GOOD PRACTICES CASES

- SOUTH OSTROBOTHNIA

CASE 1

Title	***@geing Online mobile application and its development using co-creation***
Objective	Objective is to create mobile application to older adults through which they can find local activities organized for them. Older adults can also organize activities by themselves and invite others to participate. Overall, the objective of the application is to offer older adults digital services that enhance their participation in meaningful social activities. In addition, the objective is to find company that continues the service after the project.
Activities	Developing and evaluating an online application that helps community-dwelling older adults to maintain their social connections, networks and relationships as well as to participate in meaningful social activities. Development phase includes co-creation, participatory design and user inclusion. Different versions of application are presented and tested during the development phase with end-users (older adults) based on their and / or their regions (municipality) needs. The aim is that regions/municipalities contract regional IT-companies to continue application maintenance and updating after the project to ensure the service.
Results	In the beginning of the project, in total 110 organisations and associations, that organize services for the elderly, as well as groups of senior citizens were interviewed about the needs and content for this kind of application. The project is ongoing. So far, 53 older adults (average age 82 y) have tested the mobile application prototype and participated on its development. Most of these older adults were not familiar with tablets before (question: how familiar you with the use of tablets are, mean 2.4 from scale 1-5, 5 = very familiar). Usability of the application has been created and developed from users' perspectives. Feedback from older adults has been positive.
Budget	861 541 euros (3 years) alltogether in three partners (Vaasa, Umeå, Seinäjoki)
Stakeholders involved in the case	regional IT-companies, researchers, municipalities, companies, associations, older adults

CASE 2

Title	***Memory and aging friendly South Ostrobothnia***
Objective	Objective was to look for companies that are interested to develop their own operations so that they would better serve citizens with memory and aging issues. Companies can be different sizes and from different fields. The companies will also learn what is meant with memory and aging friendly society and actions and further to focus on how the role of the companies as service providers affects the daily life of the elderly and people with memory symptoms. Objective is to support the citizens so that they can independently operate the services.
Activities	During the project altogether 135 different companies attended training- and development process in South Ostrobothnia. Project also developed a guideline for the companies on how to improve for example their web page. Please watch the video to see what are the main points of being a dementia and memory friendly company: https://www.youtube.com/watch?v=GVIGbqKXh_g
Results	135 companies in South Ostrobothnia know how to better address elderly and people with memory loss. Companies have tags to show it. Guidance and instructions created.
Budget	Funding by the state-owned Finnish gaming company Veikkaus, distributed by Funding Centre for Social Welfare and Health Organisations. Altogether budget for the project between 2017-2019 was 373.000 €
Stakeholders involved in the case	Companies, third sector, local development organization (LAG)

CASE 3

Title	***Showrooms to demonstrate technological solutions related to health and wellbeing***
Objective	Objective was to build physical contact points (showrooms) to demonstrate modern equipment and services related to telemedicine, eHealth, robotics, artificial intelligence and mobile health. These showrooms can benefit local companies, both in IT and in health- and wellbeing sector, when they want to develop themselves and plan new services. Also education and research can utilize showrooms in their actions.

Activities	Former EPTEK, now part of SeAMK, built 2018 demonstration environment called Nordic Telemedicine Center to offer eHealth and telemedicine expertise and services to health and social care professionals, citizens and companies in the South Ostrobothnia region. During the project (2015-2018), various eHealth and telemedicine services and solutions were tested in the center. Currently the showroom serves especially SeAMK social and healthcare education actions and solutions are also presented regularly to various companies. Currently (2019-2021) SeAMK is building another showroom to supplement the already existing center and to demonstrate robotics, artificial intelligence and mobile health solutions related to aging and rehabilitation. New demonstration environment serves the needs of local social and health care, wellbeing as well as rehabilitation companies. The showroom demontrates intelligent future home for elderly individuals with modern equipment and services that advance possibilities to high quality, safe and active living at home. The project includes workshops for local companies to increase their knowledge about the possibilities of technological solutions. Local companies can also test the equipment.
Results	Companies know better the possibilities that technological solutions offer in their field of business and can develop their services. Education can serve society the best possible way when graduating students learn about modern technologies during their studies. New innovations are possible when research and development work can utilize built showrooms in their actions.
Budget	Nordic Telemedicine Center overall budget was 1 517 854 € in 3 years (2015-2018) and 3 partners (EPTEK, University of Vaasa and Umeå University) in 2 countries (Finland and Sweden). The budget included building of two showrooms, one to Seinäjoki, Finland and one to Umeå, Sweden. Overall budget for the project "Artificial Intelligence, mHealth and Robotics as reformors in the wellfare sector in South Ostrobothnia" that builds new local SeAMK showroom is 400 054 € (2.5 years, 2019-2021) from which the budget for devices and equipments is 150 000 €.
Stakeholders involved in the case	Universities, companies, municipalities, third sector

CASE 4

Title	***Multidimensional group for homecare support (KAT group)***
Objective	Objective is to offer multidimensional support for elderly people living independently.
Activities	KAT group consisted of elderly care directors, decision makers of the cities, memory nurses, home care support personnel, social workers, physiotherapists, housing service personnel and technical staff. The group discussed multidimensionally about the challenges that elderly people are facing, and aimed at finding correct methods to support them, either with the help of wellbeing technology or in other ways. For example, when a person is suspected to need home care the multidimensional group can evaluate the level of care and relevant technologies.
Results	Elderly people will get care that meets their individual needs. Professionals learn from each other.
Budget	Included in home care budget.
Stakeholders involved in the case	Municipalities, Home care units, Technology companies, Seinäjoki University of Applied sciences

CASE 5

Title	***Medical doctor services from distance using remote access***
Objective	Objective was to optimize medical care in the area with less travel for doctors and patients resulting in time savings.
Activities	Kaksineuvoinen area consists of four municipalities. They have organized their Social and Healthcare services together. There is one main primary health care unit in Kauhava and four smaller units in Alahärmä, Ylihärmä, Kortesjärvi and Evijärvi. Kaksineuvoinen decided to build new process where medical doctors were only present in Kauhava main primary care unit and smaller units were equipped with technologies and distance connections. Kaksineuvoinen educated nurses to use technologies and distance connection. During consultation, nurse meets the patient and connects to communicate with doctor using remote access. Nurses have possibilities to use technologies such as patient examination camera, ear camera and stethoscope.
Results	Doctors have more time to do patient work when they do not need to drive between primary care units. Municipalities save money.

Budget	2000 – 3000 € / month
Stakeholders involved in the case	The The Federation of Municipalities Kaksineuvoinen (Kauhava, Alahärmä, Ylihärmä, Kortesjärvi and Evijärvi), Seinäjoki University of Applied sciences

CASE 6

Title	***Distance policlinic for type 1 diabetics***
Objective	Objective is to offer possibility to make policlinic visits from distance (home, workplace etc.)
Activities	During the pilot, the selected patient group tested a new care model which included elements of self-monitoring, electronic information delivery and virtual nurse appointments through video communication. Patients were equipped with blood pressure monitoring devices and were requested to do self-monitoring. A new electronic template was created for this purpose. This template was delivered to the patient together with the appointment information from the hospital. The patient was requested to carry out self-monitoring for a 1 week period and to deliver the template to the diabetes nurse 3 days prior to the appointment, together with their insulin pump (where applicable) and blood glucose meter results. For the delivery of such information, the electronic health care service portal "Hyvis" was used. This portal provided a possibility for data secure information delivery between patient and health care professionals. Following these steps, the diabetes nurse's appointment was arranged through a video communication solution "Vidyo". This solution enabled virtual appointments where voice and video were delivered and the nurse could also share documents with the patient. These virtual appointments replaced equivalent control visits at the hospital.
Results	Type 1 diabetics save time and travel costs with this system.
Budget	Estimation 100 € / patient / month
Stakeholders involved in the case	Municipalities, Seinäjoki hospital district, Seinäjoki University of Applied sciences

CASE 7

Title	***Enterprise resource planning system for Homecare***
Objective	Planning of shifts at home care is managed easier and effectively.
Activities	Home care unit uses Fastroi software and mobile devices to manage shifts and controls which nurse visits which customers and when. Nurses have a straight connection to Patient Record System during the visits. Notes and reports are written with the mobile device during the visit or right after. Mobile device can work also as an e-key (via bluetooth) and nurses can access customers' homes easier and faster (no need to pick up the key). Staff nurse can operate nurses tasks with enterprise resource planning system and mobile (GPS) and organise time-effective visits.
Results	Effective worktime management. More accurate notes about the customers when they are done immediately. Nurses have more time for patient.
Budget	Costs for equipment and software; estimation not available.
Stakeholders involved in the case	Workers of home care unit of the city of Seinäjoki who carry out the customer service. Equipment is provided by Fastroi.

