



HoCare



Interreg Europe

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

HUNGARY REGIONAL REPORT

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

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A) BACKGROUND

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

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

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

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

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

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

B) OBJECTIVE

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

C) METHODS / RESOURCES TO COLLECT INFORMATION FOR THE REPORT

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

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

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

1) POLICY INSTRUMENT¹

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

| | |
|--|--|
| Name of the Policy Instrument addressed (in English) | Economic Development and Innovation Operational Programme Plus (EDIOP+) |
| Name of the Policy Instrument addressed (in regional language) | Gazdaságfejlesztési és Innovációs Operatív Program Plusz (GINOP+) |
| Name of the relevant thematic Priority Axis (supporting R&I activities) | PA2 – supporting RDI activities of economic actors (companies) |
| Specific objectives of the given Priority Axis | SO2.1 – fostering in-house RDI of SMEs SO2.2 – Centres of Excellence: collaborative RDI projects of medium-size and/or big enterprises with academia and other knowledge transfer organisations |
| Geographical Coverage (National, Regional, if other please explain) | national |
| Managing Authority | EDIOP+ Deputy State Secretariat of the Ministry for Finance |
| | |
| Is this the same Policy Instrument (PI) your organization addressed during the implementation of the initial HoCare project? (Yes / No) | NO |
| If 'Yes', please explain why you have chosen to still address the same PI? (max. 1000 characters) | not applicable |
| If 'No', please explain why you have chosen to change your PI? (max. 1000 characters) | The policy instrument chosen originally, the EDIOP, terminated in 2020 as its programming period was parallel with that of the EU's fiscal cycle (Multi-annual Financial Framework 2014-2020). It has been replaced by EDIOP+ running till 2027. |

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

2) OTHER RELEVANT POLICY INSTRUMENTS

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

| | |
|--|--|
| Name of the Policy Instrument addressed (in English) | |
| Name of the Policy Instrument addressed (in regional language) | |
| Name of the relevant thematic Priority Axis (supporting R&I activities) | |
| Specific objectives of the given Priority Axis | |
| Geographical Coverage (National, Regional, if other please explain) | |
| Managing Authority | |
| Please explain why this Policy Instrument is relevant to Home Care R&I and/or quadruple-helix cooperation? (max. 1500 characters) | |

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

3) THE HOME CARE RESEARCH & INNOVATION ECOSYSTEM

| |
|---|
| Briefly describe the ecosystem in Home Care R&I in your region including the most significant main actors, infrastructure, resources, available public / private supporting services, networks, platforms and events (max. 5000 characters) |
| <p>In Hungary, neither formal nor informal healthcare providers are generally involved in innovation partnerships and cooperation as a usual, frequent and common solution to develop existing and create new home care services and technical background so far. Those examples which can be considered as good practices for establishing innovation on the unmet needs identified by formal and informal healthcare providers can be rather considered as isolated cases and/or pilots.</p> <p>The roles in a partnership for innovation have been overlapping: Formal healthcare providers generally have been appearing in innovation partnerships as researchers on the Academia Helix's side. Of course they can define what is missing or dis-functioning, therefore they can transfer the information about real unmet needs too, but in most cases they concentrate on finding evidence that an idea is effective – (1) adequate to accomplish the purpose or produce the intended or expected result, and in good cases (2) efficient – performing or functioning in the best possible manner with the least waste of time and effort. In this function they are rather validators, but users (as it doesn't matter where the need and idea come from, and the need is real and unmet or not).</p> <p>In home care, innovation activities are led by "technology" in most cases, and influenced by funding/granting opportunities in some cases. It means that producers and traders of smart devices and software/APPs try to sell their products to the patients and care providers. If they succeed, they try to tailor the product to existing</p> |

procedures, methods and business cases (or have them changed). Integrated development of procedures, methods, business cases, devices and software is rare. Identification and satisfaction of users' unmet needs are mainly led by intuition or in better cases by personal experiences of individuals or smaller groups. Reliable surveys and/or planned and coached involvement of key user groups are rare. Funding/granting opportunities mainly focus on fostering competitiveness of and cooperation among SMEs and other enterprises and/or higher education institutions (HEIs) and research organizations.

Formal healthcare providers have more professional associations.

