



# INNOVATIONS IN HOME CARE – BRINGING INNOVATIVE HOME CARE SOLUTIONS QUICKER TO THE MARKET BY USING QUADRUPLE-HELIX APPROACH

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JOINT THEMATIC POLICY TRANSFER REPORT



European Union  
European Regional  
Development Fund

## 1. AIM AND TARGET GROUP OF THIS JOINT THEMATIC POLICY TRANSFER REPORT

The present Joint Thematic Policy Transfer Report - BRINGING INNOVATIVE HOME CARE SOLUTIONS QUICKER TO THE MARKET BY USING QUADRUPLE-HELIX APPROACH - summarizes the Interreg Europe HoCare project expert's panel comments and work group results towards the Overall Regional Situation Analysis in Home Care R&I and quadruple-helix cooperation in R&I elaborated in each partner's area. Two more Joint Thematic Policy Transfer Reports have been developed and published (with focus on unmet needs identified by formal and informal healthcare providers and faster delivery of innovations via quadruple-helix cooperation respectively). The three Joint Thematic Policy Transfer Reports are elaborated based on the information included in the three respective Joint Thematic Studies. More information about the other two Joint Thematic Policy Transfer Reports as well as the three Joint Thematic Studies is available on the HoCare project's website ([www.interregeurope.eu/hocare/](http://www.interregeurope.eu/hocare/)).

Thus, this Report aims at further developing matches between identified Good Practices (GP) and addressed Structural Funds' (SF) Policy Instruments (PI) by all project partners. The report constitutes the source from which the Action Plans for each partner's region will be derived.

This Joint Thematic Policy Transfer Report includes the following information:

- 1) Link to the respective Joint Thematic Study - common challenges and GPs identified in project partners' areas (Cyprus, Slovenia, Bulgaria, Lithuania, Hungary, Portugal-Madeira, Czech Republic and Romania),
- 2) Key needs identified and suggestions to improve each selected Policy Instrument per partner area,
- 3) Policy Transfer Matrix, production and SWOT analysis of transferring scenarios.

This Report is developed primarily for organizations throughout the European Union such as stakeholders outside of the HoCare project partnership, Managing Authorities of SF Operational Programmes supporting Research & Innovation, international, national, regional and local stakeholders influencing SF Operational Programmes, or institutions involved or interested in being financed for their research and innovation projects in home care.

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## **2. LINK TO JOINT THEMATIC STUDY: INNOVATIONS IN HOME CARE - BRINGING INNOVATIVE HOME CARE SOLUTIONS QUICKER TO THE MARKET BY USING QUADRUPLE-HELIX APPROACH**

### **2.1 Introduction**

Interreg Europe HoCare project (PGI01388, <https://www.interregeurope.eu/hocare/>) tackles the challenge of ageing population and the related opportunity for new potential innovations in home care. It's overall objective is to boost generation of innovative Home Care solutions in regional innovation chains by strengthening of cooperation of actors in regional innovation ecosystems using Quadruple-helix approach.

The Joint Thematic Study under the title "Innovations in Home Care - Bringing innovative home care solutions quicker to the market by using quadruple-helix approach" describes, summarises, identifies and analyses transferable knowledge gathered by the HoCare project partners under the above mentioned specific field. The Study includes the following key transferable information:

- 1) Description of current situations in project partners' countries (Cyprus, Slovenia, Bulgaria, Lithuania, Hungary, Portugal-Madeira, the Czech Republic and Romania) regarding
  - a. Quadruple-helix cooperation usage in innovation projects,
  - b. Support from Operational Programme and Managing Authorities for using quadruple-helix cooperation for market successful innovations.
- 2) Summary of common problems and challenges in generating new innovations,
- 3) Identification and analysis of selected good practices of financed projects and of Operational Programme strategic focus or management practices gathered through the HoCare project's exchange of experience process.

The present Joint Thematic Policy Transfer Report under the same title/topic enables the HoCare project partners to move one step further in the process of exchange of experience. This is achieved through matching the needs of the addressed Policy Instruments<sup>1</sup> described in the Joint Thematic Study with the various Good Practices identified by the HoCare project partners.

### **2.2 Current Situation in partners' areas - common challenges**

In Cyprus, the quadruple-helix approach is a new term introduced in the Cypriot society. Actors from the citizens' / users' helix are not clearly aware of this method of cooperation,

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<sup>1</sup> Structural Funds Operational Programs in partners' countries/regions identified in the HoCare project Application Form

however, when dealing or discussing matters in regard to R&I production or cooperation, they seek cooperation with actors from all other helixes for different reasons:

- the need for funding; therefore, they mostly contact the public or the business sector,
- the need for using specialized know-how or knowledge for a specific matter; they mostly seek cooperation with academia or research actors.

There are almost no cases in which they put forward a plan or cooperation with all helixes at the same time or for the same objective.

The Smart Specialization Strategy of Cyprus (S3CY) foresees (in Primary Objectives, Priority Sectors and in Policy Mix) several elements that put forward actions in the home-care ICT development through the quadruple helix approach. Further support for such activities is also facilitated through the programme “RESTART 2016-2020”, operated by the Research Promotion Foundation.

In Slovenia, new assistive services are continuously evolving but despite the growing body of evidence about their positive effects, Slovenia is in its infancy regarding the adoption of smart solutions for home care. The most important barriers to the implementation of ICT-based assistive services seem to be related to the lack of cooperation among key stakeholders and identification of funding frameworks and business models, as well as to difficulties with service integration, lack of implementation plans for service delivery, poor understanding of users’ needs and lack of age-friendly design.

In Bulgaria, the concept of the Quadruple Helix cooperation model is not commonly known in Bulgaria and is almost completely unknown by most of the participants in the model especially in the home care sector – only academia representatives and some NGO’s are aware of it. However, even the concept is not used as a methodological tool, as a model such a cooperation exists at certain levels and its popularity slowly expands in recent years.

In Lithuania, the concept of the Quadruple Helix cooperation model is not commonly known in Bulgaria and is almost completely unknown by most of the participants in the model especially in the home care sector – only academia representatives and some NGO’s are aware of it. However, even the concept is not used as a methodological tool, as a model such a cooperation exists at certain levels and its popularity slowly expands in recent years.

In Hungary, the state and success of bringing innovative Home Care solutions quicker to the market by using quadruple-helix approach is determined by:

- the measure (size) of the demand (needs) for Home Care solutions in general,
- the purchasing power for gaining satisfaction of the demand (needs) for Home Care solutions,

- the need, demand and financing capacities for (or purchasing power for) innovation in defining, developing, producing and realizing (selling and maintaining) Home Care solutions,
- the frequency, effectiveness (adequacy) and efficiency (value and cost of adequacy) of using quadruple-helix approach to define, develop, produce and realize (sell and maintain) Home Care solutions,
- the policies fostering, promoting and subsidising innovation, development, production and service operations or investments in Home Care market.

Despite e-health and e-care markets are still emerging and growing, there is a tangible need for new equipment and services. However, it should be also considered that the purchasing power has to be increased in general and in regions geographically levelled off, in order to make the existing demand sound, because only a smaller but fortunately growing part of this demand is ready to pay or co-pay for the innovative services. In addition public and private insurance system is still interested to go on shifting more care services from the more expensive inpatient care to other – more efficient – service solutions.

Innovation should result not only adequate home care products, protocols and services, but affordable and accessible ones as well. All the stakeholders should benefit and earn from taking part in the innovation process and utilizing the results of it.

In Madeira (Portugal), there are OPs working for the common goal of making quadruple helix cooperation to happen in which, one can see, that with cooperation among more helixes there are better co-financing rates among projects, facilitating therefore the cost of innovation and the chances of innovation to happen with more competences and skills in the pipeline of innovation. Therefore, there exists an added motivation for partners to talk with each other and cooperate. Regional actors that quadruple helix cooperation is good for the future of RAM region and that it must be empowered and talked commonly perceive it.

In the Czech Republic, all actors see quadruple-helix cooperation during innovation production as something natural, helping substantially to create successful innovations that are usable by target groups in large scale.

In Romania, the Quadruple Helix Model is considered by default when the representatives of all helixes are publicly invited to provide information and feedback for carrying out the Guides of applicants of specific Calls for Project under R&I Programmes as well as when a strategy of commerce in Romania and abroad are requested by the Ministries or Management authorities. The direct interaction between two or three helixes representatives is not evident even if the result of their feedback coincides.

The events organized by Ministry for Business, Trade and Entrepreneurship represent a catalyst for innovation valorisation by inviting the representatives of each helix to know each other and interact.