CASE 8

Title	***Nighttime distance monitoring (Safebed)***
Objective	Objective is to offer safe living for elderly at home and get important information about daily life of elderly.
Activities	Nighttime distance monitoring is carried out with a solution called Safebed. Safebed is a device that is in bed under the mattress, and it monitors person's sleep. Through it, home care personnel can monitor the customers sleep quality as well as basic parameters such as movement, heart rate and breathing rate. This information has value when person's needs for care are estimated.
Results	Homecare nurses and relatives have possibility to get important information with this technology.
Budget	50 € / Month.
Stakeholders involved in the case	Home care nurses, family care

CASE 9

Title	***Building of modern simulation learning environments and development of multiprofessional simulation-based education for health and social care sector in South Ostrobothnia, Finland***
Objective	Care providers will be expected to possess an increasingly complex set of skills and knowledge in the future. That is for example because of aging society and therefore increasing number of various health and social problems and dysfunctions. Simulation pedagogy can be used to prepare for various client and family counseling situations and to practice communication and interaction for interdisciplinary teamwork. In Finland, the universities of applied sciences have been assigned the mission of creating and developing attractive learning, research and innovation environments, which also meet the needs of professionals in practice. In simulation-based education, an effort is made to create a near-authentic learning environment and context based on the participants' aims and learning needs. The experience is immersive – learners can feel that they are part of the environment. Simulation-based learning can build a bridge between theory and practice and therefore facilitate learning experience.
Activities	At 2018, SeAMK built modern simulation learning environment to serve nurse education and other fields in health care and social care sector that have growing interests for simulation training. Thereafter the aim was to create a network-like simulated learning environments and education throughout South Ostrobothnia. That was done by developing multiprofessional simulation education for medical students and for students representing two levels of nursing education and by creating a multiprofessional simulation-based coaching programme for health care and social care professionals in small and medium-sized enterprises (SMEs). Continuous multiprofessional development and networking are essential elements of health and social care practice today. In Seinäjoki, the simulation trainings for SMEs were held by two lecturers from different expertise areas. Simulations were carried out in SMEs premises', which is unique both locally and globally. The concept ensures higher participation rate and better transition of learned skills and accomplished ideas to real work.
Results	Currently, SeAMK can offer facilities for simulating scenarios typical of emergency clinics, intensive care units or common wards, whereas the Vocational Education Centre offers opportunities for practicing prehospital emergency services, including the ambulance context. The third partner, the Central Hospital, has

	simulation learning facilities for trauma, operating room and labor room scenarios. It has been concluded that, as far as possible, the partners share their virtual and simulated learning environments. Using each other's concrete simulation facilities as well as virtual learning environments will create a network, which facilitates knowledge sharing and combining and therefore facilitates learning and development in the region. Procurement of similar simulators through common bid processes can also create additional synergy among the partners. The results of the three surveys conducted so far confirmed that both nursing and medical staff, students and professionals working in SMEs find multiprofessional simulation-based learning effective and useful in promoting networking and the exchange of knowledge, skills and support.
Budget	Budget for building simulation learning environment at SeAMK was 200 000 €. Budget for project that created the concept for multiprofessional simulation-based education in South Ostrobothnia region and conducted simulation training for small and medium sized health care enterprises was 422 607 € (2.5 years, 2017-2019).
Stakeholders involved in the case	SeAM SeAMK, South Ostrobothnia Hospital District, Seinäjoki Vocational Education Centre, municipalities, SMEs

CASE 10

Title	***Video phone service as a part of elderly home care***
Objective	Video phone service is one of the ways to make home care services. Video phone service helps to reduce overcrowding of personal visits by the home care nurses. It also offers new ways for the customers to get service to their own home. During 2020 objective is to further increase the amount of people using video phone service in the home care. Objective is also to include more ways to use the video phone service for example with rehabilitation and different kinds of social and cultural activities that can be offered to the customers home.
Activities	Currently nurses make calls to the customers' homes during times that have been agreed beforehand. Usually video phone call replaces actual physical visit by the nurse to the customers home. Elderly need to be in a sufficient condition in order to be capable to meet the services.

Results	Customers taking part have been mainly satisfied with the service they are getting. Comprehensive customer satisfaction results will be available next spring as a result of thesis work.
Budget	Budget for equipment and carrying out the activities have been included in the budget of City of Seinäjoki. Budget for rent of the equipment is based on a contract with Videovisit ltd and is not available.
Stakeholders involved in the case	Workers of home care unit of the city of Seinäjoki who carry out the customer service. Equipment and platform are provided by Videovisit ltd

- WEST TRANSDANUBIAN REGION

CASE 1

Title	***Brain@Home: Moving and enhancing brain training***
Objective	Achieving long lasting mind fitness of elderly people with the use of various online games in a virtual environment.
Activities	The project's activities include the following: - Developing an IT-based platform by means of which the elderly shall have access to a motivating, interesting and entertaining environment, which will help them train their brain and get involved in physical activities in a safe space, their own house/ home. - Building a hardware system composed of portable devices dedicated to stimulating the mental training. - Building a gaming type of platform with role in social training. All interactive games and applications are stored in cloud. The score one user marks in a game can be compared with that of other users. - Setting up a virtual community for the elderly and their caregivers, families and friends, where they shall share and disseminate knowledge and unique aspects on travel and interesting places. - Implementation of a system storing medical results and allowing users, caregivers, physicians/ GPs access (web-based, on the mobile phone etc.) to this data and evolutions. - Carrying out an analysis on improvement of the general health condition, quality of life and cognitive status, after attending the training program.
Results	- 1 Brain@Home platform developed. - The platform will be tested with 360 end users in total, in 3 European countries. - Clinical evaluation of the data with personalized suggestions for all the 360 end users. - Involvement of 3 clinical research organizations/experts.
Budget	- Total budget for Brain@home in consortium level: 1,379,515.00 EUR (Requested national contributions: 849,184.00 EUR - In national level: The practice is supported with resources coming from the National Research and Innovation Funds; the funding rate was 100 %.

Stakeholders involved in the case	This pan- European project is coordinated by SIVECO Romania in collaboration with 5 partners from 3 countries: Casa di Cura Privata del Policlinico (Italy), MediaHospital (Italy), Pannon Business Network Association (Hungary), Karma Interactive (Hungary) and University of Bucharest (Romania).

CASE 2

Title	***CoME - Caregivers and Me***
Objective	Innovative self-monitoring system for elderly with miniaturized wearable wellbeing sensors connected to an easy-to-use, simplified website specialized for them
Activities	CoME is a service-oriented platform which aims at developing solutions that empower seniors with Mild Cognitive Impairment (MCI) in a social context, to improve and manage personal life. The proposal addresses relevant challenges such as health self-management and increase and facilitation of the supply of formal and informal care for seniors in need. CoME research and development efforts are based on a platform resulting from AAL MyGuardian project (2012-2015) and extended it with new functionalities in order to provide care givers with better evaluation of senior's state. The CoMe platform includes an analysis of the information/data obtained from the seniors, detection of anomalies, analysis of temporal aspects and early detection of risky behaviors. Specific guidelines and tutorials are made available to seniors and caregivers. The most innovative function of the proposed solution is the match-making capability based on senior's state and personal parameters to decide when is the intervention going to be provided and by whom (formal or informal caregiver).
Results	The CoME platform has 3 different interfaces developed for seniors, informal caregivers and formal caregivers. It has already been tested by more than 160 end-users, more than half of them are seniors, who either supported the process of the analysis of their needs or testing the platform in their daily life with measuring devices (fitness bracelets, smart weigh scales, blood pressure monitors). Regarding to their opinion derived from questionnaires, most of the seniors became very motivated to achieve a healthier lifestyle with more physical activity since started to wearing their trackers and monitor themselves.

Budget	The total budget of CoME project is 2.169.905 €, the requested funding from it is 1.236.773 €. In national level: It is supported with resources coming from the National Research and Innovation Funds; the funding rate: 100 % in the case of end-user organizations such as PBN. Health-monitoring devices: 78 pieces are in use by seniors.
Stakeholders involved in the case	Project partners: - HI-Iberia Ingeniería y Proyectos (Spain) - Biomedical Research Institute for Health in Lleida (Spain) - University of Geneve (Switzerland) - Vigisense (Switzerland) - ConnectedCare Services BV (The Netherlands) - Pannon Business Network Association (Hungary) - Hospitals and Health Care Centers

CASE 3

Title	***FairCare: Network based solution for future care***
Objective	The overall objective of "FairCare" is to improve the allocation and scalability of existing professional as well as informal care resources and care related services by creating a network-based solution for collaborative future care. That means the aim is to create an online-platform where reaching a demand-driven matchmaking of primary end user's needs with the relevant service provider/voluntary network is possible. Setting up a platform on which the various elderly-oriented care services can be indicated and match-made
Activities	The FairCare solution consists of an easy to use web-based software which connects the demand for care and support for elderly people with the available supplies. FairCare will be accessible via the internet and "app" for mobile devices. The whole project is centered on innovation and end-user participation during all stages of development. By involving all participating end-users in all participating countries (Italy, Netherlands, Switzerland, Spain, Hungary, Austria) during the development, the different needs and requirements can be captured optimally. The overall objective of "FairCare" is to improve the allocation and scalability of existing professional as well as informal care resources and care related services by creating a network-based solution for collaborative future care. That means the aim is to create an online-platform where reaching a demand-driven matchmaking of primary

	end user's needs with the relevant service provider/voluntary network is possible. Expected impact: The overall goal of FairCare is to develop a sustainable solution, which a) coordinates professional care, voluntary work, informal care and further services; b) satisfies the legal and social requirements of different countries; c) maintains life quality of elderly persons and their relatives within their environment; d) assures qualitative high support by verification and certification.
Results	- 1 well-operating FairCare platform developed - Pilot actions in Switzerland, Austria, Italy and Hungary *Hungarian pilot: Smartphone App for Students* The smartphone app is designed for secondary school students to support the successful fulfilment of their compulsory 50 hours of community work. It makes it much easier for social/health care service providers to benefit from the availability of voluntary students in their daily or occasional activities. It also makes the administration of community work of students in school easier as well.
Budget	- Total budget in consortium level: 3,422,947.36 EUR (national contributions: 2,119,588.00 - In national level: The practice is supported with resources coming from the National Research and Innovation Funds; the funding rate was 100 %.
Stakeholders involved in the case	Project partners: - University of Innsbruck (Austria) – Lead Partner - European Academy of Bolzano / Bozen (Italy) - University of Applied Sciences HTW Chur (Switzerland) - Zurich University of Applied Sciences ZHAW (Switzerland) - Pannon Business Network Association (Hungary) - Austrian RedCross (Austria) - ASP Servizi SRL/ GmbH (Italy) - Connectedcare services b.v. (Netherlands) - SIS Consulting GmbH (Austria)

