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Sharing solutions for better regional policies

HoCare
Interreg Europe

Innovative solutions for Home Care by strengthening quadruple-helix cooperation in regional innovation chains

SLOVENIA REGIONAL REPORT

Elaborated in the framework of the additional activities' implementation (IE 5th Call)

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Report Prepared by: Anita Molka, project manager

Template prepared by: Nicosia Development Agency – ANEL (CY)

ANEL Nicosia Development Agency

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A) BACKGROUND

Interreg Europe HoCare project aimed at boosting the delivery of innovative home-care solutions. In line with the smart specialization strategies of the partner regions, the project contributed to the optimization of Structural Funds investments to strengthen regional innovation systems in the health care sector by fostering quadruple-helix cooperation in regional innovation chains.

The HoCare partnership is constituted by the Nicosia Development Agency (ANEL) - CY, Development Centre of the Heart of Slovenia - SI, Business Agency Association - BG, National Institute for Research and Development in Informatics - RO, Lithuanian Innovation Centre - LT, National Directorate General for Hospitals (former National Healthcare Service Center) - HU, IDERAM Business Development Institute of the Autonomous Region of Madeira - PT and DEX Innovation Centre - CZ.

The four-year project (01/04/2016-31/03/2020) was evenly divided into 2 phases. Phase 1 focused on capacity building through interregional exchange of experience. Core of the learning journey was sharing of 33 good practices (available at: https://www.interregeurope.eu/hocare/) with replication potential in other regional settings to improve the innovation delivery policies in the e-health sector. The HoCare project's main outcomes were specifically: 8 Regional Situation Analyses, 59 policy learning events (incl. 3 International Thematic Seminars and Workshops), 3 Joint Thematic Studies, 3 Policy Transfer Reports and regional Action Plans transforming the project learnings into implementation-oriented actions to improve the regional ecosystem by empowering citizens and contributing to a healthier society. Phase 2 concerned the monitoring of the Action Plans' implementation by the European Structural and Investment Funds (ESIF) Managing Authorities targeting the improvement of their regional Policy Instruments (ESIF OPs). Aim was to improve the strategic focus, management, or implementation of new projects of 8 ESIF Policy Instruments (PIs) to positively impact the regional utilization of a total of €22,500,000 for the benefit of the socio-economic sector (citizens & SMEs).

The extension of HoCare project was requested in the framework of IE's 5th Call for proposals to map the response of regional/national policies to the impact of COVID-19 crisis in the subject of the project (delivery of Innovative solutions for Home Care by strengthening quadruple-helix cooperation in regional innovation chains). As a result, the objectives set for this new initiative are:

- to further exchange experiences on the way the crisis impacts the issue addressed and on possible measures to face and recover from the crisis,
- to further improve regional development policies for better facing and faster recovering from this unprecedented situation.

Exchange of experience continues based on the flow of the HoCare project 1st Phase's activities to address the impact of the crisis on the topic of the project. To achieve this, a specific set of activities is planned to be implemented that (among others) includes the preparation of 1 regional report per PP to map the impact of the COVID-19 crisis on the project's subject.

B) OBJECTIVE

Through the present Regional Report information is collected from the region about a) the status of Home Care R&I and b) the status of quadruple-helix cooperation in R&I. The information included in Partners' Regional Reports as well as the identified Regional Good Practices will be the basis of the new exchange of experience process on the way the crisis impacts the issue addressed and on possible measures to face and recover from the crisis. Once again, the objective is to further improve regional development policies for better facing and faster recovering from this unprecedented situation.

C) METHODS / RESOURCES TO COLLECT INFORMATION FOR THE REPORT

- Meetings / Workshops with stakeholders
- Desk research
- Meetings / Workshops with the Managing Authority of your Policy Instrument
- Participation in regional events relevant to the subject
- Relevant recent reports, articles, strategies, or any other relevant document

D) TIPS & RECOMMENDATIONS: HOW TO PROPERLY FILL IN THE REPORT

- ✓ This report is a follow-up on the Regional Situation Analysis Report prepared by your organization during the implementation of the initial HoCare project (accessible at: https://www.interregeurope.eu/hocare/library/ in the folder entitled: "SEMESTER 2: WP3")
- ✓ Provide information to all questions (in the exceptional case of a not relevant question, or no available information, use "N/A")
- ✓ Be as specific as possible
- ✓ Provide as much quantitative information as possible
- ✓ Use references where required
- ✓ Be sure that the information you use is accurate and qualitative
- ✓ Respect the maximum limit for characters allowed per section
- ✓ The language of this report is English. Specific parts might be required to be filled-in in your national/regional language.

1) POLICY INSTRUMENT[1]

Please provide the information required for the Policy Instrument you identified, selected and used in the new HoCare Application Form in the framework of the IE 5th Call for proposals:

Name of the Policy Instrument addressed (in English)	Operational Programme for the Implementation of the EU Cohesion Policy in the Period 2014-2020
Name of the Policy Instrument addressed (in regional language)	Operativni program za izvajanje evropske kohezijske politike 2014-2020
Name of the relevant thematic Priority Axis (supporting R&I activities)	OP 2014-2020 contained 3 priority axes, which (in)directly refer to the care of the elderly and within these also specific priority investments. • Priority Axis 2: Increasing access to and use and quality of ICT Under Priority Investment 2.2 Strengthening ICT applications for e-government, e-learning, e-inclusion, e-culture and e-health all available resources have already been allocated. • Priority Axis 8: Promoting employment and transnational labor mobility Under Priority Investment 8.3 Active and Healthy Aging all available resources have already been allocated. • Priority Axis 9: Social Inclusion and Poverty Reduction Under Investment Priority 9.2: Promoting the availability of affordable, sustainable and high-quality services all available resources have already been allocated.
Specific objectives of the given Priority Axis	In this stage it is not possible to influence Operational Programme in the period 2014-2020 anymore, since new OP is almost prepared. The new policy is: Operational Programme for the Implementation of the EU Cohesion Policy 2021-2027; The Operational Programme 2021-2027 is not published yet and it is now in a preparation in the final stage. This belongs to Priority goal 1- Smarter Europe or maybe also Priority goal 4 - Social Europe and Priority investment 7: Sustainable, inclusive and quality system long-term care and health care, and ensuring a dignified life and inclusion for all.
Geographical Coverage (National, Regional, if other please explain)	National
Managing Authority	Ministry of Health
Is this the same Policy Instrument (PI) your organization addressed	No, since now it is the new period and it is impossible to influence the OP 2014-2021, so we will try to influence new OP.

