



**JADE
CARE**

Joint action on implementation
of digitally enabled integrated
person-centred care

D8.1 THE DANISH ROADMAP TOWARDS INTEGRATED CARE ORIGINAL GOOD PRACTICE AND TRANSFER PROCESS

Annex document

Health Innovation Centre of Southern Denmark

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Table of abbreviations

App	Application
B	Block
(P)CCP	(Plan for) Complex chronic patients
CCU	Care continuity Unit
CCUH	Children' s Clinical University Hospital
CHIF	Croatian Health Insurance Fund
CIPH	Croatian Institute of Public Health
CF	Core Feature
COPD	Chronic Obstructive Pulmonary Disease
COVID	Coronavirus disease
CSCJFA	Consejería de Salud y Consumo Junta de Andalucía (Andalusian Regional Ministry of Health and Consumer Affairs)
CSPFU	Centralised System for Proactive Follow-up
DESI	Digital Economy and Society Index
DK	Denmark
DKK	Danish Krone
DM	Diabetes mellitus
EHR	Electronic Health Record
EU	European Union
FFIS	Fundación para la Formación e Investigación Sanitario de la Región de Murcia (Foundation for Health Training and Research of the Region of Murcia)
FPS	Fundación Progreso y Salud (Progress and Health Foundation)
GP	General Practitioner
GRS	Gerencia Regional de Salud (Regional Health Department)
I(C)T	Information (and Communication) Technology
JA	Joint Action
KPI	Key Performance Indicator
LAP	Local Action Plan
LCF	Local Core Feature
LGP	Local Good Practice
MoH	Ministry of Health
NA	Next Adopter
NAWG	Next Adopter Working Group
NCD	Non-communicable diseases
oGP	Original Good Practice
OUH	Odense University Hospital
POCT	Point-of-care-testing
PDSA	Plan Do Study Act
SACYL	Gerencia Regional de Salud de Castilla y León (Regional Health Department of Castila and Leon)
SAS	Servicio Andaluz de Salud (Andalusian Health Department)
SMS	Servicio Murciano de Salud (Health Department of Murcia)

SMART	Specific Measurable Achievable Relevant Time-bound
SWOT	Strengths-Weaknesses-Opportunities-Threats
TC	Teleconsultation
UHO	University Hospital Olomouc
WP	Work Package

Annex 1: Implementation reporting documentation

This appendix document includes the reporting documentation of the eight NAs of the Basque Good Practice for the three phases of the implementation process:

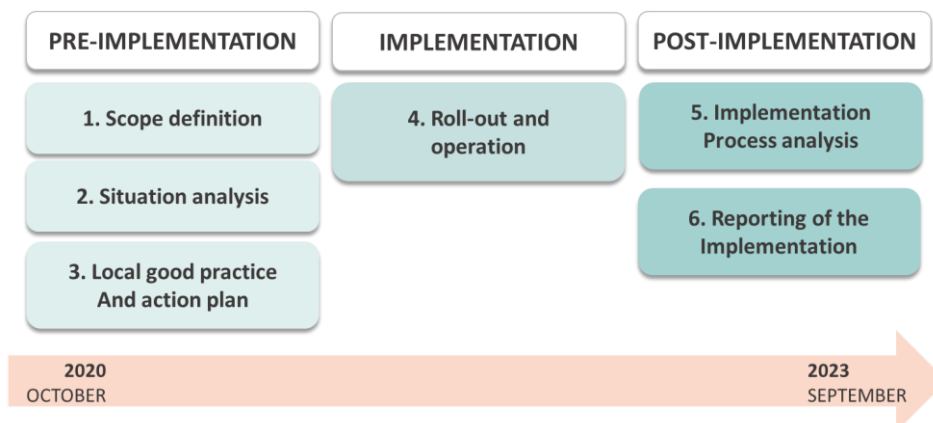


Figure 1: JADECARE three step Implementation Strategy

Pre-implementation

The objective of this phase is to elaborate the LGPs and the LAPs to be followed during the implementation by means of three activities:

- **Scope definition:** that implies selecting the CFs of the oGP(s) to be implemented and integrated in routine practice in each NA site. For this means, the NAs assessed the relevance and feasibility of the CFs of the oGP(s) in a four points scale, where 0=Not at all and 4= Extremely, and selected those to be implemented at the local site.
 - **Situation analysis:** whose purpose is to analyse the organizational position of the NAs within the environment by conducting a SWOT analysis to then define its Strategic Intervention Areas (SIAs).
 - **Definition of the LGPs and LAPs:** including the detail of the intervention designed: name of the good practice, target population, setting, main aim, general description, needed inputs, main components and expected outcomes and the concrete actions to be taken to deploy it, including each SMART objective, specific activities, actors, resources, settings(s), timeline and KPIs.

Implementation

It consisted on the execution and monitoring of the implementation by means of 2 Plan-Do-Study-Act (PDSA) Cycles, where the report of each step includes:

- **Plan:** a detail of the activities broken down into actions, actors, timeline and information on KPIs to assess them (target value and who/when and how will the data be collected).
- **Do:** information on the actual value of the KPIs compared to the planned target value, a summary of what was actually implemented and description of deviations, problems or unexpected findings, if any, as well as the implementation progress achieved until the moment.
- **Study:** the reasons for the deviations, mitigation actions implemented and their impact, considering the planned and actual KPI values.
- **Act:** the decision to maintain, adapt or abandon each activity as well any new proposed action for the future.

Post-implementation

The whole implementation was reported by each NA by means of the SQUIRE 2.0 adapted guidelines. It contains SQUIRE 2.0 contains 18 items to respond 2 general sections and 4 key questions: title and abstract, why did you start?, what did you do?, what did you find?, what does it mean? and other information

University Hospital Olomouc (UHO)

Pre-implementation

Scope definition

Document missing

Final Core Features selected

Basque Good Practice CF2.2 Deployment of integrated communication and information systems

Danish Good Practice CF2.2 Tele-psychiatry

Situation analysis

	Strengths	Weaknesses
Internal	<ul style="list-style-type: none"> Existing adequate network of health services in the Olomouc region. High professional capacity in UHO. Developing platform of digital integrated care in UHO. Available ICT in the Olomouc Region and sufficient internet coverage except for peripheral parts, eg Jeseník district. Established contacts and specific outlines of cooperation with representatives of the Olomouc Region and the city of Jeseník. Existing European projects that offer inspiration from abroad to take over. Cooperation with Ministry of Health in the field of digital services; UHO is competence centre of Ministry of Health for telemedicine. Participation of the Olomouc Region and UHO in the National Action Plan for Mental Health. Existence of the National Telemedicine Centre at UHO. Faculty of Medicine within Palacký University of Olomouc. 	<ul style="list-style-type: none"> Lack of eHealth legislation. Worse availability of care in the peripheral parts of the Olomouc Region (Jeseník district), for example due to specific geographical accessibility. Contractually unsecured relationship with health insurance companies regarding eHealth as well as uncertain financing of future costs related to eHealth. Insufficient personnel coverage of specialist services in the peripheral parts of the Olomouc Region. Specifically, Jeseník district (for example clinical pharmacologist, neurologist, etc.). Unoccupied doctor's offices by outpatient specialists, general practitioners, paediatricians and dentists (not only in the Jeseník region). Long order deadlines (rheumatology, urology, oncology, problematic travel for irradiation). Long duration of the introduction of innovations (technologies) into common practice as well as their acceptance and sustainability. Modern ICT technologies are usually used only for simpler purposes. Weaker user knowledge of ITC tools. Lack of connection between the social and health sectors. Insufficient level of health literacy of citizens.

	<ul style="list-style-type: none"> • Weak activity of health insurance companies in introducing innovations, not only within the project. • Fragmentation of health care services. •
Opportunities	Threats
<ol style="list-style-type: none"> 1. Using experts from UHO for other subjects (Jesenik Hospital). 2. The emerging platform for the digitization of integrated patient care, including shared documentation. 3. More effective care solutions, saving time for clients, simplifying some processes. Better coordinated care. 4. Individuals' interest in innovation, quality and availability of care, integration (Jesenik Hospital, regional politicians). 5. The possibility of sharing information about patients between UHO and Jesenik, ideally also other providers of health services. <ul style="list-style-type: none"> • Integrated healthcare, digitization of healthcare, etc. as a suitable political topic. • Transfer of innovations from abroad and within the Czech Republic. • Connecting actors in social and health services (including field services), where it makes sense in client care. • The possibility of increasing the health literacy of the citizen and strengthening his position in the health system. • Improving the health of the population of the distant region - by enabling access to locally limited specialized care: distant consultation and direct detection and monitoring of patients requiring specialized care. Care will be more effective and can bring further savings through correct diagnosis - well-targeted treatment - preventing unnecessary transfers between IB providers. Enabling efficient and coordinated use of bed stock capacity. • Distance education, training and deepening of competencies of medical staff, who due to staff need have a very limited opportunity to intern at other workplaces. Maintaining the level of care. Establishing 	<ul style="list-style-type: none"> • Cyber security of healthcare providers (mainly those not yet covered by the Cyber Security law). Especially in connection with eHealth projects, where there is an appeal to secure shared health data. • Rigid system of health care financing. • Reduction of the number of general practitioners, especially in the peripheral parts of the Olomouc Region. The increasing average age of general practitioners. Also, a declining number of specialists (cardiologists, nephrologist, gastroenterologist, ENT doctor, rheumatologist, oncologist, vascular specialist). • Insufficient replacement of doctors and occupation of surgeries, imminent lack of general practitioners and outpatient specialists in the Jesenik region in the next 10 years. • Insufficient PR (information) on innovation and integrated care. • Insufficient involvement of health insurance companies. • Insufficient involvement of general practitioners. • Insufficient involvement of specialists (outpatient specialists). • Coordination, communication and cooperation of care is not at the required level and does not have sufficient support. • Misinformation and concerns preventing the spread of innovation. • Shift in the priorities of political topics in the Czech Republic affecting regions. • Ensuring long-term sustainability

External

the necessary friendly and collegial cooperation of health care professionals.

- Existence of a service organization that will solve onsite problems with telemedicine from the beginning, also as a prevention of possible non-adoption of technologies.

Strategic Intervention Areas

Strategic intervention area	Priority	Ranking
Need for tools for individualized and comprehensive care for patients in their general health status, proper TM tool	3	1
Need to improve the disease self-management by patient and their caregivers	2	2
Strengthening continuity of care between care levels (inter/intra level)	2	3
Improvement of coordination, cooperation and data (information) sharing between healthcare and social services	1	4

Definition of the LGP and LAP

Local Good Practice	Support program in tele-psychiatry\psychology and cooperation between health providers	
Target population	Setting(s)	
Patients, seniors in homes for the elderly, shelter house clients, people with life-threatening, life-limiting illnesses. Staff of the facilities concerned. For pilot with at least 3 organizations.	Olomouc region (UHO, ambulances, social care facilities, Jesenik hospital).	
Main aim	Olomouc University Hospital and the National Telemedicine Centre propose a number of interventions to support better integration and proactivity of patient care through modern technologies. These interventions include the identification of appropriate practices and solution proposals and collaboration with the Ministry of Health. Our strategy is taking place in a context where we have a significant shortage of specialist (psychiatrists) and, on the other hand, there are repeated examinations due to non-cooperation and sharing of documentation between health care providers. Our approach anticipates some areas of the new Healthcare Computerisation Act and points the way. The	

practice presents an opportunity to use the Basque experience regarding the sharing of health documentation and cooperation between social service providers and to introduce Telepsychiatry in the South Denmark area. Factors that could have a negative impact on our goals are the lack of involvement of clinical experts in the process, barriers caused by privacy issues and difficulties in addressing communication barriers. Personnel changes due to post-election negotiations, etc.

The need is consensus from multiple stakeholders, especially the willingness of professionals to engage and persist in new approaches, support from health insurance to include these approaches in the payment of medical procedures, modification of existing and creation of new legislation based on project outputs.

The main objective is to improve care for the target group. Increase access to psychiatric/psychological care. Provide opportunities for collaboration through documentation sharing (collaboration) and support for the target group and technical support.

Outcomes	Local Core Features and their components	Inputs
<ul style="list-style-type: none"> Facilitate the availability of psychiatric/psychologic assessment for target groups in accordance with care needs. Develop a tele-psychiatry/psychology programme via IT aimed also at people in social care institutions. Increase care for patients with mental illness and cognitive-functional disorders in residential care and guarantee continuity of care. Improve the knowledge of the processes of cognitive-functional deterioration and mental illness among social care workers in social care institutions. Improve communication between the psychiatric team of the University Hospital Olomouc, patients (clients of social care facilities), their families and guardians and professional teams of social health care units, general practitioners, Jesenik Hospital, etc. Reduction of commuting from social care facilities to hospital medical facilities for regular consultations. 	<ol style="list-style-type: none"> Tele-Psychiatry\psychology online. Online management of the psychological and behavioral disorders. Online access to documentation (awareness of medication and medical treatment process). <ul style="list-style-type: none"> Contact with the socio-sanitary professionals of the social care facilities to provide information on the program and the various technological aspects used. Preparation of psychiatric program adapted to the different evolutionary moments of mental illnesses and the functional cognitive situation of the elderly or homeless in social care facilities. Possible online communication channels between the elderly, family members, socio-health professionals and some of the psychiatric team (nurse or physician). Development of application for tele-psychiatry/psychology for electronic medical documentation of the UHO. Development of the Application for mobile devices. Online questionnaires to assess progress. 	<ul style="list-style-type: none"> Financing Staff time for the design, development and implementation of the tele-psychiatric/psychologic program. IT experts Computer system: improvement of web applications in electronic medical records. Creation of simple manuals for an application used to share documentation. Hardware for the development and usage of the program Training and technical assistance

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> Facilitate various bureaucratic and administrative tasks online for seniors, families, caregivers and professional social health services staff. Provide an online space as an alternative to the traditional interview, which may be more acceptable to some groups of people. Due to all these outcomes shape a change in thinking towards mental health care and their patients. | <ul style="list-style-type: none"> Online Tele-psychiatric/psychologic consultations. | |
|---|--|--|

General description

An online tele-psychiatry/psychology program focused on the health care of a select group of patients, designed to facilitate access to specialized care without the need for travel. Through patient-centered care and a patient-centered environment, better symptom control, diagnosis of psychiatric disorders, improved health outcomes, and reduced direct and indirect costs can be achieved. This mode of online service delivery encompasses a wide range of care services, from assessment and diagnosis to pharmacological and psychosocial interventions, follow-up and residential care, and the development of clinical care plans. Sharing documentation will increase collaboration and coordination among health care providers.

The outcome sets the stage for the development and expansion of case management, crisis intervention, liaison services for other medical specialties, nursing care, etc. Sharing medical records is also a relief for social service facilities, especially homes for the elderly, for caregivers, reducing the number of trips and paper transfers between patients and physicians.

Sharing documentation will facilitate better delivery of health services to patients who are referred to UHOs from other facilities for specialist examinations, or who attend here while receiving outpatient (ambulatory) care.

Local Core Feature 1

Tele-Psychiatry/psychology online

Local Core Feature 2

Online management of the psychological and behavioral disorders.

Local Core Feature 3

Online access to documentation (awareness of medication and medical treatment process).

Local Good Practice	Support program in tele-psychiatry\psychology and cooperation between health providers	
Target population	Setting	
Selected patients requiring specialist care	Cooperation UHO with Jesenik district (also with other subjects)	
Main aim		
Identifying the population of convenient patients and improving their care through enhanced integration and proactivity of primary and hospital care		
General description		
<p>The UHO proposes a number of interventions to promote better integration and proactive care for patients from more remote parts of the county. These interventions include identifying appropriate patients through the process and promoting communication and sharing of care plans, documentation among health care professionals. Our strategy is taking place in a context where increasing numbers of patients, coupled with an ageing population, are being met with decreasing numbers of medical staff. Our approach is in line with the MoH plans and the new Health Electronicisation Act. The practice presents an opportunity to integrate and coordinate efforts to provide timely and ideally integrated care in the future, when fragmentation of the health care system complicates and makes the entire system more expensive. Factors that could negatively impact our goals are the lack of participation of clinical experts in the process, barriers caused by privacy issues, and difficulties in addressing communication barriers. The reluctance of subjects to change established practices and, last but not least, the increasing age of professional staff.</p>		
Related original Good Practices and their Core Feature (s)	B2 - CF3 (Basque Country), B2 - CF2 (Southern Denmark) Telepsychiatry	
Local Core Feature 1	Tele-Psychiatry\psychology online.	
SMART objective		
Description, identification and setup Tele-Psychiatry\psychology.		

Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> • Create a Specific Working Group (SWG) for the local model 	<ul style="list-style-type: none"> • NAWG (1 GP, 1 coordinator for computerizing health care from MoH, 1 psychiatric, 1 psychologist, 1 project manager, 1 deputy director of UHO, 1 office worker from municipality, 1 social worker) 	<ul style="list-style-type: none"> • Experts 	<ul style="list-style-type: none"> • Olomouc Region 	<ul style="list-style-type: none"> • 1-30 October 2021 	<ul style="list-style-type: none"> • SWG formed (N° of members)
<ul style="list-style-type: none"> • Literature, law etc. review for identifying possibilities in Tele-Psychiatry\psychology. 	<ul style="list-style-type: none"> • UHO 	<ul style="list-style-type: none"> • Time 	<ul style="list-style-type: none"> • CZE 	<ul style="list-style-type: none"> • 1-30 October 2021 	<ul style="list-style-type: none"> • Literature reviewed (Y/N)
<ul style="list-style-type: none"> • Establish criteria and methods for GPs, social care institution to identify suitability Tele-Psychiatry\psychology. 	<ul style="list-style-type: none"> • SWG 	<ul style="list-style-type: none"> • Time • Identification criteria • Available literature 	<ul style="list-style-type: none"> • Olomouc Region 	<ul style="list-style-type: none"> • 15 October -30 November 2021 	<ul style="list-style-type: none"> • List of criteria to be used for stratification (Y/N) • Identification method detected (Y/N)
<ul style="list-style-type: none"> • GPs, psychiatric, psychologist identification 	<ul style="list-style-type: none"> • NAWG 	<ul style="list-style-type: none"> • Time 	<ul style="list-style-type: none"> • Olomouc Region 	<ul style="list-style-type: none"> • 1 October – 30 November 2021 	<ul style="list-style-type: none"> • At least 4 identified specialists (Y/N)
<ul style="list-style-type: none"> • Establish procedures and providing the assistants to the specialists 	<ul style="list-style-type: none"> • NAWG 	<ul style="list-style-type: none"> • Assistance for the specialists available • Financial resources 	<ul style="list-style-type: none"> • Olomouc Region 	<ul style="list-style-type: none"> • 1 October – 30 November 2021 • 1 December 2021-30 September 2022 	<ul style="list-style-type: none"> • Descriptive document about the sustainable incentive system (Y/N)

					• Incentive system implemented (Y/N)
• Train identified specialists on the methods to be used for Tele-Psychiatry\psychology. Define modalities for nurse involvement to encourage adherence to the project.	• NAWG • SWG	• Time • Trainers available	• Olomouc Region	• 15 November -30 November 2021 (fortnight)	• Training performed (Y/N) • Trained identified specialists trained (N° of trained staf) • Trained identified nurse (N° of trained staf)
• Identify complex patients and including them in the "ICP (Individual Care Plan) Folder" of the outpatient EHR. EHR not in the strict sense, but appropriate and realistic implementation in an application that allows secure sharing.	• SWG • GP	• Time	• Olomouc Region	• 1 December 2021-28 February 2022	• Complex patient lists defined with at least 10 identified patients (Y/N)
• Support and monitoring activities	• NAWG	• Time	• Olomouc Region	• 1 October 2021-30 September 2022	• Support and monitoring activities performed (Y/N)

Local Core Feature 2	Online management of the psychological and behavioral disorders
SMART objective	

Creation of a basic description of the problem, appropriate labeling and proposal of the reimbursement for the health insurance company.					
Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> • Definition of the most common cases to solve 	<ul style="list-style-type: none"> • Members of the NAWG: (1 Coordinator, 1-2 specialist) • Coordinators of Nursing Units 	<ul style="list-style-type: none"> • Time 	<ul style="list-style-type: none"> • Olomouc district 	<ul style="list-style-type: none"> • 1 October – 30 December 2021 	<ul style="list-style-type: none"> • Document (analysis) about common cases (Y/N)
<ul style="list-style-type: none"> • Adaptation of the application for the needs of psychiatry, psychology 	<ul style="list-style-type: none"> • Members of the NAWG: (coordinator, IT specialist) 	<ul style="list-style-type: none"> • Time • Financial resources 	<ul style="list-style-type: none"> • Olomouc district 	<ul style="list-style-type: none"> • 1 November – 30. December 2021 • 1. December 2021-30 September 2022 	<ul style="list-style-type: none"> • Basic modification (Y/N) • Continuous modifications (N° of modifications)
<ul style="list-style-type: none"> • Approval of acts for health insurance companies used for reimbursement of care by the health insurance company. 	<ul style="list-style-type: none"> • NAWG (coordinator, deputy director of UHO, MoH, insurance company) 	<ul style="list-style-type: none"> • Time 	<ul style="list-style-type: none"> • Olomouc district 	<ul style="list-style-type: none"> • 1 December 2021-28 February 2022 	<ul style="list-style-type: none"> • Descriptive document about aproved codes available (Y/N)

<ul style="list-style-type: none"> The system enables a secure online call between the doctor and the patient, patient's representative, consular consultation, etc. 	<ul style="list-style-type: none"> Members of the NAWG: (coordinator, IT specialist) 	<ul style="list-style-type: none"> Time Financial resources 	<ul style="list-style-type: none"> Olomouc district 	<ul style="list-style-type: none"> 1 October – 30 December 2021 	<ul style="list-style-type: none"> Modification done (Y/N)
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Local Core Feature 3	Online access to documentation (awareness of medication and medical treatment process).				
SMART objective					
<p>Creating and setting up a system that will enable the sharing of documentation between health care providers, including those provided in social service facilities. Facilitating access to health records as a step towards integrated care, which will lighten the burden on the system in terms of making duplicate copies of health records, physically sending records (which also takes place between other entities, caregivers, etc.)</p>					
Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> Setting the conditions and operation of shared documentation via a secure server on the UHO network. 	<ul style="list-style-type: none"> NAWG (UHO) 	<ul style="list-style-type: none"> Time Financial resources 	<ul style="list-style-type: none"> Olomouc district 	<ul style="list-style-type: none"> 1 October – 30 December 2021 	<ul style="list-style-type: none"> Document (analysis) about common cases (Y/N)

<ul style="list-style-type: none"> Adaptation of the application for the needs of other organisations involved. 	<ul style="list-style-type: none"> Members of the NAWG: (coordinator, IT specialist) 	<ul style="list-style-type: none"> Time Financial resources 	<ul style="list-style-type: none"> Olomouc district 	<ul style="list-style-type: none"> 1 November – 30. December 2021 1. December 2021-30 September 2022 	<ul style="list-style-type: none"> Basic modification (Y/N) Continuous modifications (N° of modifications)
<ul style="list-style-type: none"> Support and monitoring activities 	<ul style="list-style-type: none"> Members of the NAWG: (coordinator, IT specialist) 	<ul style="list-style-type: none"> Time Financial resources 	<ul style="list-style-type: none"> Olomouc district 	<ul style="list-style-type: none"> 1 November – 30. December 2021 1. December 2021-30 September 2022 	<ul style="list-style-type: none"> Basic modification (Y/N) Continuous modifications (N° of modifications)
<ul style="list-style-type: none"> Increasing the number of organisations and documents in data sharing through a secure application 	<ul style="list-style-type: none"> UHO 	<ul style="list-style-type: none"> Time 	<ul style="list-style-type: none"> Olomouc district 	<ul style="list-style-type: none"> 1. December 2021-30 September 2022 	<ul style="list-style-type: none"> Data shared via app (N° of saved data for sharing, N° of real shared described data)

Implementation

1st PDSA Cycle

QUESTIONS	DESCRIPTION
Step	PLAN, cycle 1
Date of the meeting	
Number and profile of the participants	1 project manager, 1 IT expert, 1 financial technician
Organizations involved	Ministry of health, UHO, external providers of health care (Jesenik Hospital)

LCF1	Tele-Psychiatry\psychology online							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Create a Specific Working Group (SWG) for the local model	<ul style="list-style-type: none"> Securing specific members of the group, securing rewards for those where desirable. 	<ul style="list-style-type: none"> 1 GP 1 coordinator from MoH 1 psychiatric psychologist 1 project manager 1 deputy director of UHO 1 office worker from municipality 1 social worker 1 IT expert 	<ul style="list-style-type: none"> 1/12/2021 to 31/12/2021 	<ul style="list-style-type: none"> Results from meetings No. of members (contact list) No. of posts, emails, etc. 	Project manager	28.2.2022	Monitoring during monthly follow-up meetings	<ul style="list-style-type: none"> Yes 7 members
	<ul style="list-style-type: none"> Informing the wider interest group, 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 1/12/2021 to 					

	reports for local politicians, information from the social media group.		31/12/2022			<ul style="list-style-type: none"> • Every 6 months 		<ul style="list-style-type: none"> • Yes • 2 minutes of outputs
Literature, law etc. review for identifying possibilities in Tele-Psychiatry\psychology.	<ul style="list-style-type: none"> • Define sources, changes in legislation (also from oGP) <p>Basis for preparation of material for the MoH as a basis for the explanatory report for possible shifts in legislation.</p>	<ul style="list-style-type: none"> • SWG 	<ul style="list-style-type: none"> • 1/12/2021 to 28.2.2022 	<ul style="list-style-type: none"> • Database created for continuous updating (at least 10 relevant and usable sources concerning, also, study visits presented by the oGP on the topic 	<ul style="list-style-type: none"> • Project manager 	<ul style="list-style-type: none"> • 30.3.2022 	<ul style="list-style-type: none"> • Study of available resources, discussion with SWG members 	<ul style="list-style-type: none"> • Yes • 70 % (of literature used for further processing) • 1 draft explanatory memorandum for the Ministry of Health to be prepared for the attention

								n of the Minister
Establish criteria and methods for GPs, social care institution to identify suitability Tele-Psychiatry\psychology.	<ul style="list-style-type: none"> Set criteria for the appropriate introduction of the Tele-Psychiatry\psychology practice into mainstream care provision with a view to sustainability The proposed service design, which will be used for the most part in practice for the pilot and subsequent use. 	<ul style="list-style-type: none"> Members of SWG Representative of a health insurance company 	<ul style="list-style-type: none"> 1.1 2.2021 – 28.3.2022 	<ul style="list-style-type: none"> Design of Tele-Psychiatry\psychology 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 30.4.2022 	<ul style="list-style-type: none"> Interview 	<ul style="list-style-type: none"> Yes

GPs, psychiatric, psychologist identification	<ul style="list-style-type: none"> • Formation of a group of specialists with active involvement 	<ul style="list-style-type: none"> • Project manager • 4 specialists • IT specialist 	<ul style="list-style-type: none"> • 1.1 2.2021 – 28.2.2022 	<ul style="list-style-type: none"> • At least 4 identified specialists 	<ul style="list-style-type: none"> • Project manager 	<ul style="list-style-type: none"> • 28.2.2022 	<ul style="list-style-type: none"> • Special group established 	<ul style="list-style-type: none"> • Yes (group with at least four members established)
Establish procedures and providing the assistants to the specialists	<ul style="list-style-type: none"> • Special group meetings to offer good practice in the provision of video consultations in psychiatry and their validation in practice • Support from project manager and IT specialist 	<ul style="list-style-type: none"> • Project manager • 4 specialists • IT specialist 	<ul style="list-style-type: none"> • 1.1 2.2021 – 28.3.2022 	<ul style="list-style-type: none"> • Descriptive document about the sustainable incentive system • Incentive system implemented 	<ul style="list-style-type: none"> • Project manager 	<ul style="list-style-type: none"> • 30.4.2022 	<ul style="list-style-type: none"> • Monitoring during monthly follow-up time 	<ul style="list-style-type: none"> • Yes
Train identified specialists on the methods to be used for Tele-Psychiatry\psych	<ul style="list-style-type: none"> • Support from project manager and IT specialist. 	<ul style="list-style-type: none"> • Project manager • 4 specialists 	<ul style="list-style-type: none"> • 1.1 2.2021 – 28.3.2022 	<ul style="list-style-type: none"> • Training performed • Trained identified 	<ul style="list-style-type: none"> • Project manager 	<ul style="list-style-type: none"> • 10.4.2022 	<ul style="list-style-type: none"> • Monitoring during monthly 	<ul style="list-style-type: none"> • No of specialists at least

ology. Define modalities for nurse involvement to encourage adherence to the project.	<ul style="list-style-type: none"> • Creating easy manual to developed app. 	<ul style="list-style-type: none"> • IT specialist 		<ul style="list-style-type: none"> • specialists trained • Trained identified nurse • Existing manual 			<ul style="list-style-type: none"> • follow-up time • monitoring the outputs from the first pilots 	<ul style="list-style-type: none"> • four and all of them trained in TM • Yes
Identify complex patients and including them in the "ICP (Individual Care Plan) Folder" of the outpatient EHR. EHR not in the strict sense, but appropriate and realistic implementation in an application that allows secure sharing.	<ul style="list-style-type: none"> • General agreement on the appropriate patient typology • General conformity of the appropriate recording method 	<ul style="list-style-type: none"> • Project manager • 4 specialists • IT expert 	<ul style="list-style-type: none"> • 1.1 2.2021 – 28.3.2022 	<ul style="list-style-type: none"> • Complex patient lists defined (about 10 identified patients) 	<ul style="list-style-type: none"> • Project manager 	<ul style="list-style-type: none"> • 10.4.2022 	<ul style="list-style-type: none"> • Monitoring during monthly follow-up time • Interview 	<ul style="list-style-type: none"> • at least 8 patients to verify pilot
Support and monitoring activities	<ul style="list-style-type: none"> • Support for the groups involved 	<ul style="list-style-type: none"> • Project manager • IT expert 	<ul style="list-style-type: none"> • 1.1 2.2021 – 28.3.2022 	<ul style="list-style-type: none"> • Support and monitoring activities performed 	<ul style="list-style-type: none"> • Project manager 	<ul style="list-style-type: none"> • 10.4.2022 	<ul style="list-style-type: none"> • Monitoring during monthly 	<ul style="list-style-type: none"> • No. of interventions, feedback

				(number of feedbacks from coordinator and IT specialist to specialists and back, number of IT adjustments)	<ul style="list-style-type: none"> IT expert 		follow-up time	ks and IT changes
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LCF2 Online management of the psychological and behavioral disorders								
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Definition of the most common cases to solve	<ul style="list-style-type: none"> Analysis of the current most common cases. 	<ul style="list-style-type: none"> Project manager 4 specialists 	1.12.2021 – 28.2.2022	<ul style="list-style-type: none"> Created analysis 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 10.3 .2022 	<ul style="list-style-type: none"> Questionnaire, interview 	<ul style="list-style-type: none"> Yes (completed questionnaires and feedback from patients)
Adaptation of the application	Modification of the application for the	<ul style="list-style-type: none"> Project 	1.12.2021 – 28.2.2022	<ul style="list-style-type: none"> Modified app. 	<ul style="list-style-type: none"> Project 	<ul style="list-style-type: none"> 10.3 .2022 	<ul style="list-style-type: none"> processing the feedback 	<ul style="list-style-type: none"> yes (the applicati

for the needs of psychiatry, psychology	needs of project activities.	<p>manager</p> <ul style="list-style-type: none"> IT specialist 			<p>manager</p> <ul style="list-style-type: none"> IT expert 		during the pilot, processing the output of the monitoring of telepsychiatry functioning in order to modify the application	on will be continuously modified, supplemented and extended with additional functions)
Approval of acts for health insurance companies used for reimbursement of care by the health insurance company.	<ul style="list-style-type: none"> Communication with representatives of selected health insurance companies. 	<ul style="list-style-type: none"> SWG 	<ul style="list-style-type: none"> 1.12.2021 – 28.3.2022 	<ul style="list-style-type: none"> Existing code for treatment. 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 10.4.2022 	<ul style="list-style-type: none"> Meetings, Interview, online communication 	<ul style="list-style-type: none"> Yes
The system enables a secure online call between the doctor and the	<ul style="list-style-type: none"> Modification of the application for the needs of project activities. 	<ul style="list-style-type: none"> Project manager IT expert 	<ul style="list-style-type: none"> 1.12.2021 – 28.3.2022 	<ul style="list-style-type: none"> Modified app. 	<ul style="list-style-type: none"> Project manager IT expert 	<ul style="list-style-type: none"> 10.4.2022 	<ul style="list-style-type: none"> Meetings, Interview, online communication and propagation 	<ul style="list-style-type: none"> Yes at least two published articles,

patient, patient's representative, consular consultation, etc.	<ul style="list-style-type: none"> Appropriate promotion of a new way of relating to clients. 							two social media messages, a message on the hospital intranet
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LCF3 Online access to documentation (awareness of medication and medical treatment process).								
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Setting the conditions and operation of shared documentation via a secure server on the UHO network.	<ul style="list-style-type: none"> Modification of the application for the needs of project activities. 	<ul style="list-style-type: none"> Project manager IT expert 	1.12.2021 – 28.2.2022	<ul style="list-style-type: none"> Existing features to enable secure data sharing 	<ul style="list-style-type: none"> Project manager IT expert 	<ul style="list-style-type: none"> 10.3.2022 	<ul style="list-style-type: none"> Data from doctors included in the app, ready to be shared. 	<ul style="list-style-type: none"> Yes the application will be adapted for documentation sharing, which will be used not only in the

								UHO-patient relationship, but also for needs between other health providers
Adaptation of the application for the needs of other organisations involved.	<ul style="list-style-type: none"> Modification of the application for the needs of project activities. 	<ul style="list-style-type: none"> Project manager IT expert (also partner IT experts) 	1.12.2021 – 28.2.2022	<ul style="list-style-type: none"> Modified app. (ensuring mutual communication between health service providers) 	<ul style="list-style-type: none"> Project manager IT expert 	<ul style="list-style-type: none"> 10.3.2022 	<ul style="list-style-type: none"> Meetings, Interview, online communication 	<ul style="list-style-type: none"> yes
Support and monitoring activities	<ul style="list-style-type: none"> Support of all parties involved 	<ul style="list-style-type: none"> Project manager IT expert 	<ul style="list-style-type: none"> 1.12.2021 – 28.3.2022 	<ul style="list-style-type: none"> Modified app (number of feedbacks from coordinator and IT specialist to specialists and back, 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 10.4.2022 	<ul style="list-style-type: none"> Meetings, Interview, online communication 	<ul style="list-style-type: none"> No. of interventions, feedbacks and IT

				number of IT adjustments)				
Increasing the number of organisations and documents in data sharing through a secure application	<ul style="list-style-type: none"> Communication with partners, GPs, representatives from external social services, health services, in order for them to use shared patient data as a step towards integrated care. 	<ul style="list-style-type: none"> Project manager IT expert 	<ul style="list-style-type: none"> 1.12.2021 – 28.3.2022 	<ul style="list-style-type: none"> Data shared via app 	<ul style="list-style-type: none"> Project manager IT expert 	<ul style="list-style-type: none"> 10.4.2022 	<ul style="list-style-type: none"> Meetings, Interview, online communication and propagation 	<ul style="list-style-type: none"> N° of real shared described data)

QUESTIONS		DESCRIPTION
Step		DO step
Date of the meeting		8.6.2022
Number and profile of the participants		1 project manager, 1 IT expert, 2 NTMC
Organizations involved		Ministry of health, UHO
Cycle number (1 or 2)		1
Activity	KPI	Actual value
Create a Specific Working Group (SWG) for the local model	<ul style="list-style-type: none"> Results from meetings No. of member (contact list) [...] 	<ul style="list-style-type: none"> SWG created. Contact list done, with professionals from UHO, from Centre of mental health, from municipality, district policy, social services, etc.