The membership of these associations consists of NGOs, enterprises and foundations representing business, church and civil sectors and public hospitals. These stakeholders are engaged mainly in local level, some in county or regional level. In addition Hungarian Charity Service of the Chivalric Order of Malta (Magyar Máltai Szeretetszolgálat - MMSz) is playing a significant role at national level in home care. The associations have not expressed interest or activity to strengthen the presence of formal care providers at innovation partnerships and cooperation so far. There is a lack of supporting activities at association level to help their members (the providers) to enter innovation partnerships as stakeholders who can transfer knowledge of unmet needs. However, individually, some formal providers took part or initiated development of new methods, procedures, ICT solutions and equipment based on recognition and introduction of unmet needs.

There are good cases when formal provider individuals realizing a need for innovation elaborate a new solution and try to have it accepted by their hosting institution or the wider market. In most cases they have more chance to succeed if they have existing connection to/in a university or research organization. In many cases they have no experiences, skills and capacities to be able to transfer an idea to a marketable solution, and they rarely have time to get/learn them. Unfortunately, most formal providers are not interested in or have no resources for developing their own incubation infrastructure.

Informal healthcare providers

Informal healthcare providers have also some associations or other organizations to represent their interests and exchange knowledge and experiences. The umbrella organization of these bodies is HAPO - Hungarian Alliance of Patients' Organisations (Betegszervezetek Magyarországi Szövetsége - BEMOSZ) which is a member of EPF – European Patients Forum. HAPO (backed by EPF) is more and more active in increasing the level of literacy, empowerment and adherence of patients and their relatives as far as the importance of their involvement and participation in clinical trials and innovation. They are also assisted by some important stakeholders from other helixes, e.g. Association of Innovative Pharmaceutical Manufacturers (AIPM – Innovatív Gyógyszergyártók Szövetsége).

Health Insurance Fund (HIF) covers home care if the service is provided by a specialist service provider contracted by the management of HIF. Informal care provided by a family member is financed by the social care system (not the HIF). Home care activities ('specialist care at home' and 'hospice care at home') are provided by the insured person's home or residence, the appointment (initiating order) of her/his physician, and must be performed by a qualified nurse.

There are various associations (mainly representing members of one specific industry, e.g. ICT or hospice or health technology) that provide regular possibilities for networking. Generally RDI partnerships are not organized by associations, but universities and/or major enterprises. SMEs and non-profit organizations undertake in initiating innovation partnership if a call or a granting scheme fosters to do so.

However, it must be emphasised that stakeholders see the advantages of open innovation in general. They would be open to take part in QHC, but have no or minor experience and knowledge to prepare, organize and manage such a partnership. The most common obstacles to launch the QHC partnership are finding the relevant key stakeholders and convincing them to enter a concrete partnership, to motivate them to express their needs and interest or constraints and adverse interest. Especially the issue of involvement and

adherence of end users may cause difficulties to the organizer of the partnership and finally it neglected in the most cases.

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

The wide-spread of COVID-19 has changed public services in many ways. Several immediate measures were introduced in Hungary as soon as the first wave of the pandemic hit the country. One critical decision for the success of the epidemic management was to reduce the number of contacts. This included the switch to home office, the immediate introduction of home schooling in education, and telehealth (telemedicine) solutions, mainly in primary care and outpatient care. These solutions to deal with the epidemic, which were introduced promptly without any special and specific preparatory work, both in terms of technology and human resources planning, were a major challenge and a heavy burden.

The epidemic has made it necessary to reorganise health and social care capacities. Many health institutions had made remote working possible earlier. In certain specialised healthcare segments, doing certain phases of work remotely, especially in laboratory diagnostics (e.g. diagnostics related to imaging procedures), had long been the practice. However, this has become the general practice as a first-instance result of the pandemic. Recent scientific surveys and public opinion polls substantiate that this modern form of care, i.e. telemedicine, could be used even more extensively, hence wider spread as it meets positive reaction by the general public. Security experts even claim that the Hungarian National eHealth Infrastructure is a secure host environment for a functional telemedicine platform, taking all specificities of health processes and services into account (cf. *"Health Care plus National Security = Health Security?"* in *Scientia et Securitas* Vol. 2 No. 1, 2021).

As a result, there is a tangible change in government's approach towards telemedicine and digital healthcare solution in general, which is expected to be accompanied by possible shift in health policy essentially. This shift can be summarised as follows: a) digital solutions more emphasized, and this new emphasis will pave the way for further development, b) more emphasis on improving access to care, and explicitly digitalized remote care, c) more emphasis on the development of telemedicine solutions, i.e. remote diagnostics and teleconsultation, d) recognition of the significance of providing uninterrupted health services, e) finding bridging solution when "face-to-face" health service is unavailable. In the next section of this report, there is a summary of this shift, demonstrated on a legislative example.

