

This chapter provides a thorough description of the vision and goals to be achieved by the Transnational Strategy. It clearly defines directions for further actions and answers the question "What do we really want?". Furthermore, illustrates common actions that will lead to the desired goal and the realization of the vision, and provides an answer to the question "How can we solve the problem and achieve the goal?".

The vision has been formulated in a clear and structured way, with description of the future desired state. The main objective has been identified in the stated vision of the TS, while the specific objectives has been defined based on the overall objective of the TS. Furthermore, pillars, as well as transnational common actions have been defined. Pillars represent the main elements to cluster recommendations included in the TS, to be proposed to the ADRION regions, and the reference for the description of areas of intervention within the Action Plans. Each TS pillar contains recommendations gathered under a flagship. Each flagship proposed to ADRION Regions represents, on one side, a strategical issue to be developed, and on the other side, an emblematic example to be followed.

5.1 TS vision & objectives

Vision
To set up an efficient LTC ecosystem based on social innovation process, enabled by digitalization (technology) and empowered by national and regional legislations, to support ageing people, not only patients, including those living in remote areas, to keep them in the community and to make public spending more efficient.

Overall Objective
To contribute to the creation of a transnational effective ecosystem for the Social Innovation application in health care services for the ageing population across ADRION countries, in order to tackle the needs of ageing population for LTC, especially in remote areas. For this purpose, to enhance cooperation across sectors, such as innovators/enterprises & researchers, service providers and PAs, for more efficient and cooperative delivery of services, improved skills and competences of all TG, optimizing public spending in the health sector and quality of healthcare services provided to the elderly. Finally, to stimulate the silver economy in remote areas, creating jobs for young people and intergenerational cooperation within communities.

Specific Objectives

I. Governance: to improve PAs' capacity to deal with LTC in an inter-sectoral and integrated way, that addresses health and social issues.

II. Telecare (health and social care from distance): to enable and diffuse (a) technical (ICT) solutions and (b) organizational (protocols, normative, institution settings, etc.) options to provide care for people from a distance, with the aim to avoid social disparities, to reduce length of stay in hospital, to improve efficiency of mobility to healthcare facilities (etc.) and reduce expenditure for the public health system.

III. Individual Smart housing and ageing planning: to increase people's quality of life in terms of the length of time they remain independent and to defer the need for support from others; e.g., individual planning for ageing, the spread of smart living/housing (at home or later in the community) and, in general, social inclusion.

5.2 TS vision & objectives

The SI4CARE project focuses on healthcare services for ageing population. Indeed, the **elderly population is the main beneficiary of healthcare services**, given the increasing rate of ageing population in the European Union (EU) and the forecasted increase of the old-age dependency ratio. In addition, current social and economic situations in the provision of healthcare services across the ADRION region are in direct contrast with the increase of life expectancy and demographic changes, requiring increased social, financial, and healthcare support. In many European countries there are significant **shortcomings in the provision of modern, long-term and personalized health services**. The main challenges in the provision of adequate social and healthcare services addressed to elderly are:

o   lack of human resources

o   lack of technological equipment and digital illiteracy

o   lack of social support

o   accessibility issues of rural areas

o   inadequate facilities for the elderly with mobility disorders

o   lack of incorporation of new technologies as a significant component of healthcare services

The above Challenges require intervention measures and recommendations (Pillars and Flagships) for overcoming obstacles in the provision of adequate health and social care services for elderly and were defined on the basis of the results emerged from of the Status Quo and Challenges (inputs from WPT1), of pilots' description and of the outcome of the discussions among PPs and SHs. The "incremental" sequence of the pillars represents a mirror of the participatory approach based on the quadruplex helix (QH) and on the social innovation process by considering the following objectives:

I.   The aim is to start from citizens' needs and to base the TS on experiences of people operating in the field of social and healthcare activities; based on this view, the idea of a "Operational on Social and medical care" (QH – Citizens & Research & Private Sector) will be developed;

II. On the basis of a clear picture of the real need in-the-filed, SI4CARE aims to propose a "Digitalization" (»tele«) framework, and instruments to support the definition of a model based on citizens' needs, and subsequently testing the new solutions and opening need towards new frontiers (research on ICT and social/protocol/organizational solutions); (QH - Private sector and Research);

III. Then, the "Economic & Financial" feasibility will be defined and recommended to demonstrate the complete sustainability of twinning of the needs in-the-filed with digital solutions, not only from the social point of view but also from the economical one, in relation to public spending: saving (less costs for the same service) or more effective results (more benefit/services with the same cost and structure) (QH – Private & Public)

IV. Once fulfilled citizens' needs, description, digital proposals, economic and financial descriptions, the "Governance & Policies" model and instrument should be defined, triggering the development of the proposed ICH model (QH – Public);

V.   Finally, to ensure implementation and continuity of the IHC model, and to support scale up to other regions beyond SI4CARE countries and regions, in addition to dissemination and participation solutions, the TS will propose the establishment of a permanent Competence Center on Social Innovations for Active and Healthy Ageing, to be kicked-off during SI4CARE project implementation, and whose key objective is to extend the EU social care infrastructures and digitalization of health sector rules, principles and policies to the participating Parties through a legally binding framework.