	<ul style="list-style-type: none"> No. of post, emails, etc. 	<ul style="list-style-type: none"> Most of the contact is phone made. There were several meetings onsite and we are having notes from meetings.
Literature, law etc. review for identifying possibilities in Tele-Psychiatry\psychology.	<ul style="list-style-type: none"> Database created for continuous updating (at least 10 relevant and usable sources concerning, also, study visits presented by the oGP on the topic 	<ul style="list-style-type: none"> Completed. The database includes books from abroad, feedback from oGP (not only methodologies, but also reports and laws), study visits.
Establish criteria and methods for GPs, social care institution to identify suitability Tele-Psychiatry\psychology.	<ul style="list-style-type: none"> Design of Tele-Psychiatry\psychology (Y/N) 	We are currently in front of a pilot validation of data sharing and coordination between GPs and UHO, but in a different sector than telepsychiatry (teleophthalmology). This point was inappropriately chosen for telepsychiatry, it will only be relevant to practitioners much later.
GPs, psychiatric, psychologist identification	<ul style="list-style-type: none"> At least 4 identified specialists (Y/N) 	Yes. Instead of GPs, other specialists were identified.
Establish procedures and providing the assistants to the specialists	<ul style="list-style-type: none"> Descriptive document about the sustainable incentive system (Y/N) Incentive system implemented (Y/N) 	<ul style="list-style-type: none"> Sustainable system will be important in terms of encouraging health insurance to maintain recognition of videoconferencing in the points system as a telemedicine act (telepsychiatry). Incentive system weren't established.
Train identified specialists on the methods to be used for Tele-	<ul style="list-style-type: none"> Training performed (Y/N) 	<ul style="list-style-type: none"> The training was conducted for a psychiatrist from the UHO psychiatry clinic, a psychiatric nurse.

<p>Psychiatry\psychology. Define modalities for nurse involvement to encourage adherence to the project.</p>	<ul style="list-style-type: none"> • Trained identified specialists trained (N° of trained staf) • Trained identified nurse (N° of trained staf) • Existing manual 	<ul style="list-style-type: none"> • A closer familiarization for the staff of the Mental Health Centre, psychiatric hospital in Šternberk. • Also few psychologists has been trained to be able to give them psychological support for patients in terminal stadium of disease. • Manual exist, but not in final form due to permanent modifications to the system.
<p>Identify complex patients and including them in the "ICP (Individual Care Plan) Folder" of the outpatient EHR. EHR not in the strict sense, but appropriate and realistic implementation in an application that allows secure sharing.</p>	<ul style="list-style-type: none"> • Complex patient lists defined with at least 10 identified patients (Y/N) 	<ul style="list-style-type: none"> • Yes. Complex patient lists is defined for our conditions with 20 identified patients. • No. The "ICP (Individual Care Plan) Folder" has not been introduced. Data sharing is being developed in a basic form.
<p>Support and monitoring activities</p>	<ul style="list-style-type: none"> • Support and monitoring activities performed (number of feedbacks from coordinator and IT specialist to specialists and back, number of IT adjustments) (Y/N) 	<ul style="list-style-type: none"> • Yes. Very important part of all. Close coordination with IT allows us to fulfil demands on improving telemedicine app. Quite a lot of adjustments has been done and this is still in progress.
<p>Activity 2 Definition of the most common cases to solve</p>	<p>Created analysis (Y/N)</p>	<ul style="list-style-type: none"> • Yes. The psychiatric clinic proposed a typology of patients involved in the pilot validation. These are patients who are treated and compensated. The feedback so far has been good, with patients accepting and praising the solution.

Adaptation of the application for the needs of psychiatry, psychology	Modified app.	<ul style="list-style-type: none"> • Yes. Still in progress. Beside web application, we are currently working on a mobile application version as well. The web is modified during pilot testing.
Approval of acts for health insurance companies used for reimbursement of care by the health insurance company.	Existing code for treatment.	<ul style="list-style-type: none"> • Partly. One of the big insurance company doesn't have code for video consultation. Pilot validation will demonstrate the value of re-establishing a code that was routinely reimbursed by the insurance company during the covid pandemic. • Partly. The code exists in 6 out of 7 health insurance companies but with insufficient valuation.
The system enables a secure online call between the doctor and the patient, patient's representative, consular consultation, etc.	Modified app.	<ul style="list-style-type: none"> • Yes.
Setting the conditions and operation of shared documentation via a secure server on the UHO network.	Existing features to enable secure data sharing	<ul style="list-style-type: none"> • Yes. Analysis done about common cases.
Adaptation of the application for the needs of other organisations involved.	Modified app. (ensuring mutual communication between health service providers.	<ul style="list-style-type: none"> • This is in progress. The future bottleneck is setting up the system to allow access to a Mental health centre that will provide a client's "crisis plan" to show to the emergency services when they intervene. This is a needed system but will be challenging to implement. • Yes. Collaboration between GP and UHO is currently in a mode just prior to testing. • We are awaiting a decision from the psychiatric hospital regarding sending data of joint patients.
Support and monitoring activities	Modified app (number of feedbacks from coordinator and IT specialist to specialists and back, number of IT adjustments)	<ul style="list-style-type: none"> • Yes. App was modified. We are almost in daily contact with IT experts and sending our demands for modifications. This activity is still in continuing progress.
Increasing the number of organisations and documents in data sharing through a secure application	Data shared via app	<ul style="list-style-type: none"> • Partly. New options are still being set up. Search for a new organization. Testing is now underway with GP in Sumpark and we are in close contact with the Mayor of Jeseník and our

tested and partially validated solution from Šumperk will be moved to Jeseník in September where we will continue testing in collaboration with local doctors.

QUESTIONS		ANSWERS	
What was actually implemented? Any deviation from the planned actions		<p>Telemedicine app with secure online call between the doctor and the patient exists.</p> <p>Telepsychiatry is already in pilot testing.</p> <p>Data sharing and collaboration between medical patients is set up in the application and ready for pilot testing. In addition to telepsychiatry, we are extending this good practice to other sectors of telemedicine. This validation will enable better collaboration between regions and will be able to replace missing specialist capacities.</p>	
Problems? Unexpected findings? Please describe		<p>There is still big reluctance to share information mainly because of privacy concerns. Therefore, all patients in the pilot have signed informed consent.</p> <p>As a consequence of meetings between partners and specific discussions over the existing system, a requirement for an accessible patient crisis plan in case of intervention by the emergency medical service emerged. By pure coincidence, some doctors from Jeseník Hospital who also serve in the ambulance service mentioned the problem of intervening with a psychiatric patient, where they often do not know how to deal with them and would need to have a crisis line to a psychiatrist to help them. There is no psychiatric crisis service, and a doctor would not even dare to respond immediately to a patient they do not know. A crisis plan (individual plan) created by a mental health center would be very helpful. However, we need to figure out a way to set this up.</p> <p>Any change takes quite a long time and doctors willing to pilot test are not patient and want a solution right away, this is what we cannot offer.</p>	
IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
		X	

QUESTIONS	DESCRIPTION
Step	Study
Date of the meeting	
Number and profile of the participants	1 project manager, 1 IT expert, 1 MoH manager, 1 external expert of MoH, NTMC, deputy director UHO
Organizations involved	Ministry of health, UHO

Cycle number	1					
Activity	KPI	Target value	Actual value	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Create a Specific Working Group (SWG) for the local model	<ul style="list-style-type: none"> SWG formed (Y/N) N° and profile of the members 	<ul style="list-style-type: none"> Yes N° >2 experts 	<ul style="list-style-type: none"> Yes N°=5 experts 	No deviation from the planned activity	No mitigation action was needed	/
Literature, law etc. review for identifying possibilities in Tele-Psychiatry\psychology.	<ul style="list-style-type: none"> N° of sources (books, laws, articles) collected 	<ul style="list-style-type: none"> N°≥10 	<ul style="list-style-type: none"> N°=10 	No deviation from the planned activity	No mitigation action was needed	/
Establish criteria and methods for GPs, social care institution to identify suitability Tele-Psychiatry\psychology.	<ul style="list-style-type: none"> N° of SWG meetings N° and type of criteria to be used List of criteria available (Y/N) 	<ul style="list-style-type: none"> N°≥2 N°≥2 Yes 	<ul style="list-style-type: none"> N°=2 N°=4 No 	Especially for general practitioners, telepsychiatry in the Czech Republic has no more significance than as a referral institution. Patients go directly to psychiatrists and do not need to be	We focus on elements of telemedicine that can be used to work with GPs.	No.

				referred by a GP. Social care institutions define the need for collaboration but face a shortage of specialists.		
GPs, psychiatric, psychologist identification	<ul style="list-style-type: none"> N° of GPs identified N° of specialists identified 	<ul style="list-style-type: none"> N°≥2 N°=3 	<ul style="list-style-type: none"> N°≥1 N°=4 	Slight variation in terms of the mix of GP and specialist groups. GPs were not involved right for telepsychiatry for the reason already mentioned.	No mitigation action.	We assumed that this don't have negative impact on the project.
Establish procedures and providing the assistants to the specialists	<ul style="list-style-type: none"> N° of assistants Descriptive document about the sustainable system (Y/N) Incentive system implemented (Y/N) 	<ul style="list-style-type: none"> N°≥4 Yes Yes 	<ul style="list-style-type: none"> N°=4 Yes No 	The incentive system in place is not yet at the required level. It will depend on the approach of the largest health insurance company.	No mitigation action was needed.	/
Train identified specialists on the methods to be used for Tele-Psychiatry\psychology. Define modalities for nurse involvement to	<ul style="list-style-type: none"> N° of training performed N° hours spent for training N° of modalities 	<ul style="list-style-type: none"> N°≥1 N°≥2h as required N°≥1 	<ul style="list-style-type: none"> N°=2 N°=2h N°≥10 N°=2 	No deviation from the planned activity	No mitigation action was needed	/

encourage adherence to the project.	<ul style="list-style-type: none"> N° of nurses involved 					
Identify complex patients and including them in the "ICP Folder" of the outpatient EHR. EHR not in the strict sense, but appropriate and realistic implementation in an application that allows secure sharing.	<ul style="list-style-type: none"> N° of patients identified N° of ICP folder 	<ul style="list-style-type: none"> N°≥10 N°≥10 	<ul style="list-style-type: none"> N°= 10 N°= 0 	Slight deviation in the implementation of the ICP component. It is necessary to proceed gradually. No willingness to share this specific data yet. Our telemedicine is prepared to share data (discharge report for example).	Verification of interoperability between the UHO and surrounding health facilities was provided through a different approach.	We assumed that this would not have a negative impact on the project. We just need to adjust the strategy.
Support and monitoring activities	<ul style="list-style-type: none"> N° regular contacts 	<ul style="list-style-type: none"> N°=1 per month 	<ul style="list-style-type: none"> Yes 	No deviation from the planned activity	\	\
Definition of the most common cases to solve	<ul style="list-style-type: none"> Descriptive document about common cases available (Y/N) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Yes 	No deviation from the planned activity	\	\
Adaptation of the application for the needs of psychiatry, psychology	<ul style="list-style-type: none"> Descriptive document about roles and functioning available (Y/N) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> No 	The document could not be finalized due to ongoing modifications, so there is a basic manual that will be completed when the	Basic document created.	To be completed during the 2nd PDSA. This has not impact on the project.

				portal is more finalized.		
Approval of acts for health insurance companies used for reimbursement of care by the health insurance company.	<ul style="list-style-type: none"> N° Existing code for treatment < 5 	<ul style="list-style-type: none"> N° = 1 for each health insurance company 	<ul style="list-style-type: none"> Partly 	6 of the seven health insurance companies have an established and valid code for telemedicine (video consultations). The largest insurance company does not have one. Insurance company codes, where they exist, are under-reimbursed.	Continue to put pressure on insurance companies. Asked help of the hospital department dealing with reimbursement by insurance companies.	In the case of not increasing the amount for telemedicine and not introducing a code for the largest health insurance company, the project's output is at risk due to the lack of motivation for clinicians.
The system enables a secure online call between the doctor and the patient, patient's representative, consular consultation, etc.	<ul style="list-style-type: none"> Modified app. 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Yes 	No deviation from the planned activity	\	\
Setting the conditions and operation of shared documentation via a secure server on the UHO network.	<ul style="list-style-type: none"> N° of meetings performed Existing features to enable secure data sharing 	<ul style="list-style-type: none"> N° ≥ 5 Yes 	<ul style="list-style-type: none"> N° = 3 Yes 	There are difficulties in defining a draft document on the roles and functioning of an integrated clinical network to enable peer-to-peer sharing. A basic version exists and allows sharing of the patient summary within the citizen portal. It only applies	The timeline of this activity will be extended in the second cycle	The overall aim of the project is to initiate and promote communication between professionals in order to improve efficiency (the care) of common patients.

				<p>to large hospitals in the country.</p> <p>The telemedicine portal allows sharing of documentation, but so far it has encountered legislative problems and reluctance.</p> <p>Pilot testing of documentation sharing between GP and UHO is underway.</p>		
Adaptation of the application for the needs of other organisations involved.	<ul style="list-style-type: none"> • Modified app. (ensuring mutual communication between health service providers. (Y/N) 	<ul style="list-style-type: none"> • Yes 	<ul style="list-style-type: none"> • Partly 	<p>The UHO telemedicine portal is ready for the involvement of other organisations, GPs, clinics. There is a problem with their active involvement. Information learned from the project have been used for the tender documentation for the new hospital information system.</p>	<p>Demonstrate the benefits of joint communication between UHO and GP in a pilot validation and clinical trial.</p>	<p>The info gained have been useful.</p>
Support and monitoring activities	<ul style="list-style-type: none"> • Modified app (Y/N) 	<ul style="list-style-type: none"> • Yes • N° ≥5 	<ul style="list-style-type: none"> • Yes 	<p>No deviation from the planned activity</p>	<p>\</p>	<p>\</p>

	<ul style="list-style-type: none"> N° of feedbacks from coordinator and IT specialist to specialists and back N° number of IT adjustments 	<ul style="list-style-type: none"> N° ≥5 	<ul style="list-style-type: none"> N° ≥10 N ≥10 			
Increasing the number of organisations and documents in data sharing through a secure application	<ul style="list-style-type: none"> Data shared via app (Y/N) N° involved organizations (GP, other hospital) 	<ul style="list-style-type: none"> Yes N° ≥1 	<ul style="list-style-type: none"> Yes N°=1 	The aim was to share data, particularly with another hospital in a peripheral part of the county. As part of the pilot testing, we chose the path of gradual collaboration with GPs, validating the practice will improve the negotiation conditions.	The involvement of the GPs. This activity will be extended in the second PDSA cycle.	This has an impact only on the pace of the project, because during the second PDSA there will be time to spread cooperation.

QUESTIONS	DESCRIPTION
Step	ACT
Date of the meeting	/07/2022
Number and profile of the participants	1 project manager, 1 IT expert, 1 MoH manager, 1 external expert of MoH, NTMC, deputy director UHO
Organizations involved	Ministry of health, UHO
Cycle number (1 or 2)	1

Activity	Maintain	Adapt	Abandon
Create a Specific Working Group (SWG) for the local model	This activity has been successfully completed, it is advisable to keep group in process.		
Literature, law etc. review for identifying possibilities in Tele-Psychiatry\psychology.	This activity has been successfully completed. Because of the renewal of documents, new literature it is necessary to keep up to date.		
Establish criteria and methods for GPs, social care institution to identify suitability Tele-Psychiatry\psychology.			This point has not been fully met, there is a change, we are abandoning it as set up.
GPs, psychiatric, psychologist identification	This activity has been successfully completed with a slight deviation.		
Establish procedures and providing the assistants to the specialists	This activity has been mostly completed	Incentive system wasn't implemented. We must keep pushing to change approach of the largest health insurance company.	
Train identified specialists on the methods to be used for Tele-Psychiatry\psychology. Define modalities for nurse involvement to encourage adherence to the project.	This activity has been successfully completed		

Identify complex patients and including them in the "ICP (Individual Care Plan) Folder" of the outpatient EHR. EHR not in the strict sense, but appropriate and realistic implementation in an application that allows secure sharing.	This activity has been mostly completed.	There is a long way to go in the Czech Republic, but the perception of computerisation of healthcare is changing, hospital systems are being upgraded and integration platforms are being created to enable data sharing in the form of patient summary between hospitals and other entities.	
Define modalities for nurse involvement to encourage adherence to the project	This activity has been successfully completed		
Support and monitoring activities	This activity has been successfully completed		
Definition of the most common cases to solve	This activity has been successfully completed		
Adaptation of the application for the needs of psychiatry, psychology	This activity has been mostly completed.	There are still changes in app so in the descriptive document.	
Approval of acts for health insurance companies used for reimbursement of care by the health insurance company.	Almost done, only one insurance company doesn't have a code. Also the remaining codes have low performance, need to push for change.		
The system enables a secure online call between the doctor and the patient, patient's	This activity has been successfully completed	Offer solutions to other organisations, to spread the idea.	

representative, consular consultation, etc.			
Setting the conditions and operation of shared documentation via a secure server on the UHO network.	This activity has been successfully completed	Minor modifications and dissemination of good practice will be needed. We have an integration platform allowing sharing of patient summary, we will take advantage of this.	
Adaptation of the application for the needs of other organisations involved.		Bigger involvement of other organisations will be within the framework of the 2nd PDSA.	
Support and monitoring activities	This activity has been completed	Extend the deadline to December 2022 New Target value: <ul style="list-style-type: none"> • N ≥80% of enrolled patients 	
Increasing the number of organisations and documents in data sharing through a secure application	This activity has been completed	We foresee the involvement of other entities as the systems are developed.	

QUESTIONS	ANSWERS
Any new proposed action for the future?	- Push for changes in health insurance companies. Promote activities at the Department of Health by engaging in the National Recovery Plan. According to this activity, any KPIs will be revised.