[1] **Policy instrument**: a means for public intervention. It refers to any policy, strategy, or law developed by public authorities and applied on the ground in order to improve a specific territorial situation. In most cases, financial resources are associated with a policy instrument. However, an instrument can also sometimes refer to a legislative framework with no specific funding. In the context of Interreg Europe, operational programmes for Investment for Growth and Jobs as well as Cooperation Programmes from European Territorial Cooperation are considered to be policy instruments. Beyond EU cohesion policy, local, regional or national public authorities also develop their own policy instruments. https://www.interregeurope.eu/help/glossary/#index-P

during the implementation of the initial HoCare project? (Yes / No)	
If 'Yes', please explain why you have chosen to still address the same PI? (max. 1000 characters)	
If 'No', please explain why you have chosen to change your PI? (max. 1000 characters)	Not possible to influence OP 2014-2021 anymore.

+

2) OTHER RELEVANT POLICY INSTRUMENTS

Please provide information about any other relevant existing Policy Instrument(s) in your region (that support Home Care R&I and/or quadruple-helix cooperation)

Name of the Policy Instrument addressed (in English)	Local development strategy of LAG (Local Action Group) the Heart of Slovenia
Name of the Policy Instrument addressed (in regional language)	Strategija lokalnega razvoja za lokalno akcijsko skupino Srce Slovenije
Name of the relevant thematic Priority Axis (supporting R&I activities)	We will try to influence Local development strategy of LAG (Local Action Group) the Heart of Slovenia, since DCHS is the coordinator of LAG. Local development strategy of LAG Heart of Slovenia 2014-2022 was officially approved in August 2016. Originally foreseen until 2020, it has been prolonged for two years. LAG receives EAFRD and ERDF funding and has frequent opportunities for updates. For the period 2021-2022 all LAGs together received from 11 -12 mil EUR additional budget. Measure 19 – Support for LEADER local development (CLLD – community-led local development) is a tool for different local development projects that are implemented in the Heart of Slovenia area through LAG the Heart of Slovenia. DCHS is coordinator of LAG that involves 6 municipalities. In the current Strategy there are 2 (out of 4) thematic areas where innovative home care solutions could be addressed (but such solutions are still underrepresented): • the increase of the involvement of young people, women and other vulnerable groups in rural areas (1) • basic services in rural areas (2)
Specific objectives of the given Priority Axis	With HoCare additional activities, GPs recognized within the project and learnings partner could influence the goals of this instrument with new project proposal funded through the funds of LAG. Also it could provide further support and local development in the field of home care. One LAG

	project was just approved for the Heart of Slovenia area – »Points for elderly« where GPs on ICT solutions and services for home care are great added value for the sustainability of the project and the future funding possibilities. OBJECTIVES OF THEMATIC areas above: 1) • Improving the skills and competences of rural actors • Increasing the share of informal care for vulnerable target groups • Improving social capital • Improving working conditions for residents, especially vulnerable target groups 2) • Strengthening of local identity • Improving the marketing of the Heart of Slovenia tourist destination and increasing the diversification of tourism activities • Increasing local food self-sufficiency • Improving the quality of living • Improving the quality and number of local services It is being planned that in the second half of 2022, a tender will be published for the preparation of the new Local Development Strategy for the period 2021 – 2027 in which even greater emphasis could be placed on innovative home care solutions and especially encourage the economic sector to present new ICT solutions for home care. Namely the results of the last analysis show that micro and small companies are not as active as other stakeholders and do not provide as much project as it would be desirable.
Geographical Coverage (National, Regional, if other please explain)	Regional/Local
Managing Authority	General Assembly of LAG the Heart of Slovenia
Please explain why this Policy Instrument is relevant to Home Care R&I and/or quadruple-helix cooperation? (max. 1500 characters)	With HoCare additional activities, GPs recognized within the project and learnings partner could influence the goals of this instrument with new project proposal funded through the funds of LAG. Also it could provide further support and local development in the field of home care. One LAG project was just approved for the Heart of Slovenia area – »Points for elderly« where GPs on ICT solutions and services for home care are great added value for the sustainability of the project and the future funding possibilities.

*Please copy – paste the table above in case you would like to report any additional PIs

3) THE HOME CARE RESEARCH & INNOVATION ECOSYSTEM

Briefly describe the ecosystem in Home Care R&I in your region including the most significant main actors, infrastructure, resources, available public / private supporting services, networks, platforms and events) (max. 5000 characters)

Partnership agreement between Slovenia and the European Commission for the period 2021-2027 has been prepared in January 2021 and is still being coordinated between the 2 entities. One of the strategic orientations of Slovenia to achieve quality lives is also »an inclusive, healthy, safe and responsible society« and Slovenia has set up 2 main development goals to address this issue that are the basis for the formation of priorities and measures: **Goal 1** - **Healthy and active living** and **Goal 3 - A decent life for all**. The key challenge to maintaining quality of life in old age in Slovenia is the establishment of a uniform system of long-term care. We have set 10 key priority sets, which will be funded primarily (but not exclusively) from European funds – one of them is the development of a sustainable and inclusive long-term care system which addresses the 4th objective of EU policy: »A more social Europe - Implementation of the European pillar of rights« providing support for creation of quality employment, education, skills and knowledge, social inclusion and equal access to health care protection. The source of funding will be: European Social Fund, European Regional Development Fund, Recovery and Resiliance Fund and national funds.
Smart Specialization Strategy (S4) remains the basis for the implementation of European cohesion policy in the programming period 2021-2027. European rules provide for its renewal and consider it as a enabling condition for Policy Objective 1 "A smarter Europe by promoting innovative and smart economic transformation".
The current Slovenian S4 within the »**Strategic development innovation partnership Health – Medicine**« covers the area of active and healthy aging, thus addressing prevention, a healthy lifestyle, rehabilitation and extending the period of independence for the elderly.
Health – Medicine« has established a system for the transfer of knowledge between all involved actors, i.e. between companies, research and educational institutions and users of final solutions - hospitals, clinical centers, spas, doctors, medical staff, patients, users of services in spa tourism and others. Around 60 members are actively included in the » Health – Medicine« (tripple helix) but the civil society is directly included in their activities by educational, testing and other activities (quadruple helix).