6. Pillars/Common Transnational Actions

Pillar 1 – Digital transition of Social and Medical care
Leader: NKUni

Flagship 1.1	**Outpatient clinic model**
	Background
	An outpatient clinic addressed mostly to the needs of the elderly population should facilitate all challenges of accessibility that elderly individuals usually face. Those needs would include easy access to all the information required for the provision of the healthcare services of the outpatient clinic as well as timely and valid assessment by the healthcare professionals. In order for this model to be applicable, the utilization of new technologies at the field of healthcare should be applied, to facilitate the accessibility of the elderly population to a wide range of services, such as diagnostic services and follow-ups. The field of technology that could serve to this direction could be the provision of telehealth services via online platforms that would minimize transportation requirements and scheduling gaps in the appointments. Furthermore, the utilization of appropriate technological devices could also facilitate in-person appointments (user friendly GPS devices to facilitate their navigation to the healthcare facilities), built-in devices that provide information regarding appointments and availability of services etc. Finally, the use of ICT devices would also allow an objective collection of data that could facilitate long-term follow-ups of patients.
	Recommendations
	- The development of an outpatient clinic that will be based exclusively on new technologies (online platforms) and will be directed to elderly individuals with limited access to healthcare services. The development of the outpatient clinic must be designed for the user and not only for the provider since services are for the person. - Web-based healthcare services that will be focus on non-pharmaceutical interventions (rehabilitation services, physical exercise, occupational therapy) - The outpatient clinic model is suggested to be focused mostly on specialized medical services that are even more difficult for the elderly to have access to. Services must also be guaranteed in terms of the length of booking lists and waiting times once in the outpatient department since waiting times are substantial for the physical and psychological state of an elderly/fragile person.

Flagship 1.2	**Monitoring elderly through ICT technologies**
	Background An innovative application for the facilitation of the accessibility of the elderly to healthcare facilities would be their monitoring through ICT technological devices in their everyday life and their own home. For example, monitoring devices could be applied to the sector of healthcare in the elderly that would promote independent living through e.g. medication reminders, vital biomarkers status, recommendations for safer trips in and out of the house. Furthermore, new technologies could also be applied in the house (smart houses) that could improve safety and quality of life, minimizing the effort to control several devices in the house and making a more friendly environment for the elderly. Thus, monitoring the health status of the elderly in the aforementioned ways could also improve their own self-awareness on their health status in order to promote the adoption of healthy habits that could further improve their quality of life on the one hand and prevent probable health risks on the other by referring to a specialist in a timely manner. The fact that an elderly individual is not dependent on a third party to monitor variables of health status (heart rate, oxygen consumption etc.) could also promote independent living and enhance their quality of life.
	Recommendations • Wearable devices that will monitor vital signs or indicators and will also offer reminders for medication and light exercise. The default language of these devices should be user-friendly. • Development of technologies that will be integrated in the houses, that will either promote safety (eg. Alerts when the door opens) or will facilitate navigating in the house (eg. Automated turn-on of the lights when entering a room) • Direct connection to treating doctor that will provide real-time data on the health status of the patient • Considering many elderly's limited capacity in using digital devices and technological services, it would be useful to provide them a telecaregiver. In particular, it would be useful to create pools of trained caregivers available to the most economically disadvantages elderly people.

Flagship 1.3	**Remote care Rehabilitation-physical activity; nutrition; healthy ageing & planning**
	Background
	One of the most demanding challenges of healthcare services is the fact that they are not accessible to the elderly. Thus, a wide range of services (early diagnosis, follow ups) is often neglected by the elderly due to high difficulties in having access to those services, either through proper information or through physical transportation. Thus, this condition prevents the elderly from receiving a holistic healthcare approach and they are limited to treatment only at acute phases of healthcare conditions. Under this perspective, caring from remote would be a suitable solution in order to cover not only the needs of a medical appointment, but also promote the provision of services that could be considered non-pharmaceutical. Non-pharmaceutical interventions, although they have been well established for their long-term benefits both in terms of prevention but also in terms of rehabilitation and post-treatment, they are usually neglected due to high cost of services, lack of trained professionals and facilities and are often time consuming. Recent COVID -19 pandemic highlighted the need to reconsider the accessibility to healthcare services and how healthcare services could be offered without in person presence. As such, remote caring has been developed as an alternative method of offering high-quality and innovative healthcare services that could cover the gaps that are developed through accessibility difficulties to the elderly. Furthermore, remote caring could also provide holistic support to caregivers, who also carry the burden of their loved ones treatment and often suffer from the psychological and physical costs of long-term care of an elderly individual.
	Recommendations • Development of interventions either through an online platform or via the telephone that will focus on early diagnosis and individualized treatment of the elderly • Provision of both pharmaceutical and non-pharmaceutical services – promotion of holistic approach in healthcare services. This include that the patient should be cared by multidisciplinary professional teams with nutritionists, physical activity operators, psychologists etc. • Direct access of caregivers to information regarding the condition of the patient and online / remote support for experienced professional • Joint training courses between operators, patients and caregivers so that they are trained and used to a shared dialogue. It is important that the caregiver also receives psychological support. • Provision of facilities for companies/organizations that have caregivers among their employees, setting up confidential, privacy-conscious areas/stations to communicate with their frail family members when needed