	We are piloting the use of software to manage the communication between the RA and the hospital": we want to extend this activity to integrated care between hospital, primary care and nursing care as a next step towards integrated care.
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2nd PDSA Cycle

QUESTIONS	DESCRIPTION
Step	PLAN, cycle 2
Date of the meeting	
Number and profile of the participants	1 project manager, 1 IT expert, 1 financial technician, 1 professional from University of Palacky (UPOL), 1 professional from UHO
Organizations involved	Ministry of health, UHO, external providers of health care

LCF1	Tele-Psychiatry\psychology online							
Activities	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Continue the work of SWG.	<ul style="list-style-type: none"> Securing specific members of the group, securing rewards for those where desirable. Setting up regular reports, information. 	<ul style="list-style-type: none"> 1 coordinator from MoH 1 psychiatric project manager 1 deputy director of UHO 1 office worker 	1.7.-31.12.2022	<ul style="list-style-type: none"> Results from meetings No. of members (contact list) 	<ul style="list-style-type: none"> Project manager 		<ul style="list-style-type: none"> Monitoring during monthly follow-up meetings 	<ul style="list-style-type: none"> Yes 5-7 members

	<ul style="list-style-type: none"> Member updates 	<ul style="list-style-type: none"> from municipality <ul style="list-style-type: none"> 1 social worker/psychiatric nurse 1 IT expert 						
Improving awareness of telepsychiatry	<ul style="list-style-type: none"> Informing the wider interest group, reports for local politicians, information from the social media group. clinical trials 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> .7.-31.12.2022 	<ul style="list-style-type: none"> No. of posts, emails, etc. Evidence from clinical studies. 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> Every 3 months 	<ul style="list-style-type: none"> Minutes 	<ul style="list-style-type: none">
Finding resources to support sustainability, development of telepsychiatry.	<ul style="list-style-type: none"> Continue discussions with MoH, preparation for national recovery programme where 	<ul style="list-style-type: none"> SWG 	<ul style="list-style-type: none"> .7.-31.12.2022 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> Continuously 	<ul style="list-style-type: none"> Minutes 	<ul style="list-style-type: none"> Project prepared for submission

	psychiatry is planned as a project for implementation.							
Adaptation of the methodology in the field of telepsychiatry to the conditions of the CZE and preparation for their adoption at the level of the MoH and subsequently health insurance companies.	<ul style="list-style-type: none"> Adaptation of the new provided theory, introduction of the methodology/rules of video consultation in psychiatry. Possible subsequent modification. 	<ul style="list-style-type: none"> Members of SWG Representative of a MoH and health insurance company 	<ul style="list-style-type: none"> .7.- 31.12. 2022 	<ul style="list-style-type: none"> Design of guidelines of video consultation in Tele-Psychiatry\psychology 	<ul style="list-style-type: none"> Project manager and member of SWG 	<ul style="list-style-type: none"> Continuously 	<ul style="list-style-type: none"> Interview correspondence 	<ul style="list-style-type: none"> A set procedure for the creation of a new strategy document or the completion of an existing one.
Continuing the pilot, tracking statistics	<ul style="list-style-type: none"> anonymous records of patient checks, 	<ul style="list-style-type: none"> Psychiatric clinic 	<ul style="list-style-type: none"> .7.- 31.12. 2022 	<ul style="list-style-type: none"> simple monitoring of the pilot progress 	<ul style="list-style-type: none"> Project manager representatives of 	<ul style="list-style-type: none"> Every month 	<ul style="list-style-type: none"> data 	<ul style="list-style-type: none"> A available data for further

	<ul style="list-style-type: none"> results, finding differences, satisfaction. .. • 			<ul style="list-style-type: none"> • improving access to quality treatment services 	the clinic of psychiatry			processing
Providing the assistants to the specialists	<ul style="list-style-type: none"> • Special group meetings to offer good practice in the provision of video consultations in psychiatry and their validation in practice • Support from project manager and IT specialist 	<ul style="list-style-type: none"> • Project manager • specialists • IT specialist 	<ul style="list-style-type: none"> • .7.-31.12.2022 	<ul style="list-style-type: none"> • Established procedures and providing the assistants to the specialists 	<ul style="list-style-type: none"> • Project manager 	<ul style="list-style-type: none"> • Continuously 	<ul style="list-style-type: none"> • Monitoring during monthly follow-up time 	<ul style="list-style-type: none"> • Yes
Train identified specialists to encourage	<ul style="list-style-type: none"> • Support from project manager 	<ul style="list-style-type: none"> • Project manager • 4 specialists 	<ul style="list-style-type: none"> • .7.-31.12.2022 	<ul style="list-style-type: none"> • Training performed • Trained identified specialists 	<ul style="list-style-type: none"> • Project manager 	<ul style="list-style-type: none"> • Continuously 	<ul style="list-style-type: none"> • Monitoring during monthly follow-up time 	<ul style="list-style-type: none"> • No of specialists at least

easier adoption of video consultation methods for psychiatry.	and IT specialist. • Updating manual to developed app.	• IT specialist		• Trained identified nurse • Existing updated manual			• monitoring the outputs from the first pilots	four and all of them trained in TM • Yes
Identification of complex patients Comparison with data from pilot testing.	• General agreement on the appropriate patient typology • General conformity of the appropriate recording method	• Project manager • 2 specialists • IT expert	• .7.-31.12.2022	• Complex patient lists defined (about 10 identified patients)	• Project manager	• Continuously	• Monitoring during monthly follow-up time • Interview	• at least 15 patients
Support and monitoring activities	• Support for the groups involved	• Project manager • IT expert	• .7.-31.12.2022	• Support and monitoring activities performed	• Project manager • IT expert	• Continuously	• Monitoring during monthly	• No. of interventions, feedback

	<ul style="list-style-type: none"> Responding to new needs 			(number of feedbacks from coordinator and IT specialist to specialists and back, number of IT adjustments) <ul style="list-style-type: none"> 			follow-up time	feedbacks and IT changes
Efforts to minimize duplicate records, simplify the application to a minimum, or move to a single platform.	<ul style="list-style-type: none"> Adapting the app for the need and offering it for free as an incentive to use it. 	<ul style="list-style-type: none"> Project manager IT expert 	<ul style="list-style-type: none"> .7.-31.12.2022 	<ul style="list-style-type: none"> Expansion of external ambulances in the system. 	<ul style="list-style-type: none"> Project manager IT expert 	<ul style="list-style-type: none"> Continuously 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> No. of interventions, feedbacks and IT changes

LCF2 Online management of the psychological and behavioral disorders								
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value

<p>Incorporation of questionnaires and data collection from patients directly in the telemedicine application.</p>	<ul style="list-style-type: none"> • modify the application, collecting and working with data 	<ul style="list-style-type: none"> • Project manager • specialists 	<ul style="list-style-type: none"> • 1.7.-31.12.2022 	<ul style="list-style-type: none"> • Available in the app. 	<ul style="list-style-type: none"> • Representatives of the clinic of psychiatry 	<ul style="list-style-type: none"> • Continuously 	<ul style="list-style-type: none"> • Questionnaire, interview 	<ul style="list-style-type: none"> • Yes (completed questionnaires and feedback from patients)
<p>Adaptation of the application for the needs of psychiatry, psychology</p> <p><i>(it is a work in progress)</i></p> <p><i>Demonstration of the</i></p>	<p>Modification of the application for the needs of project activities.</p>	<ul style="list-style-type: none"> • Project manager • IT specialist • representatives of the clinic of psychiatry 	<ul style="list-style-type: none"> • 1.7.-31.12.2022 	<ul style="list-style-type: none"> • Modified app. • more flexibility for patient • less time spent travelling to and from the outpatient clinic • fewer cancelled appointments 	<ul style="list-style-type: none"> • Project manager • IT expert 	<ul style="list-style-type: none"> • Continuously 	<ul style="list-style-type: none"> • processing the feedback during the pilot, processing the output of the monitoring of telepsychiatry functioning in order to modify the application 	<ul style="list-style-type: none"> • yes (the application will be continuously modified, supplemented and extended with additional functions)

<i>usefulness of telepsychiatry as a system for implementation in general practice</i>				<ul style="list-style-type: none"> • less time spent with the patient 				
Approval of acts for health insurance companies used for reimbursement of care by the health insurance company.	<ul style="list-style-type: none"> • Communication with representatives of selected health insurance companies. • setting at least the signal code 	<ul style="list-style-type: none"> • MoH • Project manager 	<ul style="list-style-type: none"> • .7.-31.12.2022 	<ul style="list-style-type: none"> • Existing code for treatment. 	<ul style="list-style-type: none"> • Project manager 	<ul style="list-style-type: none"> • Continuously 	<ul style="list-style-type: none"> • Meetings, Interview, online (email) communication 	<ul style="list-style-type: none"> • Renewed reimbursement of video consultations
Using patient experience, needs and feedback to advocate for change	<ul style="list-style-type: none"> • appropriate articles, outreach to stakeholders, communication with patients, data collection and feedback 	<ul style="list-style-type: none"> • Project manager • representatives of the clinic of psychiatry 	<ul style="list-style-type: none"> • .7.-28.2.2022 	<ul style="list-style-type: none"> • Article, clinical study, etc. 	<ul style="list-style-type: none"> • Project manager 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Meetings, Interview, online communication and propagation 	<ul style="list-style-type: none"> • Yes • at least two published articles, two social media messages, a

								message on the hospital intranet
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LCF3		Online access to documentation (awareness of medication and medical treatment process).						
Activities	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Preparation of a project on social innovation as evidence of the appropriateness of health and social sector linkages, integrated care,	<ul style="list-style-type: none"> Preparation and submission of interdepartmental cooperation projects for chronic patient care. Communication with stakeholders (social service provider, technology company, hospital). 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 17.-28.2.2022 	<ul style="list-style-type: none"> Prepared project. 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> Continuously 	<ul style="list-style-type: none"> Meetings, Interview, online communication 	<ul style="list-style-type: none"> Yes, a ready-made project that keeps pushing the set parameters

<p>Adaptation of the application for the needs of other organisations involved.</p>	<ul style="list-style-type: none"> • set up of external ambulances in the system, collaboration on care of common patients, test validation of data sharing and processing • approval by the Ethics Committee of UHO • possibility to send data from mobile devices for evaluation in UHO, feedback and possible follow-up in UHO • Data collection and processing, validation of care for shared patients between primary care and hospital 	<ul style="list-style-type: none"> • Project manager 	<p>1.7.-31.12.2022</p>	<ul style="list-style-type: none"> • Modified app. (ensuring mutual communication between health service providers) 	<ul style="list-style-type: none"> • Project manager 	<ul style="list-style-type: none"> • Continuously 	<ul style="list-style-type: none"> • Meetings, Interview, online communication • Data • Analysis 	<ul style="list-style-type: none"> • years
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Preparation for a single patient record within the UHO	<ul style="list-style-type: none"> Setting conditions, application modification, testing, evaluation 	<ul style="list-style-type: none"> Project manager Deputy director for IT in UHO 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Modified application, set rules for implementation in the hospital system 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Meetings, Interview, online communication, regulations 	<ul style="list-style-type: none"> Yes/No
Increasing the number of organisations and documents in data sharing through a secure application	<ul style="list-style-type: none"> Regular communication with partners, GPs, representatives from external social services, health services Setting up cooperation with the nursing service, preparation for the extension of modalities to include telenursing 	<ul style="list-style-type: none"> Project manager Other organisations 	<ul style="list-style-type: none"> 1 .7.- 31.12.2022 	<ul style="list-style-type: none"> two-way communication between subjects 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> Continuously 	<ul style="list-style-type: none"> Meetings, Interview, online communication and propagation 	<ul style="list-style-type: none"> N° of real shared (described data)
Establishing collaboration with the National Center for Nursing and	<ul style="list-style-type: none"> preparation of joint projects finding external 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 1 .7.- 30.3.2022 	<ul style="list-style-type: none"> Established cooperation. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Continuously 	<ul style="list-style-type: none"> Meetings, Interview, online communication and 	<ul style="list-style-type: none"> Yes, preparation of a joint project to

Non-Medical Health Professions for collaboration and new projects to enhance chances of success	resources and partners • persuading stakeholders						propagation	further advance integrated care in the Czech Republic
Strengthening stakeholder support	• Setting up regular information reports	• Project manager	• 17.-30.3.2022	• Raising awareness of the project and its objectives	• Project manager	• Continuously	• Meetings, Interview, online communication and propagation	• N° of partners found to help advance telemedicine and its potential in integrated care, etc.

QUESTIONS	DESCRIPTION
Step	DO step, cycle 2
Date of the meeting	

Number and profile of the participants	1 project manager, 1 IT expert, 1 financial technician, 1 professional from University of Palacky (UPOL), 1 professional from UHO
Organizations involved	UHO, UPOL, Jesenik district, MoH, GP

Cycle number (1 or 2)	2	
Activity	KPI	Actual value
Continue the work of SWG.	<ul style="list-style-type: none"> At least 1 contact per 2month. Results from meetings No of members (contact list) > 5 experts 	The group proposed several changes leading to the adoption of video consultations in telepsychiatry. Communication from the MoH has led to start the involvement of a physician with ties to the medical board of psychiatrists. Maintain contact with those interested in telepsychiatry, to maintain the work of the group.
Improving awareness of telepsychiatry	<ul style="list-style-type: none"> No. of posts, emails, phone etc. > 2 contacts per month Evidence from clinical studies (CT) > 1 registered CT 	Regular information provided. Telepsychiatry included as a block in the compulsory course of the 4th year of future doctors at the Medical Faculty of UPOL. Clinical study prepared, not yet submitted due to technical complications in application.
Finding resources to support sustainability, development of telepsychiatry.	Contact with MoH, preparation for national recovery programme > 2 contacts per month	The application has been almost prepared. One of the main planned interventions of the large project is Telepsychiatry.
Adaptation of the methodology in the field of telepsychiatry to the conditions of the CZE and preparation for their adoption at the level of the MoH and subsequently health insurance companies.	Design of guidelines of video consultation in Tele-Psychiatry\psychology Guidelines exist	Prepare the draft guideline for subsequent use, validation in a telepsychiatry intervention as part of a national recovery plan, where it has a better chance of passage in professional chambers and approval. Inspiration from provided data by oGP.
Continuing the pilot, tracking statistics	<ul style="list-style-type: none"> Simple monitoring of the pilot progress (Y/N) Improving access to quality treatment services (Y/N) 	The pilot is still ongoing, as must the monitoring of patients and their satisfaction with the teleconsultation. Extending the models with questionnaires. Maintaining and updating the system with a focus on stability.

<p>Providing the assistants to the specialists</p>	<ul style="list-style-type: none"> Established procedures and providing the assistants to the specialists (Y/N) 	<p>Reports on changes, information on problems and solutions, dissemination of questionnaires, etc. are other alternative communication channels for patients. Progressive development of the manual. Incorporation of information into teaching and information sessions with other health bodies.</p>
<p>Train identified specialists to encourage easier adoption of video consultation methods for psychiatry.</p>	<ul style="list-style-type: none"> Training performed Trained identified specialists Trained identified nurse Existing updated manual (Y/N) 	<p>The doctor uses the knowledge gained to present at medical symposia and motivates other (mostly younger) colleagues who also want to offer this alternative to their patients.</p>
<p>Identification of complex patients Comparison with data from pilot testing.</p>	<ul style="list-style-type: none"> Complex patient lists defined (about 10 identified patients) (Y/N) 	<p>Defining comprehensive patient lists (approximately 10 identified patients). Identify appropriate inappropriate, also including in the context of practical experience. Careful perception of consultation processes with selected patients etc.</p>
<p>Support and monitoring activities</p>	<ul style="list-style-type: none"> Support and monitoring activities performed (number of feedbacks from coordinator and IT specialist to specialists and back, number of IT adjustments) (Y/N) 	<p>Updates, additions, new features in progress, sometimes gaps and outages occur, this is also due to the fact that the telemedicine platform is gradually being expanded and used for other ambulances. Support must be ready to solve problems and react ASAP when needed.</p>
<p>Efforts to minimize duplicate records, simplify the application to a minimum, or move to a single platform.</p>	<ul style="list-style-type: none"> Expansion of external ambulances in the system. <p>> 2 other organizations are using our platform</p>	<p>There is a need to spread awareness not only about telemedicine and eHealth in general, but also about the specific tools available for this. There is a need to spread awareness about NTMC, tools, projects, etc.</p>

Online management of the psychological and behavioral disorders		
Incorporation of questionnaires and data collection from patients directly in the telemedicine application.	Available in the app. > 5 standardized questionnaires are used. > 1 self-administered questionnaire developed by a psychiatric clinic is used.	Gradually expand our numbers. The disadvantage for us is that many of the usable questionnaires exist only in a foreign language and are not validated for the Czech language.
Adaptation of the application for the needs of psychiatry, psychology. Demonstration of the usefulness of telepsychiatry as a system for implementation in general practice.	<ul style="list-style-type: none"> • Modified app. • More flexibility for patient • less time spent travelling to and from the outpatient clinic • fewer cancelled appointments • less time spent with the patient (Y/N)	The experience must be clear and should demonstrate the benefit of video consultations especially for certain patient groups, if there are some. There is also point to the importance of appropriately chosen trusted and stable tools.
Approval of acts for health insurance companies used for reimbursement of care by the health insurance company.	<ul style="list-style-type: none"> • Existing code for treatment (Y/N) > 7 health insurance companies are using the code Code is fairly covered (Y/N)	The need to keep pushing for change, for higher valuation, stability, acceptance.
Using patient experience, needs and feedback to advocate for change	<ul style="list-style-type: none"> • Article, clinical study, etc. > 1 CT, > 3 articles, > 7 lectures	In addition to articles, educate future doctors, presentations at symposia. Using personal contacts, etc.