The quadruple helix components are present in several clusters looking at their composition and it is expected that collaboration in common projects are based on quadruple-helix too. Order no. 5376/2017 regarding the approval of the fields and specializations programs correlated with the economic sectors with potential for growth for Romania establishes a better framework by considering 5 smart specialization fields for Romania - Bio-economy; Information and Communication Technology, Space and Security; Energy, Environment and Climate Change; Eco-Nanotechnologies and Advanced Materials; Health - according the National Strategy for R&D&I. So, it is expected an enlargement of clusters types range with Innovation Cluster including the Health care domain and implicitly the home care domain.

According to the findings of the Joint Thematic Study “Innovations in Home Care - Bringing innovative home care solutions quicker to the market by using quadruple-helix approach”, the common problem and challenges in this specific filed are divided per innovation ecosystem and support from Policy Instruments.

In the innovation ecosystem the following common challenges are recorded:

*a) Enhance the training for all the players in the ecosystem*

Stakeholders in the ecosystem are very diverse in terms of capabilities, knowledge, goals, size, financial strength etc. The gap between the stakeholders could be smaller if training of soft skills; product development and innovation process is introduced. This will enhance cooperation between the actors. Actors in business helix are lacking knowledge on long-term outcome of investments. Additionally the whole ecosystem is missing alternative ways of financing long-term innovative projects. End user’s helix and to certain extend public helix are weak in the digital skills.

*b) Evaluate past R&D activities, use lessons learned and increase the awareness of benefits to the different stakeholders in the society.*

Lack of cooperation between stakeholders in the past brought many innovative products having complete market failure. Ecosystem should effectively present past results including failures and train stakeholders in a way that they use what is useful and learn what they have to avoid. More presentation on the newest available technologies to all helixes could enhance idea and solution creation.

*c) Enhance cooperation between different stakeholders*

Business-academia-government-end users should straighten relationships through work on common project together especially on co-creation and customisation. End-users has to have at least some power of decision as rest of helixes. Usually ecosystem of representatives

of different helixes is not formally established and its power is weak. So some mechanism/action are needed to support strong ecosystem of stakeholders who are innovative, has innovation capacity and willingness to act.

*d) Introduce methods that will lead to better orchestration in the ecosystem*

Orchestration of different helixes and orchestration of stakeholders is weak and strongly needed. It could enhance the innovative, comprehensive, synergic organisational models to support current and future change management initiatives aiming at shortening the way to the market of innovations in home care sector.

*e) Government should prioritize development of homecare sector*

Home care sector is not a main priority of any government nevertheless the demography change is the number one problem in EU. We are missing funding model for ICT based healthcare services and role of informal carers. If the funds are available for the development in the field of home care, usually the funds are available for different sectors and since home care sector is in its infancy it is not enough competitive to get funded. Government could significantly influence the purchasing power for home care products what will boost the whole sector.

On the level of support from Policy Instruments, the following common challenges are recorded:

*a) To change operational programme and give place to homecare sector as a strategic R&D priority*

In current Operational programmes Home care sector is not strategically position if it is even mentioned. This should be changed in current OP if possible or in latest the next perspective. New, flexible intervention schemes should be opened aimed at support market successful innovation developed by quadruple helix cooperation inside the research and innovation projects. Bureaucracy is a big burden especially for business and end-user as well as for small organizations. It should be significantly reduced. Real collaborative project shall get notable advantages. The Operational program should be more in line with EU programmes (like H2020).

*b) To give advantage to home care based solutions in the R&D calls demanding quadruple-helix cooperation*

Quadruple helix cooperation is poorly if even awarded in the current national calls. More explicit and/or implicit demand shall be in calls to enhance quadruple helix cooperation on projects. Priority shall be to change the success indicator of the projects in a way that the impact of the final output can be measured based on quality over the years and not mostly on the project results (short – term). More focus shall be on market success of the project results.

*c) Extensive support to user helix*

User helix was in most cases de-privileged concerning access to the grants in R&D projects. In some cases, they cannot be direct beneficiary, but only co-beneficiary, in other cases extensive co-funding was expected. More, end users from public sector were not allowed to participate for the support at R&D project, but only for infrastructural ones. Post-paid finances through OP do not enable much of inclusion of user/citizen helix institutions who have a clear lack of finances already for the standard services. Support for the user helix shall differ from support of other helices. It is by far the most fragile helix, therefore special care shall be applied at the design of support elements.

*d) Ensure pre-consortium quadruple helix formation and reward sustainability of the project after its conclusion.*

There is not a week support if any at all for stakeholders to form strong consortiums. Mostly it is done at hock due to application demand. Since partners mostly do not know each other, there is a higher risk for project not to deliver good results. Well-functioning ecosystem could ensure better exchange of ideas, knowhow and common focus on the national or international level. The most important is to select and later reward project which have the most chances to win on the market and became self-sustainable.

## 2.3 Good Practices identified

The following selected good practices in generation of innovation in home care through bringing innovative home care solutions quicker to the market by using quadruple-helix approach are all project based and have been identified during the HoCare project. Unfortunately, there are no finished and impactful good practices on the strategic focus or management level of the Operational Programmes relevant for the topic of this Study that could be available proved for success in the countries of the HoCare project partners.

These good practices however show quite wide array of inspiration for transfer, starting from quadruple-helix international knowledge hub/platform (5.3) and technology transfer (5.1), through web platform transfer initiatives (5.5, 5.7) and innovations of concept design (5.2), to more market proven products and solutions (5.4, 5.6).

GOOD PRACTICE NAME	SHORT DESCRIPTION
<b>AHA (5.1)</b>	Good practice of robotic assistance technology, which is transferable as a technological END PRODUCT of friendly use that can be employed directly by end users or by their healthcare providers.
<b>RehabNet (5.2)</b>	Good practice of quadruple helix cooperation, where only complex cooperation between partners overcome necessary conditions to bring solution to the market: (1) Technological:

	<p>Broadband national networks, Medical equipment (Central monitoring station, wearable monitoring devices), Video conference solutions for multiparty sessions, (2) People: Ergophysiologists, Cardiologists, Pneumologists, Trained Physiotherapists, Nurses, Trained IT, (3) Management: Coordinating team, Established communication mechanisms with patients, patient organizations, public sector, (4) Strategic: National Health Programme.</p>
<b>European Network for FALL Prevention, Intervention &amp; Security (5.3)</b>	<p>Good practice of international quadruple helix cooperation for creation of knowledge platform, sharing of knowledge and developed ICT innovations and market opportunities in the given field (fall prevention) across countries.</p>
<b>EkoSMART (5.4)</b>	<p>The project is focused to bring market sustainable integrated home care services nationwide. It has allocated a lot of effort to detect all possible barriers and to overcome them. Therefore, from the beginning there is a strong collaboration between all four helixes. Project has a very strong focus to intensively test the product and successfully bring it to the national market.</p>
<b>OLDES (5.5)</b>	<p>Good practice of ICT platform development for very low cost and easy entertainment and health care service in the home of older people. It is a brilliant example of quadruple-helix cooperation between public authority, municipality, local health authority, businesses, universities and to design, develop, test and validate innovation.</p>
<b>GRACE (5.6)</b>	<p>Good practise for product development in the Quadruple helix cooperation partnership with a clear focus in the development and validation of a new consumer market product. Product is design for EU market from the scratch since from the very beginning developers took into account multi-language support and compliance with regulatory standards within Europe.</p>
<b>Psiprof (5.7)</b>	<p>Good practice of a web platform development by taking into account all four helixes needs. The solution offers a convenient, safe and anonymous way to find and consult professional psychologists. It is ready for implementation in a domestic and international market. Demo is ready to offer within 24 hours from the request.</p>

For more information about each GP please visit the HoCare project's website at: [www.interregeurope.eu/hocare/](http://www.interregeurope.eu/hocare/)

### 3. POLICY INSTRUMENT'S IMPROVEMENT PER PARTNER COUNTRY

#### 3.1 Policy Instrument per partner selected for improvement

##### Cyprus

Name of Policy Instrument addressed	Operational Program "Competitiveness and Sustainable Development 2014-2020"
Main Features of Policy Instrument	<p>Objectives:</p> <ul style="list-style-type: none"> <li>- Promotion of holistic, integrated, complex and multi-parameter solutions that will enhance the competitiveness of the priority sectors.</li> <li>- Expansion of the ability of the RTDI system to produce results of high standards and utilize them for the benefit of the competitiveness of the economy and social advancement/progress.</li> <li>- Development of substantial/valid links and synergies between the elements of the guardable helix.</li> </ul> <p>In sectors: "Health: e-health..."</p> <p>In addition, the Environment and the ICT were defined as important sectors of horizontal character" and "ICT: ICT Application, Future Technologies"</p> <p>Priority or Measure Concerned:          Priority Axis 2: "Fostering the use of ICT"          Priority Investment 2c: "Enhancing ICT applications for e-government, e-learning, e-inclusion, e-culture, and e-health".</p>
Managing Authority	Directorate General For European Programmes, Coordination and Development
Geographical Coverage	National