Flagship 1.4	**Data collection for the improvement of medical services**
	Background
	One of the main challenges that were highlighted by high-level stakeholders, is the lack of official data regarding demographic variables of the elderly population and the most prominent conditions that they face. As a result, the design and implementation of proper interventions is usually based on partial data that represent only a very small portion of the general population and is rarely applied on a long-term basis. Thus, a master database that would include basic variables regarding the healthcare status and healthcare needs of the population could result in the improvement of the decision-making procedures and the designing of policies and could improve the overall provision of healthcare services and structure. Furthermore, having a clearer picture of the needs of the elderly and the difficulties that they face in terms of how they can take advantage of the healthcare services that are available to them, could also lead to the improvement of the quality of healthcare services that would apply directly to these difficulties and needs. It should also be noted that the elderly usually face a variety of healthcare conditions that are often generalized due to lack of proper data and follow ups. Thus, a well-established picture of the clinical condition of the individual, could result to personalized treatment specifically tailored to the patient in question, from every healthcare professional they require services from and promote independent living for the longest time possible.
	Recommendations
	- Development of a master database in each country / region with extensive demographic data and the main healthcare problems of the elderly - Development of personalized folders for each patient, with specific data of their own health status and specific needs, as well as a comprehensive treatment plan that will be available both to patients and to all treating physicians - System for recording the needs of the elderly according to the specific needs of different regions of the country (eg. urban areas, rural areas, islands, mountain villages etc.)

Flagship 1.5	**Caring for patients with dementia**

Background

Dementia is a syndrome in which there is deterioration in cognitive function beyond what might be expected from the usual consequences of biological ageing. Currently more than 55 million people live with dementia worldwide, and there are nearly 10 million new cases every year. Dementia is currently the seventh leading cause of death among all diseases and one of the major causes of disability and dependency among older people globally. Dementia has physical, psychological, social and economic impacts, not only for people living with dementia, but also for their care givers, families and society at large. Since dementia is a chronic degenerative condition, environmental factors have been shown to significantly affect the course of the disease, both in terms of preventions as well as in terms of treatment. Thus, caring for dementia should not begin at the level of disease onset but much earlier, at the stage of prevention. Prevention could be applied in a variety of ways, through the promotion of a healthy lifestyle and the maintenance of activities that are fulfilling and pleasant. At the treatment level, emphasis is placed not only on medication treatment, but also on non-pharmaceutical interventions that have been shown to have significant positive effect to delaying the deterioration of symptoms. Furthermore, dementia patients often present with a variety of symptoms and thus require specialized assessment and an individualized treatment plan. Finally, as dementia is a chronic condition that could affect the individuals' lives for decades, long-term care is of highest importance. Even at the final stages of the disease, when the patient is completely dependent on their caregivers, a treatment plan should also be followed in order to provide the highest quality of life possible. Thus, the place where the patient lives and moves (private house, nursing homes) should be appropriately designed in order to provide a friendly environment for them to move and engage with. In parallel, safety measures should also take place in order to prevent probable risks of the patient and people around them. Personal safety is a crucial matter of long-term care of patients with dementia, since they are prone to physical risks due to lack of proper cognitive and movement skills, but this should not be a factor that could keep them from engaging with activities and having freedom of movement. Finally, caregivers of patients with dementia could also be a part of the treatment plan, receiving social and psychological support and having access to holistic healthcare services when needed.

Recommendations

- Development of national treatment protocol according to the specific needs of the elderly. The identification of the specific needs should take into consideration both patients, caregivers and healthcare professionals' point of view.

- Development of online activities addressed to the elderly on a variety of areas (cognitive training, physical exercise, occupational therapy), providing remote technical support to facilitate access.

- Development of Dementia Friendly Points with staff that will support patients with dementia and their caregivers

- Investigation of the specific needs of the elderly in the spaces where they move in order to promote safety and independence, asking the patients themselves what are their needs and most useful comforts

Pillar 2 - Digitalization Process
Leader: NZJZ SDŽMEFST

Flagship 2.1	**Building a basic digital infrastructure - Developing and promoting a digitalization ecosystem**
	Background Most critical factors for a healthcare system are availability, affordability, accessibility, adequacy and appropriateness out which that first three are unmet needs. However, healthcare services are aiming at ensuring healthy lives and promoting well-being for all at all ages and thus reducing inequalities. Hence, all individuals and communities should receive the healthcare services they need without suffering financial hardship. With digital transformation of the healthcare systems elderly people are those who mostly struggle with innovation such as modern internet information and application. Thus, it is important to reduce the risk of the rapid digitalisation in healthcare and development of e-health services that could build out the people who are most in need. Therefore, equipping both households and healthcare institutions with ICT infrastructure and internet access enables equal accessibility and high availability of e-health services for both for patient and healthcare providers. Use of broadband internet via development of broadband network infrastructure, especially in Areas Lacking Sufficient Commercial Interest for Investment (rural areas) and providing elderly with smartphone, tablet or a desktop computer with camera and internet access ensures their video-capability as precondition for "video visits" and in-time care provision. Such form of remote caring increases quality of care provided and decreases possible neglection of the elderly that can lead to fatal outcomes. Moreover, the implementation of ICT infrastructure results in reduction of transportation costs and supports financial stability as well as benefit the affordability of the healthcare services.
	Recommendations • Equipping households and health/social care institutions with ICT infrastructure • Providing elderly with digital devices for remote caring (smartphones, tablets, smart bracelets etc.) • Map the already existing healthcare centres where an info point for the use of digital services (not run by volunteers) exists • Set-up, especially in more decentralised areas, digital consultancies where access to use teleservices could be provided especially for those who are not equipped with devices or autonomy. • Develop a unified database on diagnosed diseases and provided health services to elderly population, especially in non-EU countries. Installation of necessary e-health applications
	Management framework for digitalization