CASE 4

Title	***STAGE - Streaming Culture to Senior Entertainment***
Objective	Live streaming of theatre and opera performances, concerts and museum exhibits to senior adults living in the rural and urban territories.
Activities	The main idea of the STAGE is to allow elderly people easier and better online access to live cultural events (theatre plays, concerts,

	opera performance, museum exhibits). STAGE overcomes some health, economical, infrastructural, mobility barriers and accessibility difficulties, and lets elderly people increase their social participation level by enjoying culture from the comfort of their homes. The ambition of STAGE - Streaming of Theatre and Arts for old aGe Entertainment is to offer elderly people online access to cultural events and cultural content; it is easy, tailored to their needs, and affordable. The objective is to develop an ICT platform with the aim of experimentation and, later, commercial distribution via video streaming technology of cultural content to elderly people. The platform will have a customized interface and will make content available for use on common digital devices connected to the Internet. STAGE will improve their social participation and help reduce digital divide by increasing their computer literacy. The idea of the project meets the current trends towards focusing on leisure and education of elderly people. Apart from entertainment goals, cultural and social activities are also strongly beneficial for their health – in particular for their cognitive capacities. The development, delivery and deployment of STAGE is carried out according to the following stages: 1. **User involvement**: selection of older users (informed consent, privacy), information to selected users, definition of user needs and expectations through co-design activities; 2. **Development and implementation**: development of the ICT platform, design and construction of the systems network, putting in place, development of training material for users, definition of the implementation setting for the pilot trial; 3. **Pilot trial:** interviews, questionnaires, focus groups, training and assistance; 4. **Dissemination and exploitation**: **dissemination** of the results, business plan and market assessment; 5. **Management**: prepare the management plan and its annexes, plan and organise meetings, monitor progress and quality of work throughout the project.
Results	The STAGE platform is already developed and tested by 70 end-users (seniors) from 3 countries: Italy, Cyprus, Hungary. It is available in the respective languages of the end-user organizations and in English.

	78 videos from cultural events are uploaded to website now divided to 8 categories (theatre, music, dance, opera etc.). Around 10 events were broadcasted live so far, more to come! Interviews conducted with seniors from all 3 end-user countries helped the consortium to work out the platform to their needs with the less IT literacy possible needed to handle it.
Budget	The total budget of STAGE project is 2.166.600 €, the requested funding from it is 1.386.590 €. In national level: The practice is supported with resources coming from the National Research and Innovation Funds; the funding rate: 100 % in the case of end-user organizations such as PBN.
Stakeholders involved in the case	Project partners: - National Research Council, Construction Technologies Institute (Italy) – Lead Partner - CEDEO di Chiariglione Leonardo EC (Italy) - Accademia Nazionale Cultura Sportiva (Italy) - SIVECO Romania SA (Romania) - Georama LLC (Cyprus) - ASM Market Research and Analysis Centre Ltd.(Poland) - Pannon Gazdasági Hálózat Egyesület (Hungary) - InfomatiX Hungary (Hungary) - MateriaEnd-Users(Cyprus)

CASE 5

Title	***HeartCity - Life-saving application***
Objective	You can be a hero - This is a life-saving application that anyone can download on their smartphones.
Activities	Heart City is a virtual community whose volunteers are ready to rescue public victims of circulatory arrest (sudden cardiac arrest). By downloading the Heart City app and registering they undertake to hurry up to the scene when the National Ambulance Service gives an alert and they start the CRP (cardiopulmonary resuscitation) before the ambulance arrives. There are 25,000 cases per year nationwide, and the chances of survival are reduced by 7-10% per minute. It is vital that resuscitation begins as soon as possible! How does it work? 1/ Somebody collapses, his circulation stops in a public space. A witness calls ambulance.

	2/ The rescue leader of the National Ambulance Service send an ambulance to the scene and send an alert to the Heart City at the same time. 3/A volunteer who is nearby the scene receives the request for help and hurries to rescue the man in trouble 4/He begins the resuscitation 5/ The ambulance arriving to the scene continues the resuscitation 6/ Everybody is grateful to the Heart City volunteer to give chance to man in trouble for survival
Results	Number of alarms: 1756 Number of successful resuscitations: 33
Budget	The application was elaborated by national actors and at this stage we don't have any information about the budget. If the good practice will be selected for the final phase the budget will be defined.
Stakeholders involved in the case	- National Ambulance Services - alerant – developer of the software application - Hungarian Resuscitation Society - National Charity Service of the Order of Malta http://szivcity.hu

CASE 6

Title	***EESZT – National eHealth Infrastructure***
Objective	EESZT is the new e-health system of Hungary which is an integration platform available 24-hours a day. Central services are available anywhere and anytime. In this system all patient's healthcare data are stored in a central database which can be reach by the hospital, GPs and pharmacy systems with proper authority.
Activities	The following services are available within EESZT: - e-prescription - health records (repository of digital patient records) - e-profile (rarely changing health data e.g. blood type, allergy, hypertension, chronic diseases) - event catalogue (list of medical visits) - e-referral (compass for further medical examinations) - digital self-determination (data protection regulation) - digital image transmission - e-medical history
Results	- more information - more effective healthcare: more information – more accurate diagnosis thanks to the e-medical history

	- safety: the information in the e-Profile can be life-saving in an emergency case or even during an average treatment - comfortable - Without papers we can do our business faster and more conveniently e.g. e-prescription
Budget	The program was elaborated by national actor and we don't have any information about the budget at this stage. If the good practice will be selected for the final phase the budget will be defined.
Stakeholders involved in the case	National Healthcare Service Center/ Állami Egészségügyi Ellátó Központ https://www.eeszt.gov.hu/hu/nyito-oldal https://e-egeszsegugy.gov.hu/web/eeszt-information-portal/what-is-the-eeszt-1

CASE 7

Title	***SzombathelyPoint mobil applicaton – "Health" section***
Objective	SzombathelyPoint is a smartphone application which lets you stay informed about the most important cultural, tourist and sporting events as well as other useful information in the city of Szombathely. Under "Useful information" there is a "Health" section with useful information related to medical care.
Activities	Health section contains 156 items in 8 different topics: GPs, pediatricians, dental care, hospital, pharmacies, available defibrillator, sports doctors, on-duty medical health care service. The user gets information about the doctors, institutions, consulting hours, locations which are very useful not only for visitors but also for the inhabitants. The application is available from October 2014.
Results	- 5000+ download - "Quality Development Award" on eFestival in November 2014. - 4,4 out of 5 based on the opinion of the peoples who downloaded the application
Budget	The cost of the development is under 1 million HUF (3000 EUR).
Stakeholders involved in the case	- Municipality of Szombathely - Informatics, Quality and Care Cabinet - Cultural section: AGORA Savaria cultural - Sport section: Szombathely Sport Center and Sports School Nonprofit Ltd.

	- Health section: Economic Supply Organization of the Health and Cultural Institutions in Szombathely http://szombathelypont.hu/hasznos/egeszsegugy/ Short introduction video: https://www.youtube.com/watch?v=iHIEW-8xkno&feature=youtu.be

CASE 8

Title	***ÉletMentő – LifeSaver application***
Objective	In case of emergency only one-touch calls the National Ambulance Services (NAS) and the application send the right position and the most important information for the NAS in order to find the caller easier and to arrive more prepared.
Activities	Profile: pre-filled health information to facilitate emergency calls and ambulance work. Alarm: accurate geographical position Location: the app helps to define the accurate position and what kind of health care is in the nearby First aid: provides help and support with an interactive guide In addition to positioning, the app also includes contact information for hospitals, clinics, pharmacies, and defibrillators in the country. There's a special icon "I can't speak" within the app which is developed for deaf, hard of hearing and hearing impaired users.
Results	- The application makes emergency calls faster and more efficient. - The application is available also in other 3 countries (Czech Republic, Austria, Slovakia) where it counts more than 1 million download and cc. 30.000 alarm. The application is started in January 2020 therefore the 1rst results in Hungary will be expected just after a few months.
Budget	The application was elaborated by national actors and at this stage we don't have any information about the budget. If the good practice will be selected for the final phase the budget will be defined.
Stakeholders involved in the case	- National Ambulance Services - Vodafone Hungary Foundation

CASE 9

Title	***MobiNurse - Healthcare solution for mobile patient care***
Objective	The MobiNurse is a complete solution to support mobile patient care in hospitals. The key concept of the solution to identify every patient before he / her receives any treatment, medication, etc.
Activities	The concept of the MobiNurse is built around the a small / lightweight device carried by the nurses during their everyday work. This device is connected via Wi-Fi to the hospital's IT infrastructure. However, some other devices are also play important role here: - a wristband printer for inpatient registration - a rugged tablet providing full access to HIS for doctors and head / charge nurses - a mobile label printer to produce to identify sample containers (blood, tissues, etc.) With the mobile devices in hand the IT infrastructure ends at the actual physical location of the employee in the hospital / institution. The connectivity via a Wi-Fi provides unsurpassed advantages: LESS PHYSICAL MOVING - the employees can access HIS where and when they need it and to the extent they have to – no need to go back to the nurse station / doctor's room - saves time & money - the patient and his / her critical condition identification can be carried out in any situation (next to their bed or finding an unconscious patient in the restroom) QUALITY ASSURANCE IN THE PATIENT CARE - all the activities to be done associated with a particular patient can be queried when and where this information is needed - all the activities which have been done associated with a particular patient can be administered when and where it has been done (e.g. no medication can be do twice) - the patient related records are up-to-date all the time without delays FINANCIAL - control and tracking, care unit related dispensary stock planning - helps to keep the medicines and other treatment related material stock up-to-date in real-time (gloves, syringes, etc.) From IT perspective the MobiNurse is fully integrated with the existing HIS. It does not make a separate and standalone SILO.