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

Hungary's National Security Strategy 2020 gives priority to health security in its entirety. Pursuant to paragraph 169, "special attention should be paid to health security, which involves, in addition to providing a **high level of health care**, the strengthening of operational and regulatory response capacities for public health and epidemiological challenges of natural or civilisational origin. As critical infrastructure component, health care providers play a key role in the delivery and often the organisation of care.

Doctor-patient and physician-physician communication shifted to the online space as an immediate result of the pandemic. This was granted a legal framework already during the first wave by Government Regulation 157/2020. The piece of secondary legislation inherently provided a framework for telemedicine per se, and quite a broad framework right away, as it lists all of the following medical activities within the scope of telemedicine:

- professional assessment of the patient's state of health,
- the diagnosis of diseases and their risks,
- the identification of specific diseases,
- ordering further tests to better assess the patient's condition, initiating treatment,
- teleconsultation,

- monitoring the patient's condition and making a diagnosis on the basis of information available through remote monitoring tools and other infocommunication technologies.

On the basis of the Regulation, the following forms of healthcare activity have all gained legitimacy as telemedicine care in order to replace the obligation of patients being present in person:

- patient management in the form of teleconsultation, which is the basis for teleconsultation with a specialist,
- receiving patient declarations of information, consent and data processing,
- pre-screening in the form of a teleconsultation to assess the need for care and the seriousness of the health condition, based on a face-to-face encounter,
- pre-contact and data collection to make face-to-face care following teleconsultation faster and more efficient,
- diagnosis and therapeutic proposal by means of teleconsultation, remote monitoring and remote diagnostic tools,
- prescription of medicines,
- follow-up and after-care following an earlier face-to-face encounter,
- organisation of teleconsultation,
- issuing referrals/further referrals,
- psychotherapy, crisis intervention, parent counselling, counselling, supportive psychotherapy,
- physiotherapy with teleconsultation,
- breastfeeding counselling,
- care provided by health visitor nurses,
- counselling and advice by telephone, online or in other forms.

The legal instrument cited above provides a large-scale taxation of health services where activities are no longer subject to physical presence and face-to-face care provider/end-user encounter. Furthermore, these activities carried out remotely, applying digital platforms and techniques are eligible for government financing, and are recognized as services rendered. Within the health sector, home care providers as well as home care end-users are one of the ultimate beneficiaries of the change induced and introduced by this instrument, born out of need and as a first-instance response. The priorities and objectives laid down in its preamble, and the listed specific activities recognised as eligible when carried out remotely, applying digital solutions, substantiate the shift in policy summarized in the previous section.

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

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

a) Citizens / users helix

| Main formal + informal providers of healthcare, elderly care recipients / associations in Home Care R&I (Please list at least 6) | | |
|---|---|--|
| Name (+ in local language in brackets) | Website | Description of objectives and main activities (max. 500 characters per line) |
| Hungarian Alliance of Patients' Organisations | http://bemosz.hu | HAPO (BEMOSZ) was founded in autumn 2013 by 12 patient organizations as a truly grassroots |