Flagship 2.2	**Background**
	The emergence of integrated health information systems, mobile apps and software-based medical devices presents significant opportunities for diagnosing illnesses, engaging in preventative medicine, managing healthcare costs and achieving better outcomes. Creating a management framework that supports digitalization in healthcare is one of the main challenges. The EU eHealth Network, established with the role to foster cooperation between Member States to ensure EU wide interoperability of electronic health systems and wider use of eHealth, and eHealth Governance Initiative (eHGI), whose mission is to enhance cooperation between Member States, develop a joint vision for eHealth and create a mechanism linking the political and operational level, are serving to organize the governance for the eHealth across EU and as such contribute to the development of framework related to the digitalized healthcare. The management framework covers techniques, tools, and processes how health policies, namely e-health strategies, are translated into software requirements applicable for addressing quality healthcare for all ages, especially elderly population. It proposes the strategy translation process and how they inform e-health project portfolios that need to be implemented, in order to cover all three aspects in a holistic manner. Moreover, the strategies encompass the recommendations that describe the high-level actions required to deliver the national e-health environment in terms of how new e-health components will be delivered and assessed, or how existing e-health components will be repurposed or extended. The contribution also informs policy/decision makers how to shape their e-health strategies in order to cover the needs and wants of the target user groups. The proposed process is to be validated through implemented e-health pilot services in cooperation with ICT SMEs and Digital Innovation Hubs.
	Recommendations
	• Development of e-health strategies for health/social care service providers and decision makers • Development of a common EU legislation regulating the validation of devices used for e-health, so as to ensure operational harmonisation above all on the privacy side, as transparency is needed in defining data ownership (information that must also be transferred to patients in a transparent way) • Fostering cooperation with ICT SMEs and Digital Innovation Hubs • Establishment of health technology assessment systems

Flagship 2.3	**Ensuring Digitalization Implementation Quality**

Background

Actionable health data - always available, accurate and trustworthy, holds the key to the success of health systems and new innovative technologies, but there is an inherent need for quality, well-structured, standardised and secure data to achieve success. One of the most important requirements is to be able to consolidate data from multiple data sources. Both clinical data and the outcomes recorded by the patient should be included, together with the guarantee that persons who update and formulate health data in the clinical setting are properly educated to ensure the accuracy of data. To enable faster information flow, up-to-date and detailed health records, generic and reusable Digital Service Infrastructures (DSI) called building blocks are developed. Building blocks ensure interoperability between IT systems so that citizens, businesses and administrations can benefit from seamless digital health services wherever they may be in Europe. Furthermore, the standardization is a precondition for the proper functioning of the digitalised healthcare system. Hence, prior to any use, the healthcare products (devices, medications, apps, etc.) must undergo certification process, quality evaluation and be compatible to other existing solutions in this field. Thus, the quality is assured by obligation to adhere to various quality norms, open standards and regulatory framework (cyber security and data protection acts). Moreover, the adoption of a patient/citizen-centred approach, that encourages patients and citizens to share their data and report the results while at the same time ensuring the confidentiality and safety of the data from mis usage, results in increased implementation quality of digitalised healthcare.

Recommendations

- Enabling interoperability of healthcare systems by using Building Blocks approach

- Adoption of patient/citizen-centred approach

- Compliance with Norms, regulatory framework and open standards in the field of healthcare, especially e-health

- Keeping of up-to-date and detailed and harmonized health records that can dialogue between hospital and primary health care.

- Definition of quality labels (uniform not only in the EU but also in non-EU countries) that distinguish quality e-health tools in order to protect the data owner by preventing leaks of sensitive data

Flagship 2.4	**Knowledge Transfer (education; training; awareness...)**
	Background
	High-level stakeholders pointed out that the e-health services, mainly through tele-health, have been incorporated into healthcare system for the general elderly population. However, although the technology has been introduced, it hasn't been successful, whereas, regarding incorporation of telecare and smart housing, the incorporation was either unsuccessful or it hasn't happened at all. The educational workshops on the subject of e-health and incorporation of such into healthcare professional's education in the first place will broaden and improve the implementation and use of digital health services. Additionally, continuous training of the healthcare personnel on use of new digital technologies and at the same time improving digital literacy among elderly will result in empowerment of social care services and integration of health network. Raising awareness of all citizens on digital transformation in healthcare and its interoperability whilst encouraging use of e-health services will increase quality of the healthcare system and stimulate feeling of security especially in cross-border healthcare. Also, incorporating e-health topics into ICT related educational programmes as well as management programmes supports high-quality and focused social innovation by business entities and NGOs and enables decision makers for better management of the healthcare system and connected services.
	Recommendations • Integration of topics on digital transformation in healthcare into education of healthcare and social care professionals • Continuous implementation of workshops and trainings on new technologies and how to operate them • Boosting digital literacy among elderly and their caregivers • Including topics on e-health into ICT related programmes and management programmes • Supporting voluntary associations with funds to create digitally trained, financially supported, and available volunteers for the most fragile