##### Slovenia

Name of Policy Instrument addressed	Operational Programme for the Implementation of the EU Cohesion Policy in the Period 2014-2020
Main Features of Policy Instrument	<p>Objectives:</p> <ul style="list-style-type: none"> <li>- Finding ways to economic recovery &amp; breaking the trend of Slovenia's moving away from the average EU development level.</li> <li>- Ensuring prosperity for all citizens.</li> <li>- Putting a decisive stop to passive, cyclical changes by transforming them into lasting structural improvements.</li> </ul> <p>Priority or Measure Concerned:</p>

	<p>Primary:</p> <p>International competitiveness of research, innovation &amp; technological development in line with smart specialisation for enhanced competitiveness &amp; greening of the economy (R&amp;D, promoting business investment in R&amp;D), more efficient investment in research, development and innovation; Increased share of innovation active enterprises</p> <p>Possible synergy effect: Social inclusion &amp; poverty reduction. Enhancing access to affordable, sustainable, and high quality services, including health care and social services of general interest.</p>
Managing Authority	Ministry of Economic Development and Technology, Directorate for Entrepreneurship, Competitiveness and Technology
Geographical Coverage	National

## Bulgaria

Name of Policy Instrument addressed	Operational Programme "Innovation and Competitiveness 2014-2020" (OPIC)
Main Features of Policy Instrument	<p>Objective:</p> <p>Encouraging business investment in R&amp;D, development of relations and cooperation between enterprises, R&amp;D centres and the university sector, in particular the promotion of investment in the development of products and services, technology transfer.</p> <p>Characteristics:</p> <p>According to the needs identified at national level within OPIC 2014-2020, this priority axis includes support for technological development and innovation in order to increase innovation activities of enterprises.</p> <p>Priority or Measure Concerned:</p> <p>Priority axis 1 is "Technological Development and Innovation" (TO1), which is in line with the Innovation Strategy for Smart Specialisation (RIS3)</p>
Managing Authority	Ministry of Economy - General Directorate "European Funds for Competitiveness"
Geographical Coverage	National

## Lithuania

Name of Policy Instrument addressed	Lithuanian Operational Programme for the European Union Funds' Investments in 2014-2020
Main Features of Policy Instrument	<p>Objective:</p> <p>Promotion of innovations in SME's. Instrument has been designed to encourage cooperation between business and research institutions.</p>

	<p><b>Characteristics:</b>          Support is done through Innovation vouchers which are more in line with the philosophy of today's companies, where small, short term projects dominates and best way to support is affording "quick money". The appeal of the innovation vouchers scheme is related to its simplicity and low administrative burden both for beneficiaries and administrators.</p> <p><b>Supported activities:</b>          Research, Technological development, Technical feasibility studies.</p> <p>Innovation voucher helps business and scientific cooperation, speed up research and knowledge transfer and innovative business ideas and commercialization of research results. Companies are encouraged to use the latest scientific achievements and research.</p> <p><b>Priority or Measure Concerned:</b>          Priority axis 1 - "Strengthening research, technological development and innovation".</p>
Managing Authority	Innovation Department, Ministry of Economy of the Republic of Lithuania
Geographical Coverage	National

## Hungary

Name of Policy Instrument addressed	Economic Development and Innovation Operational Programme
Main Features of Policy Instrument	<p>GINOP is the largest national SF programme of Hungary, allocating more than 8 billion Euros for improving the country's competitiveness. It mainly targets less developed regions, but applying the relevant flexibility rules, also partly addresses Central Hungary.</p> <p>It creates synergies and complementarities among all other SF programmes of Hungary, incl. the Competitive Central Hungary regional OP.</p> <p>Priority Axis (PA) 2 is dedicated to improving research, technology and innovation via:</p> <ol style="list-style-type: none"> <li>1) Strengthening R&amp;I capacities and improving connectivity with international networks to increase participation in H2020 programme.</li> <li>2) Increasing R&amp;I activity in businesses.</li> <li>3) Improving strategic R&amp;I networks and cooperation among innovative SMEs and research institutions.</li> </ol>
Managing Authority	Managing Authority for Economic Development Programmes, Deputy State Secretariat of Economic Development Programmes, Ministry for National Economy
Geographical Coverage	National

## Madeira (Portugal)

Name of Policy Instrument addressed	Operational Programme “Madeira 2014-2020”  Operational Programme for Madeira and their policy measures for economic, social and territorial development, integrated in the Portuguese program PORTUGAL 2020 in line with the smart, sustainable and inclusive growth of the Europe 2020 strategy for growth and employment.
Main Features of Policy Instrument	<p>Madeira 2014-2020 seeks to mitigate the problems of accessibility to social infrastructure and health care of the citizens of RAM, especially of their rural populations, through investment in the regional health system, with its strategic priorities:</p> <ul style="list-style-type: none"> <li>- Delivery of innovative Home Care solutions by regional companies ( in field of health and social care)</li> <li>- Strengthening the capacity assistance;</li> <li>- Health care delivery to users;</li> <li>- Strengthening disease prevention and health promotion through structured investments at the level of primary and hospital health care and in crosscutting areas of support.</li> </ul>
Managing Authority	IDR-IP RAM Regional Development Institute
Geographical Coverage	Regional

## Czech Republic

Name of Policy Instrument addressed	Operational Programme “Enterprise and Innovations for Competitiveness”
Main Features of Policy Instrument	<p>The objective of the OP EIC is to achieve a competitive and sustainable economy based on knowledge and innovation. The term “competitive” includes the ability of local companies to become competitive at world markets thanks to delivery highly innovative solutions and such create new jobs. The term “sustainable” accentuates the long-term horizon of competitiveness, which also includes the environmental dimension of economic growth.</p> <p>Characteristics: The programme is focused on the promotion of research and development for innovation, development of SMEs’ entrepreneurship and competitiveness, energy savings and development of high-speed internet access networks and information and communication technologies.</p> <p>Priority or Measure Concerned: Priority axis 1 “Development of Research and Development for Innovations”: this priority directly targets delivery of innovative solutions as defined in RIS3, including Home Care solutions</p>

Managing Authority	Ministry of Industry and Trade of the Czech Republic
Geographical Coverage	National

## Romania

Name of Policy Instrument addressed	Competitiveness Operational Programme (COP) 2014-2020
Main Features of Policy Instrument	<p>The COP 2014-2020 addresses the challenges stemming from the low support for RDI and the underdeveloped ICT services and infrastructure. COP aims to contribute to bolster the competitiveness of the Romanian economy.</p> <p>The main direction of investment in RDI is to build a more compact and modern R&amp;D environment that focuses on the businesses' needs and to deliver innovation and research outputs of highest quality.</p> <p>COP supports investment to economic competitiveness particularly in respect of (a) insufficient support for research, development and innovation (RDI) and (b) ICT infrastructure underdeveloped and so, by default, undeveloped services, thus positioning itself as a driver of horizontal interventions in the economy and society, capable to induce growth and sustainability.</p> <p>Priority Axes: A1 - Research, development and innovation supporting economic competitiveness and the development of businesses A2 - Information and communication technologies for a competitive digital economy</p>
Managing Authority	Ministry of European Funds, General Directorate for Competitiveness Programmes
Geographical Coverage	National

## 3.2 Identified needs per selected Policy Instrument

### Cyprus

In Cyprus, home care is provided by the Ministry of Health, as well as by the local authorities on local level (Municipalities and Community Councils). According to the Law, Municipalities have the right for provision of social services (in general, including social/health care) through the establishment of local social foundations and the establishment of local programs for supporting the target groups according to their needs. Home care is provided to people in need (mostly elders). All such programs run by the local authorities are evaluated, controlled and partially funded (after approval) by the central government.

In the last years, due to the bad financial circumstances, problems have appeared on maintaining local social care services (including home care). As a result there are a lot of local social/health foundations that have already stopped their activities, in opposition to the continuously rising need for such services. Preventive measures and new ways of managing and implementing home care services are currently very highly needed, especially if their application would result to the reduction of the budget required for covering the needs for general local social care activities and services. Therefore, the generation of innovative Home Care solutions (i.e. e-health) in regional innovation chains (that would also reduce the cost of these services) is a need and is an issue which has to be tackled by smart policy instruments, in particular by Structural Funds.

The general title of the specific Priority Investment of the Structural Funds mentioned above (Priority Investment 2c: “Enhancing ICT applications for e-government, e-learning, e-inclusion, e-culture and e-health”), includes measures, each one of them targeting specific target groups (e.g. for some measures as “Final Beneficiaries” are named only Public Bodies, for some others only SMEs etc.). In addition the quadruple helix approach is not mentioned in any of the evaluation criteria. Past experience shows that this approach does not support the efficient generation of innovative projects, especially when the entire regional innovation chain is not engaged in the whole process. Through the participation in the HoCare and specific projects we will attempt to support the Quadruple Helix approach, proving the need for including in the Final Beneficiaries all sectors required in order to achieve the best from the activities applied in the framework of the Structural Fund. The efforts should be focused on supporting the utilization of Quadruple Helix approach, as a need for including (in the eligible Final Beneficiaries) all sectors required in order to achieve the best from the activities applied in the framework of the Structural Funds. A change in the management of the policy instrument is required in order to facilitate the extension of the “Final Beneficiaries” list as well as initiating new projects through the HoCare project’s identified GPs.