Results	Impact of wristband barcode technology on medication safety - 41% less medication errors - Number of medication-related undesirable cases is reduced by 50% - Zero error in medication transcription - Saving time at nursing staff remaining time for patient care - Impact on nursing activities (time saved): 35% documentation, 20% team communication The system is applied already in 6 Hungarian hospitals.
Budget	The system was elaborated by national actors and at this stage we don't have any information about the budget. If the good practice will be selected for the final phase the budget will be defined.
Stakeholders involved in the case	- IntellFlow Kft. – developer - Honvéd Hospital - Hévíz Rehabilitation Institute - Health Care Center Csongrád County – Hódmezővásárhely, Makó - Hospital Orosháza - Saint Ladislaus Hospital – Sárvár - Batthyány Kázmér Specialized Hospital – Kisbér - MRE Bethesda Children's Hospital

CASE 10

Title	***E-health services in Spirit Hotel Thermal Spa********
Objective	The mySPIRIT health program provides inspiration, direction and practical solutions to changing your lifestyle. The medicinal waters and treatments of the Spirit Hotel serve the health of the body and soul and a general sense of well-being. The treatments and bathing culture as well as the opportunities offered by modern technology can contribute to recovery and a state of harmony.
Activities	Issues Faced: The physical and mental factors caused by stress, exhaustion, and inappropriate lifestyles can upset the body's state of balance. It's worth pinpointing these factors in a stage when they can still be influenced. Key Objectives: - Status assessment - Medical consultation - Personalised lifestyle program - Dietetics - Exercise

	- mySPIRIT application - Expert recommendations Follow-up at home
Results	The mySPIRIT Health programme provides comprehensive health services during and after the stay in the Hotel.
Budget	The system was elaborated by local actors and at this stage we don't have any information about the budget. If the good practice will be selected for the final phase the budget will be defined.
Stakeholders involved in the case	Spirit Hotel Thermal Spa*****

CASE 11

Title	***Alarm system for the elderly***
Objective	The good practice aims to provide assistance service by signaling system for the elderly or disable persons as well as psychiatric patients who live in own home but they need social assistance due to their health and social status and they are able to use the emergency call device properly. The provided service contributes to maintain the independent living through increasing the sense of the security of the elderly people.
Activities	The alarm system is an assistant service provided for the elderly 65+ in Szombathely city to live an independent life in their own home as long as possible. 1. Purchasing 160 modern devices – bracelets - (40 of them can monitor the status and send signals of the activity modification e.g. immobility/motionless) by the local municipality 2. Elaboration of the service protocol and the staff got acquainted with the operation of the emergency call device 3. The devices were outsourced for the clients of the existing services based on the assessment of needs- and conditions. Learning of the technical operation was implemented through personal contact with the elderly and test-calls several times 4. The institution contracted an external contractor for operating a dispatcher center to arriving the emergency calls as well as for the social service on site The 24-hour remote monitoring is a safety option for the elderly and their relatives. In the recent years, the reason of the emergency calls was most often fallings, feeling unwell, hygienic problems and most of the arising problems were solved in the flat of the elderly people. There were only few cases when the ambulance or GP had to be alerted.

Results	Since the launch of the program there is a steady increase in demand for the service which clearly demonstrates that the service has achieved its purpose. The feeling of safety of the elderly people has increased and it support them to live further in their own home as long as possible. They have learnt to use the devices and can use it well. In 2019 the total of 203 persons use the service and the number of the emergency calls raising year by year: e.g. 112 calls in 2017, 127 in 2018, 191 in 2019. The most common reasons: hygienic needs, illnesses, feeling unwell, fallings. The most common assistance: meeting the hygienic needs, reassurance, call of ambulance or GP
Budget	Annual direct costs of providing the service in 2019: 97 000EUR (34 million HUF) which contains staff costs including contributions with the amount of 60 000 EUR (21 million HUF) and 37 000 EUR direct costs (13 million HUF). To finance the operation the municipality is received 11 400 EUR (4million HUF) as state aid from the Hungarian Directorate-General for the Social Affairs and Child Protection in 2019. The service is provided by 6 qualified caregivers in the administrative district of Szombathely, furthermore other 2 social caregivers on the basis of a task performance contract in 2 other surrounding settlements.
Stakeholders involved in the case	The participants of the project are the system operators: the municipality as the maintenance body (City of Szombathely) and the institution providing service (Pálos Károly Social Service Centre and Child Welfare Service) Beneficiaries: elderly peoples over 65 years who lives in the supply area alone or in a two-person household with a sick relative, furthermore severely disable persons and psychiatric patients if their state of health justified the continuous provision of the service.

- BRETAGNE

CASE 1

Title	***GWALENN***
Objective	GWALENN is a regional tool for the coordination of health and care professionals around a single patient pathway (in particular for complex individual cases). The objective is to facilitate communication and information sharing among the health and care professionals. It is a good practice recognized in France. https://www.esante-bretagne.fr/projets/services-aux-professionnels/gwalenn-outil-numerique-des-coordinations/
Activities	GWALENN is made up of 3 modules: - Orientation desk: it is the entry point where a professional can alert (detection of the need), evaluate and ask for support for the orientation of the patient - Coordination file: shared patient individual file, with administrative data, list of involved health and care professionals, coordination file, follow-up forms… - Organisation file (own file for each organisation member of the coordination action who can extract its own activity report for example). The GWALENN portal is dedicated to health and care insitutions, but a new function is being developed for health and care professionals in mobility (from a mobile phone): Mobil'eTY by Globule enables secure communication (to avoid the use of texts, whatsapp, etc.) and gives access to the orientation desk and to a summary of the coordination file.
Results	The project started in 2017. In 2019, nearly 40 health and care coordination organisations are using it, with more than 200 users. In March 2019, the ARS has launched a second call for interest to identify additional organisations and deploy GWALENN further in the region. https://www.medialis.com/actualites/generalisation-du-deploiement-de-gwalenn-en-bretagne The methodology used to set up GWALENN is also a good practice per se. A project management appraoch has been set up and all the relevant stakeholders have been involved since the beginning, notably to identify the needs properly (functionnalities, interoperability, evolution, etc.).
Budget	1,5 million euros (investment and operations)

Stakeholders involved in the case	- ARS (Regional Health Agency) - GCS e-santé - Other regional actors

CASE 2

Title	***E-Kermed***
Objective	E-Kermed is a regional portal for telemedicine service offers in Bretagne. Health professionals looking for teleconsultation/teleexpertise/teleassistance for a patient can search the right offer on the portal. https://www.e-kermed.bzh/
Activities	E-Kermed is made up of several services: - Support to healthcare professionals who want to set up a telemedicine offer (project management support, hardware and software choice, legal issues advice…) - Directory of telemedicine services available - Secure visioconference with online payment - Secure e-messaging for the daily practise of health professionals
Results	As of January 2020, 21 offers have been published by 11 hospitals and one private GP office since the start in February 2019. Bretagne is the first French region offering such a service. Some barriers as regards telemedicine: - There are more institutions and private professionnals practising telemedicine in the region but they may not be willing to be displayed on E-Kermed, for they fear not being able to answer additional requests. - Reimbursement schemes are unknown: not all physicians know that teleexpertise can be reimbursed since February 2019; and private pharmacists and nurses are not aware that they can get reimbursed to assist a patient in teleconsultation with a physician. - Not enough training in telemedicine (GCS e-santé is offering training in nurse schools and training sessions have been set up at the Saint Helier Hospital; they can be considered as a good practices too!).
Budget	300 000 euros over 3 years +100 000 euros : plateforme e-learning porté par ST hélier
Stakeholders involved in the case	- ARS (Regional Health Agency) - GCS e-santé

	- URPS MLB (regional association of physicians in private practice), FHF (national federation of public hospitals), FHP (national federation of private hospitals).

SUB CASE 2.2:

Title	***Telemedicine in the Ponant Islands***
Objective	The Ponant Islands are 11 breton islands gathering 10 000 inhabitants in total (one of the islands, Belle-île, accounts for half of the total inhabitants and has a local hospital, other islands have 100 to 800 inhabitants…). In summer, the total population can reach 80 000 people (with tourists). Telemedicine experimentation has been conducted since 2016. The objective is to develop telemedicine to counterbalance the lack of health professionals on the islands. The regional health agency has also been working on transport, prevention and home maintenance support. Depending on the island, there can be a doctor and/or a nurse at any time (living on the island) or doctors/nurses present alternatively, or no permanent health professional. 
Activities	2014: evaluation of the needs and definition of priorities. 2015-2017: deployment of 5 telemedicine projects: - Teleconsultations on the island of Molène - Teleconsultation in dermatology on the island of Bréhat - Teleconsultation in psychiatry on the island of Ouessant - Teleconsultation in memory evaluation on the island of Belle Ile - Telesurveillance for dialises
Results	Interesting results can be highlighted notably as it avoids complicate transportation which can be affected by the weather or the

	condition of the patient. The number of potential patients is quite low in comparison with the regional population, but this initiative enables fair access to healthcare for an isolated population.
Budget	Unknown
Stakeholders involved in the case	- ARS Bretagne and GCS e-santé are the pilots of the project. - Local authorities of the islands