Flagship 2.5	**Fields of future research**
	Background Technology is the key driver for innovation in health and care sector. It provides better cost-effective solutions with high impact, tailored to the specific needs of patients. Additionally, several advanced technologies that enable usage of vast amount of data and digitalisation offer big opportunities for transforming health and care as well as promoting well-being of citizens. Development of powerful analytic tools already helps healthcare providers to use structured data and thus improve the quality and interoperability of the care provided. Usage of digital health records or patient registries enables higher accessibility of data to the clinicians and researchers. The interoperability of health information and artificial intelligence supports decision-making in secure and ethical manner, respecting individual integrity. Citizens benefit form targeted and faster research resulting in safer, more efficient and affordable tools, technologies and digital solutions for improved disease prevention, diagnosis, treatment and monitoring for better patient outcome and well-being. The future research should especially consider development of affordable, advances solutions and assistive technologies for elderly people that struggle with innovation and acceptance of new technologies. Hence, it is necessary to ensure integration of age-friendly, smart innovative solution such as connected wearables (wearables and mobile applications), ambient sensors (smart housing solutions), virtual assistants, diagnostic screenings (telemonitoring), self-monitoring devices into daily life of ageing population.
	Recommendations of topics should be explored • Artificial intelligence in health care (virtual assistants, image processing, machine learning, etc.) • User-driven digitalisation (mobile health, gamification approach, etc.) • Use of passive devices (sensors, GPS positioning, telemonitoring, etc.)

Pillar 3 - Economic & Financial implications
Leader: UniLju

Flagship 3.1	**Economic Aspects of Integrated Long-term Care Services**
	Background
	Population in ADRION region is ageing fast. The elderly population is a diverse group with different levels of physical, cognitive, and social functional capacities. Existing researches suggest that the majority of the living environment is not suitable for persons with declining functional capacities and reduced mobility due to barriers of the built environment. Local and national policymakers need to develop social infrastructure and adapt the existing living environment in a way that enables the accommodation of the elderly so that they can stay longer in the community and postpone or even prevent their relocation to a care home (in this perspective, digital tools can be seen as factor of aggregation - contrary to what is usually thought - and not only of health support as it allows the elderly to stay longer in their homes).
	Therefore, local and national policymakers are advised to advocate for societal and environmental change. On the overall ADRION region, such change can be related to clearly defined goals such as smart age-friendly environment, implementation of telemedicine and telecare solutions, smart homes with embedded ambient assisted living technologies, other new technological innovations such as robotics, solutions based on the Internet of Things and cloud computing, and public spaces that facilitate active ageing and wellbeing for all generations and social support networks for the elderly.
	To achieve social innovation in practice, we need to clearly define the framework of an economic model of integrated long-term care that is sustainable in the long term. The first pillar of the proposed economic model would be the long-term sustainability of financing of integrated long-term care services explained by:
	- universally accessible services to older adults, - more efficient combination (allocation) of existing resources available for integrated long-term care services, - potential savings as a result of social innovations, - increase in % of gross domestic product allocated to the provision of integrated long-term care services, - increase in old-age dependency ratio within a specific country, - demographical data on ageing and overall health of the population, living standards of individuals (GDP per capita, purchasing power).
	The second pillar would be defining the role of different stakeholders in the overall integrated long-term care services sector with a particular emphasis on the economic aspect:
	- national (state) level (including government policies and legislation) and funding, - local communities (municipalities) and funding, - families in their role as informal caregivers and their funding capabilities, - an individual elderly adult as the (future) recipient of integrated long-term care services and his or her funding capabilities, share of public and private resources allocated for integrated long-term care services.
	The third pillar of the economic model would be related to potential other resources of funding and includes:
	- following EU policy recommendations within the field of integrated long-term care services, - potential to apply to national and EU tender opportunities,

	• potential funding from existing EU funds, • opportunities related to new job creation and business opportunities related to the supply of goods and services for the elderly.
	Recommendations • Proposal of the framework of an economic model for the long-term sustainability of integrated long-term care services. • Development of future new economic and social programs that are aimed at optimizing funding of integrated long-term care services.