QUESTIONS	ANSWERS
What was actually implemented? Any deviation from the planned actions	It has been implemented as a practise in UHO psychiatric clinic.
Problems? Unexpected findings? Please describe	Resilience of insurance companies, cultural practices and societal settings in the Czech Republic

IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
		X	

QUESTIONS	DESCRIPTION
Step	STUDY, cycle 2
Date of the meeting	[...]
Number and profile of the participants	1 project manager, 1 IT expert, 1 financial technician, 1 professional from University of Palacky (UPOL), 1 professional from UHO
Organizations involved	UHO, UPOL, MoH

Cycle number (1or 2)						
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Activity 1 Continue the work of SWG.	<ul style="list-style-type: none"> SWG is working. 	<ul style="list-style-type: none"> Regural contact every 2 month N° >5 experts 	<ul style="list-style-type: none"> Yes N°= 5-7 experts 	No deviation from the planned activity	No mitigation action was needed	

	Results from meetings <ul style="list-style-type: none"> No of members (contact list) 					
Finding resources to support sustainability, development of telepsychiatry	Contact with MoH, preparation for national recovery programme	<ul style="list-style-type: none"> > 2 contacts per month 	> 2 contacts per month	No deviation from the planned activity	No mitigation action was needed	
Adaptation of the methodology in the field of telepsychiatry to the conditions of the CZE and preparation for their adoption at the level of the MoH and subsequently health insurance companies.	Design of guidelines of video consultation in Tele-Psychiatry\psychology	Guidelines exist (Y/N)	Guidelines exist (Yes)	The draft guideline is ready for subsequent use.	It is not a final product, it will have to go through multiple rounds of culling, rather it is ready for the next pass in sustainability.	None the document will continue to be worked with during the sustainability period.
Continuing the pilot,	<ul style="list-style-type: none"> Simple monitoring of 	<ul style="list-style-type: none"> (Y/N) (Y/N) 	<ul style="list-style-type: none"> Yes Yes 	No deviation from the planned activity	There was a period of time when we couldn't find a	No significant impact.

tracking statistics	<p>the pilot progress</p> <ul style="list-style-type: none"> Improving access to quality treatment services 				hidden bug caused by an update, this slowed down development and additions a bit.	
Providing the assistants to the specialists	<ul style="list-style-type: none"> Established procedures and providing the assistants to the specialists 	<ul style="list-style-type: none"> (Y/N) 	<ul style="list-style-type: none"> Yes 	No deviation from the planned activity	No mitigation action was needed	
Train identified specialists to encourage easier adoption of video consultation methods for psychiatry.	<ul style="list-style-type: none"> Training performed Trained identified specialists Trained identified nurse Existing updated manual 	<ul style="list-style-type: none"> (Y/N) 	<ul style="list-style-type: none"> Yes 	No deviation from the planned activity	No mitigation action was needed	
Identification of complex patients Comparison with data from pilot testing.	<ul style="list-style-type: none"> Complex patient lists defined (about 10 identified patients) 	<ul style="list-style-type: none"> (Y/N) 	<ul style="list-style-type: none"> Yes 	There are several factors to consider when identifying complex patients for telepsychiatry. We have done this and based on this have identified	There are more patients in the pilot, there are fewer identified groups.	It doesn't have a significant impact, even though the numbers are lower, the demand for psychiatrists is high, telemedicine helps to streamline the service and

				groups of people for whom this approach is appropriate and for whom it is not. We identified some features and verified with the results of the pilot. The group is more or less consistent with the literature and studies done in this area.		make it a little more accessible.
Support and monitoring activities	<ul style="list-style-type: none"> Support and monitoring activities performed (number of feedbacks from coordinator and IT specialist to specialists and back, number of IT adjustments) 	<ul style="list-style-type: none"> (Y/N) 	<ul style="list-style-type: none"> Yes 	No deviation from the planned activity	No mitigation action was needed	
Efforts to minimize duplicate records, simplify the application to a minimum, or	<ul style="list-style-type: none"> Expansion of external ambulances in the system. 	<ul style="list-style-type: none"> > 2 other organizations are using our platform 	<ul style="list-style-type: none"> 1 other organization is using our platform 	It is a contributory organisation of the Olomouc Region, it was not possible to set suitable conditions with another one, it is a private hospital.	Preparing the platform and conditions for a more massive scale-up to take place.	It is important to confirm the ability to share, communicate, transfer and educate, and this is being done with one entity where a collaboration agreement is being prepared using our

move to a single platform.						platform. We believe that even one entity will be sufficient proof of usefulness.
Online management of the psychological and behavioral disorders						
Incorporation of questionnaires and data collection from patients directly in the telemedicine application.	Available in the app.	>5 standardized questionnaires are used. > 1 self-administered questionnaire developed by a psychiatric clinic is used.	> 5 N°= 0	The clinic has not yet settled on a suitably composed questionnaire, although it does not yet have ambitions for future certification, it is only to help speed up the beginnings of consultation etc.	We anticipate that it will be done in the near future.	
Adaptation of the application for the needs of psychiatry, psychology.	<ul style="list-style-type: none"> • Modified app. • More flexibility for patient • less time spent travelling to and from the outpatient clinic • fewer cancelled 	<ul style="list-style-type: none"> • (Y/N) 	<ul style="list-style-type: none"> • Yes 	The system was down for a while. We have found that a consultation that is approved directly by the physician based on a patient's request has a lower percentage of cancelled or missed appointments, as opposed to simply booking time off in the appointment window.	Minor changes had to be made such as confirmation of appointments by the doctor, not just based on filling in a blank window of time for consultations, etc. Cannot completely affect the stability of the system, this depends on the IT part - instability can compromise the set KPIs.	The response to the findings led to a modification of the scheme. IT outages can threaten patient confidence. However, some things cannot be completely predicted.

	<p>appointments</p> <ul style="list-style-type: none"> less time spent with the patient 					
Approval of acts for health insurance companies used for reimbursement of care by the health insurance company.	<ul style="list-style-type: none"> Existing code for treatment. Code is fairly covered 	<ul style="list-style-type: none"> (Y/N) > 7 health insurance companies are using the code (Y/N) 	<ul style="list-style-type: none"> Yes > 6 health insurance companies are using the code No 	One health insurer has not released k'd for specialists, but only for GPs. Funding is underestimated for all of them.	This status quo will be greatly influenced and pushed to change by the National Recovery Plan.	We perceive this as a greater threat, but in view of the planned national recovery programme, where telepsychiatry is directly included, we expect an adequate response from the insurance company. At least for the duration of the new project, telepsychiatry will continue to be developed and sustainability ensured. However, we anticipate inclusion in routine practice, adoption of new codes and fair payment.
Using patient experience, needs and feedback to advocate for change	<ul style="list-style-type: none"> Article, clinical study, etc. 	<ul style="list-style-type: none"> > 1 CT, > 3 articles, > 7 lectures 	<ul style="list-style-type: none"> = 0 CT, > 2 articles, > 7 lectures 	Regular lectures are held at the University for future doctors, information is used at symposia, consultations, debates with representatives of medical organizations, etc.	Edit the CT scan and log the study. Prepare some more articles at least on internet.	We do not expect a significant impact.

QUESTIONS	DESCRIPTION
Step	ACT, PDSA 2
Date of the meeting	[...]
Number and profile of the participants	1 project manager, 1 IT expert, 1 MoH manager, 1 external expert of MoH, NTMC, deputy director UHO
Organizations involved	Ministry of health, UHO

Cycle number (1 or 2)			
Activity	Maintain	Adapt	Abandon
Activity 1 Continue the work of SWG		It is advisable to have a group of experts, in view of the future grant program, it will be advisable to renew the group. Given the reluctance to change, more suitably motivated doctors will need to be included.	
Finding resources to support sustainability, development of telepsychiatry.			A totally unique program has been found that would ensure sustainability and further development. The application has been processed and submitted, we believe in a great chance and it is thanks of the JC experience.
Adaptation of the methodology in the field of telepsychiatry to the conditions of the CZE and preparation for their adoption at the level of the MoH and subsequently health insurance companies.	Use work in progress.	Continue to work on the final version with the involvement of professional societies.	

Continuing the pilot, tracking statistics.	Collecting and processing data is important, it will allow for appropriate responses, adaptations, etc.		
Providing the assistants to the specialists	Definitely keep it.	In the future we expect the need for more support from IT.	
Train identified specialists to encourage easier adoption of video consultation methods for psychiatry.	Maintain and develop the educational block at the University.	To create an e-learning simple program for future professionals.	
Identification of complex patients Comparison with data from pilot testing.			A suitable group has been identified, not only by our pilot but also by many other studies. Future developments in IT and other assistive technologies can be foreseen to enable effective involvement of other groups. For now, however, we will stick to the tried and tested.
Support and monitoring activities	Clear procedures will need to be maintained and set.		
Efforts to minimize duplicate records, simplify the application to a minimum, or move to a single platform.		Thanks to great experience in creating new applications, integration platforms, adaptation to new problems, experience from abroad thanks to oGP, JADECARE project. We are ready to implement from the new project a new stable and cross-sectional platform that meets all regulations and with regard to future certification and with the collection of all necessary data.	
Online management of the psychological and behavioral disorders			

<p>Incorporation of questionnaires and data collection from patients directly in the telemedicine application.</p>	<p>We will maintain, expand and try to use University students to validate foreign standardized questionnaires.</p>		
<p>Adaptation of the application for the needs of psychiatry, psychology.</p>		<p>It has been shown that use in one clinic will generate interest in another clinic, it would be a mistake to develop different systems, hence the need for a robust application that can be easily modified according to the needs of the providers and stakeholders.</p>	
<p>Approval of acts for health insurance companies used for reimbursement of care by the health insurance company.</p>			<p>We have enough evidence from oGP practices and our own experiences, implemented thanks to JADECARE. There is no need to collect any more concrete evidence, we believe that the new subsidy programme mentioned above will be enough pressure on its own.</p>
<p>Using patient experience, needs and feedback to advocate for change.</p>		<p>It would be good, also based on the advice of the oGP, to create an audio-visual spot on the topic that would promote change and fight the cultural setting of society in the Czech Republic.</p>	<p>We do not expect massive support from patients because, after all, patient organisations are not active in this area. It will have to be reassessed.</p>

Post-implementation

ITEM	DESCRIPTION	INFORMATION FROM IMPLEMENTATION PROCESS TO SUPPORT	ANSWER
Title and Abstract			
Title		Local Good Practice name	Tele-Psychiatry\psychology online, Online management of the psychological and behavioral disorders and Online access to documentation (awareness of medication and medical treatment process).
Abstract		“Description” of the Local Good Practice template	<p>The UHO proposes a number of measures to promote better integration and proactive patient care in the region. These interventions include identifying appropriate patients through a stratification process and promoting communication and sharing of care plans, documentation among health professionals. Our strategy is taking place against a backdrop of increasing number of patients coupled with an ageing population and declining numbers of healthcare staff. Our approach is in line with the plans of the Ministry of Health (MoH) and the new law on the digitalisation of the healthcare system.</p> <p>The practice presents an opportunity to integrate and coordinate efforts to provide timely and ideally integrated care in the future as fragmentation of the healthcare system complicates and makes the entire system more expensive. Factors that could negatively impact our goals are the lack of participation of clinical experts in the process, barriers caused by privacy issues, and difficulties in addressing communication barriers. Also, the reluctance of people to change established practices and, last but not least, the increasing age of professional staff and cultural resistance to digitalisation.</p>
Why did you start?		Information from impl. process	Answer
Problem description	Nature and significance of the local problem	-	<p>In the earlier stages of the JadeCare project, it was evident that a new law on digitalisation in healthcare would be passed in the Czech Republic, moving us closer to new practices and approaches in ICT-enabled healthcare delivery.</p> <p>Until then, the improvements in this field were rather small, limited to a few interventions, fragmented and without conceptual direction. Health service providers tried to make their way often using private ICT projects, but also in various other country-internal and EU projects, especially during the Covid pandemic.</p>

			<p>The overall situation in general in the Czech Republic in terms of eHealth has been delayed, both in terms of training programmes, laws, and actual services provided. The Czech Republic is at the lower half of the digitalisation of healthcare in terms of Europe. It does not have to follow the multi-year path that some countries have followed during development, but it is possible to effectively accelerate the process thanks to the possibility of obtaining valuable experience from other EU projects.</p>
Available knowledge	<p>Summary of what is currently known about the problem, including relevant previous studies</p>	-	<p>UHO was preparing to purchase a new hospital system (NIS) when it became clear that the old system no longer met the requirements for interoperability, modern EHR capabilities, security, access to patient records, quick and easy data sharing, and collaboration with other healthcare providers. It was necessary to set the terms of the procurement correctly and sufficiently to ensure that the NIS met all the elements for building, processing and using hospital data.</p> <p>The competent (for digitalization in health) MoH department wanted to put more pressure on education, experience and dissemination of best practices in digital health care. Until then, one of the few areas where telemedicine was actually being used was, for example, cardiology, where there was a sufficiently well-defined group of patients. This area was under development thanks to the personal implication of Professor Milos Taborsky, who was behind the establishment of the National telemedicine centre at UHO.</p>
Rationale	<p>Informal or formal frameworks, models, concepts, and/or theories used to explain the problem, any reasons or assumptions that were used to develop the intervention(s), and reasons why the intervention(s) was expected to work</p>	-	<p>The real reason for the project was that the UHO is the competence centre of the MoH for telemedicine in the Czech Republic and due to the fact that it is a large provider of health services, it has greater possibilities in terms of introducing innovations at least in pilot mode, subsequent data analysis, etc. and processing the output for later practical use.</p> <p>After the experience with cardiology patients, we could have assumed that it would be possible to extend the experience to another target group. At the same time, as UHO is the largest and most modern health centre in the region, we could expect that UHO would be an inspiration for others and, as a result, the new approaches would help to spread further.</p> <p>So we have launched a pilot validation in the field of telepsychiatry based on WP 8 experience, but also in other fields, using digital tools, information and data sharing, collaboration and communication between entities working in the field of health services (hospital, GP, long-term care hospital).</p>
Specific aims	<p>Purpose of the project and of this report</p>	<p>“Main aim” of the Local Good Practice template</p>	<ul style="list-style-type: none"> - Improve communication between health organisations - Introduce video consultations as a normal part of practice, including consultations between doctors - Preparations for introducing video consultations as a normal part of psychiatric practice (including a set of appropriate patient groups).

			- Create and update online space as a solution for more effective data sharing, communication, etc. - Creation of a new application, modification of NIS, IT communication model, etc.		
What did you do?		Information from impl. process	Answer		
Context	Contextual elements considered important at the outset of introducing the intervention(s)	Main output of the Situation Analysis. SWOT analysis	INTERNAL	STRENGTHS	WEAKNESSES
				<ol style="list-style-type: none"> 1. Adequate network of health services in place. 2. High professional capacity in the FNOL. 3. Existence of the National Telemedicine Centre at the FNOL. 4. Available ICT in the Czech Republic and in the Olomouc region sufficient internet coverage (coverage is not sufficient). 5. Existing European projects that offer inspiration from abroad for adoption. 6. Developing digital integrated care platform within the FNOL. 7. Cooperation with the MoH in the field of digital services; FNOL is the MoH competence centre for telemedicine. 	<ol style="list-style-type: none"> 1. Poorer access to care in peripheral parts of the country. 2. Technologies are used at a lower user level. Weaker user knowledge of ITC tools. 3. Duration of introduction of innovations (technologies) into routine practice as well as their acceptance and sustainability! 4. Uncertain financing of future eHealth related costs. 5. Uncontracted relationship with health insurance companies regarding eHealth. 6. Lack of eHealth legislation. Lack of a county health policy. 7. Weak activity of health insurance companies in the implementation of innovations, not only in the framework of the project.
			EXTERNAL	OPPORTUNITIES	THREATS
				<ol style="list-style-type: none"> 1. Use of FNOL experts for other entities. 2. Integrated healthcare, digitalization of healthcare, etc. as a suitable political topic. 3. Emerging platform for digitalization of integrated patient care including shared documentation. 	<ol style="list-style-type: none"> 1. Complicated health financing system. 2. Insufficient involvement of health insurance companies. 3. Insufficient involvement of health practitioners. 4. Insufficient involvement of health professionals (willingness and motivation).

			<p>4. Transfer of innovations from abroad and within the Czech Republic. 5. More efficient care solutions, time savings for clients, simplification of some processes. Better coordinated care. 6. The need to connect actors in social and health services where it makes sense in client care. 7. Individual interest in innovation, quality and accessibility of care, integration. 8. The possibility of sharing information about patients.. 9. Opportunity to improve health literacy and increase the status of the citizen in the health system.</p>	<p>5. Coordination, communication and collaboration of care is not at the required level and does not have sufficient support. 6. Fake news and fears arising from various unverified sources. 7. Insufficient awareness regarding the need for innovation and integrated care. 8. Decreasing number of GPs especially in peripheral parts of the country. Increasing average age of GPs. Shift in priorities of political issues in the country. 9. Within 10 years Jesenice will lack a cardiologist, nephrologist, gastroenterologist, ENT doctor, rheumatologist, oncologist, vascular specialist - these doctors are around 60 years old, no replacement is being prepared.</p>	This
<p>abbreviated version of the SWOT analysis of the project shows that the working group believes that we are strong in terms of introducing new procedures, offering specialised care, etc.</p> <p>New data systems, procedures, etc. present a number of challenges.</p>					
<p>Intervention(s)</p>	<ul style="list-style-type: none"> Description of the intervention(s) in sufficient detail that others could reproduce it 	<ul style="list-style-type: none"> “Target population” and “Description” of the Local Good Practice template Description of the NAWG participants 	<p>The NAWG is composed with multiple expertise and the number and membership of the "core" NAWG, which has participants in theme days and theme workshops, has varied from time to time:</p> <ul style="list-style-type: none"> - Head of Digitization: Antonín Hlavinka - Strategic Innovation Consultant: Zdeněk Gutter - Researcher and academic from Palacky University Olomouc: Michal Štýbnar 		

	<ul style="list-style-type: none"> Specifics of the team involved in the work 	(number, profiles, roles)	<ul style="list-style-type: none"> - Regional policy representative for the social area: Michal Majer - Project Manager: Zdislav Doleček - UHO medical specialists: Jakub Vaněk, Tomáš Galíček - UHO specialist: Jana Chudobová - IT project support: Tomáš Vohralík, David Škoda - MoH representative: Petr Struk and Zdeněk Gutter - UHO Management: Čeněk Merta - Involved politicians and officials: representatives of the city and the region - Selected members of the eHealth working group within the SMART Region Committee <p><i>The intervention has different meanings depending on the context. In our case, it was an intervention to influence the development of the eHealth in our region and influence others. In meaning to be well prepared for selected changes in the health sector in the country.</i></p> <p><i>Thanks to the pressure from our management (Čeněk Merta), a group (eHealth working group) within the Olomouc Region "eHealth" was created to prepare a reservoir of project fiches in the field of eHealth and to propose them for implementation with contributions from the Olomouc Region budget. The group is composed of both officials and politicians of the Olomouc Region. Thanks to the work of this group, last year for the first time in history a subsidy title in the field of eHealth was announced in the Olomouc Region. It was announced this year as well.</i></p>
<p>Study of the Intervention(s)</p>	<ul style="list-style-type: none"> Approach chosen for assessing the impact of the intervention(s) 	-	<p>The project had a number of specific key performance indicators (introduction of a new approach in the clinic, creation of new SW with the possibility of mutual communication, communication through an app, a cooperation agreement between two entities providing health services, etc.). A clear evaluation outcome is also the creation of a grant project that will sustain and further enhance the</p>