In July 2020 the Multiannual Financial Framework for the period 2021 - 2027 and the Recovery Instrument »NextGenerationEU« was agreed on. The agreement brings extensive additional funds for Slovenia which will facilitate the recovery after the crisis of covid 19 and encourage investment in the green and digital transition. For Slovenia the »NextGenerationEU« instrument will provide 3 billion EUR.
One of 2 main priorities of the REACT EU instrument is health and social care (the second is green, digital and resilient recovery of the economy).
One of 4 main priorities of the RRI is Responsible Slovenia - country close to people that includes health, social security and long-term care and housing policy.
In June 2021 the Government of the Republic of Slovenia **approved the Long-term care Act** which also envisages, among other, the introduction of new services to strengthen and maintain independence of the elderly (strengthen the development, accessibility and accessibility of integrated care in the community (new services in the public network that will enable integrated treatment at the beneficiary's home), e-care and home health care.

ECOSYSTEM in home care R&I: Slovenia is lagging in ICT implementation and is still in infancy regarding the adoption of telehealth and telecare services, with only a few pilot interventions. Moreover, there is a lack of research that would empirically test the acceptability, usability and the benefits of ITC for the older chronic patients (OCPs) and informal carers (ICs). In the time of Covid-19 few research was done, also telemedicine as a solution gave great results.

Main actors: Telekom Ljubljana, Ministry of Health, Faculty of Social Science, Business sectors (stakeholders of Health.Day), ect.

Networks, platforms and events:

- **HealthDay.si:** a community of health and care stakeholders from Slovenia working towards an innovation friendly ecosystem. Goal is 5D2020 - 5 digital health solutions reimbursed by the health insurance companies in Slovenia by the end of 2020. HealthDay.si programme is made specifically with the aim to support SMEs and Midcaps in their digital transformation as well as enhance their role as agents of transformation of the whole Slovenian health and care system. They connect stakeholders, across clusters and sectors, identify specific needs for competencies development and internationalisation. In March 2020 there are just two digital health solution in clinical use being reimbursed by the Slovenian health insurance fund. With dialog and innovation their goal is to give their share to the reform of the Slovenian health and social care system.

What are the main changes/improvements in relation to what was described in the Regional Situation Analysis prepared in the framework of the initial HoCare project's implementation? (max. 3000 characters)

There are more pilot project/project/ research implementing on ICT solutions in Homecare.

One of the examples is the research "Use of telecare in older people: psychological effects and impact on physical activity" done by Faculty of Social Sciences. They conducted a 4-month mixed-methods intervention study with a purposive sample of 22 active older people and their relatives who used the service GoLiveClip. The survey consisted of multiple questionnaires at three different stages of the study. At the end of the intervention, semi-structured interviews were conducted and log data on steps have been recorded.

COVID19 - mobile teams for rehabilitation: Pilot project of Ministry of Health: provision of a rehabilitation program at the individual's home, with the goal of greater accessibility to rehabilitation services for the population of elderly people with mobility problems in cases of recovery from illness, surgery, injuries or the consequences of degenerative and cognitive age-related changes with the aim of achieving the highest possible level of health, well-being, ability self-care and active involvement in private and social life.

Also, after two decades of discussions and numerous drafts, Slovenia adopted the Long-Term Care Act in December 2021. The Act defines the rights and assessment mechanism for categories of care. It emphasizes community care, introducing e- care and some other services. This is the background of future national projects also pilot project E-care at home.

Which of these changes/improvements can be identified as an impact of the COVID-19 crisis or as measures the region applied to face and recover from the crisis? (max. 3000 characters)

Because of the Covid-19 they wanted to **approve the Long-term care Act** as soon as possible. It includes also the introduction of new services to strengthen and maintain independence of the elderly (strengthen the development, accessibility and accessibility of integrated care in the community (new services in the public network that will enable integrated treatment at the beneficiary's home), e-care and home health care. A lot of associations put out some solutions for elderly to better cope with the situation and improve their health. Ministry gave out a call for a service provider and project e-care is now implementing by Telekom.

New project at University medical Centre on telemedicine: For the telemedicine treatment of patients with the new coronavirus, they use a technological solution created within the Smart Integrated Healthcare and Care System project, which took place between 2016 and 2019. Seven partners, including UKC Ljubljana,

developed concepts of telemedicine monitoring of chronic diseases (among others for advanced heart failure and after heart transplantation).

4) MAIN REGIONAL ACTORS OF THE QUADRUPLE HELIX MODEL IN HOME CARE R&I

Please provide information about the main formal and informal providers, businesses & business supporting actors, research and public institutions acting in the sector of home health care in your region.

a) Citizens / users helix

Main formal + informal providers of healthcare, elderly care recipients / associations in Home Care R&I (Please list at least 6)		
Name (+ in local language in brackets)	**Website**	**Description of objectives and main activities** (max. 500 characters per line)
Social enterprise: Institute for Intergenerational Cooperation Symbiosis Genesis Ljubljana (Simbioza Genesis, socialno podjetje)	https://simbioza.eu/	It offers many group and individual non-formal education, which with tailored content and qualified lecturers dispels the fear of technology and leads older users in a friendly and professional way into the digital world. Computer and learning courses on smartphones and other smart devices are the most visited. Sustainable projects: • Simbioza btc city lab – innovative center • Simbioza school/ community Digital solutions: • ČVEKIFON – free phone line for elderly • MAGDA – mobile app for elderly
Association of the pensioner organizations (Zveza društev upokojencev Slovenije),	http://www.zdus-zveza.si/index.php?id=3&lang=en	The Union of Pensioners' Associations of Slovenia runs an extraordinary program named Seniors for Seniors which started in 2003. Slovenia has slowly recognized this program, which was in 2017 awarded by European Commision. In the period of prohibition of physical visits, our volunteers has made more than 60.000