Flagship 3.2	**Financial Aspects of Integrated Long-term Care Services**
	Background
	Integrated long-term care services are aimed to compensate for the functional decline in individuals and to mitigate the care burden on family members. Nowadays, integrated long-term care services are in general universally available to an individual that requires such form of assistance. In the future, expenditure on integrated long-term care services is expected to rise significantly due to population ageing, thus making its financing one of the most pressing societal challenges. These costs must be financed, whereas many different possibilities exist. Therefore, it becomes essential to define the main options for financing integrated long-term care services and provide policymakers with the necessary information to enable them to implement the appropriate financing option for the provision of the aforementioned services in practice.
	Nowadays, it is extremely challenging to assume how the optimal financing of integrated long-term care services should look. It is becoming increasingly likely that there is not one size fits all approach as theory suggests that the best financing model depends on economic, social, cultural and demographic factors of a specific country or region. Therefore a discussion on alternative financing models for integrated long-term care services is necessary in order to find the best option for ADRION countries.
	The characteristics when discussing the financing of integrated long-term care services that need to be highlighted are taxes, social security payments, voluntary insurance schemes, dedicated savings and other private funds, public-private partnerships, and other options of financing through different EU funds, and tenders. On a global level, the financing of integrated long-term care is largely done through taxes or through social security payments. Given the ongoing demographic change of population ageing, many individuals are nowadays already also considering dedicated savings and voluntary insurance schemes. Such options are especially appropriate for financing the needs that go beyond what the legislator considers as appropriate living standard. Continuing with the predicted cost pressure in the future, traditional pay-as-you-go systems expressed with taxes and social security payments might become problematic, as due to demographic change and the increasing number of older adults, the working population will decrease, while the number of beneficiaries will increase. Therefore, it might be necessary to think also about voluntary insurance schemes, where an individual accumulates assets for their own future risk. Another alternative is the establishment of public-private partnerships, where the public organization may benefit from improvements in services quality and their overall cost-efficiency, while the private organization can improve its investment potential, can create profit and is exposed to more opportunities to expand its business opportunities. As on the European level, society is aware of the problem of demographic ageing, it is possible to explore the possibility of financing for integrated long-term care services through different EU funding options and tenders.
	Recommendations
	• Development of a financing model of integrated long-term care services for ADRION countries involved in SI4CARE project. • Proposal of the best financing model for integrated long-term care services in ADRION region based on economic, social, cultural and demographic factors of involved countries.

Pillar 4 - Governance & Policies
Leader: UniLju

Flagship 4.1	**Development of a Governance Model & Policies for Long-term Care**
	Background

To develop a sustainable and equitable system of integrated long-term care, emphasising the importance of enabling elderly people to age in a place that is right for them. Accessibility and affordability of the integrated LTC services depend essentially on the spatial allocation of users and service centres. Therefore, platforms as enablers and facilitators of the integrated LTC services in one place, like a map of all long-term services in a local community, should be established. Pillar 4 covers the area of national strategies in the field of integrated long-term care, quality assurance, the establishment of sustainable provision of long-term care services, which also covers the current shortage of caregivers and the growing needs of society. Given the increase of dementia in society, Pillar 4 also focuses on the provision of long-term care services that maintain the quality of life of people with dementia, as well as the timely detection of dementia.

Integration and coordination of health and social care services will be important if optimal health and economic outcomes are to be achieved, so the approach used will also need to take account of existing health system structures, responsibilities and financing. This will require significant reorientation since the historic focus of most health systems has been to meet acute care needs, for example through centralised hospital services. Such systems are not well aligned with the needs of the increasing population of older people who tend to experience more chronic conditions and multi-morbidities.

Long-term care needs and access to the long-term care facilities on a local, regional and national level could result in the policies to improve the quality and capacities of the integrated long-term care facilities as well as allocation and organization of human resources, designing the optimal provision of integrated long-term care and accessibilities to the services.

An effective system of integrated long-term care will also ensure that all caregivers are adequately trained and supported. Educational curricula need to be tailored to ensure formal and informal caregivers have the skills and understanding necessary to fill their role, and continuing professional development will be important if professional caregivers are to maintain them. Many paid caregivers have received little training and an effective system of integrated long-term care can ensure general standards in the paid workforce and might establish accreditation mechanisms to ensure staff and care providers develop and maintain appropriate competencies.

Since most care is (to be) provided by family caregivers, a core element of any system must be to ensure they receive adequate training, are supplemented where necessary with professional support and have access to services such as respite care.

There is a shortage of caregivers in the countries of the ADRION region, so many migrant workers come to other countries as caregivers who work in institutions and take on the role of caregivers in the home environment (such as caregivers from Serbia who go to Italy). There is a need to create a training system that provides quality care and promotes formal employment of migrant caregivers. |
| | **Recommendations**

- Improvement of the existing national legislations to remove the barriers of national and transactional bureaucracy, making decision-making easier and solutions more acceptable to users and integrated long-term care providers.
- Policy on migrant care workers.
- Policy on the quality of long-term care in institutional and in home environment (standards, education, in job training and monitoring of integrated long-term care provided) and financing of e-care for the elderly in a home environment. |

	- Policies and financing the social infrastructure and housing in the subsystem of the home care, development of a different form of possibilities for delivering integrated long-term care (like intergenerational centers, different types of care homes, day care centers, cohabitation of the elderly, villages for the elderly). - Encourage the transfer of social innovations and best practices in integrated long-term care in the ADRION region. - National program to prepare for retirement. - National dementia awareness programmes. - Map and clerly define which health professionals patients should turtn to (primary health care, pharmacist, psychologist, etc.).

Flagship	Developing a Quality Framework for integrated LTC
4.2	**Background**

In implementing integrated long-term care services, it is necessary to establish clear and measurable indicators of the quality of services, both in the home and institutional settings.

The quality indicators represent the target and allow monitoring of the quality of integrated long-term care implementation. Countries use different quality standards, such as ISO, E-Qalin, which are focused on the institutional environment. Special attention is needed in the area of long-term care service delivery in the home environment, which can be more people-friendly but, on the other hand, poses new risks for quality assurance in the implementation of long-term care and the preservation of dignity in the life of the individual.

The established framework for the quality of long-term care also includes integrated care, which focuses on the user as an active policy-maker about his or her care and takes into account his or her abilities, needs, and wishes.