CASE 3

Title	***RUBIS***
Objective	RUBIS a teleradiology service in Bretagne (remote telediagnostics). As there is a shortage of radiologists (in Bretagne and more generally in France), RUBIS enables 24/24 radiology service (e.g. a radiologist specialised in neonatal radiology can read images at a distance and give telediagnostic). https://www.esante-bretagne.fr/projets/telemedecine/teleradiologie/
Activities	In 2013, a few local pilot sites for teleradiology were set up. In addition, territorial working groups have been set up (for each of the 7 "health territories" of Bretagne as defined by the ARS), gathering radiologists and directors of healthcare provider institutions, with the aim to propose organization scenarii. A regional working group has also been established to propose answers to territorial critical needs and to evaluate feasibility. An operational committee deals with interoperability.
Results	26 healthcare public organisations are using RUBIS. Each year, more than 49 000 files are exchanged (figures 2018). CREBEN (regional centre of expertise in neuroradiology) uses RUBIS which enables remote neuroradiology expertise in 15 mn for emergency cases, and in 6 hours for not urgent cases. The business model is still to be improved notably to involve private organisations. To that purpose, the regional health agency is launching RUBIS 2 in January 2020, with another new feature (image sharing > image exchange).
Budget	A minimum budget of 2 million euros for the 26 ruby sites 1 + add office and clinic integration
Stakeholders involved in the case	- ARS (Regional Health Agency) - GCS e-santé - CREBEN Centre Régional Breton d'Expertise Neuroradiologique

CASE 4

Title	***Telemedicine for chronic wounds follow-up at Saint Hélier Hospital***
Objective	The objective is to bring expertise at the bedside of the patient at home or within the institution where the person lives (e.g. EHPAD, i.e. residence for dependent elderlies).
Activities	When a carer (nurse, doctor, physiotherapist…) identifies a problem with a wound, he/she can propose teleconsultation to the patient. The carer claims for a teleconsultation to Saint Hélier hospital, who answers and proposes an appointment. The wound expert from Saint Hélier hospital gives the teleconsultation through videoconference. He/She may also help the carer make the dressing (teleassistance). The care team then decides about the next steps (staying at home, special care, going to hospital…)
Results	The project started in 2013. 611 telemedicine acts were realised between 2014 and 2017. In 2017, more than 100 "claimants" (75% private doctors). On average, 10 000 Km avoided in transport per year.
Budget	100 000 euros from ARS in 2017
Stakeholders involved in the case	- Saint Hélier Hospital (Rennes) - GCS e-santé - ARS (Regional Health Agency)

CASE 5

Title	***Teleconsultation in ophtalmology***
Objective	The objective is to increase the number of diagnostics and therapeutics acts in 3 EPHADs (residences for dependent elderlies) around the city of Janzé (8000 inhabitants).
Activities	A technical ophthalmology platform has been set up in one of the 3 EHPADs. It is similar to the platform of the University Hospital of Rennes. Tests are conducted by an orthoptist and transferred to an ophthalmologist of the CHU of Rennes. Consultation last 30 to 45 minutes and transfer lasts 10 minutes.
Results (March 2019)	25 consultations since the start in 2018 150 people can benefit from the service (1 EHPAD now, 3 in the next future). Half a day per week dedicated to these consultations (5 to 6 patients)

Budget	40,000 euros allocated by the ARS.
Stakeholders involved in the case	- University Hospital of Rennes - Hospital of Janzé

CASE 6

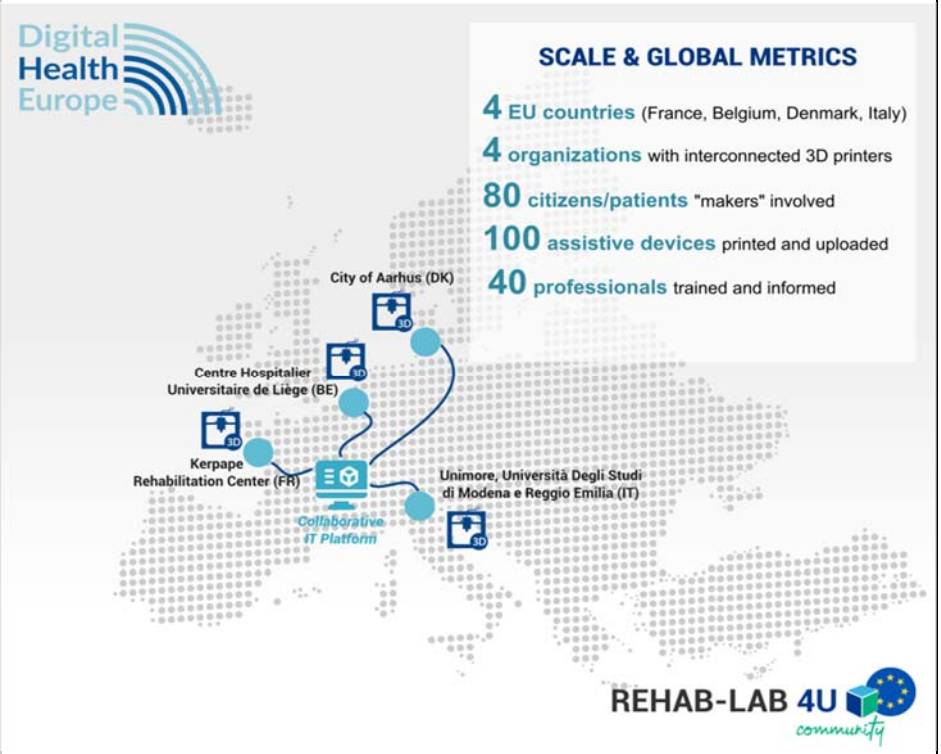
Title	***Gazelle test bed***
Objective	Gazelle is a test bed aimed at testing the interoperability of eHealth information systems. It is developed by IHE (Integrating the Health Enterprise) - Europe with the support of several other IHE countries (USA, Japan, Korea and Australia). It is based on a platform provided by the Kereval company, based in Rennes. Gazelle is recognized as GITB *(Global ebusiness Interoperability Test Bed)* https://joinup.ec.europa.eu/search?keys=Gazelle https://www.ihe-europe.net/testing-IHE/gazelle
Activities	The development of the Gazelle Test Bed is the second generation of test management tooling developed by IHE. The first generation tooling was initiated in 2002 and it allowed IHE to structure the Connectathon process (a five-day "connectivity marathon" for testing the interoperability of health information systems).
Results	Each year, the number of participants of the connecthaton is growing (300 people from 70 companies in Rennes in 2019). Other customers: - ASIP Santé (France) - eHealthSuisse (Switzerland) - eHealthIreland (Ireland) - eHealthBelgium (Belgium) - DGSanté (EU)
Budget	Unknown
Stakeholders involved in the case	With the growth in the number of participants at the Connectathon, it became clear that the tool had to move to a more robust platform in order to support the load and the scalability of such a large project. The development team was established at INRIA (National Research Institute for Digital Sciences) Rennes. In 2011, the Gazelle Test Bed project reached maturity and it was decided to move the development team to a company specialised in testing (Kereval in

	Rennes) in order to offer a more robust software development environment and deploy a quality management system compatible with the certification requirements of ISO 17025 and Guide 65.

CASE 7

Title	***REHAB-LAB***
Objective	A Rehab-lab is a fab-lab integrated in a healthcare organisation where people with disability can design their own assistive devices using 3D printing. It is a person-centered care innovation using digital tools. In a REHAB-LAB, people with disability play the leading role in their own rehabilitation process, using 3D printing in an environment facilitated by professionals. As stated by Nicolas Huchet, creator of "My Human Kit" *(Nicolas Huchet is also involved in a FabLab (called the HumanLab) in Rennes, see https://myhumankit.org/en/home/)*, it is all about "handicapowerment", or how to transform limitations into motivations.
Activities	Video with subtitles in English here: https://www.youtube.com/watch?v=JfmOovVwlqU&feature=youtu.be
Results	The initiative was launched at the rehabilitation centre of Kerpape in 2016. Now the Rehab-lab is in full operation and transfer has been completed to 9 other institutions in France: - More than 400 assistive devices have been codesigned by patients together with healthcare professionals. - More than 60 healthcare professionals have been trained for 3D printing. - A common charter has been adopted by the French REHAB-LABs.This charter provides a formal operating framework to share values and processes related to citizen/patient involvement. 3D printing is a promising solution for the design of assistive devices in the context of health and care systems. Compared to non-digital fabrication processes, it has a lot of benefits: accessibility (to let citizens/patients design their own assistive devices simply by having access to a computer), adaptation (ease of design by changing parameters on an existing object), cloning (ease of reproduction by reprinting the object), design (possibility to choose colour and shape), weight (control by the 3D printer infill parameter), cost and time (considering both materials and the 3D printer), materials (large number of innovative and environment-friendly materials, biodegradable/bio-sourced).

	The Rehab-lab initiative is currently being transferred to 3 other locations in Europe (European project REHAB-LAB-4U in 2020 funded through DigitalHealthEurope). DigitalHealthEurope has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement No. 826353.