		phone calls or send text messages, produced 35.000 masks, organized several On-Line workshops of exercise to maintain health and better well-being... They are a partner in the project e-Care, with coordinator Telekom Slovenije. Project is funded by European Social Fund and Ministry of Health through Long-term care Act.
Association Pristan (Zavod Pristan)	http://www.pristan.si/	Is a private institution that deals with several social welfare services.
Home care association Ljubljana (Zavod za oskrbo na domu Ljubljana),	http://www.zod-lj.si/	Association fo Home Care
Association Comett (Zavod Comett)	http://www.comett-zavod.si/	Help and Home Care
Institute Oreli (Zavod Oreli)	https://www.kamnik-starejsi.si/zavod-oreli/	It is Institute for social support, counseling, research and education for the elderly, persons with disabilities, young people and other population groups. It was established in 2010. They are promoting the development and professionalization of volunteer groups and self-help groups. At the Institute, they ensure that the voluntary is spread among all generations, which is already visible in the development of innovative intergenerational volunteering and ICT based systems to assist the elderly in one of the Slovenian municipalities.
Home Care Centre Little Prince (Center za pomoč na domu mali princ)	https://www.odu-koper.si/	HELP CENTER AT THE LITTLE PRINCE HOME The Little Prince Home Help Center (hereinafter CPD Little Prince) provides remote assistance and support to the elderly in their home environment. Collaborators in the program try to help both the elderly and relatives who find themselves in need due to the fast pace of life, in order to properly care for elderly parents, relatives and friends. CPD Little Prince offers two social welfare services of the social service, namely remote security at the user's home called Red Key and the service of monitoring users after urgent tasks and the company called Vitica.

HealthDay.si	http://www.healthday.si/about-us-and-dih	It is a community of health and care stakeholders from Slovenia working towards an innovation friendly ecosystem.

*Please add new lines in case you would like to report any additional actors

b) Business helix

Main businesses and business' supporting actors in Home Care R&I? (Please list at least 6)		
Name (+ in local language in brackets)	**Website**	**Description of innovative solutions provided in the field** (max. 500 characters per line)
Caretronic d.o.o.	https://caretronic.com/	Solutions for Hospitals and Nursing homes, telecare, R&D custom solutions
Telekom Slovenije (Telekom Slovenia)	https://www.telekom.si/zasebni-uporabniki/ponudba/e-oskrba-redna-ponudba?gclid=Cj0KCQjwqPGUBhDwARIsANNwjV4zhcYRozFp2TTVSztja5HxsJpxvaSSxYZik-7BEfn3xCa6DnIPw3caAsIHEALw_wcB	Telekom Slovenije is national telecommunications operator in Slovenia and is also provider of comprehensive ICT services with focus on development and introduction of new technologies (IoT, 5G...) Integrated health and care solutions enabled by innovative ICT solutions: - E-CARE, E-Health
Smart Com	http://www.smart-com.si/	SME dedicated to develop new technologies and solutions. They have developed and integrated sensor technology with alarm-messaging system to provide medical-nursing staff monitoring patient/resident activities, such as restlessness, fall out of bed, vital signs, and unexpectedly leaving the bed (longer than the prescribed time).
SRC Infonet	https://www.infonet.si/en/	SRC Infonet is a company with more than a 30-year tradition of active role in informatization of the Slovenian healthcare system. It brings together 90 experts from mathematics, computer and informatics science, who successfully combine their knowledge and experience in the field of healthcare informatics with fresh, original ideas and modern information technologies and standards. The results are the company's continuous growth and its leading position among providers of healthcare software in Slovenia.
Cosylab	https://www.cosylab.com/	Cosylab enables medical device manufacturers to bring their devices to life faster, with lower risks, and offer the

		best technology for cancer treatment. To learn more, visit https://radiotherapy.cosylab.com/.
MKS Electronics Systems (Elektronski sistemi d.o.o.)	https://www.mks.si/eng/	Project United4Health (UNIted solution in TElemedicine Deployment for(4) European HEALTH care and GP Cezar MKS is a SME specialized in telecare solutions for frail and disabled people living at home who need additional support for their independent living. Its activities include aspects such as establishing telecare networks to provide telecare services, system integration and implementation of new technological solutions, R&D with a special emphasis on elderly people. MKS has been (the largest) telecare technology and equipment provider Slovenia since 1991 (Tunstall products).

*Please add new lines in case you would like to report any additional actors

c) Research helix

Main research actors in Home Care R&I? (Please list at least 6)		
Name (+ in local language in brackets)	**Website**	**Description of relevant research activities** (max. 500 characters per line)
University of Ljubljana, Faculty of Social Sciences (Univerza v Ljubljani, Fakulteta za družbene vede)	http://www.fdv.uni-lj.si/en/home	The Centre for Social Informatics (CSI) was established in 2011 at the Faculty of Social Sciences and currently includes 22 researchers as required by the complexity of Internet society research. CSI activities refer to the area of social informatics, a discipline dealing with the role of information and communication technology (ICT) in contemporary society. The research projects at CSI are related to web survey methodology and the use of digital technology in social science data collection in general, safe use of the Internet, social media, digital inequality, web and mobile usability etc. They have been involved into several projects tackling elderly issues.
Anton Trstenjak Institute of gerontology and intergenerational relations (Inštitut Antona Trstenjaka),	http://www.inst-antonatrstenjaka.si/old/eng/	It is the Slovenian national scientific and expert institution within gerontology and good intergenerational relations field in Slovenia. The institute was founded by few experts as private individuals, Slovenian Academy of Sciences and Art in 1992 and in 2004 by the Government of the Republic of

		Slovenia. They have developed original programmes for informing the communities on the possibilities for quality ageing, preparation on the old age and better intergenerational communication, local self-organisation of the intergenerational network for quality ageing and good intergenerational relations.
Faculty of Medicine (Medicinska fakulteta)	https://www.mf.uni-lj.si/en_GB	Faculty of Medicine carries out research activities in the field of medical sciences within the framework of departments, institutes and centers in domestic, European and other international scientific projects.
Faculty of Electrical Engineering (Fakulteta za elektrotehniko)	http://www.fe.uni-lj.si/en/	The faculty department (LTFE) works as an incubator for people, knowledge and ideas in the field of telecommunications and related sciences such as multimedia, informatics, computer science and electrical engineering. They cover several interdiscplinary fields touching home care challenges, such as: ICT for improving health care and empowering people with disabilities, Interactive multimedia systems on different devices; User experience and user interface design.
UNIVERSITY MEDICAL CENTRE LJUBLJANA (Univerzitetni klinični center Ljubljana)	https://www.kclj.si/	Research department works also on ICT services for Elderly. Telemedicine treatment of patients with new coronavirus – Telemedicine Centre
Institute Jožef Stefan (Inštitut Jožef Stefan),	https://www.ijs.si/ijsw/IJS	The Institute was founded in 1949 and is the biggest institute in Slovenia. The basic goals of the Institute are to provide expert scientific and applied output in the form of processes, products and consultancy, and to produce well-trained young scientists. Inteligent systems department is deeply involved into research of assistive tehnologies for elderly. They have been involved in several research and applied project in this field.