### **Slovenia**

The identified Policy Instrument (Priority axis 9: Social inclusion and poverty reduction) has general objective as Reducing the number of socially excluded persons and persons at the risk of poverty while increasing the access and quality of community-based services and promoting social entrepreneurship. The specific objectives are establish an integrated model of social activation, empower target groups to bring them closer to the labour market and prevent slipping into poverty or social exclusion and reduce health inequalities. Slovenia has not defined Home Care as a pillar within Smart Specialization strategy (RIS3), however Home Care R&I support is addressed the priority area “Health” and the priority area “Smart buildings and homes” (mentions products and services that are developed on cross-section of technologies from the different domains, including home of the future).

The OP and Smart specialization strategy has been defined three year ago and has not delivered reasonable results to home care segment yet. There is a more effective and faster development needed in the home care segment. Slovenia still has not reformed its health and pension system as well as it has not accepted long-term care law (now it is in public presentation and debate). Slovenia received already two “alerts” from EU to faster act on these reforms.

As main identified needs are a well-functioning ecosystem, who should catalysed a process on the field of Homecare and brother (long-term care). There is also a lack of successful innovations delivered to end-user organizations and support to end-user organizations and informal carers to have knowledge and resources needed to implement it. By far the most important is to accept the fundamental legislation where system and financing should be ensured.

### **Bulgaria**

The identified Policy Instrument is oriented mainly towards support in innovation and cooperation between business and academia without specifying the home care sector. No specific details related to home care sector have been included in the intervention schemes realized until now. This state of play offers the opportunity to use other partners’ countries practices for additionally enlarging and enriching the specific interventions for PA1 for OPIC with taking into consideration a better alignment with the unmet needs of stakeholders and specifically the ones related to innovations in the home care sector that could be implemented through the involvement of the quadruple helix partnership.

There is no specific experience at a policy level for innovations in home care services and only piloting projects in the field are being implemented throughout the country. The experience shows that these piloting projects have been rated as very useful and answering many societal challenges but as a whole they stay only as single examples not influencing the policy level. The issue itself is that there are very few projects in Bulgaria that are high quality innovative solutions delivered in the regional innovative chains to address the regional needs and also delivers competitive solutions at European or worldwide market. And only very few are implemented through public funds.

### **Lithuania**

The objective of the identified Policy Instrument (Priority axis 1 Strengthening research, technological development and innovation) is the promotion of innovations in SME’s. Instrument has been designed to encourage cooperation between business and research institutions. Its characteristics concern the support through Innovation vouchers which are more in line with the philosophy of today’s companies, where small, short term projects dominates and best way to support is affording “quick money”. The appeal of the innovation vouchers scheme is related to its simplicity and low administrative burden both for beneficiaries and administrators.

Supported activities under the specific PI are research, technological development and technical feasibility studies. The innovation voucher helps business and scientific cooperation, speed up research and knowledge transfer and innovative business ideas and commercialization of research results. Companies are encouraged to use the latest scientific achievements and research.

Reasons why it should be improved: on one hand, responsible body (Ministry of Economy) feels that more impact could be generated from the funds. On other hand, evolution of businesses and their needs clearly indicates that traditional public support services should be more dynamic and versatile. Drawing from the past experience and existing data, the main future challenges for this instrument is related to increasing the efficiency and impact and introduction of alternative solutions – like Quadruple helix approach.

We envisage improvement of tackled Structural fund at both levels – at strategical as well as practical policy levels. On practical level efforts should be focused on implementation of new projects to transfer and adjust of innovative projects identified as GP in other regions connected to HoCare topics. Additionally we seek to introduce Quadruple helix approaches, possibly following all three thematic sub-objectives of HoCare to tackled SF. Furthermore, we seek to strengthen cooperation inside innovation chain using Quadruple helix approach to improve efficiency of innovation voucher scheme and generate new type of supportable projects.

On management level, a change in the management of the policy instrument should take place. It is envisioned that the PI will be improved by providing innovative governance systems while our aim is to incorporate Quadruple helix approach to the governance system to address additionally specific self-defined result.

## **Hungary**

Improvement of health industry is one of the sector development priorities in RIS3 in Hungary, while one of the horizontal priorities is strengthening innovation cooperation, among others international cooperation targeting innovative knowledge base of excellence.

Objectives of RIS3 have been mainly implemented through SF programmes, primarily through PA1, PA2 and PA8 of the Economic Development and Innovation Operational Programme (EDIOP, in Hungarian: GINOP).

Priority Axis (PA) 2 is directly dedicated to improving research. Innovation and technological development, if related to and/or in connection with research, are also granted through PA2 (e.g. transfer results of research to marketable product by innovation and development activities). Innovation aiming to make production or products/services more effective at SMEs is granted by PA1 to increase competitiveness and productivity of SMEs. PA8 (Financial

instruments) provides business expansion scheme, seed capital scheme, innovation voucher scheme, different refundable grants which can be combined with the grants available in other priority axes. The OP itself identifies the following weaknesses: centres of excellence with international recognition are missing due to the unsatisfactory quality and availability of R&I infrastructures, low intensity of connections among actors and with international networks, inadequate technology transfer mechanisms, and low demand for R&I results. The general environment for business support and the innovation ecosystem is underdeveloped resulting in the failure of many innovative ideas, start-ups & spin-offs.

Despite GINOP grants and fosters strengthening R&I capacities and improving connectivity with international networks, assists increasing R&I activity in businesses and improves strategic R&I networks and cooperation among innovative SMEs and research institutions, GINOP can still put bigger stress on:

- strengthening cooperation and communication among different actors in home care with focused calls for the key areas defined in sector development priorities in RIS3,
- promoting research and innovation infrastructures and activities specialized in home care,
- the role of quadruple helix cooperation among selection criteria,
- promoting innovation activities which deliver uptake of results in research by identifying needs that could be satisfied (by the research outcomes) and foster innovation making production or products/services more effective,
- exploring and utilizing opportunities in synergies among operational programmes by building selection criteria in GINOP-calls on the results of sector OPs (e.g. development of human capacities, methods, protocols and infrastructure in one-day surgery or integrated care to progress in deinstitutionalization).

As a general challenge - appearing both in the innovation ecosystem and the granting mechanisms offered by the operational programmes concerned – the lack of social funding resources and/or purchasing power for long term home care services in the daily operation should be mentioned too. More funds are needed both for project (development and investment) financing and for covering operational (running) costs. While there is a strong trend towards integrated care and deinstitutionalization (move chronic patients out of mental and other health care institutions) determined by the aging society and unsustainable system of long term inpatient chronic care, and despite this trend is based on shifting the burden of paying long term hotel and care services from the social, public or private insurance systems to the individuals receiving the service, unfortunately only a lower percentage of people and families compose real purchasing power for home care solutions.

### **Madeira (Portugal)**

The targeted PI (in short Madeira 14-20) seeks to mitigate the problems of accessibility to social infrastructure and health care of the citizens of RAM, especially of their rural populations, through investment in the regional health system, with its strategic priorities:

- Delivery of innovative Home Care solutions by regional companies (in field of health and social care),
- Strengthening the capacity assistance,
- Health care delivery to users,
- Strengthening disease prevention and health promotion through structured investments at the level of primary and hospital health care and in crosscutting areas of support.

With HoCare project the IDERAM Business Development Institute of the Autonomous Region of Madeira aims to improve the effectiveness, efficiency and impact of this specific policy instrument by realizing actions related to the provision of home care services developed through a quadruple helix strategy involving governmental organizations and its structures, universities, companies and business associations as well as movements of citizens committed to the wellbeing and social inclusion. The main issue to be target is the weakness in delivery of innovative solutions targeting local needs in the framework of tackled Structural funds.

As main identified issue there is lack of innovations delivered by the regional innovation ecosystems. There is thus strong emphasis to focus on the practical policy improvement and encourage the regional actors in innovation ecosystems to use quadruple helix approach and lessons learned through international learning process to deliver concrete innovative projects using financial support of Madeira 1420 Structural fund.

This type of improvement will have direct positive impact on the region, tackle specific regional issues and also will address other priorities of our regional development plan. There is clear objective to support new highly innovative projects which will be enabled by the capitalization of knowledge gained in HoCare project – phase 1. Talking about the thematic priorities our focus is mainly on the 1st and 3rd sub-objective of HoCare project – which means delivery innovation based on unmet needs and quicker rollout to the market using quadruple helix approach.