Indicators of the quality of integrated long-term care are timeliness, reliability, professionalism, accessibility, consideration of the needs and wishes of the individual, taking into account the state of health. Timeliness depends on our data about older people living in different living conditions (both adapted and inadequate) and on the available workforce. Reliability and professionalism depend on the national employment strategy and caregiver training. Accessibility often depends on the individual's financial ability to pay for integrated long-term care services and the share of co-funding from insurance (for long-term care or health care).

Recommendations

- Creation of a common framework for the quality of integrated long-term care, applied according to the specificities of each country. We need also stress the importance of access to assistive technologies and the involvement of users and social partners in the development of training programmes.
- Promotion of the transfer of social innovations and best practices in assuring quality in integrated LTC in the ADRION region

Flagship	Human resources and training in Long-term care
4.3	**Background** In the ADRION region, there is a shortage of caregivers, which leads to the employment of migrant workers and a shortage of qualified caregivers. On the other hand, training informal caregivers, who are usually relatives, is also a challenge. It is important to identify skills needs in a timely manner, define career profiles, promote recruitment and adopt policies that enable the selection of qualified workers with the required skills and competences in integrated long-term care. The guidelines will stress the importance of establishing partnerships between education systems and service providers to include internships during studies, in job training and mentoring programmes for experienced workers, the establishment of training programmes, lifelong learning programmes, mentoring provided to workers, certification for workers, as well as, where appropriate, the creation of a education for volunteers and informal carers. Guidelines should set the required occupations and skills, the importance of access to assistive technologies and the involvement of users and social partners in the development of training programmes. The guidelines should promote social dialogue at all levels in terms of the active participation of workers and trade unions in the development, implementation, and evaluation of integrated long-term care services. Where appropriate, the guidelines should also provide for the involvement of volunteers (EU Quality Framework for LTC: https://www.age-platform.eu/sites/default/files/EU_Quality_Framework_for_LTC-EN.pdf).
	Recommendations Development of: - Required occupations and skills for formal carers that will enable mentoring and in job training. - Countries should offer training programs for informal carers and migrant workers in order to provide quality and safe long-term care services. - Trans-national education and training system for knowledge, scholars, and students exchange should be developed as important part of strategy, policies and operations. - Training programs for the management of institutions providing long-term care. - Transfer of social innovations and best practices in human resources in long-term care in Adrion region.

Flagship	Spatial Aspects of Integrated Long-term care services
4.4	**Background**

The accessibility of integrated long-term care services depends largely on the spatial distribution of users and service centres. Remote rural areas, in particular, have poorer access to services, but there are also parts of larger functional urban areas with poor access to services. However, in the ADRION region, residents of small and remote islands and mountainous areas also have poorer access to integrated long-term care services. Therefore, governance and policies that mitigate inequalities in access to integrated long-term care services should consider the spatial aspects of such services at local, regional and national levels.

One of the main challenges highlighted by stakeholders at national and local levels in the ADRION region is the lack of knowledge about the demographic and geographic (location, accessibility) data of the elderly population and their need for integrated long-term care services. From a demographic point of view, rural areas are getting older and depopulating.. It is important that professionals who works with elderly have data about elderly in an area. That way, they can inform them how to access and use integrated long-term care services. However, once elderly are admitted to a home care service, caregivers often spend too much time driving rather of taking more time to provide direct care to elderly.

Normally, integrated long-term care is organised through public services. In addition to public services, there are also number of other providers of care for the elderly. Mostly their offer is advertised online, but it is scattered and not transparent. The search for such services is quite time-consuming for the average user and a direct comparison is impossible. Older people and their relatives do not have a simple and uniform overview of institutionalised and non-institutionalised elderly care services.

ADRION's states, regions and especially municipalities/communities are responsible for planning, financing and managing (de)institutionalisation processes in integrated long-term care, which require new investments in social infrastructure and service organisation. Most rural municipalities are ill-prepared to take on the responsibility for integrated long-term care and are not in a position to make major investments on their own. Therefore, they need to join forces for a common investment policy and create common public facilities. Most often, this joining is done through administrative hierarchical grouping into regions, which is not always the best solution. One of the ways of linking areas of common interest that has proved successful in Europe is from the bottom up, as shown by the Local Action Groups (LAGs) that have so far proved successful in European agricultural policy.

Various spatial data pertaining to integrated long-term care are scattered among many ministries and agencies at national/regional and sometimes local levels. As a result, the design and implementation of appropriate policies are usually based on incomplete data that are not coordinated between ministries, agencies and local communities. The spatial dispersion and diversity of access to health and care services also make it impossible to determine the optimal policy for building social infrastructure and space-based services for elderly. Therefore, a location-based database containing different variables on, for example, household size and age structure, care needs and access to integrated long-term care facilities at local, regional and national levels could lead to policies that improve the quality and capacity of those facilities, the allocation and organisation of human resources and enable the optimal provision and access to integrated long-term care services. Here, geographic information systems (GIS) and spatial analyses in GIS can play an important role in spatial decision support.