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| (Betegszervezetek Magyarországi Szövetsége) | | alliance to represent the interests of patients at national level, and to cooperate with like-minded stakeholders at European and international level. |
| Hungarian Hospice-Palliative Association (Magyar Hospice-Palliatív Egyesület) | https://hospice.hu/ | HHPA elaborated the legal documents of hospice-palliative care in Hungary: National Guidelines (2000 and 2002) and Minimum Standards (2004). In 2003 HHPA initiated a Parliamentary examination with human rights and patients' rights organizations to include the hospice care into the health care system. Since 1995 the Association has organized accredited basic and further trainings in palliative care for health care professionals. By 2008, more than 3800 people participated in their training sessions. |
| Hungarian Association for Home Care and Hospice (Magyarországi Otthonápolási és Hospice Egyesület) | http://mohe.hu/ | Coordinates professional and scientific work of members. Members provide home care and hospice services in Hungary. Assists networking in and outside the sector in Hungary and abroad. Aims to develop professional environment of home care and hospice. |
| Hungarian Charity Service of the Chivalric Order of Malta (Magyar Máltai Szeretetszolgálat) | http://www.maltai.hu/ | MMSz assumed to find an innovative solution with developing WEBNOVER.HU to support informal helpers (meeting needs for easily available, simple training material, including audio-visual elements regarding simple care tasks). The aim of the development is to provide informal helpers with information through the training material available at a website, which can be used during their daily care and nursing activities. |
| Association of Hungarian Medical Societies (Magyar Orvostársaságok és Egyesületek Szövetsége) | http://www.motesz.hu/ | An umbrella organization of various medical associations in Hungary with the aim: <ul style="list-style-type: none"> - To encourage and support the progress of scientific and professional excellence as well as its achievements in practice; - To promote free movement of medical doctors and patients as well as the implementation of continuous coordination needed to free market of medicines and medical equipment within the European Union; - To promote establishment of widespread International cooperation to find appropriate solutions for the issues relating Health Care; - To promote, coordinate and represent the professional interests of the -societies in national and international organizations; - To accomplish the Hungarian health care and the legislative process having effect on medicine in Hungary; |

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| | | - To support and encourage the attainment of the highest level of medical education, medical services in order to provide the best quality treatment. |
| Rehabilitation Centre for Physically Disabled People (Mozgássérült Emberek Rehabilitációs Központja) | www.merek.hu | The objective of the MEREK is to help the social integration of people with physical disabilities through complex rehabilitation services. Its mission is to achieve that people with disabilities possess real self-evaluation, to use their opportunities in a wise way, and also to become conscious of the fact that without sufficient expression of their needs they will not be able to live an independent life even with professional help. Using the available financial resources and the ideas of our colleagues we created an environment adapted to the personal needs of our clients. |

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

b) Business helix

| Main businesses and business' supporting actors in Home Care R&I? (Please list at least 6) | | |
|--|---|---|
| Name (+ in local language in brackets) | Website | Description of innovative solutions provided in the field (max. 500 characters per line) |
| Association of Health Technology Suppliers and Medical Device Manufacturers | http://www.etosz.hu/en/ | The Association of Health Technology Suppliers and Medical Device Manufacturers (Hungarian acronym is ETOSZ) is the organization for the interest representation of Hungarian health technology and medical device manufacturing sector. The purpose of ETOSZ and its member companies is to reach the highest health benefit and to improve the health status of the Hungarian society by providing high-level services for those enlisting the health services. |
| Association of Medical Devices Manufacturers | http://www.mdma.hu | The Association of the Hungarian Medical Device Manufacturers was founded in 1994. Its members -mainly Hungarian-owned companies- manufacturers and suppliers work on the medical field. The Association's main tasks and goals are the following: The Association's initiate, coordinate and organize the concerted presence in those questions which might arise in the enforcement of the members' interest as follows: - Representation of the professional interests at the authorities |

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| | | <ul style="list-style-type: none"> - Settlement of the information and prognostic systems into operation assisting the sector's general interests - General and unique connection maintenance towards mass communications - Putting the Hungarian medical devices' good quality into common knowledge furthermore lobby activities on every possible forum in order to enforce the Hungarian companies' interests - Continuous and long-term co-operation and connection keeping with corporate and/or other professional organizations working in the sector. |
| Association of Innovative Pharmaceutical Manufacturers | http://www.magyosz.org/hu | <p>Hungarian association promoting professional and trade interest of pharmaceutical companies that have local manufacturing plants in Hungary and typically produce generics; MAGYOSZ supports the Central Eastern European Pharmaceutical Manufacturing Excellence Award.</p> |
| Hungarian Medical Instruments Producers and Service Providers Cluster | http://mediklaszter.eu/ | <p>MediCluster is a network of business companies- (29 members at present), created in 2006 by member companies of the Hungarian Association of Medical Manufacturers and Service Providers, who are leading players of Hungarian medical technology industry. The business activities of the companies include the development, production, distribution and support of medical equipment, and provide services on a profit-oriented or non-profit basis, or perform activities and/or provide professional-scientific support related to the above.</p> <p>MediCluster received the title of the 'Accredited Innovation Cluster in 2008 and implemented 3 innovative development projects (Development of Export-Promoting Incubator House, Laser Development Project and Project for the Development of Hospital Services) in the framework of the New Hungary Development Plan, Pole Programme'.</p> |
| Biotechnology Innovation Base Cluster | http://www.peik.hu | <p>The cluster focuses on the healthcare industry and medical biotechnology, including the development, manufacture and distribution of in vitro diagnostics (IVD) devices. Within the framework of the industry-level network, the long-term goal is to develop so-called "orphan" products for preventing, diagnosing and treating rare diseases. The product development activity is expressly SME-oriented, which is in perfect harmony with the composition of the members of the BIB Cluster.</p> <p>The PEIK project (DDOP-1.1.3-11-2011) - ensures the faster, more competitive utilization of the</p> |