### **Czech Republic**

One of the main basic challenges for improvement of OP EIC, currently triple-helix oriented, lies in strengthening innovation participation and performance of domestic enterprises, increasing their abilities and capacities in innovative projects and strengthening their cooperation within home care segment, especially with formal and informal healthcare providers and public authorities. As R&I ecosystem actors ask for home care related specific intervention programmes / calls that would also provide motivation for quadruple-helix cooperation model, and as Managing Authority cannot support such specific requests, evaluation benefits for indirect support of home care R&I / quadruple-helix cooperation seem to be the best available option by changing management practices in evaluation.

New R&I projects based on good practices from other regions including formal and informal healthcare providers can be also delivered to OP EIC to enhance cooperation within the R&I ecosystem and provide inspiration and guidance to Managing Authority in terms of typical projects, outputs, supported activities and budget lines. For high quality but unsuccessful international projects, Managing Authority can provide national funding.

To boost innovations generated from unmet needs identified by formal and informal healthcare providers, their participation rate, financing and funding possibilities through extended description of supported activities within specific calls might help also. In addition, this counts too for examples of extended beneficiaries or industry category lists supported by the intervention programme / call.

### **Romania**

The Competitiveness Operational Programme (COP) addresses the challenges stemming from the low support for research, development and innovation (RDI) and the under-developed information and communication technologies (ICT) services and infrastructure. By investing in these areas, the COP aims to contribute to bolster the competitiveness of the Romanian economy. The main direction of investment in RDI is to build a more compact and modern R&D environment that focuses on the businesses' needs. It reinforces the RDI capacity of the country (resources and infrastructure), boosts private investments in RDI, develops centres of excellence, strengthens the links between businesses and research institutions, and stimulates the creation of networks and clusters for developing new products and services.

In the area of ICT, the programme covers four main areas for development: a) e-government, interoperability, cyber-security, cloud computing and social networks, b) use of ICT in education, health, social inclusion and culture c) e-commerce, clusters and developing innovation through ICT and d) further deployment of the broadband infrastructure for the whole country.

The Programme is focused on two main priorities:

A1. Research, development and innovation supporting economic competitiveness and the development of businesses (total budget € 952.57 million);

A2. Information and communication technologies for a competitive digital economy (total budget € 630.2 million).

As it is expected an impact of COP by 2023 is envisaged in:

-Increased private RDI expenditure (target: 80% of private investments compared to 66% in 2012),

-Increased collaboration between innovative SMEs and research organisations (target: 6.6% of total SMEs cooperating),

-Increase in the NGA household coverage (target: 80% of households covered),

- Increase of the ICT Gross Value Added generated by the ICT sector (target: 5% of GDP),
- Increase of the use of e-governing services by citizens (target: 35% of Romanian population using public electronic services),
- Increased Internet usage especially in disadvantaged communities (target: 60% of population using internet).

Needs identified concern the lack of high quality projects, complexity of application, monitoring and implementation processes which were not sufficiently clear to innovative enterprises and lack of clarity and mainstreaming of opened calls to address priority areas and the bureaucratic system of COP implementation. Therefore, initiation of new innovative projects and improvements on the management level of the identified PI should be promoted.

### 3.3 Suggestions for improvements per Policy Instrument

#### **Cyprus**

According to the needs described above on how to improve the identified Policy Instrument, through cooperation with local stakeholders in Cyprus, the following suggestions for have been produced:

- Establishing new methods for evaluation that could foster the facilitation of the quadruple helix method of cooperation (e.g. adding a specific evaluation criterion for adding extra marks on projects that are being promoted through the quadruple helix approach for e-home-care services),
- Initiation of new project(s) to be funded in the framework of the specific PI aiming at introducing innovative ICT services in Home Care. New project(s) should embody elements included in the Good Practices identified in other HoCare partners' areas,
- New projects should be initiated through which the Quadruple-Helix approach will be utilized. Projects may be applied on any of the HoCare project's sub-sectors; that would be "addressing unmet needs", "public driven innovation" and "faster delivery of innovations processes".

#### **Slovenia**

Through intensive interregional policy and good practice learning process conducted in this project, we have studied overall situation in partner's countries and their good practices. We have not found a "perfect" good practice that could be immediately transferred in full details, but we have detected several good experiences that can contribute to improvements in Slovene Home care segment.

Improvements in policy instruments should be two fold. First, we should enhance our Ecosystem by changing of management of OP. There should be a call or possibilities within calls that ecosystem will get sufficient support for its activities. Only strong and stable

ecosystem can be a relevant support to government and can strengthen cooperation and communication among different actors in home care. Secondly, we should include quadruple-helix cooperation as new evaluation criteria or give extra points in the calls to projects where full quadruple helix cooperation is proven. Further, we should give extra points to R&I projects that include participatory design, user acceptance testing or living lab demonstrations. Such change is based on multiple good practice projects identified through HoCare project as they include formal and informal healthcare providers supporting generation of innovation in home care in such positions.

## **Bulgaria**

The strategic focus of Operational Programme Innovation and Competitiveness in Bulgaria and the relevant Priority Axis 1 and Priority Axis 2 are determined by the priorities set within the relevant strategies – Bulgarian Smart Specialization Strategy (for PA1) and National Strategy for Promotion of SMEs (for PA2). The OPIC itself, as one of the funding instruments relevant to the further improvement of home care and the more intensive penetration of innovation in home care, is closely linked with and is dependable on the RIS3 thematic areas, their pre-formulated priority directions and a list of economic sectors and activities, pre-selected in the “National Strategy for the Promotion of Small and Medium Enterprises” of Bulgaria.

The knowledge gained through interregional policy learning lead to the generation of a mix of contributions for improvement. The possible improvements of the Policy instrument stay within the same focus of PA1 of OPIC, but could be sought towards more effective support for home care sector R&I mainly through 2 paths.

The first one is the further amendment and supplementation of the priority directions in the RIS3 thematic areas. The ongoing process at the moment related to the actualisation of the RIS3 and the accent put on specific measures related to home care in the recently developed “Technological roadmaps for the RIS3 thematic areas” creates an opportunity to enlarge the programming process with the inclusion of home care-specific or related issues into the intervention schemes of OP to be open in the future.

On the other hand, the gained knowledge helped elaborating specific details to be added to the planned actions for ensuring the interventions will be aligned with some of the best practices in the field of Home Care innovations across HoCare regions. The consultations with the stakeholders cleared up issues and outputs planned in the policy instrument to add value to it according the best practices and with specific attention to the stakeholders’ needs and requirements. The improvement will be reached through the possible inclusion of new specific evaluation criteria (incl. bonus points) as part of the technical evaluation process in grant schemes supporting both directly and indirectly home care projects – for example the ones that measure the non-economic impact that include specific definitions.

Another improvement will be sought through the inclusion of additional exemplary activities (also eligible costs) to be supported that are related to the home care topics. The activities and the costs examples are also taken from the GPs from other countries selected and analysed throughout HOCARE project.

Further improvements are expected to be implemented thanks to the involvement of new eligible opportunities for partnerships between enterprises and scientific organizations – specific rules for setting up of partnerships, rights and obligations, state aid rules, co-financing of the projects etc. extracted from GPs from the HoCare project.

Specific practices for supporting innovations in homecare will be also taken into consideration during the programming of next intervention schemes – the practice for using “innovation vouchers”, for supporting R&D partnership with enterprises, and the innovation clusters’ support practice.

### **Lithuania**

Identified Policy Instrument is highly influenced by general strategy for homecare and lack of debate between major stakeholders, therefore the highest priority for Lithuania are measures at strategic and management level, but facilitation of slight changes at project level are also possible. Therefore the following recommendations are suggested:

- At strategic focus level ensure that innovations in homecare sector are suggested as potential future area where Lithuanian smart specialization and it’s Health technologies and biotechnologies priority can be expanded and are considered by members of the working group during the review of Lithuanian smart specialization strategy,
- At strategic focus level ensure that dialogue between main stakeholders initiated by this project continues and some consensus is reached how to promote home care as horizontal priority,
- At policy instrument management level consider experimental pilot schemes for “socially sensitive” innovations and put the evaluation of such projects on the separate track or add additional specific criteria’s to evaluation,
- Disseminate good projects initiated in Lithuania and in other countries as good-practices with the aim to facilitate a better pipeline of homecare projects.