*Please add new lines in case you would like to report any additional actors

d) Public institutions / government helix

Main public actors in Home Care R&I (Please list at least 6)		
Name (+ in local language in brackets)	**Website**	**Description of relevant activities** (max. 500 characters per line)

Ministry of Health (Ministrstvo za zdravje)	Ministry of Health | GOV.SI	It is endeavoring to strengthen the public health-care system to provide the citizens with quick and high-quality health-care services. They are responsible for set up e-health system and evolve patronage service system.
Ministry of labour, family, social affairs and equal opportunities (Ministrstvo za delo, družino, socialne zadeve in enake možnosti),	http://www.mddsz.gov.si/en/	The work of it encompasses the following areas linked to home care: pension and disability insurance, social assistance to individuals, families and groups at threat and care for people that cannot do so themselves. They are setting the framework for the social system; however, there is still not clear guideline, who should set up act on long-term care. Responsibility for home care is split with Ministry of Health.
Health insurance institute of Slovenia (Zavod za zdravstveno zavarovanje Slovenije),	http://www.zzzs.si/indexeng.html	It conducts its business as a public institute, bound by statute to provide compulsory health insurance. Its principal task is to provide effective collection and distribution of public funds, in order to ensure the insured persons quality rights arising from the said funds. The benefits basket arising from compulsory health insurance, comprise the rights to health care services and rights to several financial benefits.
National institute for public health (Nacionalni inštitut za javno zdravje), http://www.nijz.si/en	http://www.nijz.si/en	It is a government agency accountable and responsible for public health promotion at the national level. It is interested in Food Policy, Health Impact Assessment, Health Systems, Mental Health, Nutrition, Physical Activity and Tobacco. One of the main activities is research and promotion through EU and national cofounding projects.
Ministry of economic development and technology (Ministrstvo z gospodarski razvoj in tehnologijo), http://www.mgrt.gov.si/si/	http://www.mgrt.gov.si/si/	Directly is not involved into home care activities in Slovenia. However, it is running several general schemes to enable growth potential of the SME.
Ministry of public administration	http://www.mju.gov.si/en/	It is responsible for the ICT in the government and public institutions.

(Ministrstvo za javno upravo)		They are also managing authority for the AAL programs.
Government Office for Development and European Cohesion Policy (Služba vlade republike Slovenije za razvoj in Evropsko kohezijsko politico)	https://www.gov.si/en/state-authorities/government-offices/government-office-for-development-and-european-cohesion-policy/	Responsible for OP

*Please add new lines in case you would like to report any additional actors

Briefly describe the main changes to the main actors' synthesis in relation to what was described in the Regional Situation Analysis prepared in the framework of the initial HoCare project's implementation and their relevance to the COVID-19 crisis impact (max. 2000 characters)
The main actors did not significantly change. There are some companies added, because they were providing solutions during Covid-19.

5) MAIN INNOVATIVE REGIONAL PROJECTS / RESEARCH INITIATIVES IN THE SECTOR OF HOME HEALTH CARE

Please provide information about significant projects or research initiatives in Home Care R&I implemented in the last two years (2020-2021). Please give emphasis to projects / research actions initiated as an impact of the COVID-19 crisis or as a response to face and recover from the pandemic's unprecedented situation.

Name of the Project / Research Initiative	**Centre for Telehealth (CEZAR) at the General Hospital Slovenj Gradec (Slovenia)**
Short description (main objectives, main actions) (max. 1000 characters)	Telemedicine support to patients with chronic diseases for better long-term control at home. Prolonged medical care for the ageing society, the costs for managing chronic diseases, and the citizens' increased demands are major factors that contribute to the complexity problem of delivering quality healthcare. TM services for chronic patient care are becoming very important for patients in the self-management of their chronic conditions in their home environment.TM service for patients with long-term care conditions staying at home is offered by the Centre for Telehealth (CEZAR) at the General Hospital Slovenj Gradec, Carinthia. The Centre and the services were developed form the European R&D project UNITED4HEALTH. CEZAR offers TM support to patients with heart failure (HF) and/or diabetes mellitus type 2(DM2) in their home environment. Patients perform daily measurements of their blood pressure, heart rate, body weight, and oxygenation or blood sugar following

	the recommendation of their specialist regarding the time and frequency of measurements. Data from measuring device are immediately automatically sent to the gateway (mobile phone) and then further to the TM server at the GH-SG. When deteriorated condition is confirmed, the patient is contacted by phone and the specialist decides on the action to be taken by the patient. Later the CEZAR centre coordinator advises the patient on the doctor's decision. Stakeholders/beneficiaries are patients with chronic conditions, healthcare staff, relatives/carers, health insurance institute, healthcare policy system.
Participating Organizations	
Does the Project / Research Initiative promote the Quadruple-Helix Approach? If yes, please explain how. (max. 1000 characters)	No.
Total budget and source of funding	For the service set-up 450.000 EUR was invested, partially from EU project UNITED4HEALTH. Personnel running TM: 1 project manager, 2 Medical specialists, 1 nurse, 1 informatician, 0,2 technician The service is free for the patients and is not yet reimbursed by the health insurance.
Main results of the activities (max. 1000 characters)	TM service has proven to be effective in providing support to DM2 and HF patients. Hospitalisation rate and duration were reduced by 70% in HF patients. A survey (363 patients) confirmed that the TM service is adequate, the technology acceptable, and the organisation of the service effective. This was prooved during the COVID-19 restrictions when standard support was cancelled but not TM. AWARDS: the Best innovation of Carinthia (2016) & Silver award for innovation (Chamber of Commerce, 2017).
Website / Link or contact details for more information	file:///C:/Users/AnitaM/Downloads/1553-Manuscript-7211-1-10-20170202.pdf
Please explain the relevance of this Project / Research Initiative with the impact of the COVID-19 crisis (max. 1000 characters)	CEZAR is a good example of a project which was successfully continued after the end of the funding period (UNITED4HEALTH project). So far, over 440.000 measurements were sent by the patients, what resulted in over 1.200 therapy changes. The CEZAR's success and its potential to be implemented as a home telemedicine solution in other (Slovenian and EU) regions can be supported by empirical data: - In the cohort of 134 HF patients, the participation in CEZAR resulted in 77% decrease in number of hospitalization day, and 70% decrease in the number of (re)admissions to the hospital. Both bring a significant reduction in the care costs. - Survey on TM acceptance and perception among 363 users revealed high overall satisfaction with service and equipment, and likelihood of recommendation of TM services to other patients with same type of disease. It has been shown that peer recommendation can significantly contribute to the acceptance of new service among non-users.