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| | | finished, ongoing and planned developments. The essential condition of it is the establishing of the technological platform, the cell- and tissue culture laboratory, which allows the further R+D+I activities and small production capacity, which supports the market enforcement of the most important product category, the in vitro medical technology devices. |
| Hungarian Association of Science and Technology Parks | http://www.mattip.hu/ | <p>HASTP is the association for businesses, organizations, municipalities and professionals pooling scientific, technological and industrial parks success.</p> <p>It promotes the creation of industrial parks, the development and successful operation of interested businesses, organizations, government and trade association for professionals.</p> <p>It provides for its members advocacy, sharing of best practices, consulting and other support and makes available the professional knowledge accumulated by the members through sharing experience to support the policy.</p> <p>The association provides services to help Member Parks with settling micro, small and medium-sized enterprises (SMEs) as well as fundraising and innovation management.</p> |

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

c) Research helix

| Main research actors in Home Care R&I? (Please list at least 6) | | |
|---|---|---|
| Name (+ in local language in brackets) | Website | Description of relevant research activities (max. 500 characters per line) |
| Semmelweis University | http://semmelweis.hu/english | At Semmelweis University, research, development, and innovation (R&D&I) take place in the areas of living natural sciences, and social sciences. The scientific areas connected to the Ph.D. programme are basic, clinical, molecular, and multidisciplinary medicine, pharmaceutical sciences, mental health sciences, and pathological sciences. Social science research is employed in the areas of mental health and sport science. |
| University of Pécs | https://pte.hu/english/ | The UNIVERSITY OF PÉCS (PTE) is the first University in Hungary. The roots of the institution date back as early as 1367. With the acceptance of the R+D+I Strategy the University of Pécs declared its commitment towards being a research university and towards innovation. |

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| | | <p>Technology Transfer Office (TTO)</p> <p>The aim of establishing TTO was the utilization of research products and technology transfer is to create an environment that provides for an optimal flow of knowledge for the local knowledge bases and innovative entrepreneurs.</p> <p>The PTE Faculty of Health Sciences is a leader both in health sciences, and also in sport science developments in Hungary. The Faculty runs educational and RDI programs in nursing, physiotherapy, midwifery and dietetics. All quite important for home care as well.</p> |
| University of Szeged | http://www.etszk.u-szeged.hu/english/ | <p>The mission and purpose of the University of Szeged is to cultivate science and internationally competitive research work and to advance its research university nature. Its research and creative work that is realized as part of national and international research programmes comprises basic and applied research, creative arts, product and service development.</p> <p>It has a Knowledge Management Center which was founded to create value and broaden the scientific theories in knowledge management at University of Szeged. The Center is engaged in research topics which are important for assisting knowledge transfer as well (e.g. Science-to-Business (S2B) Marketing or Spin-off formation).</p> |
| University of Debrecen | https://www.unideb.hu | <p>The university's RDI strategy focuses not only on basic research but also on the effective matching of applied research and commercially profitable development projects this way providing an incentive for research that creates value for society and the economy.</p> <p>With its annual R&D income of about EUR 17 million, the University of Debrecen is one of the most rapidly developing knowledge centres in Central and Eastern Europe. With a research infrastructure of 17,000 m² in its new Life Sciences Building, the University of Debrecen provides world-class services and operates an extremely successful biotechnology incubation unit. The University is a superb environment for cooperation between researchers, companies and investors and plays an active role in the operation of the Pharmapolis cluster, as well as in local clusters focusing on</p> |