### **Hungary**

The following measures improving actions financed by GINOP can strengthen key links in health/homecare innovation value chain:

- Strengthening cooperation and communication among different actors in home care with focused calls for the key areas defined in sector development priorities in RIS3. As the majority of the OP resources are already allocated to open and forthcoming calls, even minor modifications in selection criteria could lead to results,
- Promotion research and innovation infrastructures and activities is available in general, therefore networking and project generation events specialized in home care, health and

other priority sectors in RIS3 could likely bring improvement. Financial resources to organize these events shall be ensured,

- The importance of quadruple helix cooperation can be acknowledged by giving high score/value to this one among selection criteria. Lead applicants from business, research and HEI side should be aware of the opportunities and strength of cooperating with public bodies and end-users, especially patient, care giver and payer side; Furthermore, innovative solutions for involving and paying/reimbursing families (as care receivers and informal care providers) should get priority in order to help finding adequate answers to the challenges of partial lack in purchasing power for homecare products and services,
- It is important to let applicants define the legal form of their quadruple helix cooperation and partnership free. Centrally predefined legal forms, viz., may increase useless administrative or bureaucratic burdens in effective and efficient implementation of the projects,
- In addition improvement of monitoring procedures - by collecting information how needs identified and experiences shared by formal and informal caregivers and other end-user parties were taken in consideration and utilized during project implementation and maintenance – could be a considerable step ahead in those cases when quadruple helix cooperation was not required originally in the calls,
- Calls which have more budget allocated than eligible applications can absorb, but should have a considerable contribution to the performance indicators of the OP, can be modified by changing both their focus area and selection criteria. Eligibility of open innovation services and cooperation with all stakeholders in the quadruple helix can contribute to the success of GINOP-calls promoting industrial parks for instance. Smart specialization (e.g. in homecare, health industry or other RIS3 priorities) can be fostered through selection criteria. In this way important, but underperforming intervention areas may be changed to close-up,
- Synergies with other OPs and funding mechanisms could be exploited if focus areas and selection criteria in GINOP calls would consider and focus on the aims and results of projects funded by other tools. Concentrating on some special markets in RIS3 priority sectors such as health - including homecare – may offer gains in effectiveness on implementing the OP after performance reserve of the PAs might be used to open new calls in the well performing intervention areas too. Markets emerging and expanding thanks to the development of human capacities, methods, protocols and infrastructure in e.g. e-health, m-health, tele-health, one-day surgery or integrated and home care need more and more innovative solutions to provide equal access and better quality to a wide range of population affected by the aging trend and the progress in deinstitutionalization. Promoting innovation activities which deliver uptake of research results by identifying specific needs (e.g. in homecare) that could be already satisfied (thanks to new research outcomes) and make production or products/services more effective, can be combined with actions building bridges between OPs.

## **Madeira (Portugal)**

The Autonomous Region of Madeira stakeholders, as also stated in the study 'overall regional analysis', have not identified current weaknesses or gaps in the strategic focus of the OP related with the Hocare project. The same applies for the management level, in the current eligible actions as well as for identified actions or projects of interest to be included in the Madeira OP.

Regarding the improvement of the funding opportunities for home care, since most of the Priority Axes' Funding in Autonomous Region of Madeira 2014-2020 are already allocated to different projects that are already under development, the focus should be targeting the improvement of Priority Axis 8, (Private social solidarity institutions are the mainly target). Other regional agents such as SMEs, public actors and other quadruple-helix representatives should be engaged in cooperation, as a way to create synergies between the actors involved to improve innovation in Health care ecosystems. Therefore, suggestions for PI improvement are concluded as follows:

- Better promotion of successful projects to regional actors (national and international) for the possible transferability within Autonomous Region of Madeira (new project),
- More time availability among regional actors for strategic quadruple-helix users meetings regarding home care empowering networking, skills, resources, deliverables discussions for future calls of tenders (PI's management level),
- Training actions for the development of competencies of all the actors of the ecosystem, being fundamental the participation of the relatives, in order to make the health care more efficient (PI's strategic focus),
- Develop actions that contribute to keep the largest number of elderly and dependents in their homes, through the implementation of a proximity network implemented using the quadruple helix (new project),
- To create conditions of safety and comfort for the elderly and dependents in order to facilitate their stay at home (new project),
- Strengthen family integration of the elderly in order to safeguard the emotional, social and professional stability of their caregivers (new project),
- Patient support at home / in the community, through the use of technologies, such as the development of hospital services, remotely: tele-monitoring and patient care (new project),
- Establishment of a research culture in the area of home care (PI's strategic focus).

## **Czech Republic**

Based on the OP EIC needs and possibilities, DEXIC suggests the following improvements to the Policy Instrument:

- Change of management of OP - Inclusion of new evaluation criteria in selected intervention programmes / calls giving bonus points to R&I projects that target home care related projects. Such change is based on combination of good practices from Lithuania and Madeira (Portugal) and is relevant mainly for HoCare Joint Thematic Policy Transfer Report 2,

- Change of management of OP - Inclusion of quadruple-helix cooperation as new evaluation criteria for “Proof of concept” intervention programme / call enabling giving extra bonus points to R&I projects that include participatory design, user acceptance testing or living lab demonstrations. Such change is based on multiple good practice projects identified through HoCare Joint Thematic Study 1 as they include formal and informal healthcare providers supporting generation of new innovation in home care in such positions,
- Specific project transfer – creation of cooperation network (technology platform) and setting up common pilot projects and initiatives.

## **Romania**

Considering the potential improvements of the Competitiveness Operational Programme and other possible improvements in regional innovation ecosystem some suggestions on possible improvements for support of R&I in Home Care (HC) via quadruple-helix cooperation could be performed at 2 levels: via the Operational Programme (management, strategic focus and operations), and via any other possible improvements in the regional innovation ecosystem.

Possible improvements in the Operational Programme regarding its support for quadruple-helix based R&I in Home Care include:

- Specific new call/calls on clearly indicated HC topic and/or tele-health and/or quadruple helix focus,
- The Guide of applicants to indicate clearly the Quadruple helix model components when an eligible partnership is established,
- To modify the guide of applicants at the chapter evaluation and simplify the criteria and their weights,
- The operational programmes to make available to the future applicants under POC the data bases structured on results and their applicability,
- The Monitoring Committee to consider all components of the QH when proposing or adjusting the COP,
- The simplification of documentations and the use of local evaluators for all projects supporting R&I under COP.

It is also recommendable that the entire R&I ecosystem to be based on Quadruple helix when decision is made in the field of HC innovative solution and to be created a platform with stakeholders’ needs in HC, covered and uncovered by existing projects topics under the existing programmes supporting Health and HC.

## 4. POLICY TRANSFER MATRIX

### 4.1 Introduction

In the first year of HoCare project's, partners were working in analysing the regional existing situation around the respective selected Policy Instrument and, more generally, the sector of production of innovation in home care and how the quadruple helix approach is being utilised in this whole process. During this process, several Good Practices were identified in each partner area, either on strategic focus, or on management level, or on innovative projects' level of the Policy Instruments' environment. These Good Practices were analysed and presented among the partners during the three International Thematic Workshops.

In parallel, partners were working in close cooperation with the Managing Authorities of their selected PIs as well as with local/regional stakeholders relevant to the PI, for identifying their local/regional needs towards the improvement of their Policy Instrument.

In this Joint Thematic Policy Transfer Report, common challenges and the list of GPs identified in project partners' areas are presented under the HoCare project's sub-objective "Innovations in Home Care - Generating New Solutions through Public Driven Initiatives". Furthermore, key needs identified by the project partners in regards to their respective Policy Instrument are also analysed.

The final step of the exchange of experience process of HoCare project is the formation of Action Plans, one for each partner, which will include specific suggestions on how to improve the Policy Instruments. To successfully reach at this stage, a match-making procedure between identified GPs and partners' needs should be applied. In other words, a process of matching the different elements between the offer (GPs) and the demand (needs) sides needs to take place.

This is the exact objective of the following Policy Transfer Matrix table and the analysis of the transferring scenarios for each matching case. The outcomes of this section will provide the partners a strong basis offering different choices to select the ideal scenarios according to their Policy Instruments' needs in order to draft and finally elaborate their Action Plans.

## 4.2 Analysis - Transferring Scenarios

The following table presents the match-making of the selected and promoted GPs with the needs identified in HoCare Partners' Policy Instruments in the area of "Bringing innovative home care solutions quicker to the market by using quadruple-helix approach" with the potential for improvements through the transferring process. Each choice is being analysed below as a specific "Transferring Scenario" where more details are provided for the reasons of selecting the specific GP.

A/A	GOOD PRACTICE NAME	HOCARE PARTNERS' POLICY INSTRUMENT (as per section 3.1 above)							
		CYPRUS	SLOVENIA	BULGARIA	LITHUANIA	HUNGARY	MADEIRA (PORTUGAL)	CZECH REPUBLIC	ROMANIA
1	AHA (PT)								
2	RehabNet (PT)								
3	European Network for FALL Prevention, Intervention & Security (RO)		X	X				X	
4	EkoSMART (SI)	X		X		X			
5	OLDES (CZ)								X
6	GRACE (PT)								
7	Psiprof (PT)				X	X			X

## Transferring Scenarios:

### **Cyprus**

#### Scenario 1 - EkoSMART (SI)

According to the needs identified, the efforts should be focused on supporting the utilization of Quadruple Helix approach, as a need for including (in the eligible Final Beneficiaries) all sectors required in order to achieve the best from the activities applied in the framework of the Structural Funds. Furthermore, it is recommended that new project(s) is/are initiated to be funded in the framework of the specific PI aiming at introducing innovative ICT services in Home Care. Another recommendation is that new projects should be initiated through which the Quadruple-Helix approach will be utilized.