Budget	The cost to set up a Rehab-lab in 12 months is as follows:

	HUMAN RESOURCES	EQUIPMENTS & MATERIALS
1 TRAINING 1 : "Fundamentals" 2 SPECIFICATIONS related to local infrastructure	Month M1-M4 **1 Project Manager** (3h/month) **1 REHAB-LAB Manager** (10h/month + 3 days full time for the training) **1 occupational therapist** or other professional (10h/month + 3 days full time for the training)	Month M1-M4 **No equipment or materials required** during step 1 and 2. *Nevertheless, it can be interesting for the dedicated team for experimenting between the two training sessions.*
3 TRAINING 2 : "Running a REHAB-LAB" 4 REHAB-LAB Implementation 5 COLLABORATION	Month M5-M12 **1 Project Manager** (3h/month) **1 REHAB-LAB Manager** (10h/month + 5 days full time for the training) **1 occupational therapist** or other professional (0,1 FTE) + 5 days full time for the training)	Month M5-M12 **1 Ultimaker 3 Extended +** approx. cost : 4500€ **1 scanner** (optional) approx. cost : 1400€ **materials** (various PLA approx. cost : 400€  (or equivalent) filament x10)

Stakeholders involved in the case	Centre Mutualiste de Rééducation et de Réadaptation Fonctionnelles de Kerpape

CASE 8

Title	***CyberLab Santé***
Objective	CyberLab Santé is a directory of cybersecurity services for the health sector (hospitals, other health professionals…) to avoid cyber attacks https://www.pole-excellence-cyber.org/developpement-industriel/sante-nouveau-catalogue-cyberlab-de-services-et-prestataires-cyber/
Activities	5 types of services: training, advice, audit, certification and test.
Results	The directory was published in 2018 with 30 service providers. It currently needs up-dating.
Budget	Unknown
Stakeholders involved in the case	- Pôle d'Excellence Cyber - Companies

CASE 9

Title	***VigilanS***
Objective	In the Bretagne region, the suicide rate is quite high compared to the national average. VigilanS is a region-wide programme that relies on an algorithmic system to tailor surveillance and BCI (Brief Contact Intervention) provisions to individuals discharged from the hospital after a suicide attempt. VigilanS main objective is to reduce suicide and suicide reattempt rates both at the individual level (patients included in VigilanS) and at the populational level. It's been set up by a psychiatric physician from the University Hospital of Brest (Bretagne). https://www.ncbi.nlm.nih.gov/pubmed/30355792?holding=ifrcdurlib
Activities	**Patient risk stratification and decision making support web application**

	At discharge, every attempter coming from a participating centre is given a crisis card with an emergency number to contact in case of distress. All the contacts with patient are automatically schedulled by the vigilans web application accoarding to its personal risk level. Patients are then systematically recontacted 6 months later. additional calls can be suggested by the app according to the risk subgroup of the patient. This algorithm is constantly refined during the project duration. Depending on the clinical evaluation during the phone call, the call team may carry out proportionated crisis interventions. Personalised postcards are sent whenever patients are unreachable by phone or in distress. On the populational level, mean suicide and suicide attempt rates in Bretagnes will be compared before and after the implementation of the programme. Here/there cross-sectional comparisons with a control region will test the spatial specificity of the observed fluctuations, while time-series analyses will be performed to corroborate the temporal plausibility of imputing these fluctuations to the implementation of the programme. On the individual level, patients entered in VigilanS will be prospectively compared with a matched control cohort by means of survival analyses (survival curve comparisons and Cox models).
Results	Unknown
Budget	485 K euros / year
Stakeholders involved in the case	French health ministry, ARS Bretagne

CASE 10

Title	***MAPUI / Hospiville***
Objective	MaPUI and Hospiville are two platforms developed by a breton SME since 2016. MaPUI aims to facilitate and secure the exchange of information between hospital pharmacy departments, to ease lending and borrowing of medicine between hospitals and to make economies thanks to the exchange of expensive and potentially expiring medicines. Hospiville is a coordination tool for medication reconciliation between the various healthcare professionals around a single

	patient in a given territory (notably coordination between in-patient and out-patient organisations). https://www.mapui.fr/
Activities	The MaPUI platform provides a communication tool to hospital pharmacy departments and allows the real time sharing of information about available/needed medicines and medical devices. A partnership with a health certified carrier allows, in a few clicks, to deliver medicines nationwide in 24 hours. The Hospiville platform provides access to the patient personal medication file and enable medication reconciliation.
Results	Unknown
Budget	Unknown
Stakeholders involved in the case	- HAD (home hospitalisation) de Cornouaille - Rennes University Hospital - Hospital of Saint-Malo - Fédération Ville hôpital des pharmaciens de Bretagne - VIVALTO Santé (private hospital group)

CASE 11

Title	***BORA ConnectTM***
Objective	BIOSENCY is producing the 1st connected solution of telemonitoring for patients suffering from respiratory insufficiency. The connected bracelet measures the key cardo-respiratory parameters (oxygen saturation, cardiac rhythm, heart and breathing rates) when the patient is at home. It enables to follow-up the treatment, to adapt it when necessary, to avoid asthma crisis and hospitalization. Supported by the Region Bretagne, the company got the agreement to exploit its medical device before the sanitary crisis, to assure the remote processing of people suffering from respiratory destress in order to facilitate their return at home. Hospitals, notably APHP ones, are interested by this solution which enable to free up intensive care beds and to follow up patients either at hospital or for ambulatory cares.
Activities	Delivery of the first monitoring bracelets of Biosency thanks to Asica and Astuaplast:

	The start-up located in Rennes, specialized in telemonitoring and prevention of respiratory insufficiency, is accelerating its production of connected bracelets. 600 bracelets will be produced with the collaboration of Asica and Astuaplast. The 2 sub-contractors both reopened their production tools for the occasion.
Results	Unknown
Budget	Unknown
Stakeholders involved in the case	- Biosency - Asica - Astuaplast - Hospitals, notably APHP - Région Bretagne http://www.id2sante.fr/vars/fichiers/CP-region.pdf https://biosency.com/

- GOZO

CASE 1

Title	***myGozo mobile application – Care for the Elderly section***
Objective	The myGozo mobile application is dedicated to citizens living on the rural island of Gozo. A section dedicated to the Elderly is available. Through this section, citizens can apply for a range of elderly services offered by the Government. Services cover assistance at home to health services, such as Home help service, handyman services, hair dressing, telephone rent rebate, Physiotherapy and Occupational therapy. This allows citizens to apply for services from the comfort of their home. Both the Government and citizen are benefiting from mobile app. The citizen is being provided a service 24 hours a day, 7 days a week from the comfort of their home. On the other hand, the Government does not need to provide the services from the office.
Activities	This mobile application can be used in cases where elderly persons living at home requires assistance and or services offered by the Government. Back office staff vet each request for service and process them in line with internal procedures.
Results	Citizens can apply for the services from the comfort of their home
Budget	€2,500 for the Elderly section (part of myGozo mobile app)
Stakeholders involved in the case	Care for the Elderly within the Ministry for Gozo, Elderly patients.

CASE 2

Title	***Telecare service for independent living***
Objective	This telephone service makes it easy for those who use it to seek help whenever they need it. This reassures the elderly, by helping them to continue living in their own homes. Telecare also provides reassurance to those who care for such persons.
Activities	Patients can choose from a number of add-ons such as an on-wrist fall trigger, intruder alarm and smoke detector that can

	help transform the home into a smart one and therefore making independent living much easier.
Results	24-hour help Reassurance in technology
Budget	Unknown since this is a national project which was managed by the Ministry for Health.
Stakeholders involved in the case	Ministry for Health, Elderly patients

CASE 3

Title	***Remote diagnosis of emergency investigations (IHIS – Integrated Health Information Systems)***
Objective	Consultants on mainland Malta (in main hospital) to instantly review lab and radiology results and issue a diagnosis. Patients' data (Admissions, Laboratory results, Radiology results) are instantly available in both hospitals.
Activities	- The integrated information systems (used in the main hospital in Malta) were implemented in the hospital in Gozo and connected in real-time with the main hospital in Malta. - Procurement of the necessary hardware including several Imaging Department modalities, Laboratory modalities, and computers. - Training has been given to the doctors, nurses and health professionals on usage of these systems. - Redundancy has been implemented within the network in the Gozo Hospital. - Implement regulations on the processing of personal data
Results	- Patients in Gozo can take new tests in Gozo without the need to travel to Malta. The tests would then be diagnosed by consultants in Malta and respective treatment given to the patient in Gozo. - Reduce distress of patients since they can receive treatment nearer to their home and families.
Budget	Unknown since this is a national project which was managed by the Ministry for Health.
Stakeholders involved in the case	Ministry for Health, Ministry for Gozo, Suppliers of Information System, Malta Information Technology Agency.

CASE 4

Title	***Personal health portal (myHealth)***
Objective	The myHealth Portal allows citizens and private medical doctors to access and view parts of their medical records maintained in the Maltese public healthcare system.
Activities	The portal provides: - Patients' continuity of care across the health sector would become seamless and more feasible; - Private healthcare professionals would be able to securely access subsets of patient data held by public healthcare providers more easily and rapidly; and - Citizens are provided with a better and faster overall service. This portal is a 'mobile first' website built with responsive web technologies. It is therefore easily to access from patients' and doctors' smart phones and tablets. The portal is available in both English and Maltese languages. It provides access to patient appointments, medical image reports & laboratory results, electronic case summaries, and notifications to patients and doctors via email and/or SMS messages. A pharmacy finder, with location based services, is also available.
Results	The project helps to raise awareness of Government's efforts to improve access to health information, empower citizens to take a more active role in their health, and gradually increase stakeholders' readiness to use eHealth systems and services. Patients and doctors are already experiencing the benefits of technology, sharing various services such as medical records and information on admissions and appointments. By the end of January 2019, more than 60,000 patients had linked with doctors through myHealth, clearly making it one of the Government's most important and successful online services.
Budget	Unknown

Stakeholders involved in the case	Ministry for Health, Health professionals, Elderly patients

CASE 5

Title	***Collection of free medications from local pharmacies in rural areas (POYC)***
Objective	The Pharmacy of Your Choice (POYC) repository captures entitlement, prescription and dispensing data for patients with chronic conditions.
Activities	The system has been maintained over a period of 10 years and now includes a wealth of information on the local population, including deceased persons, the prevalence of and shifts in chronic conditions, and the treatments provided in this regard. This is in addition to full demographic data, as well as data on related prescribing and dispensing practices and practitioners. The patient must present the necessary documentation issued by POYC in order to take free medicines according to his/her entitlement from the POYC Scheme participating pharmacies in the Community.
Results	The Pharmacy of your Choice scheme or "POYC" scheme is a national pharmaceutical service which timely meets the needs of more than 150,000 outpatients (33% of the Maltese population) who benefit from medicines and pharmaceutical devices which are given for free by the Government.
Budget	Unknown since this is a national project which was managed by the Ministry for Health.
Stakeholders involved in the case	Ministry for Health, Health professionals, Elderly patients, Pharmacies

CASE 6

Title	***An Artificial Intelligence ePrescription software (ePrescriptions)***
Objective	Online system using Artificial Intelligence to help doctors prescribe medications.
Activities	ePrescribing has become popular with health professionals that work at rural health centres and family doctors in rural areas. Doctors can enter any prescription information needed for a patient right into a device.