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| | | functional food development, IT and life sciences. |
| Zoltán Bay Applied Research Nonprofit Ltd. | http://www.bayzoltan.hu/ | <p>The aim of Hungary's largest and most successful state-owned institution of applied research, Bay Zoltán Nonprofit Ltd., which is named after the famous physicist, is to improve the competitiveness and efficiency of enterprises in Hungary through successful innovation and technology transfer, in close cooperation with domestic and leading foreign partner institutions.</p> <p>It offers complex scientific and technical solutions to achieve a more efficient and fruitful operation for our domestic and foreign client base - which means over 200 enterprises at the moment. In other words, we play the role of "bridge of innovation" for our partner institutes through the activities of applied research-development and technology transfer.</p> |
| Healthcare Technologies Knowledge Centre of the Budapest University of Technology and Economics (BME) | http://emt.bme.hu/emt/en | <p>The Healthcare Technologies (at its foundation: Biomedical Engineering) Knowledge Centre of the Budapest University of Technology and Economics (BME EMT) was established on 1 July 2007 by the decision of the Senate of the University.</p> <p>Members of the EMT can be independent organisations or their organisational units, such as faculties, departments, research centres and independent research groups of BME, the research groups at BME of the Hungarian Academy of Sciences, other educational institutes and research units or their organisational units, other public institutions, enterprises, financial organisations, non-profit organisations.</p> <p>BME EMT cooperates with Semmelweis University of Medical Sciences in the area of biomedical engineering and health/biomedical informatics education. The tasks of BME EMT also include strengthening cooperation between academia and industry in order to further the utilisation of research results, the joint participation of R&D&I projects etc.</p> |

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

d) Public institutions / government helix

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

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| <p>Ministry of Interior – State Secretariat for Health (Belügyminisztérium – Egészségügyi Államtitkárság)</p> | <p>http://www.kormany.hu/</p> | <p>The state secretary is responsible for assisting all the general duties of the minister responsible for health (now: Minister of Interior). The minister of state is also responsible for defining the policy, the implementation and the professional content of HRDOP, HHCOP and TSDOP as far as health is concerned. The minister of state is not only responsible for preparing the annual or multiannual work plans (and calls) in these OPs, but it is the professional evaluating body of the submitted applications for grants in health sector as well.</p> |
| <p>Ministry for Finance - EDIOP+ MA (Pénzügyminisztérium GINOP IH)</p> | <p>http://www.kormany.hu/</p> | <p>The Managing Authorities (MA) for EDIOP (GINOP), TSDOP (TOP) and CCHOP (VEKOP) are in the Ministry for Finance of Hungary. EDIOP's MA is the Deputy State Secretariat of Economic Development Programmes, while the MAs of TSDOP and CCHOP are in the Deputy State Secretariat of Regional Development Programmes.</p> |
| <p>National Research, Development and Innovation Office (Nemzeti Kutatási, Fejlesztési és Innovációs Hivatal)</p> | <p>http://nkfih.gov.hu/</p> | <p>The Office is responsible for defining the policy, the implementation and the professional content of the 2nd funding priority axis of EDIOP (and the mirror calls in HHCOP). NRD Office is not only responsible for preparing the annual or multiannual work plans (and calls) in the priority axis, but it is the professional evaluating body of the submitted applications for RDI grants as well. NRD Office is the MA for the National Research, Development and Innovation Fund.</p> |
| <p>Hungarian Collegium of Health Professionals (Egészségügyi Szakmai Kollégium)</p> | <p>https://kollegium.aeek.hu/</p> | <p>The College – through its faculties specialized in various disciplines of medicine, management, economy and technology – develop proposals for the minister responsible for health. These proposals concern professional standards, protocols and guidelines in operating healthcare, performing treatment, cure and care services.</p> |
| <p>National Health Insurance Fund (Nemzeti Egészségbiztosítási Alapkezelő)</p> | | <p>National Health Insurance Fund Administration (NEAK) NEAK carries out the tasks relating to the management of the National Health Insurance Fund, the maintenance of records, keeping financial accounts and fulfilling the reporting obligation.</p> |
| <p>National Institute of Pharmacy and Nutrition (OGYÉI)</p> | <p>www.ogyei.gov.hu/</p> | <p>National Institute of Pharmacy and Nutrition (OGYÉI)</p> |

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| | | <p>OGYÉI examines the notifications on the quality of medicinal products and adverse drug reaction alongside to the tasks pertaining to the authorization of medicinal products and ensuring withdrawal from the market of the defective batches posing a threat to human health. Additionally it is also OGYÉI's task to authorize the manufacture, distribution of medicinal products and the activity of parallel import according to strict considerations and to continuously control good manufacturing-, distribution-, clinical- as well as laboratory practice concerning the development of medicinal products, and also the pharmacovigilance related activity of the marketing authorization holders. The obligation of authorizing and supervising clinical trials on investigational medicinal products, off-label indication, individual demand for medicinal product and dispensing of medicinal products are also under the competence of OGYÉI. Activities relating to gene technology and establishments carrying out such experiments in the field of human medical sector are authorized by OGYÉI, as well.</p> |
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*Please add new lines in case you would like to report any additional actors