EkoSMART offers a good opportunity for matching the above mentioned requirements. A new project may be initiated based on the main philosophy of EkoSMART and more specifically its part concerning “Smart Integrated Healthcare and Long-term Care System” (eCare). In this way a new innovative service will be established in the sector of Home Health Care in Cyprus through a new project that will be funded in the framework of the selected PI. This new project will combine the use of innovative ICT services and the utilisation of the quadruple helix approach during the project’s development and implementation. For adjusting EkoSMART to local conditions in Cyprus, a study visit is required in order to analyse in detail the specific GP and then to transform its elements accordingly. Transformation and adjustments are required so that the new project is applied in the proper way in Cyprus (legal framework, social conditions, existing quality and level of technological services etc.) to ensure that its implementation will produce the best possible results.

### **Slovenia**

#### Scenario 1 - European Network for FALL Prevention, Intervention & Security (RO)

GP is an excellent example how quadruple-helix cooperation is used to integrate and bring together knowledge, experiences and best practices acquired at European and international level in the area of fall prevention, intervention and safety. The approach to work in forum/ecosystem where all stakeholders within the value chain (such as industry, users organizations, informal and formal care providers, public authorities, investors, housing and insurance companies and service providers across Europe) are sharing knowledge, expertise, resources, best practice experiences and are building consensus to highlight the remaining obstacles to be overcome and to eventually provide guidance for new solutions and their roll-out, is fundamental mission a well-functioning ecosystem should facilitate.

Transferring this GP could be done by intensive knowledge sharing especially on setting up collaborative networks consisting of quadruple helix participants. Technology platform needs in-depth evaluation before possible transfer.

## **Bulgaria**

### Scenario 1 - European Network for FALL Prevention, Intervention & Security (RO)

The GP attracts the stakeholders' attention with the model it offers for approaching an issue that still stays away of the public interest in Bulgaria. It will be used to deploy an integrated solution to this issue federating resources from the whole spectrum of the quadruple helix cooperation model in home care sector. It is also very valuable experience for Bulgaria as it has been tested in Romania which has similar conditions of living and similar regulations and economic development.

The GP will be used to support the creation of a thematic network on a large stakeholders' base that aims at integrating and bringing together knowledge, experiences and best practices acquired at European and international level in the area of fall prevention, intervention and safety – an issue badly underestimated in Bulgaria as a cause of injuries and death and related to home care services. The projects fits the needs identified by the analysis of the possible improvements of the tackled policy instrument offering a model for combining the efforts of all stakeholders within the value chain (such as industry, users organizations, informal and formal care providers, public authorities, investors, housing and insurance companies and service providers across Europe) to share knowledge, expertise, resources, best practice experiences and to build consensus to highlight the obstacles to be overcome and to provide guidance for ICT-enabled solutions and their roll-out.

The GP will serve as a pattern on how to amend the planned OPIC interventions to allow making possible projects that will gather together the already existing – or at stage of development - variety of ICT solutions for fall prevention, detection and intervention that have been introduced spanning the areas of assistive training devices, biofeedback solutions, fall detectors, fall risk assessment systems and more. Bulgarian companies and research organisations will benefit from an amendment based on this GP because it will give the programme an idea about how to shape up the support through next calls – adding specific eligible activities and scope of activities - and how to make the ICT based systems available for wide deployment in real cases.

### Scenario 2 - EkoSMART (SI)

The GP refers to the problem that in Bulgaria no specific details related to home care sector have been included in the intervention schemes realized until now. This state of play offers the opportunity to use this specific practice for additionally enlarging and enriching the specific interventions for PA1 for OPIC with taking into consideration a better alignment with the unmet needs of stakeholders and specifically the ones related to innovations in the home care sector that could be implemented through the involvement of the quadruple helix partnership.

This GP answers the needs identified in Bulgaria for a model research project implementing telecare and telehealth services for elderly and physically less able people while involving quadruple helix stakeholders. There is no largely implemented telecare project in Bulgaria so far. Telecare is being implemented as a first part of integrated healthcare system including telemedicine treatment of chronic diseases. The GP will serve as a model for developing next stages of the healthcare system services related to home care. It will give a pattern on how to integrate all helixes in the R&D phase and a pathway on how to develop a market ready customer services.

Taking into consideration the rapid growth of applied technologies in the Bulgarian market the project will attract the attention of the stakeholders offering a ready and deployed complex innovative project. Its novelty in comparison with existing solutions is the introduction of artificial intelligence and new ICT services, the fields in which Bulgaria is rapidly developing. The GP is attractive to be used in Bulgaria because the fundamental approach followed by the programme is to integrate the products that are already successfully marketed in Bulgaria and are subject to a growing interest and users.

## Lithuania

### Scenario 1 - Psiprof (PT)

As Lithuania is the country with the highest number of suicides, according to the number of pessimistic people, the highest number of which is predominantly in the elderly, psychological counselling is more than ever relevant. Since the elderly people who lived in the occupation period and the influence of the Soviet system on them are still large, it is a shame for the counselling of a psychologist. Therefore, a psychologist's consultation with the opportunity to avoid a lively visit to a psychologist, we think that he will have enough demand and will help to combat the above-mentioned problems.

As the technical feasibility study for such a system adaptation to Lithuania would not be expensive, it could be financed by the Innovation voucher financial instrument. As there is already functioning system in Lithuania (eHealth), the connection of such a module would be technically simple and inexpensive and the effect would be quite large.

## Hungary

Selected GPs, **in both the following scenarios**, offer replicable elements and methods for bringing innovative home care solutions quicker to the market. New projects may be initiated based on these elements and methods, however, they can be and must be applied and redesigned to fit the specific Hungarian legal, social, infrastructural, institutional and market conditions, existing quality and level of technological services etc. Further analyses and/or study visits are required in order to think through, judge and consider these GPs in

detail, and then to transform their elements into new pilots optimized to the specific Hungarian conditions in order to ensure the best possible results and implementation.

#### Scenario 1 - EkoSMART (SI)

Solutions and experiences in allocating effort to detect all possible barriers and to overcome them are important success factors of effective innovation. Involvement of key stakeholder groups to identify real needs, interests, resistances and obstacles is necessary to be able to develop products and services that can be brought to market quickly. Strong collaboration among all four helixes enables innovators of home care sector to develop integrated services and products sustainable nationwide. A strong focus on intensive testing of innovated products and services adds such a value to the innovation that is acknowledged in successful bringing to national or international markets.

#### Scenario 2 - Psiprof (PT)

Development of psychiatric and addictological care network (for child, youth, adult and elderly care system) aims to increase accessibility, prevention, network development and deinstitutionalization in Hungary. National e-health system development (implemented in the same time) would provide new possibilities for innovators to deliver new, renewed or integrated solutions and products that could connect to and serve psychiatric and addictological care and the central e-health system. Learnings, validated solutions and ready-to-market or replicate results of the good practice may help satisfying special needs of patients, families and psychologists or addictologists.

### **Czech Republic**

#### Scenario 1 - European Network for FALL Prevention, Intervention & Security (RO)

To advance quadruple-helix cooperation in home care sector inside eco-system actors in the Czech Republic, increase cooperation of the main key actors with other possible stakeholders is needed, also to show Managing Authority the increased delivery of innovative projects in this field to open up other possible changes in the OP. For such action, cooperation networks or technology platform might be of good use, also to set up Pilot projects.

The Romanian GP promises inspiration for a thematic network focused on home care which would cooperate on knowledge sharing, events organization and common initiatives start-up in cooperation of various actors from the home care segment.

### **Romania**

#### Scenario 1 – OLDES (CZ)

An innovative telemedicine project addressing directly the elderly and based on the model QH could improve the perception within OP of the funds users on the ICT support in Health

and HC. The needs of functional innovative solutions implemented and used for elderly could be partially covered by a GP developed in Czech Republic.

This GP, in which a low cost, easy entertainment and health care service at home of elderly is offered and closer to the market, could be considered an excellent result of a functional QH. The Czech GP permits an adjustment of the opinion that R&D&I results are not applied and used at their value and at the level of the initial investment. The transfer of his GP could be done after a study visit and interaction with the GP owner, a deep analysis of social, legal and financial implications.

#### Secenario 2 – Psiprof (PT)

A telemedicine innovative project with results closer to the market is this GP offering the possibility of consultation online for persons with controllable mental problems. The content of this project and the way it was achieved by QH support contribute to be considered as a GP aimed to improve the perception of COP management on the use of online health system.