	Recommendations
	- Development of a spatial database (GIS) and central presentation of statistics on elderly care at local, regional and national levels.
- Development of database of areas with poor accessibility to health and other social long-term care facilities where elderly live alone. Present the problem areas to local/regional policy-makers and care so that they can organise better integrated long-term care services and transport for older people if needed.
- Development of guidelines of options and optimal solutions for the spatial arrangement of health and long-term care facilities, centres and hospitals for long-term care in functionally connected municipalities/communities in functional regions.
- GIS Support measures to improve housing conditions and population flows of older adults in hierarchical spatial structures.
- Development of online portal for providers of elderly care services within and outside the public sector. Spatial representation of providers via the web.

Flagship	Active Ageing Strategy and Age Management Practices
4.5	**Background**
	Low birth rates and rising life expectancy mean that the proportion of the elderly in the ADRION region is increasing. Due to population ageing, pensions, and integrated long-term care systems risk becoming unsustainable as the shrinking labor force is no longer able to provide for the needs of the growing number of elderly people. This demographic transition is viewed as one of the biggest challenges for the region as age-related changes will have an impact on pensions, long-term health and social care, education, unemployment transfers, and various national, transnational and EU-level policy debates. In contemporary times, only a few organizations are already aware of the opportunities and challenges that are associated with the longevity of a society. Individual countries in specific sectors can expect a noticeable shortage of adequately qualified and much-needed labor force in the near future.

Therefore, ageing workforce will be an important factor influencing the design of future business models of organizations. However, the availability of labor in ageing economies can be influenced by implementing appropriate age management practices. Elderly employees are an important element of an organization's human capital, as a balanced workforce can better respond to constant changes occurring in the organizational environment. The professional and social competences of elderly employees can be viewed as an important organizational tool. Elderly who live longer today are on average healthier and in better shape than previous generations, and with advances in technology and increased automation of certain processes in individual sectors, the productivity of elderly employees can increase. Elderly employees should also be perceived as productive potential that needs to be trained and educated. |
| | **Recommendations**

- Coordinating activities that foster independent, healthy and safe living for all generations.
- Promoting inclusion into all aspects of society for all generations.
- Creating and promoting an environment (strategies, policies) for active ageing.
- Developing pillars of an (Adrion) active ageing strategy.
- Developing, promoting and implementing appropriate age management practice in organizations to promote elderly employees. |

Pillar 5 - The SI4CARE Community: the Competence Center for Social Innovations for Active and Healthy Ageing

Leader: UniLju

Flagship 5.1	Competence Center for Social Innovations for Active and Healthy Ageing
	The competence center for social innovations for active and healthy ageing aims to connect research institutions, municipalities, ministries, voluntary organizations and other interested stakeholders to cooperate in realizing its mission of finding and providing new solutions and modern concepts for active and healthy ageing, which promotes social innovations, a positive attitude and a future of solidarity for all generations, with a special emphasis on vulnerable groups, including the elderly population. The establishment of the competence center at the University of Ljubljana in the field of social innovations for active and healthy ageing represents also the realization of the formal commitment of the SI4CARE project to European authorities. The purpose of the competence center is to encourage an active, strategic approach to the field of social development and investment in it, which requires the attention and cooperation of all key stakeholders in the field of active and healthy ageing. The goals of the competence center include collaboration between different organizations, international transfer of knowledge and exchange of experience between involved stakeholders that deal with the field of active and healthy ageing at the international level. Other goals include professional support in training and education of the elderly (through concepts of re-skilling and upskilling), a humanized increase in digital literacy of the elderly and changes in the field of ergonomics.
	The competence center will take care of the promotion and upgrading of the results of the SI4CARE project and the continuation of the functioning of the international ecosystem after the end of the project. Activities of the competence center include organization of meetings and workshops, professional support in training and education of the elderly and will be aimed at general international exchange of knowledge through its annual conference with representatives from various organizations from the ADRION region. This will create an environment where development, testing, validation and implementation of new or combination of existing products, services and models can take place, which are implemented in practice and in the form of social innovations take care of current social needs and solve existing social challenges. One of the key tasks of the competence center in the first year of its functioning is primarily the preparation of a more detailed program of activities that the competence center will implement in practice. At the beginning of its functioning, the competence center will be self-financed, while it will also search for alternative possibilities of financing, such as national and international innovation and development funds. The effects of the competence center will be primarily visible through mobilization and improved collaboration between stakeholders in the field of integrated care for the elderly, strengthened competences of included stakeholders with the aim of a more efficient, integrated and innovative way of providing services in practice and by strengthening public bodies in preparing policies and regulations as well as improved coordination in preparation of innovative strategies and implementation models of the future. Special emphasis is on the inclusion of the widest range possible of stakeholders, which includes the research and academic world, state and public authorities, business world and wider professional and general public, including citizens.
	Within the framework of the competence center, we tackle key challenges that we are facing today, especially regarding the above average rapid growth of the share of the ageing population and the need for digital transformation of integrated long-term care. In the future, elderly individuals will be largely dependent on the help of others

	and will primarily need high quality organizational solutions and daily integrated long-term care services. With the functioning of the competence center, we aim to strengthen the capacity of decision makers in the transfer of knowledge in the field of integrated health and social innovations in practice, as well as to be able to refine existing and develop new programs. The vision of the competence center is that the attitude towards the elderly, a positive attitude towards the elderly becomes part of a modern society, which every country in the ADRION region undoubtedly wants to become and to connect all institutions, projects, initiatives and individuals who want to enable the elderly to live a better and healthier life, which is aimed at a sustainable and solidary future for our society.