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| <p>Briefly describe the main changes to the main actors' synthesis in relation to what was described in the Regional Situation Analysis prepared in the framework of the initial HoCare project's implementation and their relevance to the COVID-19 crisis impact (max. 2000 characters)</p> |
| <p>Elderly, patients, families, other care recipients:</p> <ul style="list-style-type: none"> - want to be part of innovative projects / initiatives in area of home care and help shape finding solutions to needs of people working with and in general - want to receive more information about the possibilities, goals and procedure of the innovation, such as complications resulting from taking part in trials - are ready to participate in telemedicine programmes and projects imposing/being accompanied by less or no complications, but result easier to use solutions and products <p>Employers:</p> <ul style="list-style-type: none"> - are interested in avoiding or shortening the time they lose because of illness of their employees (or the relatives of their employees) by prevention, quicker rehabilitation and shorter innovative healthcare solutions and procedures; <p>Payers (social/public/non-profit or for-profit insurance organizations):</p> <ul style="list-style-type: none"> - are interested to get more effective (adequate) and more efficient (more value and/or less costs of adequate) solutions, procedure, protocols, products and services than those which they are paying for at the moment; - are looking new solutions to develop the output of the cash management; <p>Formal care and medical providers (staff):</p> <ul style="list-style-type: none"> - are looking for possibilities to get acquainted with new therapies and equipment - seeking for jobs that are well paid |

- would like to avoid overtime
- would like to commute less between their homes, jobs/cabinets, patients and other places
- however, it is important to them that this work should not cause too much occupation and would not require extra time, for they are exhausted because of the general lack of medical staff and other work force; and they look at this possibility as a way and source for gaining some relief from the general work pressure in longer term

Formal care and medical providers (organizations):

- would like to solve their problems caused by lack of staff
- try to get financial resources for investments, procurement for general operation and be competitive in recruitment and running HR management
- are / should be interested in increasing efficiency and effectiveness of daily activities
- are lobbying for an update of the unit prices of their services paid by insurance system/organizations, and are interested in fast reception of innovative new and/or innovated (evidence based) drugs, solutions, equipment etc. by insurance system/organizations.
- are / should be interested in shortening “hotel” services (time per capita spent on inpatient care) by developing telecare, homecare and integrated care
- worry about launching pre-commercial procurement or public procurement of innovation, because:
 - they are afraid of investing (own resources and/or subsidy) in a programme that might not deliver the satisfactory solution to their unmet needs
 - they have no experiences in preparing and implementing public procurement procedure/procedures for PCP/PPI (with a special regard on the reactions of bidders and PP authority)

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

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

| Name of the Project / Research Initiative | DrBetMen - patient route management system |
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| <p>Short description (main objectives, main actions) (max. 1000 characters)</p> | <p>Dr.BetMen is a user-driven web platform and application providing support to healthcare actors. It connects the key players along the patient journey to improve and develop their collaboration.</p> <p>Its core functional features, marking its objectives of development, are:</p> <ul style="list-style-type: none"> • Patient pathway tracking - transparent, clear patient pathway, easy to follow list of treatments; • Personalised patient journey - supporting personalised and optimised treatment plan and treatment itself; • Communication - supporting doctor-patient communication to make it more efficient; • Outcome-based funding - using an outcome-based evaluation system to identify good practices |