The transfer of this GP consists in a study visit, comprehensive analysis of the implementation consequences and the calculation of efficiency in terms of commercialisation of this kind of online system for private and anonymously use. The experience of Portugal recommends that the system is currently functional and for further use in other countries it needs only translation for being used from the point of view of users interface. The local and European legislation regarding the personal data is expected to be used also.

## 4.3 SWOT Analysis per transferring scenario

### Cyprus

#### Scenario 1 - EkoSMART (SI)

##### Strengths:

- The project concerns a technology easy to transfer,
- It concerns a solution provided upon specific existing and identified needs.

##### Weakenesses:

- Country's specific conditions in the legislation, user demands may result in complications in the new project's design.

##### Opportunities:

- The utilization of such GPs could be easily adapted in the framework of the current reform of the Healthcare system in Cyprus,
- The Cypriot MA of Structural Funds has shown high interest in supporting a new project under the selected PI for demonstrating how interregional exchange of experience could improve the national Policy Instruments.

##### Threats:

- The new project's impact will largely depend on the system solutions and especially the support at government level, therefore the relevant ministry (Ministry of Health) should set the project as a priority and allocate yearly funds for its maintenance.

### Slovenia

#### Scenario 1 - European Network for FALL Prevention, Intervention & Security (RO)

##### Strengths:

- There is a strong need for a home care become system creation,
- There is a moderate will from stakeholders,
- Government already recognize this need,
- There is no well-functioning home care platform in the country.

##### Weaknesses:

- The project did not develop an comprehensive digital platform,
- Partial transfer of GP (knowledge learned on setting up the network, lessons learned).

##### Opportunities:

- Platform can become a central point for development on homecare and demographic issues in the country.

Threats:

- Not sufficient funding in the initial phase,
- Stakeholders will not fast recognize its role and will not use it as an important and valuable instrument.

## Bulgaria

### Scenario 1 - European Network for FALL Prevention, Intervention & Security (RO)

Strengths:

- The GP allows the involvement of all representatives of the quadruple helix in both roles as provider and potential users or facilitators for users,
- It represents an opportunity to develop ICT innovative solutions in a field that is poorly known/serviced in Bulgaria let alone through innovations,
- The GP is tested and implemented in very similar to Bulgaria conditions but based on external richer experience.

Weaknesses:

- The GP implementation is dependable on the further development on the Bulgarian legislation and reimbursement system.

Opportunities:

- The GP might put the beginning of a series of related projects as the issue is not enough discussed in Bulgaria,
- The GP will strengthen the interactions between different stakeholders in a relatively unexplored area – the importance of falls for the longevity and wellbeing of the elderly and the improvement of those factors that could be achieved through the implementation of different innovative ICT solutions and their integration together in a common platform.

Threats:

- The issue is not very largely recognised in terms of importance and might not attract sufficient attention and interest at programming level.

### Scenario 2 - EkoSMART (SI)

Strengths:

- The GP requires a high level of development of local digital companies which is a fact in Bulgaria,
- The GP represents a model on how to support,

- The GP favours the creation of a strong development ecosystem to enable the research, development and innovation in the field of smart cities in the long term even after the end of public funding,
- The GP enables in practice a high concentration of competencies and research through the quadruple helix approach,
- The project offers a model for a significantly faster transfer of results of the joint development of researchers from the public and private sector to the market.

Weaknesses:

- The bureaucratic, legal and organisational conditions in different applications and areas of work, especially healthcare and home care,
- The existing Bulgarian legislation does not cover telemedicine services as a part of the healthcare and treatment and most of the after-hospital and home care services are not reimbursed by any public funds.

Opportunities:

- As most of the after-hospital and home care services are not reimbursed by any public funds and users must pay for their need the telemedicine services as a part of the healthcare and treatment represent a huge and underdeveloped market,
- The “smart city” concept is subject to a vastly growing interest and this GP might attract many possible followers in Bulgaria so this will be a strong point to include the model in future funding schemes planning by the tackled policy instrument authorities.

Threats:

- There are currently intensive changes happening in the area of legislative requirements regarding safety and privacy of personal medical data in Bulgaria and this might represent an important barrier to achieving the project planned impacts.

## Lithuania

### Scenario 1 - Psiprof (PT)

Strengths:

- The ability to access psychological services quickly and anonymously. Easily integrate into the existing e-health system in Lithuania,

Weaknesses:

- Many elderly people do not use the internet or their use is quite limited,

Opportunities:

- Reducing the number of people who suicide and the ability to change the negative attitudes towards psychological services,

#### Threats:

- Because psychologist services are not seen as much needed in this target group and even if they are paid, it can be difficult to pay for convince elderly people to use them. In addition, the integration of any system into the already existing state system takes time.

#### Hungary

Following SWOT is relevant for both the transferring scenarios: Scenario 1 - EkoSMART (SI) and Psiprof (PT)

#### Strengths:

- Available RIS3 and sector specific strategies/policies at national level (e.g. RDI, Industry-4.0, Health),
- There is a tradition of medical technology lasting for several decades,
- Availability of strong competence and innovation skills (health sector, health care industry, academies, research institutions, universities, Hungarian Academy of Science),
- PP6 is responsible for national data management and analysis and (November 2017) launched the Electronic Health Cooperation Service Space (EESZT) the national e-health system that meets all the latest demands and requirements related to data security, information technologies and healthcare.

#### Weaknesses:

- Limited focus on quadruple helix cooperation and fostering faster market uptake,
- Minor space in social OP for innovation carried out by the business sector and lack of granting public driven innovation in RDI OP,
- Lack of research infrastructure, practices and special staff in home care,
- More than one institution is responsible for the innovation strategy (National Research and Innovation Office, Ministry for National Economy), while Ministry of Human Capacities is responsible for social, health and education (incl. HEIs) systems.

#### Opportunities:

- In accordance with the findings of the recent midterm analysis, ESIF and national resources can be refocused by modified RDI strategy,
- Concentration on technology transfer and quadruple helix cooperation in scouting, creating, valorising and uptake of innovation can gain priority,
- Implementation of system-innovating health projects in the Human Resources Development Operational Programme 2014-2020 open new markets and needs e.g. in:
  - o One-day surgery (deinstitutionalization, accessibility),
  - o Psychiatric and addictological care network (accessibility, deinstitutionalization),

- Complex Development of Electronic Health Services “aiming capacity development and further improvement (new functions) of Electronic Health Cooperation Service Space (EESZT) (accessibility, eHealth, PHR),
- Open and forthcoming CSA calls in Horizon 2020 (MWP 2018-20), such as planned calls offer opportunities to prepare projects, actions and programmes to be launched after 2020.

#### Threats:

- Despite the importance of specific actions (that foster and assist progress in deinstitutionalization contributing to make health and social systems and insurance cover more sustainable and patient friendly) have been recognized, national/regional calls for proposals might not be focused on home care or at least on health/social economy,
- MAs of OPs are urged to reach 100% commitment to manage the risk of realizing low abortion.

## Czech Republic

### Scenario 1 - European Network for FALL Prevention, Intervention & Security (RO)

#### Strengths:

- platform like that missing in the Czech Republic,
- cooperation networks get high support from the Managing Authority of OP in the Czech Republic,
- there is a will of stakeholders inside of the Czech Republic to set up such cooperation network,
- there is a will among stakeholders to include further actors from the ecosystem into common Research and Innovation initiatives.

#### Weaknesses:

- not possible full transfer of GP, but the initiative idea and activities yes,
- such project will be an initiative of stakeholders and not directly from the Ministry.

#### Opportunities:

- if successful, platform would enable advanced cooperation among quadruple-helix actors in the Czech Republic,
- opportunity for further possible transfer of GPs from other countries via the set up platform.

#### Threats:

- if new stakeholders cannot be engaged into the platform to cooperate.

## Romania

### Scenario 1 – OLDES (CZ)

#### Strengths:

- The use of QH, the innovation, the cost, existent case studies.

#### Weaknesses:

- The lack of tool for avoiding any non-acceptance of ITC by elderly at their homes.

#### Opportunities:

- The current COP call and the next COP and other OP in Romania.

#### Threats:

- The dynamicity of decisional, financial and legal aspects at the local level.

### Scenario 2 – Psiprof (PT)

#### Strengths:

- The region needs to indicate which clinical sectors would like the platform to address (psychology, psychiatrics, nutrition, general medicine, etc.) and the languages ,
- The implementation and use is not complicated from the point of view of technics,
- The existence of case studies, current use and statistics of successful deployments.

#### Weaknesses:

- The quick depreciation of ITC support, the system updates, little know-how of online tool.

#### Opportunities:

- Current and next call of COP and next calls of other Ops and sectorial Programs in which Health and HC is accepted as topic for projects.

#### Threats:

- The availability of the team behind the system to include legislation continuously updates, appearance of a disruptive technology.

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