	<p>(quantitative or qualitative analysis)</p> <ul style="list-style-type: none"> • Approach used to establish whether the observed outcomes were due to the intervention(s) 		<p>knowledge gained in the JC. The evaluation was carried out by counting whether the objectives were achieved or not. Evaluation calls were made, procedures were evaluated in meetings, consultations at the ministry, and also within the regional policy framework.</p> <p>The structure of the PDSA was helpful in its instructional approach.</p>
<p>Measures</p>	<p>Measures chosen for studying processes and outcomes of the intervention(s), including rationale for choosing them, their operational definitions, and their validity and reliability</p>	<p>Key Performance Indicator of the Local Action Plan</p>	<p>Specific Working Group (SWG) formed: N^o of members: up to 13 plus up to 12 from Olomouc region, eHealth Smart region committee, this group was also participating on some JC interventions. The working group would be selected to cover the important roles with the expectation that it will provide feedback and suggestions on the selected issues in the JC project.</p> <p>Literature, law etc. review for identifying possibilities in Tele-Psychiatry\psychology: books and especially laws and guidelines from oGP were studied, also different forms of questionnaires, etc., database of useful literature and texts created.</p> <p>Establish criteria and methods for GPs, social care institution to identify suitability Tele-Psychiatry\psychology: Design of Tele-Psychiatry\psychology created for pilot testing as proof of as evidence for adoption into common practice.</p> <p>GPs, psychiatric, psychologist identification: N^o specialists 2 instead of 4 most of the time of the project. But thanks to the interest of specialists throughout the project, others have become interested, and we are currently discussing the involvement of others in psychiatry and psychology using a telemedicine application.</p> <p>Establish procedures and providing the assistants to the specialists: Within the framework of the project, materials were prepared to support telepsychiatry (video consultations), contacts were established with various practitioners, however, a document on a sustainable incentive system was</p>

			<p>not prepared, only in the form of preparation of the National Recovery Programme, telepsychiatry is being prepared as one of the interventions. This is particularly important for sustainability. The incentive system in place is another KPI, there is a need for insurance companies to belong. The KPI has not been met, but will be addressed within the above.</p> <ul style="list-style-type: none"> • Train identified specialists on the methods to be used for Tele-Psychiatry\psychology. Define modalities for nurse involvement to encourage adherence to the project: • Training performed (Y/N) • Trained identified specialists trained (N° of trained staff) • Trained identified nurse (N° of trained staff) • Existing manual <p>Education of employees and creation of manuals, dissemination of good practice among users and other subjects is also part of the creation of SW, which is also part of this solution.</p> <p>Identify complex patients and including them in the "ICP (Individual Care Plan) Folder" of the outpatient EHR. EHR not in the strict sense, but appropriate and realistic implementation in an application that allows secure sharing.</p> <ul style="list-style-type: none"> • Complex patient lists defined with at least 10 identified patients (Y/N) <p>Support and monitoring activities</p> <ul style="list-style-type: none"> • Support and monitoring activities performed (number of feedbacks from coordinator and IT specialist to specialists and back, number of IT adjustments) (Y/N)
<p>Analysis</p>	<ul style="list-style-type: none"> • Qualitative and quantitative methods used to draw inferences from the data 	<p>PLAN template and STUDY analysis</p>	<p><i>Not Applicable</i></p>

	<ul style="list-style-type: none"> • Methods for understanding variation within the data, including the effects of time as a variable 		
What did you find?		Information from impl. process	Answer
Results	<ul style="list-style-type: none"> • Intervention(s) and their evolution over time (e.g., time-line diagram, flow chart, or table), including modifications made to the intervention during the project • Details of the process measures and outcome • Observed associations between outcomes, interventions, and relevant contextual elements • Unintended consequences such as unexpected 	<ul style="list-style-type: none"> • DO and STUDY steps: Deviations from the planned actions. • STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle 	<p><i>Initially, the plan was to transfer three good practices of WP 5, 6 and 8. Considering the non-functionality of integrated care within the Czech Republic, we chose inter-operability, sharing of documentation and collaboration, especially within WP 5, inspired also by the possibilities of WP 6, especially health circuit etc., which also address continuity, access to data and their analysis. Within this point, software will be further developed both for the needs of the patient portal and for the sharing of information needed for integrated patient care with a high emphasis on interoperability</i></p> <p><i>Very interesting and important for us was solution dealing with telepsychiatry (WP8) which clearly declares the fact that it is possible to implement telemedicine even in sectors where we do not necessarily have a number of external measuring devices, such as cardiology. In WP 8 we have adopted video consultations in psychiatry as part of psychiatric practice. This solution was largely piloted during JadeCare and validated. Within the outputs, telepsychiatry is planned as one of the specific telemedicine outputs (of the National recovery grant programme), one of the main interventions, for further development in collaboration with professional societies and chambers, etc.</i></p> <p>1 : Creating a new approach to ICT</p> <ul style="list-style-type: none"> - Create a new approach and expand it in the future, push for faster approval of changes in the law. - A large amount of information, experience, data and concrete outputs were collected from RSD (WP8), Kronikgune (WP5) and Catalonia (WP6). - With sufficient concrete information, preparations were initiated for the gradual transition and adaptation of existing hospital systems, creating a custom telemedicine application as an input experience to the new more robust ICT systems

	<p>benefits, problems, failures, or costs associated with the intervention(s).</p> <ul style="list-style-type: none"> • Details about missing data 		<p>Dialogue with health professionals within the county, entities that have a national scope and can be valuable companions in terms of pressure for change, its implementation and also e.g. success in case of new project submissions, which in turn are important for sustainability.</p> <p>2: Foreign experience and pilot testing in the Czech Republic Discussions were held with representatives of WP 5, 6 and 8 regarding the transfer of experience, WP5 and 8 were chosen for pilot testing. These are possibilities of sharing documentation, integrated approach in patient care, cooperation between different health care entities.</p> <p>The possibility of video consultations in psychiatry as part of the development of tele-psychiatric care was also piloted, using oGP resources from WP 8.</p> <p>The validation and analysis of the lessons learned showed the importance of transforming existing systems and also the feasible change in the system.</p> <p>The analysis of the outcomes was carried out partly in terms of both quality and quantity, with quality - feasibility, adoption, etc., being of greater interest to us.</p> <p>3: Strategic discussion on future approach.</p> <p>Through experience, e.g.:</p> <ul style="list-style-type: none"> - video consultation in psychiatry - sharing of documentation and collaboration on patient care (GP - hospital) - Sharing documentation, collaborative consular consultation over patient images etc. (GP – hospital - long-care term hospital) <p>A National Recovery Plan grant programme has been prepared to disseminate the knowledge gained through interventions in telemedicine and to implement it in routine practice. This project guarantees the sustainability of the project whether the beneficiary is UHO or someone else within the country. Even so, we can expect to be partners at a minimum.</p>
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			<p>It is expected that after the completion of JadeCare, a policy decision will be taken due to the large project, which will ensure not only the maintenance but the acceptance and further development of the interventions started.</p> <p>The goal is to connect healthcare providers/healthcare facilities to eHealth services according to interoperability rules and to fully operate the eHealth portal, ideally with enhanced functionality and a catalogue of services.</p> <p>Setting up the conditions and operation of shared documentation via a secure server in the UHO network, involvement of other organisations, consular teleconferences, etc.</p> <table border="1" data-bbox="922 675 2013 1396"> <tr> <td data-bbox="922 675 1469 1145"> <p>1: Creation of software (custom solution for telemedicine application, integration platform for documentation sharing meeting interoperability conditions)</p> </td> <td data-bbox="1469 675 2013 1145"> <p>We have reached the goal in JadeCare.</p> <p>We are continuously extending the SW with new data sources and reports, features, the selection of the supplier of the new hospital system is completed and the focus will be on system interconnection - this will continue after the JadeCare project is over. Education of employees and creation of manuals, dissemination of good practice among users and other subjects is also part of the creation of SW, which is also part of this solution.</p> </td> </tr> <tr> <td data-bbox="922 1145 1469 1326"> <p>2: Adaptation of the application for the needs of psychiatry, psychology</p> </td> <td data-bbox="1469 1145 2013 1326"> <p>We have reached the goal in JadeCare.</p> <p>Within the framework of the forthcoming national project, this is planned to be further addressed.</p> </td> </tr> <tr> <td data-bbox="922 1326 1469 1396"> <p>3: Video consultation as a valid part of psychiatry</p> </td> <td data-bbox="1469 1326 2013 1396"> <p>We have reached the goal in JadeCare.</p> </td> </tr> </table>	<p>1: Creation of software (custom solution for telemedicine application, integration platform for documentation sharing meeting interoperability conditions)</p>	<p>We have reached the goal in JadeCare.</p> <p>We are continuously extending the SW with new data sources and reports, features, the selection of the supplier of the new hospital system is completed and the focus will be on system interconnection - this will continue after the JadeCare project is over. Education of employees and creation of manuals, dissemination of good practice among users and other subjects is also part of the creation of SW, which is also part of this solution.</p>	<p>2: Adaptation of the application for the needs of psychiatry, psychology</p>	<p>We have reached the goal in JadeCare.</p> <p>Within the framework of the forthcoming national project, this is planned to be further addressed.</p>	<p>3: Video consultation as a valid part of psychiatry</p>	<p>We have reached the goal in JadeCare.</p>
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<p>3: Video consultation as a valid part of psychiatry</p>	<p>We have reached the goal in JadeCare.</p>								

				<p>The pilot operation has verified the possibilities of this approach in the Czech Republic and also extended its applicability to other areas where video conferencing can be suitably used (psychology, communication with patients within the palliative team, communication of doctors, etc.)</p> <p>After the end of the JadeCare project, we continue to maintain this intervention, which is to be further developed in the framework of the upcoming national project. There is a suitable group of patients (diagnosis, stage of disease, etc. for whom video consultation is an appropriate method within the psychiatric treatment process). It will be further developed with the participation of a network of physicians and professional societies in psychiatry.</p>	
What does it mean?		Information from impl. process	Answer		
Summary	<ul style="list-style-type: none"> Key findings, including relevance to the rationale and specific aims Particular strengths of the project 	STUDY step of 1 st cycle and STUDY and ACT steps of the 2 nd cycle	<p>As a result of the intervention built in JADECARE, we have created new dashboards inspired by Kronikgune. It is our own ICT solution (telemedicine app – web platform, and also mobile platform in development) thanks to other investments from different budgets. We also had a good dialogue about the telemedicine app with health professionals and other end users (patients). In this case too, by means of funding opportunities from other sources, we also used a UX approach to design the app, etc.</p> <p>The dashboard was developed in two phases: the first, Info review, included an overview of good practice; the second phase involved the development of a tool based on this information. First product was web app (for telemedicine).</p>		

			<p>After the review, the first phase involved selection for evaluation and assessment of risk stratification models in defined patient groups. In this selection, we kept future predictive ability in mind. Artificial intelligence and machine learning was deployed in collaboration with the Brno University of Electrical Engineering, where we developed covid prediction in another project CovidStop. This is a learning experience applicable to other groups, and data needs to be appropriately determined.</p> <p>The second phase is to create a user-friendly and ideally native application that is structured to allow users to interact with the healthcare facility, between healthcare facilities. It contains certain data, collects selected data (e.g. from telemonitoring, questionnaires, etc.) and system responses - alerts - can be set. The system is still under development and is gathering experience to build a larger and more comprehensive system with solid database.</p> <p>The telemedicine apps developed have been used for communication with patients (report writing, consultation requests, questionnaires, etc.) as well as video consultations in psychiatry, consultations between medical facilities, data sharing, etc. The system is not complete, but it is operational and is used by other hospitals under contract in the care of palliative patients.</p> <p>It is a very good basis for further management of the software, for expansion or redesign in other areas of eHealth or also for linking to another interoperability programme across the EU, as the integration platform created is ready to meet the standards of various other systems.</p> <p>Although the development of both the telemedicine application and the integration platform was not funded by JADECARE, oGP's experience greatly facilitated the development and direction of the pilot validations.</p>
<p>Interpretation</p>	<ul style="list-style-type: none"> • Nature of the association between the intervention(s) and the outcomes • Comparison of results with findings 	<p>STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle</p>	<p>The above mentioned work will be the basis for UHO to work more effectively with data in the future in the field of communication with patients, scientific and clinical studies, to expand the possibilities of telemonitoring, to consider other good practices, e.g. the Catalan practice of Hospital at home, which would not be feasible at all without a properly chosen ICT.</p> <p>JadeCare contributed new perspectives, networks and concrete inputs to give UHO a solid foundation for this work. We also believe that this is the type of knowledge and experience needed to increase</p>

	<p>from other publications</p> <ul style="list-style-type: none"> • Impact of the project on people and systems • Reasons for any differences between observed and anticipated outcomes • Costs and strategic trade-offs, including opportunity costs 		<p>the likelihood of obtaining the additional funding needed not only for sustainability but also for further development in this area.</p>
<p>Limitations</p>	<ul style="list-style-type: none"> • Limits to the generalizability of the work • Factors that might have limited internal validity such as confounding, bias, or imprecision in the design, methods, measurement, or analysis • Efforts made to minimize and adjust for limitations 	<p>STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle</p>	<p>There are some limitations in the JadeCare system:</p> <p>Covid19, which caused problems in arranging physical meetings and also prevented the involvement of health professionals to the extent expected. This was particularly the case at the beginning of the project. However, the study visits in particular were so complex that it would have been better to separate and present them on site with more active NA involvement at the very beginning of the project.</p> <p>It was more complicated for the UHO to ensure the development of dashboards, SW... that were needed to justify and implement changes in the health system (sharing data, preparing for patient summary as a step towards EHR, preparing for patient portal as a step towards patient empowerment, etc.). It would be useful to have an amount in the budget for an IT expert directly paid for by the project.</p> <p>In general, it is very difficult to get an IT expert because the hospital cannot compete with private companies that offer completely different terms.</p>

		<p><i>Problems more typical of cultural settings and historical practices are in the adoption of new approaches by financial and some political authorities. In the Czech Republic, concerns about GDPR are so great that they often inhibit development due to unreasonable fears about privacy breaches, data loss, etc., not accepting the fact that many current practices, particularly in the field, may be potentially more dangerous than the threat of cybercrime.</i></p>
<p>Conclusions</p>	<ul style="list-style-type: none"> • Usefulness of the work • Sustainability • Potential for spread to other contexts • Implications for practice and for further study in the field • Suggested next steps 	<p>JadeCare has been very useful to UHO and is sustainable after the end of the project because ICT, the need for collaboration, etc. is embedded in UHO's core activities.</p> <p>The introduction of video consultation in psychiatry has reached other psychiatrists and there is a growing interest in this service, which is in place in 6 out of 7 health insurance companies. The experience develops the potential in psychosocial support (video consultations) for palliative patients and their family members. There is also interest in the system within other clinics in the hospital.</p> <p>During the project, a working group has been formed and expanded with outputs from another one, which is part of the Olomouc Region called "eHealth". Within this group, a regional subsidy programme for this area has been established, in view of the need for its further development and expansion.</p> <p>In addition, there is a possibility to extend the ideas to other areas, as the "video consultation code" can be extended to other clinics quite easily. Telemedicine in general has gained more awareness and interest from other clinics. This has led to the development of gestational diabetes, teleophthalmology, etc. using the dashboard for documentation sharing, communication, integrated care, etc.</p> <p>It can be assumed that this approach will continue to expand and evolve as the need for better, stratified data collection increases, which can be further augmented with additional data, UDIs, etc. Longer extensions to include collaboration with social, field services in healthcare to a more holistic view of the person allowing risk stratification etc. to machine learning with whisperer for doctors.</p> <p>As the above clearly shows, the inspiration from the Danish and Basque good practices in particular, but also the Catalan good practice, is great. The fact that we will continue to build and improve the</p>

			system, as we are also pushed to do so by the need of the physicians themselves in their research work, positively influences sustainability in terms of management's willingness to continue the activities.
Other information		Information from impl. process	Answer
Funding	<ul style="list-style-type: none"> Sources of funding that supported this work. Role, if any, of the funding organization in the design, implementation, interpretation, and reporting 	-	Part of the expenses needed for the implementation were covered e.g. by the project of the Regional Authority (e.g. development of some interventions using an integrated approach for joint patient care), but also by the operating funds of the hospital IT department, programming of the telemedicine application, etc.

Croatian Institute of Public Health (CIPH)

Pre-implementation

Situation Analysis

	Strengths	Weaknesses
Internal	<ul style="list-style-type: none"> Long standing tradition of public health and health promotion Universal healthcare coverage for all citizens The Central Health Information System of the Republic of Croatia (CEZIH) - integrally built system for a standardized exchange of health data and information Implementation of the EHR (in Croatian: eKarton) portal -the central electronic health record, e-Referrals and e-Prescription Zdravlje.net, web portal for patient- primary healthcare doctor communication 	<ul style="list-style-type: none"> Differences in availability of healthcare, due to sociodemographic differences Lack of human resources in healthcare (too many patients covered by a family medicine specialist) Lack of financial resources for prevention Poor health literacy Lack of digital support for patients Lack of integration of information systems between primary care providers and hospitals and across different platforms e Health portal does not operate in full capacity

	<ul style="list-style-type: none"> • Primary care sector is well-organized, covering a wide variety of health needs of the population • Family medicine specialists trained in the field of chronic disease management • Field nurse network; work on education and patient empowerment • Croatian Institute of public health with network of county institutes of public health • Action plan for prevention and control of chronic noncommunicable diseases 2015-2020, with new plan underway for the 2021-2026 period • Healthy living program • Institutional leadership 	<ul style="list-style-type: none"> • Zdravlje.net portal is used by a minority of primary healthcare doctors • No adequate monitoring of patient's outcomes • No specific strategy for complex chronic patients • No adequate multidisciplinary approach to complex chronic patients
	Opportunities	Threats
External	<ul style="list-style-type: none"> • Variety of patient organizations and professional associations • Partnerships in various EU projects • Current trends in digitalization of health services, already underway • Strengthening preventive activities • Global trends toward patient empowerment and patient centred integrated care • Global trends toward prevention measures and activities • Improving cooperation with other sectors 	<ul style="list-style-type: none"> • COVID-19 pandemic and subsequent burden on the health systems • Economic recession due to COVID-19 pandemic • Possible changes in priorities due to changes in political surroundings • Resistance to organizational changes • The health system sustainability is under increased burden due to the aging population

Strategic Intervention Areas

Strategic intervention area	Priority	Ranking
Need to improve health literacy with disease specific materials and workshops	3	1
Improve digital support for patients, increase the use and functionality of e-Health portal and Zdravlje.net portal	2	3
Need for specific strategy for complex care patients (multimorbidity)	3	2

Definition of the LGP and LAP

Local Good Practice	Croatian approach on an Integrated Healthcare Sector –Media use in GP-patient communication and disease management materials	
Target population	Setting(s)	
Patients with leading chronic noncommunicable diseases (COPD, hypertension, diabetes mellitus... multimorbidity).	Croatian National Health System	
Main aim		
Improve health and quality of life of the patients with leading chronic noncommunicable diseases (NCDs) (COPD, hypertension, diabetes mellitus etc). Enhance the health system quality by enabling better communication for patients and their GPs. Target is on digital communication and education by providing user friendly materials.		
Outcomes	Local Core Features and their Components	Inputs
<ul style="list-style-type: none"> • Provide personalized care for NCDs patients based on their care needs • Enable better and more efficient communication among healthcare professionals and patients focusing on digital communication • Patient empowerment by providing user friendly educational materials, in both digital and paper form • Improve the time dedicated to each patient, by providing ready-made materials and resources for patients 	<ul style="list-style-type: none"> ○ Promotion of central e-health digital platform (CEZIH) –“Portal zdravlje” use <ul style="list-style-type: none"> • Encourage GPs to introduce their patient to central e-health portal • Encourage the use of central e-health portal for both GPs and patients ○ Disease management materials <ul style="list-style-type: none"> • Recommendations on diet, physical activity, stress management, sleep hygiene, smoking cessation and alcohol intake reduction etc • pharmacotherapy schedule/calendar templates ○ Digital Health Centre 	<ul style="list-style-type: none"> • IT staff • IT systems • Program managers • Healthcare providers

- identification of healthcare professionals connected on digital platform
- identification of Diabetes mellitus patients users of digital platform
- communication channel through digital platform
- Web page creation
- e-learning about diabetes mellitus for patients

General description

Improvement of health, disease management and quality of life for patients with NCDs through online education and digital communication with healthcare providers and other health professionals included in the care of patients NCDs.