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| | <p>The route is an institutional journey patients take when referred for further treatment by their GPs (or other health professional). From first contact with the GP, through referral, to the completion of their treatment, including the period the patient is in a hospital or a treatment centre, right up until they are discharged. The pathway gives an outline of what is likely to happen on the patient's journey and can be used both for patient information and for planning services.</p> <p>DrBetMen offers a solution to reduce the administrative burden on healthcare providers, speed up patient care, make the whole process transparent for both the doctor and the patient and minimise face-to-face encounters.</p> |
| Participating Organizations | InnoPHC, hospitals, NDGH |
| Does the Project / Research Initiative promote the Quadruple-Helix Approach? If yes, please explain how. (max. 1000 characters) | <p>The entire development process was a collaboration of (non-profit) economic actor, government, medical profession and patients, using the specific method of co-creation. End-users, both medical professionals and patients were actively involved in the process, even in the prototyping phase. The prototype, in fact, was tested with help of end-users. Their feedback was subsequently collected, analysed, selected, and eventually incorporated.</p> <p>It goes as follows. Physicians design a generic patient pathway (journey) for patients with the chosen disease, e.g. oncology. Relevant care guidelines (official medical protocols) corresponding to the particular diseases/diseases group, coding and financing protocols are then selected by the team. The IT developers make them available in 'v0.1' version. Team members test the encoding in Dr.BetMen. Change requests, if any, are identified and introduced by each team member. Change requests are then prioritized jointly by the team members, and the IT developers has prepare and implement the necessary updates. This cycle is repeated until the jointly agreed final version is achieved.</p> |
| Total budget and source of funding | ca. 240M HUF financial investment and more than 18000 man-hours |
| Main results of the activities (max. 1000 characters) | <p>DrBetMen offers a solution to reduce the administrative burden on healthcare providers, speed up patient care, make the whole process transparent for both the doctor and the patient and minimise face-to-face encounters.</p> <ul style="list-style-type: none"> • different care providers (physicians and institutions, e.g. GPs, specialists) to create a personalised patient diagnostic, treatment, rehabilitation and prevention plan, and to track treatments; • patients and their family members (or informal carers) to help them obtain clear information and navigate the maze of the care system; • all parties involved (doctor, nurse, patient, etc.) plan and book appointments for doctor-patient meetings; • management of health care providers, it provides information to identify good practices or bottlenecks and to plan resources optimally. |
| Website / Link or contact details for more information | <p>https://www.innophc.hu/projektek/dr-betmen</p> <p>https://www.youtube.com/watch?v=uEScgoqesek&ab_channel=SZEFA-INNOPHC</p> |
| Please explain the relevance of this Project / Research Initiative with the impact of the COVID- | <p>As it was described in the relevant preceding section, the COVID-19 made the swift and immediate reorganisation of health capacities necessary, which was an urgency as well. A solution that replaces face-to-face encounters, yet provides for uninterrupted services, had to be delivered. DrBetMen meets all these requirements by fulfilling the following criteria: a) telemedicine solution,</p> |

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| <p>19 crisis (max. 1000 characters)</p> | <p>b) suitable to replace face-to-face encounters, c) facilitates remote monitoring of patients, d) considerable leap towards full digitalization. Due to its latter two features, it is a good solution for home care from several perspectives: a) monitoring of patients discharged from hospital, b) further referral of patients to post-clinical outpatient care, c) continual monitoring of patients requiring permanent home care, d) monitoring of all types of patients with diverse needs at any stage of the care - i.e. primary, secondary, tertiary – by their GPs.</p> |
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6) EXPECTED RESULTS FROM THE EXCHANGE OF EXPERIENCE PROCESS WITH THE HOCARE PARTNERSHIP

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

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| <p>The four major recommendations of the HU RAP addressed to the original instrument are reiterated, as a matter of fact, stressed with more emphasis. These are:</p> <ul style="list-style-type: none"> • Foster international cooperation in health care at all levels (cross-border, interregional, transnational); • Strengthen emphasis on digitalisation, digital education and health literacy; • Design specific call(s) with focus on home care and/or telehealth/telemedicine and/or quadruple helix ; • Design specific call(s) targeting health industry with focus on co-creation/living lab and market research activity support. <p>As the recommendations will stay in the core of NDGH’s approach, the exchange of experiences is expected to be an opportunity to learn if there are any recommendations specifically matching with those made by partners to their own respective MAs, i.e. scrutiny of similarities. In addition, to learn how successfully partners addressed their own original challenges stemming from the implementation of the RAP, especially those challenges arising with the pandemic; as well as to learn if the pandemic brought any significant changes in their recommendations and in the underlying priorities. Finally, to learn how response and accommodating their respective MAs have been to their recommendations, either original or new, and to what extent these were accommodated by the MA.</p> |
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7) OTHER INFORMATION

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

Not applicable

8) AUTHOR

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

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| Country | Hungary |
| Region | Central Hungary |
| Partner Organization | National Directorate General for Hospitals (successor of National Healthcare Service Centre) – PP6 |
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