	With Artificial Intelligence, doctors can prescribe different medications and dosages with automatic detection of interactions.
Results	- Reduces waste and overstocking of medicines - Improve healthcare quality by providing a view of the patients medical and prescription history - Elimination of medication errors with the help of Artificial Intelligence - Increase patient safety with the help of its automatic medication interactions - Patients do not need to visit their doctor for repeat prescriptions - Greater patient satisfaction
Budget	Unknown since this is a national project which was managed by the Ministry for Health.
Stakeholders involved in the case	Ministry for Health, Health professionals, Elderly patients

CASE 7

Title	***An Artificial Intelligence Chatbot for rural health centres***
Objective	Doctors are better informed with pharmaceutical and drug interactions prior to prescribing medicines to patients.
Activities	- Development of a chatbot which can be easily queried in plain English on drug interactions, dosages, and information on medications. - Provide a reliable source of information on medications. - Chatbot is easily accessible by doctors
Results	- This is still at its initial stages however the aim is for prescribers to be more informed from a patient safety perspective
Budget	Unknown since this is a national project which was managed by the Ministry for Health.
Stakeholders involved in the case	Ministry for Health, Suppliers of Information System, POYC (Pharmacy of Your Choice) stakeholders, Malta Information Technology Agency.

CASE 8

Title	***Electronic Immunization records***
Objective	To ease access and increase reliable statistics of immunization records of citizens
Activities	- Provide an online IT system whereby vaccinations can be recorded easily in a central database. - Access to this database is provided from main hospitals, rural health centres and even from private clinics. - Provide the necessary network infrastructure in rural health centres. - Provide the necessary training and educate health professionals to record vaccinations accurately - Possibilty to send reminders to individuals on required vaccinations. - Implement regulations on the processing of personal data
Results	- Accurate tracking record of the vaccinations' status of the individual: when next dose is required etc. - Avoidance of duplicate vaccinations being given due to lack of records. - Vaccinations records could be easily exchanged between doctors - Regular checking of vaccination status of individuals at different stages e.g. routine visit at general practitioner
Budget	Unknown since this is a national project which was managed by the Ministry for Health.
Stakeholders involved in the case	Ministry for Health, Health Professionals, Patients

CASE 9

Title	***Using technology for the well-being of elderly with special needs***
Objective	Social Inclusion and increase well-being of elderly with special needs
Activities	- Usage of educational tablets in public day-care centres, customized according to the individual likes of the elderly

	- Set up of computer laboratory equipped for special needs e.g. touchscreens, in public day-care centres These activities have been included in their daily routine.
Results	Caregivers in public day-care centres confirms that the happiness and state-of-mind of the elderly with special needs increased with these activities.
Budget	Unknown
Stakeholders involved in the case	Daycare centre employees (Ministry for Gozo), I.T. Department (Ministry for Gozo), Elderly with special needs

CASE 10

Title	***Pervasive Electronic Monitoring (PEM) research***
Objective	Increase the quality of life of People with Dementia (PwD)
Activities	- investigates how quality of life technology can improve the way formal carers monitor PwD and complement caregives' knowledge - Learning is done through research, organizing several focus groups, controlled experiments and developing prototypes. - By using an ageing simulation suit and wearable devices participants are allowed to experience both technology and what it feels to be old and with dementia. Build a large dataset that will allow researchers to improve the way we recognise human activities of PwD and learn about technology.
Results	Currently this is an ongoing project. Our results will be published throughout the coming year. 4 studies have been conducted that involved different professionals such doctors, OT, physiotherapist and nurses. 1) Generating datasets of human activities in pervasive spaces when using wearable devices. 4 particpants that live at a residential hospital SVPR with dementia and old age where observed over 3 days using a wearable device. This study was used to design the current studies that are conducted in our labs. 2) HARSimWanD - Human Activity Recognition Simulations for dangers when wandering and 3) PEMDataset. Over 60 parctipanst have already donated over 360 hours of which 120 hours of data can be used to create the

	dataset planned for this study focused on wandering and dangers. Currently results show the lack of knowledge of how digital health can help in the everyday life for PwD. Through different focus groups and studies different professional (over 47 proffessionals have participated) have learnt more about the use of technology. Through the use of qualitive and quantitative approach we measured the efectivness of how different technologies can be adopted. PEMDataset allowed different professionals wear an aging simulation suit that allowed them to learn more about the challenges elderly experience due to limited mobility and other dangerous related to wandering.
Budget	Different projects from different funders available through RIDT and University research funds.
Stakeholders involved in the case	University of Malta, local based software company, St. Vincent de Paul Residence, Malta Information Technology Agency.

- CANTABRIA

CASE 1

Title	***Electronic Pharmaceutical Prescription***
Objective	The main objective of developed the electronic prescription is to remove paper prescriptions and to automate the prescription, control and dispensing processes using the new information and telecommunications technologies.
Activities	It has a dashboard that allows identification of consumption by active principle, therapeutic family, doctor, service and center.
Results	The patient will not have to go to the pharmacy with the paper prescriptions to get the drugs. The sanitary card is the only thing that has to carry but it is also needed the number of the treatment template. Therefore, the informatics system allows to the pharmacist to know all the information about the prescription. In addition, the patient doesn't have to go back to the doctor to get another prescription if the treatment isn't modified. He will be able to go directly to the pharmacy.
Budget	Unknown
Stakeholders involved in the case	All the clinics and hospitals of Cantabria have implemented the electronic prescription. Installed in 100% of the assistance in primary care in Cantabria and in hospital consultations that connects with all of the 260 pharmacies of Cantabria since 2016. Interoperable with the remaining Autonomous Communities of our country.

CASE 2

Title	***Assisted Electronic Prescription Program (PEA)***
Objective	The aim of the PEA is to computerize the entire pharmacy network that manages the medicines that are distributed by the hospitalization plants, thus removing the paper.
Activities	All activities of the HUMV Pharmacy Service use the PEA as an application informatics, which allows us to explore pharmaceutical activity data, such as the activity in the dispensing by unit dose or the activity in the preparation of sterile drugs.

Results	Hospital pharmaceutical prescription program initially developed by HUMV clinicians. Subsequently, it is included as an integrated corporate program in the electronic medical record since 2010. Currently, the PEA operates in all HUMV services (more than 30,000 admissions per year) and it is interconnected with the Hospital Pharmacy Service. This tool is used to manage stock control among its multiple prescription support features.
Budget	Unknown
Stakeholders involved in the case	HUMV Pharmacy Service, HUMV clinics. Later it is exported to the rest of Cantabria hospitals.

CASE 3

Title	***APP Salud Cantabria (Citation system of Cantabria)***
Objective	It is an official health App developed by the Cantabrian Health Service (SCS) whose objective is to facilitate some procedures and access to information of interest to patients. The objective is to facilitate the patient's management of their previous appointment and consultation through a telematic way available 24 hours a day. It is necessary that the patient has his health card to properly fill in the data required for proper identification. The citation for a medical consultation can be done by three different methods: - Telephone - Web - App
Activities	Thanks to this App, the user of our health service can easily make the reservation of the previous appointment in primary care, as well as delete an appointment if patients wish. The complete user management system that it includes will allow patients to perform these actions in a very simple and efficient way. Other options included in the App are the display of your health card information and access to the location of health centers, hospitals, emergencies and pharmacies. There is a section with the most frequent questions that users ask about our health system, as well as the contact information of all the centers of the Cantabrian Health Service. Features offered: - Check your own Health Card data - Ask for an appointment at your Health Center - Check your appointments pending Primary Care - List of Health Centers

	- Pharmacies on duty - Contacts, mail and mail: management, health council, hiring lists …
Results	From the beginning of 2016, the number of installations on Android devices was a total of 40,057 and on IOS devices of 8,602. Which indicates that it was used by a large number of patients.
Budget	Unknown
Stakeholders involved in the case	Cantabrian Health Service (SCS)

CASE 4

Title	***App Cantabria +150***
Objective	The main objective is to promote healthy lifestyle habits and contribute to the prevention of non communicable diseases. Following the recommendations of the app patients can prevent and improve hypertension, dyslipidemia (high cholesterol), type 2 diabetes, Obesity, Arthritis, Asthma / epoc and Anxiety / depression.
Activities	The app starts with a complete survey to obtain different data about the routines, diet and pathologies. The software generates an individualized program of actions, physical exercises and alimentary habits adapted to the conditions of the patient. If you do not suffer from any of these pathologies, the recommendations of the app will also be useful to prevent its appearance and lead a healthier life. - Perform a simple test and access exercise sessions adapted to your pathology and your fitness level. - Get a weekly menu with recommendations for healthy dishes. - Record your physical activity and track your weekly goal. - Record your physiological parameters and check their evolution.
Results	Since its publication date on September 25 of 2018, 15 versions have been designed, with a total of 2,930 Android downloads and 1,019 on iOS. Regarding the percentages of using the previous appointment via App or Web, it is 15% of the total average of the previous appointments via the Web / App, 30% of the total average of the appointments via the Web / App in a

	pediatric patient (consistent with the Young parents, most common users of technology in their daily lives).
Budget	Unknown
Stakeholders involved in the case	The app is available for all the persons that are registered in the healthy system of Cantabria, but is principally designed for persons with chronically diseases because it allows to follow the evolution of the pathology.