Local Core Feature 1

Promotion of central e-health digital platform (CEZIH) -“Portal zdravlje” use and disease management materials provision

Promote the use of central e-health platform for both GPs and patients; Enhance input of information regarding NCDs on existing website and improve efficiency of GP-patient contact/visit

Local Core Feature 2

Digital Health Centre

Enhance input of information regarding NCDs on existing digital platform and broaden the extend of communication between health care providers and patients.

Local good practice

Local Good Practice	Media use in GP-patient communication and disease management materials	
Target population	Setting	
patients with leading chronic noncommunicable diseases (diabetes mellitus, COPD, hypertension)	The National Health System	
Main aim		
Improve health and quality of life of the patients with leading NCDs. Enhance the health system quality. Target is on digital communication and education.		
General description		
Improve health and quality of life of the patients with leading chronic noncommunicable diseases (NSD) (COPD, hypertension, diabetes mellitus etc). Enhance the health system quality by enabling better communication quality for patients and their GPs. Target is on digital communication and education by providing user friendly materials.		
Related original Good Practices and their Core Feature (s)	Basque Health strategy; CF2.2., CF3.1; CF3.2 Denmark oGP; CF B1-CF3, B1-CF1, B1-CF2, B2-CF5	
Local Core Feature 1	Promotion of central e-health digital platform CEZIH, Portal zdrvlje use and disease management materials provision	
SMART objective		
By the end of JADECARE (December 2022) Croatian Institute of Public Health will:		
<ul style="list-style-type: none"> - Conduct a questionnaire for GPs on the use of the <i>central e-health portal app</i> (e-health portal is an application for communication between the doctor and the patient that allows faster, timely and complete care of the patient) - Promote the use of central e-health platform (CEZIH) -“Portal zdravlje” among the GPs (education, encouragement) - Establish a sustainable web page with relevant disease management materials on NCDs, and will disseminate print friendly materials to GPs 		

Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> Questionnaire conduction (use of central e-health platfom (CEZIH) -“Portal zdravlje” 	<ul style="list-style-type: none"> IT experts Project manager GPs 	<ul style="list-style-type: none"> MoH CHIF CIPH 	<ul style="list-style-type: none"> CHIF 	<ul style="list-style-type: none"> January 1-February 15, 2022. 	<ul style="list-style-type: none"> N° of questionnaires sent; N° of questionnaires received
<ul style="list-style-type: none"> <i>central e-health platfom (CEZIH) - “Portal zdravlje” promotion</i> 	<ul style="list-style-type: none"> Project manager GPs 	<ul style="list-style-type: none"> MoH CHIF CIPH 	<ul style="list-style-type: none"> CHIF 	<ul style="list-style-type: none"> February 15-- December 31,2022 	<ul style="list-style-type: none"> % of GPs using the app N of patients using the app
<ul style="list-style-type: none"> Web page creation 	<ul style="list-style-type: none"> IT experts project manager 	<ul style="list-style-type: none"> CIPH www.hziz.hr 	<ul style="list-style-type: none"> CIPH 	<ul style="list-style-type: none"> January 1-February 15, 2022 	<ul style="list-style-type: none"> Web page is online (Y/N)
<ul style="list-style-type: none"> Materials on NCDs 	<ul style="list-style-type: none"> Project manager Medical doctors IT experts 	<ul style="list-style-type: none"> CIPH 	<ul style="list-style-type: none"> CIPH 	<ul style="list-style-type: none"> January 1-December 31,2022 	<ul style="list-style-type: none"> N of produced: web articles, online leaflets
<ul style="list-style-type: none"> Dissemination of produced materials (GPs, their respective patients, and visitors of the web page) 	<ul style="list-style-type: none"> GP Patients Project manager NGO 	<ul style="list-style-type: none"> CIPH CHIF 	<ul style="list-style-type: none"> CHIF CIPH 	<ul style="list-style-type: none"> February 15- December31, 2022 	<ul style="list-style-type: none"> N of GPs introduced to materials, web campaign

<ul style="list-style-type: none"> Monitoring 	<ul style="list-style-type: none"> GP Project manager IT experts 	<ul style="list-style-type: none"> CIPH 	<ul style="list-style-type: none"> CIPH 	<ul style="list-style-type: none"> February 15-December 31 months 	<ul style="list-style-type: none"> N of monthly web page visits
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Local Core Feature 2 The Digital Health Centre

SMART objective

By the end of JADECARE (December 2022) Croatian Institute of Public Health will contribute to the transition to digitally enabled integrated person-centred care, by establishing Digital Health Centre with special emphasis on sustainability

Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> identification of healthcare professionals connected on digital platform 	<ul style="list-style-type: none"> IT experts project manager 	<ul style="list-style-type: none"> Croatian Health Insurance Fund registry 	<ul style="list-style-type: none"> Croatian Health Insurance Fund 	<ul style="list-style-type: none"> January 1-February 28, 2022 	<ul style="list-style-type: none"> N of healthcare professionals users of digital platform
<ul style="list-style-type: none"> identification of Diabetes mellitus patients users of digital platform 	<ul style="list-style-type: none"> General practitioners (GP) IT experts 	<ul style="list-style-type: none"> medical records from GP 	<ul style="list-style-type: none"> GP office 	<ul style="list-style-type: none"> January 1-May 31, 2022 	<ul style="list-style-type: none"> N of patients with Diabetes mellitus users of digital platform
<ul style="list-style-type: none"> communication channel through digital platform 	<ul style="list-style-type: none"> GP IT experts patients 	<ul style="list-style-type: none"> Central e-health platform CEZIH 	<ul style="list-style-type: none"> Croatian Health Insurance Fund Ministry of Health 	<ul style="list-style-type: none"> January 1-December 31, 2022 	<ul style="list-style-type: none"> availability of digital communication (Y/N)

<ul style="list-style-type: none"> Preparation of materials for web page 	<ul style="list-style-type: none"> IT experts Project manager healthcare professionals 	<ul style="list-style-type: none"> www.hzjz.hr website 	<ul style="list-style-type: none"> Croatian Institute of Public Health 	<ul style="list-style-type: none"> February 15-May 31, 2022 	<ul style="list-style-type: none"> Materials prepared for upload on web page (Y/N)
<ul style="list-style-type: none"> e-learning about diabetes mellitus for patients 	<ul style="list-style-type: none"> GP patients IT experts other healthcare professionals NGO 	<ul style="list-style-type: none"> www.hzjz.hr website 	<ul style="list-style-type: none"> Croatian Institute of Public Health 	<ul style="list-style-type: none"> June 1-December 31 2022 	<ul style="list-style-type: none"> N of articles and courses on the website N of visits to the website N of filled-in questionnaires

Implementation

1st PDSA Cycle

LCF1		Promotion of central e-health digital platform CEZIH, Portal zdravlje use and disease management materials provision						
Activities	Actions	Actors	Timeline	KPIs measure (data collection)				
				KPI	Who	When	How	Target
Questionnaire conduction (use of central e-health platform (CEZIH) - "Portal zdravlje")	<ul style="list-style-type: none"> Questionnaire creation 	<ul style="list-style-type: none"> CIPH CHIF MoH (IT experts, project) 	<ul style="list-style-type: none"> January 1-15 2022 	N° of questionnaires sent; N° of questionnaires received	<ul style="list-style-type: none"> CHIF 	February 1-15	CHIF E-platform	2000 GPs in Croatia

		manager, researchers						
	Questionnaire conduction	<ul style="list-style-type: none"> • CHIF • IT experts Project manager	January 15-31 2022					
	Data collection and analysis	<ul style="list-style-type: none"> • CHIF • CIPH • MoH • researchers • IT experts Project manager	February 1 -15 2022					
	Data interpretation and report	<ul style="list-style-type: none"> • CHIF • MoH CIPH	February 1-15 2022					
Central e-health platform (CEZIH) - “Portal zdravlje” promotion	Promotion notification creation	<ul style="list-style-type: none"> • MoH • CIPH • CHIF 	<ul style="list-style-type: none"> • February 15 – December 31 2022 	% of GPs using the app (comparison of GPs using the app after the promotion)	<ul style="list-style-type: none"> • CIPH MoH 	September 30, 2022	Monthly follow-up meetings	5% of new GPs using the app after the promotion
	Promotion notification dissemination via CEZIH	<ul style="list-style-type: none"> • CHIF 						

Web page creation	Creation and launch of a dedicated webpage on the CIPHs official website	<ul style="list-style-type: none"> • CIPH • Project manager • researchers • healthcare professionals • 	<ul style="list-style-type: none"> • January 1- February 15,2022 	Web page is online (Y/N)	<ul style="list-style-type: none"> • CIPH 	February 15,2022	N/A	Yes
Materials on NCDs	Creation of the materials on NCDs (diabetes mellitus, COPD, and hypertension) for the dedicated webpage (leaflets, templates for medication use, infographics, videos...)	<ul style="list-style-type: none"> • CIPH • Project manager • researchers • healthcare professionals • GPs • IT experts • Patients 	<ul style="list-style-type: none"> • February 15 to December 31 2022 	N of produced: web articles, online leaflets	<ul style="list-style-type: none"> • CIPH 	December 31,2022	In an internal monthly follow-up meeting	<ul style="list-style-type: none"> • 10 web articles, 5 leaflets
	Creation of printable patient materials on NCDs (for GPs via CEZIH)	<ul style="list-style-type: none"> • CIPH 	<ul style="list-style-type: none"> • February 15 to December 31 2022 					

Dissemination of produced materials (GPs, their respective patients, and visitors of the web page)	Dissemination online materials via dedicated webpage and CIPHs social media	• CIPH	• May 1 – December 31,2022	N of GPs introduced to materials, web campaign	• CIPH • CHIF	May 31 – December 31 (monthly)	N/A	Yes/No
	Dissemination of printable patient materials via CEZIH	• CHIF	• May 1 – December 31,2022	N of printable materials	• CIPH • CHIF	May 1 to December 31, 2022	internal monthly follow-up meeting	7
Monitoring	Web page monitoring	• CIPH	• May 1- December 31	N of monthly web page visits	• CIPH	May 1- December 31 (monthly)	Google Analytics	200 visitors per month

LCF2		The Digital Health Centre						
Activities	Actions	Actors	Timeline	KPIs measure (data collection)				
				KPI	Who	When	How	Target
Identification of healthcare professionals connected on digital platform and e-letter of invitation	<ul style="list-style-type: none"> Identify healthcare professionals connected on digital platform 	IT experts <ul style="list-style-type: none"> project manager 	January 1- January 15, 2022 <ul style="list-style-type: none"> 	N of healthcare professionals users of digital platform	project manager	January 31, 2022	Monthly follow-up meetings	1000
	Creation of e-letter of invitation	IT experts project manager <ul style="list-style-type: none"> Researchers 	January 1- January 15, 2022	N° of e-letters sent;	project manager	January 31, 2022	Monthly follow-up meetings	20

	Send e-letters of invitation	IT experts project manager <ul style="list-style-type: none">GP	January 15- January 31, 2022 <ul style="list-style-type: none">					
	<ul style="list-style-type: none">Received responds	IT experts project manager <ul style="list-style-type: none">GP	<ul style="list-style-type: none">February 1- February, 28, 2022	N° of e-letters received	<ul style="list-style-type: none">Project manager	February	Monthly follow-up meetings	5
Identification of Diabetes mellitus patients users of digital platform	Identify patients with Diabetes mellitus who are users of digital platform	<ul style="list-style-type: none">General practitioners (GP)IT experts	<ul style="list-style-type: none">January 1- May 31, 2022	N of patients with Diabetes mellitus users of digital platform	<ul style="list-style-type: none">Project manager	May 31, 2022	Monthly follow-up meetings	25
Communication channel through digital platform	Establish communication channels on digital platform	<ul style="list-style-type: none">GPIT expertspatients	<ul style="list-style-type: none">January 1- December 31 2022	Availability of digital communication (Y/N)	<ul style="list-style-type: none">Project manager	June 30, 2022	Monthly follow-up meetings	Yes
Preparation of materials for web page	<ul style="list-style-type: none">Prepare educational materials in form of digital leaflets, articles, interactive webinars	<ul style="list-style-type: none">IT expertsProject managerresearchers	<ul style="list-style-type: none">February 15-May 31, 2022	Materials prepared for upload on a web page (Y/N)	<ul style="list-style-type: none">Project manager	May 31, 2022	Monthly follow-up meetings	Yes

		<ul style="list-style-type: none"> healthcare professionals patients 						
e-learning about diabetes mellitus for patients	Upload on the web page	<ul style="list-style-type: none"> IT experts Project manager 	<ul style="list-style-type: none"> June 1- December 31 2022 	N of articles and courses on the web site	<ul style="list-style-type: none"> Project manager 	June 30, 2022	Monthly follow-up meetings	Articles 2 Courses 1

Cycle number (1 or 2)	1	
Activity	KPI	Actual value
Questionnaire conduction (use of central e-health platform (CEZIH) - "Portal zdravlje")	<ul style="list-style-type: none"> N° of questionnaires sent N° of questionnaires received 	<ul style="list-style-type: none"> 2330 GP Teams (target group) 141
Central e-health platform (CEZIH) - "Portal zdravlje" promotion	Promotion notification creation	<i>Under development</i>
Web page creation	Web page is online	No (planned by the end of June/early of July)
Identification of healthcare professionals connected on digital platform and e-letter of invitation	<ul style="list-style-type: none"> N of healthcare professionals users of digital platform N° of e-letters sent Received responds 	<ul style="list-style-type: none"> 1927 2330 (Due to the use of several different digital service providers in the primary health care system in Croatia, it is still unclear how many GPs received the questionnaire through their service provider.)

		<ul style="list-style-type: none"> 141 received questionnaires (18 GPs expressed interest in additional participation in the project and education on the use of the Health portal)
Identification of Diabetes mellitus patients users of digital platform	N of patients with Diabetes mellitus users of digital platform	No data collected
Communication channel through digital platform	Yes	No
e-learning about diabetes mellitus for patients	N of articles and courses on the web site	No (Articles and courses are in preparation)

QUESTIONS	ANSWERS
What was actually implemented? Any deviation from the planned actions	<p>Invitation letter and questionnaire was constructed and sent out to GPs. We made some preliminary analysis on the received data, but are still waiting for clarification on some technical aspects. Due to the use of several different digital service providers in the primary health care system in Croatia, it is still unclear how many GPs received the questionnaire through their service provider.</p> <p>As for the web page creation, basic concept was sent to the designers and web developers, and the page is under construction. It will be online by the end of June/early July.</p>
Problems? Unexpected findings? Please describe	<p>The COVID-19 pandemic affected the implementation of planned activities.</p> <p>The project team (CIPH) has been very much engaged in controlling the COVID-19 pandemic activities including continuous vaccination. Family physicians had also been extremely engaged and it was agreed that a questionnaire should be sent later when the pandemic slows down.</p> <p>The questionnaire had to pass the permission of the Ministry of Health and the Croatian Health Insurance Fund, which took longer due to the administrative procedures. Major problem in the questionnaire conduction is that it is unclear how many GPs received the questionnaire through their service provider. Nevertheless, we believe that this number is sufficient for analysis, although it is not representative.</p> <p>Major issue in the web page creation was a financing problem; namely, the funds for the web page were not allocated in the project budget, so we had to organize our own funding in the CIPH on a very short notice. This has slowed down the process.</p>

IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
X			

Cycle number (1or 2)			1			
Activity	KPI	Target value	Actual value	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Questionnaire conduction (use of central e-health platform (CEZIH) - "Portal zdravlje")	<ul style="list-style-type: none"> N° of questionnaires sent N° of questionnaires received 	2330	TBD	Due to the use of several different digital service providers in the primary health care system in Croatia, it is still unclear how many GPs received the questionnaire through their service provider.	None to date	
Central e-health platform (CEZIH) - "Portal zdravlje" promotion	Promotion notification creation	5% of new GPs using the app after the promotion	Materials for promotion drafted			
Web page creation	Web page is online	Yes	No	Major issue in the web page creation was a financing problem; namely, the funds for the web page were not allocated in the project budget	We organized our own funding in the CIPH on a very short notice. This has slowed down the process	Web page creation is underway

Identification of healthcare professionals connected on digital platform and e-letter of invitation	<ul style="list-style-type: none"> • N of healthcare professionals users of digital platform 	1000	1927	Due to the use of several different digital service providers in the primary health care system in Croatia, it is still unclear how many GPs received the questionnaire through their service provider.	None to date	
	<ul style="list-style-type: none"> • N° of e-letters sent; • N° of e-letters received 	20	TBD 141 received questionnaires (18 GPs expressed interest in additional participation in the project and education on the use of the Health portal)			
Identification of Diabetes mellitus patients users of digital platform	N of patients with Diabetes mellitus users of digital platform	25	No data collected	Work-overload of GPs' due to COVID-19 pandemic	Establish better communication With GPs' to provide needed data needed	
Communication channel through digital platform	availability of digital communication (Y/N)	Yes	No	Work-overload of GPs' due to COVID-19 pandemic	Establish better communication with GPs' to provide needed action	
Preparation of materials for web page	Materials prepared for upload on a web page (Y/N)	Yes	No	Work-overload and lack of staff due the involvement in COVID-19 pandemic crisis	Redistribution of COVID-19 work tasks and consequently better involvement of team members in the project	Articles and courses are been prepared

e-learning about diabetes mellitus for patients	N of articles and courses on the web site	<ul style="list-style-type: none"> Articles 2 Courses 1 	None	Work-overload and lack of staff due the involvement in COVID-19 pandemic crisis	Redistribution of COVID-19 work tasks and consequently better involvement of team members in the project	Articles and courses are being prepared
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Act

Cycle number (1 or 2)	1		
Activity	Maintain	Adapt	Abandon
Questionnaire conduction (use of central e-health platform (CEZIH) - "Portal zdravlje")	The questionnaire was conducted within timelines and results were presented. Due to the use of several different digital service providers in the primary health care system in Croatia, it is still unclear how many GPs received the questionnaire through their service provider. Therefore, this activity will be repeated in the second cycle.	-	-
Central e-health platform (CEZIH) - "Portal zdravlje" promotion	Different activities pertaining to the promotion will be maintained and further developed.	-	-
Web page creation	-	This activity has been delayed due to unforeseen funding issue, human resources and vacation time. The basic concept was sent to the designers and web developers, and the page is under construction. New timelines need to be set.	-
Creation of materials on NCDs	This activity is underway and the materials are planned to be published and provided to end users via dedicated web page.	-	-

Dissemination of produced materials (GPs, their respective patients, and visitors of the web page)	-	Due to the delay in web page creation, this activity has been delayed.	-
Identification of healthcare professionals connected on digital platform and e-letter of invitation	The letter was sent within timelines and results were presented. Due to the use of several different digital service providers in the primary health care system in Croatia, it is still unclear how many GPs received the letter through their service provider. Therefore, this activity will be repeated in the second cycle.		Number of healthcare professionals users of digital platform is detected
Identification of Diabetes mellitus patients users of digital platform	Identification of patients is in progress.		
Communication channel through digital platform		Investigate the possibilities of different ways of communication due to limited two way communication through digital platform	
Preparation of materials for web page	This activity is underway and the materials are planned to be published and provided to end users via dedicated web page.		
e-learning about diabetes mellitus for patients	This activity is underway and the materials are planned to be published and provided to end users via dedicated web page.		