Name of the Project / Research Initiative	**"E-care at home" services**
Short description (main objectives, main actions) (max. 1000 characters)	The subject of the project is the promotion and co-financing of e-care services in support of independent and safe living at home for adults, especially people aged 65 and over, who due to illness, age-related weakness, injury, disability, lack or loss of intellectual ability self-care is limited or they spend most of the day alone and do not benefit from all-day forms of institutional care. E-care services are remote services to ensure the independence and security of the individual in the home environment and aids that enable the provision of remote services (e-care). The project will provide free use of e-care for 5,000 e-care beneficiaries who meet the requirements of the public tender regarding eligibility. Beneficiaries of e-care are persons who will sign a written statement that: • they have been recognized as disabled in accordance with the regulations in the field of disability and pension insurance, or • in accordance with the regulations in the field of disability and pension insurance, receives an allowance for assistance and care, or • are 18 years of age or older and are at risk of falling due to neurological or neuromuscular disorders or are exposed to various adverse events in the environment due to cognitive decline in dementia, or • due to associated chronic non-communicable diseases belong to vulnerable groups in the case of coronavirus disease or • they are 65 years of age or older and live most of the day alone. In the public tender, the company Telekom Slovenije d.d. was selected as the beneficiary and contractor, which will implement the project "E-care at home", together with the consortium partner Association of Pensioners' Associations of Slovenia until September 2023. Project duration: 1. 4. 2022 do 30. 9. 2023
Participating Organizations	Telekom Slovenije, Association of Pensioners' of Slovenia, Ministry of Health
Does the Project / Research Initiative promote the Quadruple-Helix Approach? If yes, please explain how. (max. 1000 characters)	Yes, all 4 actors are included (users, business, government and Academia)
Total budget and source of funding	2.999.894,26 EUR, European Social Fund, Ministry of Health
Main results of the activities (max. 1000 characters)	The public tender will enable the strengthening of independence, security and higher quality of life of persons whose self-sufficiency is limited due to illness, old age, injuries, disabilities, lack or loss of intellectual abilities, or who spend most of the day alone and analysis of e-care needs. assessment of the efficiency of e-care services, satisfaction of users or their relatives and thus planning systemic solutions for providing e-care to various vulnerable groups of the population even before entering long-term care.

Website / Link or contact details for more information	https://www.gov.si/zbirke/projekti-in-programi/e-oskrba-na-domu/ e-mail : eoskrba@telekom.si
Please explain the relevance of this Project / Research Initiative with the impact of the COVID-19 crisis (max. 1000 characters)	GP answers the impact of Covid-19, since the project is about E-care services are remote services to ensure the independence and security of the individual in the home environment and aids that enable the provision of remote services.

Name of the Project / Research Initiative	**Reseach Initiative: Understanding and analysis of users' needs for the development of e-services for integrated social and health care in the aging society**
Short description (main objectives, main actions) (max. 1000 characters)	This project builds on (1) evidence-based state-of-the-art research on ITCs and on (2) currently available ready-to-market telecare and telehealth products. Three strands of services, implemented by the co-funding organization, was investigated: sensor-based telecare service, telehealth service and ICT. The project contributed to the long-term acceptance and facilitation of new avenues for cost-effective deployment of ICT. The project addresses an overarching research question on how telecare and telehealth services should be designed and delivered within health and social care to implement ICT in a way that is accepted by and beneficial for OCPs and ICs. To answer this question, the project will: • evaluate – using a comprehensive mixed-method user-centred approach the complex needs, user experience, acceptability factors and psychological outcomes related to ITC uptake among different OCPs and ICs with the primary objective of engaging and empowering the OCPs and ICs; • develop personas and a segmentation model that will enable different stakeholders and end-users to select the most optimal and personalised set of ICT, that reflects OCPs' and ICs' needs and characteristics; • design a set of guidelines for different stakeholders regarding how to foster acceptance of ITC across different stages of adoption from the user experience perspective. This project makes significant contributions by: • Developing innovative acceptance models and models of psychological and health outcomes of the use of ITC for OCPs and ICs. This approach will result in an understanding of OCPs' and ICs' needs, abilities, social support, motivations, values and usefulness of ITC, which are relevant for leveraging the acceptance and benefits of ITC. The findings will result in new design and deployment guidelines for ITC. • Testing ready-to-market telecare and telehealth services to strengthen the applied foundation of ITC research. By evaluating ITC from the end-users' perspective using a novel integrated assessment