CASE 5

Title	***Remote Pre-Operative Assessment in Anesthesia***
Objective	The objective is to remove a anesthesia medical consultation in pre-operative of Major Outpatient Surgery and its replacement by the implementation of the videoconference in order to provide the same service but in a remote way.
Activities	The main activitie is to understand the anesthesia process and its singularities. The project arises from the need of the health professionals to avoid movement of the patients that can be unnecessary. It is therefore important to ensure that health proffesionals are part of the project from the beginning as well as other stakeholders like team of admission or hospital technical support. Some of the activities are: - Interviews with anesthesia team - Heuristic test (from both points of view patients and professionals) - Process mapping - Coordination with complementary tests - Integrate with the surgical patient management system, waiting lists and workflows of the services involved - Design and implement a user training plan (professionals and patients) - Create an approach strategy to promote use (professionals / patients)
Results	Up until now, results are in early stage and in continuous avance. The ethnographic analysis are seen as a process map identified critical points that represented a barrier that impedes the passage to the next step. Significant progress was made with anesthesia team who is very involved in the current success.
Budget	Unknown

Stakeholders involved in the case	- Virtual Hospital Valdecilla - Marqués de Valdecilla University Hospital, especially the anesthesia service - Valdecilla Research Institute

CASE 6

Title	***Cancer in RED***
Objective	The objective is to establish a structured network with an Information to manage cancer process.
Activities	The commissions meet using the platform (Rainbow application) that allows to schedule meetings, make secure video conference between several Hospitals (Valdecilla Hospital and Sierrallana Hospital) and share information including imaging tests, reports, and ultimately the medical history). Meetings are held to discuss weekly clinical cases that require review) and with the platform the information of patient cases that are discussed for clinical decision making is shared. A record of the remaining decision and a summary of the clinical decision available on the platform, which is integrated as documentation in the medical record. A specific form is presented for each patient. All information allows its exploitation. As a note, more than 300 patients with colon cancer have been discussed since its launch.
Results	The model is being expanded for other inter-center clinical sessions at Cantabria level in other pathologies (liver diseases, respiratory diseases, etc.). The platform launched in April 2019 and centralizes the review of cases of colon, digestive, lung cancer. Network created on the basis of a regional order published in the Official Bulletin of Cantabria that creates the General Tumor Committee and the Oncological Network. This bases on the scope of the Cantabrian Health Service (Order SAN / 36/2019, of May 20, by the that General Tumor Committee is created and regulated and the Oncology Network which is structured within the scope of the Cantabrian Health Service, published in the official Bulletin of Cantabria).
Budget	Unknown
Stakeholders involved in the case	Cantabrian Health Service (SCS)

CASE 7

Title	***Internal communication system***
Objective	The objective of Secure Messaging System is to promote a highly secure corporate communication. This communication system is used in interconsultations, sending digital files, images, etc.
Activities	It is integrated into the Hospital Electronic Health Record and Primary Care system. All information is archived, registered and is searchable and configurable. It also has specific features added in emergency admission and home care.
Results	Since 2017 it is in operation and is used to send about 8,000 requests for interconsultation by more than 1,000 users each month.
Budget	Unknown
Stakeholders involved in the case	Hospitals and Primary Care System

CASE 8

Title	***Telemedicine (EvalTec) - Remote monitoring for post-surgical patients (Home Health Care)***
Objective	The objective is based on the development and implementation of medical telemonitoring devices with the active participation of patients, towards a new healthcare model.
Activities	Some of the activities carried out to ensure the correct design, development and implementation of telemedicine in the HUMV home hospitalization area we find the evaluation through: - Test of usability of devices and the management platform - Heuristic test to understand the context of use - Mapping of the assistance process to find the critical points - Development of an optimal telemedicine implementation strategy, as well as a training plan.
Results	Regarding the results, we must highlight an absence of the end user (patient) in the design and implementation process that makes telemedicine not working. However, this human factor engineering (HFE) approach manages to evaluate the interaction between human beings and technology,

	analyzing the incidence of use, the main barrier to its development.
Budget	Unknown
Stakeholders involved in the case	- Virtual Hospital Valdecilla - Marqués de Valdecilla University Hospital - Valdecilla Research Institute in agreement with Medtronic Iberica.

CASE 9

Title	***Proyecto Historia Clínica Embarcada de Urgencias y Emergencias 061 (HICEUS)***
Objective	Its objective is to promote digital transformation in emergency services. It is a specific solution that covers in emergency situations, thanks to its interoperability and cross-platform components.
Activities	Its dynamics includes: - Coordinated care that allows real-time communication and automatic registration of clinical care information. - The immediacy of the service, accessing clinical information from the ambulance and thus reducing the patient care times. - Clinical and management efficiency - Interoperability, using standards such as HL7 and integration with medical records and electromedical systems.
Results	The remarkable points we find some advantages such as: - Patient safety - Unification of registration criteria - HC visibility of 061 throughout the Public Health System Also some disadvantages related to: - Slow registration of long texts - Difficulty in teamwork between professional categories
Budget	Unknown
Stakeholders involved in the case	Urgent Care of 061 of the Cantabrian Health Service

CASE 10

Title	***Program of screening, prevention and elimination of hepatitis C in Penitentiary Institutions in Cantabria. JAILFREE-C Project.***
Objective	Prisons are major reservoirs of hepatitis C virus (HCV) in which a therapeutic approach has been particularly difficult so far. Our aim was to create a permanent program of HCV elimination in a prison based on a "test and treat" strategy.
Activities	This open-label clinical trial was conducted in the Spanish prison "El Dueso" between May 2016 and July 2017. Viremic patients were treated with a ledipasvir–sofosbuvir regimen (8–12 weeks) according to the 2015 Spanish Guidelines. A teleconsultation program was established to follow-up patients from the hospital. Non-responders were submitted for a phylogenetic analysis and offered retreatment. An evaluation of new cases of HCV infection was performed every 6 months and upon release in all inmates.
Results	847 (99.5%) inmates accepted to participate. HCV antibodies were present in 110 (13.0%) and 86 (10.2%) had detectable viremia. Most of them were genotype 1 or 3 (82.6%) and had <F2 fibrosis (52.2%). Treatment was started in the 69 inmates whose stay in prison was longer than 30 days. Sustained virological response was achieved in 64 out of 66 patients (96.9%), three of whom were successfully rescued with a salvage regimen after treatment failure. Two patients were lost to follow- up and three are currently on treatment without viremia. As a result, by July 2017 none of the 409 imprisoned was viremic, and neither reinfections nor de novo infections were detected. A sustained "test-and-treat" strategy against HCV in prisons is feasible and beneficial. Spreading this strategy should entail a public health impact. The main achievement of this project is that once we finish the study, this model of care has become our regular clinical practice.
Budget	The sponsor of the project (Gilead) provided the treatment and 35000€.
Stakeholders involved in the case	Health Service of Cantabria, University Hospital Marques de Valdecilla, Gastroenterology department, Ministry of Internal Affairs, Penitentiary Secretary and El Dueso Prison Governing Board and Medical Staff

CASE 11

Title	***A novel Hepatitis c micrOelimination program in Non imprisonEd SenTenced with alternative measures. The HONEST project..***
Objective	The Spanish prison population includes two groups: inmates admitted in prison and those who are serving non-custodial sentences. The latter has not yet been studied. The aims of this study are: 1.- To describe this population at social, educational, medical levels and psychiatric comorbidities. 2.- To systematically screen and to treat HCV infection in this population. 3.- To engage this people with health care programs for the management of medical, psychiatric and social conditions.
Activities	Prospective observational study, including all subjects sentenced to non-custodial sentences attended at the Center for Social Insertion "José Hierro" (Santander) from June 2019 to June 2021, between 18 and 79 years and who gave signed informed consent. Assisted by the medical team and the center's "Navigator", systematic screening of HCV is performed by detection of antibodies by Oraquick®, those that are positive, viral load is determined by GeneXpert® in capillary blood. All cases with detectable viral load are evaluated by the hepatology staff by telemedicine and then antiviral treatment is prescribed. Thus, active HCV infection detection, disease evaluation and treatment are all done in the same day. The Navigator figure facilitates continuity for medical care and social assistance of these individuals (accompaniment to the hospital, adherence to treatment etc.).
Results	So far, 327 people have been invited to participate, 308 of them have been screened for HCV (94.2% acceptance). The prevalence of anti-HCV + has been 7.8% (24), which represents 5 times the general population. The prevalence of detectable viral load is 3.2% (10), above 10 times the prevalence of viremia in the community. All patients have initiated antiviral treatment either in the hepatology or infectious unit in case of HIV co-infected. Regarding comorbidities: problems related to substance abuse were detected in 148 (48%), suspected serious mental disorder in 25 (8.1%), previous stay in prison in 60 (19.5%). Currently, navigator is monitoring 54 (16.5%) patients regarding HCV treatment and their comorbidities.

	The population serving non-custodial sentences is a challenging group, difficult to approach and with a high prevalence of HCV infection. Microelimination programs such as this, using rapid diagnostic tests, telemedicine and "the Navigator" figure are necessary in these vulnerable and hard to reach populations.
Budget	Around 188.000€
Stakeholders involved in the case	Health Service of Cantabria, University Hospital Marques de Valdecilla, Gastroenterology department, Ministry of Internal Affairs, Penitentiary Secretary and El Dueso Prison Governing Board and Medical Staff and Social Insertion Center Medical Staff