	framework, the project will support policy makers, service providers and end-users regarding their choices in the allocation of limited resources. • Validating the results with intense involvement of end-users (OCPs, ICs) not only within laboratory settings but also with an intervention study conducted in real-life settings. This will give better insight into how ITC can provide positive outcomes to its users. The project brings together over two decades of internationally recognized interdisciplinary research by the project team and its experience with large-scale international projects (FP5-7, H2020, Erasmus+, Interreg), as well as R&D in the area of chronic disease management, long-term care, assistive services, mobile applications for older people and telecare and telehealth interventions. The quality and feasibility of the project is assured by the strong involvement of excellent foreign scholars, ITC programme managers and practitioners who all have long-standing cooperation with the project team members. Two key ICT stakeholders in Slovenia are involved: University Medical Centre Ljubljana, the largest hospital in Slovenia, and Telekom Slovenije, which is a leading telecommunications service provider in Slovenia that offers ICT aging-in-place solutions to the Slovenian market.
Participating Organizations	University of Ljubljana, Faculty of Social Sciences, Telekom Slovenije d.d., University Medical Centre Ljubljana
Does the Project / Research Initiative promote the Quadruple-Helix Approach? If yes, please explain how. (max. 1000 characters)	No.
Total budget and source of funding	0,37 FTE | 2018 (yearly) Funded by Public Research Agency of the Republic of Slovenia and Telekom Slovenije
Main results of the activities (max. 1000 characters)	**Psychological outcomes of eCare technologies use for informal carers** The study aims to provide and overview of the psychological outcomes of eCare technologies use for informal carers, since little is known about it. A scoping study was done, which included peer-reviewed articles written in English and included 16 studies published after 2013. Six psychological outcomes were identified (peace of mind, reassurance, anxiety, depression, stress and burden). Of these, the positive outcomes of using eCare technologies on informal carers were mentioned 37 times and the negative outcomes were mentioned only eight times, indicating the prevalent positive outcomes of the use of eCare technologies for informal carers. The outlined interplay between the positive and negative psychological outcomes suggests that the use of eCare technologies in informal care warrants further research, for instance whether the eCare technologies actually fulfil older people and informal carers' needs. The study sheds light on the introduction of integrated technology-based care (ITC) from the perspective of some of the significant psychological outcomes of such technological solutions on home users, which also served as an important theoretical framework for the design of the intervention study plan as well as for preparation of appropriate

methodological instruments for the survey monitoring of the study itself within the family practice (primary level healthcare institution).

Improving the measurement of older adults' mobile device proficiency

Mobile technologies represent a great opportunity to accelerate the integration of older adults into the digital society and at the same time require a high level of digital literacy and skills to be fully usable for end users. Valid measurement scales are needed to study and design effective measures designed to increase the involvement of older adults with smart and mobile technologies to assess user's abilities. The study deals with validation of the Mobile Device Proficiency Questionnaire (MDPQ) developed by Prof. Dr. Boot (Florida State University), for self-assessment of eight dimensions of skills needed to effectively manage mobile devices (smartphones, smart watches, smartphones, tablets) based on a sample of elderly smart phone users over 60 years of age. Results suggest that modifications may be necessary for the MDPQ to serve as a valid and reliable measure of proficiency among older adult smartphone users. At the same time, the results indicate that the value of MDPQ based assessments successfully predicts participant's performance results on usability tests, thus confirming the appropriate predictive validity of MDPQ. The research is an important methodological basis for the preparation of the research plan for the intervention study, as it highlights some of the key user experience factors in the use of mobile devices among the older adults in the literature review and results.

Predictors of seniors' interest in assistive applications on smartphones

Assistive applications (apps) on smartphones or tablets could contribute to a better quality of life for seniors or chronic patients living independently at home. The Cycle of Technology Acquirement by Independent-Living Seniors (C-TAILS) model was recently proposed for studying the interplay between acceptance factors by integrating the personal, social and technological domains of seniors' daily lives. The presented study aimed to explore how four groups of factors, clustered in accordance with the C-TAILS model, predicts seniors' interest in assistive apps, on a representative sample of Slovenian population aged 55 years or older – 617 respondents, contacted via telephone survey. Three linear regression models were used to analyse the association between the acceptance factors and the interest of the seniors in assistive technologies. Smartphone-related dispositional traits were the strongest predictors across all three models. Among mobile phone usage patterns, smartphone use and the breath of mobile phone features were significant factors, while the significance of seniors' personal characteristics and socio-economic conditions varied across the models. These factors play different roles in the adoption of assistive apps, which should be taken into an account when introducing such apps among seniors, which was the basis for setting a theoretical model for examining the ITC user experience in the intervention study.

The importance of patients UX with a telehealth system for their evaluation of its psychosocial impacts, workshop with dr. Walter Boot

	At the end of data collection in the intervention study (IS), on 22.11.2019, a workshop was organized in accordance with project activities in WP1.1 (establishment of the Scientific Council) and WP5.2 (dissemination) which covered various ITC topics and aspects (presentations of projects carried out on behalf of CSI on the topic of ICT and aging). At the event, to which various stakeholders were invited (scientific and research communities, interested parties), the project research plan and preliminary results of the first wave of IS were presented in detail, as well as the planned steps for the qualitative part of IS. The event was attended by a member of the project's scientific council, Dr. Walter Boot, who also gave three presentations on videogames and the elderly. The results showed which types of games the elderly preferred, what feelings the game needs to invoke to get them to play, and what matters most in regards to games. During the event, a substantive (internal) audit and evaluation of the project was done and future steps were outlined. In discussion with the participating researchers, dr. Boot confirmed the results and provided suggestions on how to strengthen the scientific and applied value of the project results and milestones (in terms of analysis, directions for qualitative research and preparation of articles for dissemination). In collaboration, an article was accepted at one of the most important ITC related conferences: ISG 2020 (Trondheim, Norway). **Patients' user experience with a telehealth system and their evaluation of its psychosocial impacts; workshop with dr. Sakari Taipale** Dr. Sakari Taipale is a member of Centre for Social Informatics (FSS-UL), where he is engaged in research activities in the field of ICT and aging. He is involved in the project as a member of the Scientific Council (WP1.1). His extensive experience in the field of social and public policy at University of Jyvaskyla, where he works within the Centre of Excellence in Research on Ageing and Care (CoE AgeCare) as coordinator of the »New technologies, ageing and care« work group, is of great importance for the substantive evaluation of project work. In the beginning of December 2019 we organised a workshop, in line with international project activities, to which all project partners and key stakeholders were invited (as planned in WP5.2). Dr. Taipale was presented with the workflow on the project (introductory theoretical reviews, research plan, implementation and data collection in intervention study and preliminary results). In substantive review of the project, we found that our decisions were considered reasonable and optimal; however, attention to the proper implementation of the qualitative study should be paid in the future, which will highlight the open questions from the perspective of telemedicine acceptability on the part of patients and the medical health care staff. Consultations on the possibility of participation in similar project were done and information on the possibilities of the dissemination of the project and its results at relevant events was obtained. **International knowledge exchange (Slovenia-Great Britain): the role of usability and acceptability in telehealth system use** An exchange study visit with the NHS (Liverpool) and members of the project team was organized in collaboration with the Ithaca project, in line with international project activities (WP5.2). Both research groups focus on the use of new technologies that allow remote measurement of vital signs and provide relevant information and support to ease the management of the disease for

	patients. In Slovenia, tertiary level (hospital support) is at forefront, while Liverpool partners have extensive experience with eHealth in the community setting. This provides an excellent basis for sharing knowledge of decision makers, doctors, developers of new technologies, etc. The 9-member delegation visit was organized together with UKC Ljubljana and took place on 16.12.2019 in Ljubljana. Various contexts of long-term care and e-health, aspects of smart technologies in the field of health and social care and a national review of telemedicine in Slovenia were discussed at the event. As part of the event, preliminary results of IS in Trebnje health center were presented by Dr. V. Dolinčar, with emphasis on the role of usability and acceptability of telemedicine among users. Thus, an important aspect of international dissemination was carried out and professional feedback and in-depth insight into understanding the functioning and deployment of such systems was gained. Wide media attention was received by the event being reported by RTV Slovenia, Večer, 24ur.com, Delo, Siol.net among others.
Website / Link or contact details for more information	http://www.sicris.si/public/jqm/prj.aspx?lang=eng&opdescr=&opt=2&subopt=400&code1=&code2=&psize=10&hits=1&page=1&count=&search_term=L5-9337&id=17385&slng=&order_by=
Please explain the relevance of this Project / Research Initiative with the impact of the COVID-19 crisis (max. 1000 characters)	The research initiative is relevant to Covid-19 impact. The proposed R&D activities can have a direct impact on effective chronic disease management and on lowering the burden of (in)formal carers, enhancing existing integrated health and care models, and optimizing the economic viability on the health and social security system by complementing their functions. Considering the current lack of research on ITC the empirical evidence of how to establish ITC in care pathways will hopefully also boost new policy initiatives that have been strongly advocated on the EU level but scarcely implemented in Slovenia.

Name of the Project / Research Initiative	Research Initiative: **Use of telecare among older people: psychological effects and impact on physical activity**
Short description (main objectives, main actions) (max. 1000 characters)	Introduction: Smart technologies can help maintain and improve health, and they can help control disease. The aim of this study was to investigate the effects of using a telecare system that includes wearable activity tracker on active older people in Slovenia. Mehods: They conducted a 4-month mixed-methods intervention study with a purposive sample of 22 active older people and their relatives who used the service GoLiveClip. The survey consisted of multiple questionnaires at three different stages of the study. At the end of the intervention, semi-structured interviews were conducted and log data on steps have been recorded. Quantitative data were analysed in SPSS 21.0; qualitative data were analysed using Atlas.ti 9. https://www.goliveclip.eu Goals: - Implementation of the 1st nationally representative study among family caregivers of the elderly (find out the supply situation, acceptance factors) - Implementation of an intervention study using TPO among elderly people and their relatives (find out the effects of use on older people in real life) - To develop an original model of technologically supported services acceptance among family caregivers of older people.

Participating Organizations	University of Ljubljana, Faculty of Social Sciences
Does the Project / Research Initiative promote the Quadruple-Helix Approach? If yes, please explain how. (max. 1000 characters)	No.
Total budget and source of funding	Funded by Slovenian Research Agency, project from: 1.7. 2019 -30.6. 2022 Budget: The value of the project is 300.000 EUR (100k per year, the project lasts 3 years or is now in its 4th year, the last year is without funding). However, several activities were carried out within this project, and this intervention study with GLC was one of the most important.
Main results of the activities (max. 1000 characters)	Results: For older users who completed testing, we found a small increase in the number of steps. The main positive effects of using the tested service were encouragement to be more physically active, awareness of its importance, and a greater sense of security. These effects were particularly pronounced among users who had no prior experience with activity trackers. The negative effect of use was an increased sense of burden. Some users also indicated that using the system had no impact on their lives. Discussion: The study identifies both positive and negative effects of use. The diversity of experiences is most likely due to the incompatibility of some types of smartphones with the tested service and the need to carry a smartphone. The tested service, with activity tracker and security features, could be suitable for a wide range of users. However, technical issues make it difficult to draw conclusions about its usefulness. From the results, we can only conclude that it is not suitable for people who are not skilled in using a smartphone. Users saw potential in the service, but only if the technical problems were solved.
Website / Link or contact details for more information	Simona.Hvalic-Touzery@fdv.uni-lj.si
Please explain the relevance of this Project / Research Initiative with the impact of the COVID-19 crisis (max. 1000 characters)	The research initiative is relevant to Covid-19 impact, since here we talk about smart technologies, that can help maintain and improve health, and they can help control disease. The aim of this study was to investigate the effects of using a telecare system that includes wearable activity tracker on active older people in Slovenia.

6) EXPECTED RESULTS FROM THE EXCHANGE OF EXPERIENCE PROCESS WITH THE HOCARE PARTNERSHIP

Please provide information about potential improvements you would suggest for your Policy Instrument. What kind of information (Management of the Policy Instrument methods, Strategic Focus of the Policy Instrument or New Projects to be implemented through financing from the Policy Instrument) would you be interested to learn from the other HoCare participating regions? (max. 5000)

Good practices recognized among the partners from HoCare, tackling Covid-19 crisis, could give added value to what Slovenia is trying to achieve. E-care is a part of the Long-term care Act and Ministry of health wish to learn from good practices on that and learn from other experiences.

With HoCare additional activities, GPs recognized within the project and learnings, partner could influence the goals of this instrument (LAG Strategy) with new project proposal funded through the funds of LAG. Also it could provide further support and local development in the field of home care. One LAG project was just approved for the Heart of Slovenia area – »Points for elderly« where GPs on ICT solutions and services for home care are great added value for the sustainability of the project and the future funding possibilities.

7) OTHER INFORMATION

Please provide any further information you consider relevant to this report (max. 5000 characters)

8) AUTHOR

The information included in this report is provided in the framework of the HoCare project's additional activities implemented under the Interreg Europe 5th Call for proposals.

Country	Slovenia
Region	Western Slovenia
Partner Organization	Development Centre of the Heart of Slovenia
Person(s) Contributed with provision of information to this Report	Anita Molka, Mojca Štepic
Contact Person	Anita Molka
Contact Details of the Contact Person (email and telephone number)	Anita.molka@razvoj.si 00386 18962 710