QUESTIONS	ANSWERS
Any new proposed action for the future?	The Questionnaire on the use of central e-health platform (CEZIH) - "Portal zdravlje" will be conducted again with the aim of reaching more GPs.

2nd PDSA Cycle

Cycle number (1 or 2)	2							
LCF1	Promotion of central e-health digital platform CEZIH, Portal zdravlje use and disease management materials provision							
Activities	Actions	Actors	Timeline	KPIs measure (data collection)				
				KPI	Who	When	How	Target
Questionnaire conduction (use of central e-health platform (CEZIH) - "Portal zdravlje")	<ul style="list-style-type: none"> Questionnaire creation 	<ul style="list-style-type: none"> CIPH CHIF MoH (IT experts, project manager, researchers) 	<ul style="list-style-type: none"> NA (questionnaire already created in cycle 1) 	N° of questionnaires sent; N° of questionnaires received	<ul style="list-style-type: none"> CHIF 	October 2022	CHIF E-platform	2000 GPs in Croatia
	Questionnaire conduction	<ul style="list-style-type: none"> CHIF IT experts Project manager 	September 2022					
	Data collection and analysis	<ul style="list-style-type: none"> CHIF CIPH MoH researchers IT experts Project manager 	October 2022					

	Data interpretation and report	<ul style="list-style-type: none"> • CHIF • MoH <p>CIPH</p>	October/November 2022					
Central e-health platform (CEZIH) - "Portal zdravlje" promotion	Promotion notification creation	<ul style="list-style-type: none"> • MoH • CIPH • CHIF 	July 1 -December 31 2022	% of GPs using the app (comparison of GPs using the app after the promotion)	<ul style="list-style-type: none"> • CIPH <p>MoH</p>	December 31, 2022	Monthly follow-up meetings	5% of new GPs using the app after the promotion
	Promotion notification dissemination via CEZIH	<ul style="list-style-type: none"> • CHIF 						
Web page creation	Creation and launch of a dedicated webpage on the CIPHs official website	<ul style="list-style-type: none"> • CIPH • Project manager • researchers • healthcare professionals 	July 1- September 2022	Web page is online (Y/N)	<ul style="list-style-type: none"> • CIPH 	September 2022	N/A	Yes
Materials on NCDs	Creation of the materials on NCDs (diabetes mellitus, COPD, and hypertension) for the dedicated webpage (leaflets, templates for medication use, infographics, videos...)	<ul style="list-style-type: none"> • CIPH • Project manager • researchers • healthcare professionals • GPs 	<ul style="list-style-type: none"> • February 15 (1 cycle) to December 31 2022 • July- December 31 2022 	N of produced: web articles, online leaflets	<ul style="list-style-type: none"> • CIPH 	December 31 2022	In an internal monthly follow-up meeting	10 web articles, 5 leaflets

		<ul style="list-style-type: none"> IT experts Patients 						
	Creation of printable patient materials on NCDs (for GPs via CEZIH)	<ul style="list-style-type: none"> CIPH 	February 15 to December 31 2022					7 printable materials
Dissemination of produced materials (GPs, their respective patients, and visitors of the web page)	Dissemination of online materials via dedicated webpage and CIPHS social media	<ul style="list-style-type: none"> CIPH 	October –December 31,2022	Produced materials are online (Y/N)	<ul style="list-style-type: none"> CIPH CHIF 	October – December 31,2022	N/A	Yes/No
	Dissemination of printable patient materials	<ul style="list-style-type: none"> CIPH 	October –December 31,2022	N of printable materials	<ul style="list-style-type: none"> CIPH CHIF 	October – December 31,2022	internal monthly follow-up meeting	7
Monitoring	Web page monitoring	<ul style="list-style-type: none"> CIPH 	September - December 31, 2022	N of monthly web page visits	<ul style="list-style-type: none"> CIPH 	September - December 31 2022	Google Analytics	200 visitors per month

LCF2	The Digital Health Centre								
Activities	Actions	Actors	Timeline	KPIs measure (data collection)					
				KPI	Who	When	How	Target	
e-letter of invitation	<ul style="list-style-type: none"> Send e-letters of invitation 	IT experts project manager	July 1-	N° of e-letters sent	project manager	October 15, 2022	Monthly follow-up meetings	20	

		<ul style="list-style-type: none"> GP 	September 30, 2022					
	<ul style="list-style-type: none"> Received responds 	IT experts project manager GP	July 1-October, 15, 2022	N° of e-letters received	project manager	October 31, 2022	Monthly follow-up meetings	5
identification of Diabetes mellitus patients users of digital platform	Identify patients with Diabetes mellitus who are users of digital platform	<ul style="list-style-type: none"> General practitioners (GP) IT experts 	July 1-September 30, 2022	N of patients with Diabetes mellitus users of digital platform	project manager	September 30, 2022	Monthly follow-up meetings	25
Communication channel through digital platform	Establish communication channels on digital platform	<ul style="list-style-type: none"> GP IT experts patients 	July 1-December 31, 2022	availability of digital communication (Y/N)	project manager	December 31, 2022	Monthly follow-up meetings	Yes
Preparation of materials for web page	Prepare educational materials in form of digital leaflets, articles, interactive webinars	<ul style="list-style-type: none"> IT experts Project manager researchers healthcare professionals 	July 1-December 31, 2022	Materials prepared for upload on a web page	project manager	December 31, 2022	Monthly follow-up meetings	Yes

Do

Cycle number (1 or 2)	2	
Activity	KPI	Actual value
Questionnaire analysis (use of central e-health platform (CEZIH) - "Portal zdravlje")	<ul style="list-style-type: none"> N° of questionnaires analysed 	<ul style="list-style-type: none"> 250
Central e-health platform (CEZIH) - "Portal zdravlje" promotion using the results of questionnaire analysis	Report on the results of the questionnaire analysis	<ul style="list-style-type: none"> <i>Under development</i>
Web page creation	Finished demo version	Yes
e-letter of invitation	<ul style="list-style-type: none"> N° of e-letters sent Received responds 	<ul style="list-style-type: none"> 10 7
Identification of Diabetes mellitus patients users of digital platform	N of patients with Diabetes mellitus users of digital platform	No Data Collected (GP will provide information about patients)
Communication channel through digital platform	Yes	No
Preparation of materials for webpage	Materials prepared for upload on a web page	Yes (4 articles for diabetes and 16 articles on NCDs prepared)

QUESTIONS	ANSWERS
What was actually implemented? Any deviation from the planned actions	<p>Questionnaire was sent again to GPs. Analysis on the received data was conducted. Invitation letter was sent to GPs, reference center for diabetes, Croatian Federation of Diabetic Associations.</p> <p>Educational materials were prepared and are now ready for upload.</p> <p>As for the web page creation, basic concept was sent to the designers and web developers, and the demo version is finished.</p>
Problems? Unexpected findings? Please describe	<p>Family physicians had also been extremely engaged and were not interested in new obligations such as participating in this project.</p> <p>We discovered that planned two-way communication is currently unavailable (due to some security issues and future upgrades) so new, alternative ways of passing information and communication had to be established.</p>

Due to the summer holidays, collaboration with the web designers took longer than expected. Also, the preparation of the materials for the webpage was time-consuming, and the workload regarding other day-to-day activities unrelated to the project made it more difficult to prepare everything in time for the web page to be online as planned. Currently, we are agreed on the demo version of the page, most of the materials are ready, but we are still deciding on webpage features as they depend on the financing.

IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
			X

Study

Cycle number (1or 2)		2				
Activity	KPI	Target value	Actual value	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Questionnaire analysis (use of central e-health platform (CEZIH) - "Portal zdravlje")	<ul style="list-style-type: none"> N° of questionnaires analysed 	2330	250	Due to the use of several different digital service providers in the primary health care system in Croatia, it is still unclear how many GPs received the questionnaire through their service provider.	The questionnaire was sent again to reach a larger number of GPs	

Central e-health platform (CEZIH) - "Portal zdravlje" promotion	Promotion notification creation	5% of new GPs using the app after the promotion	Undetermined			
Web page creation	A demo version of the web page is available	Yes	Yes	Major issue in the web page creation was a financing problem; namely, the funds for the web page were not allocated in the project budget	We organized our own funding in the CIPH on a very short notice. This has slowed down the process	
e-letter of invitation	<ul style="list-style-type: none"> • N° of e-letters sent; • N° of e-letters received 	20 5	10 7	Due to heavy work load, many GPs are not interested or are not available for additional engagement	In order to obtain optimal response, we have sent targeted letters of invitation	Optimal response
Identification of Diabetes mellitus patients users of digital platform	N of patients with Diabetes mellitus users of digital platform	25	No data collected	GP are in process of finding Diabetes mellitus patients	Communication With GPs' is established to provide needed data and they will have the	N of patients mellitus users of digital platform

					information in time when web page is going to be realised	
Communication channel through digital platform	availability of digital communication (Y/N)	Yes	No	Current digital healthcare system cannot withhold desired two-way communication	Investigate the possibilities of different ways of communication due to limited two-way communication through digital platform	Establish alternative ways of communication to achieve desired goals
Preparation of materials for web page	Materials prepared for upload on a web page (Y/N)	Yes	Yes			

Act

Cycle number (1 or 2)	2		
Activity	Maintain	Adapt	Abandon
Questionnaire analysis (use of central e-health platform (CEZIH) - "Portal zdravlje")	The questionnaire was conducted and analysed within timelines and results were presented. Due to the use of several different digital service providers in the primary health care system in Croatia, it is still unclear how many GPs	-	-

	received the questionnaire through their service provider. Therefore, this activity was repeated in the second cycle.		
Central e-health platform (CEZIH) - "Portal zdravlje" promotion	Different activities pertaining to the promotion will be maintained and further developed.	-	-
Web page creation	-	This activity has been delayed due to unforeseen funding issue, human resources and vacation time. The demo version is available. New timelines need to be set.	-
Creation of materials on NCDs	This activity is underway and some of the materials are prepared and available on the demo version of web page. Materials are planned to be published and provided to end users via	-	-

	dedicated web page.		
Dissemination of produced materials (GPs, their respective patients, and visitors of the web page)	-	Due to the delay in web page creation, this activity has been delayed, but is underway.	-
Communication channel through digital platform			We have chosen to prioritize resources to achieve other features such as alternative ways of communication for addressing targeted group.
Preparation of additional materials for web page	This activity is underway and the materials are planned to be published and provided to end users via dedicated web page.		

QUESTIONS	ANSWERS
Any new proposed action for the future?	No

Post-implementation

SQUIRE 2.0. Report

ITEM	ANSWER
Title and abstract	
Title	Croatian approach on an Integrated Healthcare Sector (New media use in GP-patient communication and disease management materials with the Digital Health Centre)
Abstract	The main aim of the intervention of the CIPH is to improve the level of health, disease management and quality of life for patients with NCDs through online education and digital communication with healthcare

	providers and other health professionals included in the care of patients NCDs.
Why did you start?	
Problem description	Lack of patient oriented, trustworthy content on chronic diseases, low health literacy, increased workload of GPs resulting in less time available for the patients, also low rate of health digitalization amongst general population
Available knowledge	<p>The presumed level of health literacy in Croatia is relatively low. In addition, there is an increasing demand from GPs to reduce the administrative workload. According to a survey conducted by a Croatian news portal, two thirds of the population have low levels of health literacy.</p> <p>https://www.telegram.hr/pitanje-zdravlja/proveli-smo-prvo-istrazivanje-o-zdravstvenoj-pismenosti-u-hrvatskoj-stanje-jednostavno-nije-dobro/. It is well known that a low level of health literacy can lead to late diagnosis and poor disease management, especially for chronic non communicable diseases.</p>
Rationale	<p>It is highly likely that the creation of a webpage that would be tailored to patients' needs, and written in collaboration with health care providers would help in overcoming everyday problems that patients with chronic diseases face. We also contacted patient groups and advocates to evaluate the webpage content for easy-to-use suggestions as well as new ideas from the patient's point of view. This will make this specific intervention more efficient.</p> <p>One part of the content of the website will contain information on the most frequent risk factors for non-communicable diseases and will be focused on prevention.</p> <p>The Health Portal (Portal zdravlja) was created to provide Croatian citizens access to a part of their own healthcare information from the Central Health Information System of the Republic of Croatia (CEZIH). The Health portal also enables active communication between the patient and the doctor if some options have been activated (e.g. patients could make and cancel appointments with their primary care physicians, send a request for prescriptions for medication approved for reissuing by the physician etc. This could make GP-patient communication more efficient but there were no actual data of how many GPs are actually using it but there were suggestions that this Portal needed more promoting.</p>
Specific aims	Improve health literacy and through that increase efficacy of the healthcare system especially in the population with chronic diseases and therefore improve health outcomes, reduce the workload of GPs regarding informing patients on the specifics of their conditions, and also reduce the time needed for the care of chronic patients (regarding drug prescription for chronic conditions) through digital means and tools.
What did you do?	
Context	Main problems: lack of human and financial resources in healthcare, poor health literacy, no specific, multidisciplinary approach to complex chronic patients; COVID-19 interruption in healthcare, increased burden

	<p>of NCDs due to aging population.</p> <p>Opportunities: collaboration with patient organizations and professional associations, EU projects and global trends toward prevention and patient empowerment;</p>
<p>Intervention(s)</p>	<p>Target population:</p> <ol style="list-style-type: none"> 1. Patients with leading chronic non-communicable diseases (NCDs) (COPD, hypertension, diabetes mellitus, multimorbidity) with special accent on patients with Diabetes mellitus 2. Physicians (general practitioners) <p>Interventions:</p> <ol style="list-style-type: none"> 1. Conducting an on-line survey on the use of the Health Portal (Portal zdravlja) for active communication between physicians (general practitioners) and patients (questionnaire creation, survey conduction, data collection and analysis) 2. Promotion of the Health Portal (“Portal zdravlja”) use <ul style="list-style-type: none"> • Encourage GPs to introduce their patient to the Health Portal • Encourage the use of the Health Portal for GPs for active communication with their patients • Encourage the use of the Health Portal for patients 3. Creation of Website (webpage) intended primarily for patients with leading non-communicable diseases, but also for the general public <ul style="list-style-type: none"> • Disease management materials (creation of the materials on NCDs: Diabetes mellitus, COPD, hypertension etc) • Recommendations on diet, physical activity, stress management, sleep hygiene, smoking cessation and alcohol intake reduction 4. Improvement of disease management for patients with diabetes mellitus using digital tools <ul style="list-style-type: none"> • identification of healthcare professionals connected on digital platform (e-health) • identification of Diabetes mellitus patients • Web page creation • e-learning about diabetes mellitus for patients <p>Excepted outcomes:</p> <ul style="list-style-type: none"> • Provide timely and more appropriate personalized care for NCDs patients based on their care needs • Enable better and more efficient communication among healthcare professionals and patients with focus on digital communication

	<ul style="list-style-type: none"> •Patient empowerment by providing user friendly educational materials, in both digital and paper form •Improve the time dedicated to each patient, by providing ready-made materials and resources for patients <p>NAWG consists of experienced medical doctors with specialist in occupational medicine and sports medicine (4) and epidemiology (4), medical doctors currently doing residency in epidemiology (2), medical doctors currently doing residency in occupational and sports medicine (3), psychologist (1), social educator (1), nurse (1) and administrative assistant (1), IT experts (3), medical doctor specialist in public health (1).</p>
Study of the Intervention(s)	Quantitative analysis will be performed to see the increase in Portal zdravlja app use, and also to track web page visits and material downloads. Special emphasis will be on data analysis regarding Diabetes mellitus.
Measures	Data on the current use, level of information and interest in using the Portal Zdravlja app, N of GPs using the app, functional web page, N of produced materials, N of monthly web page visits, N of printed materials, N of downloads
Analysis	Descriptive statistical analysis of the QA and of the web page metrics
What did you find?	
Results	<p>Questionnaire on the use of the Portal zdravlja application. Online QA was disseminated to all the GPs in Croatia. Results were analyzed, and a short education was held in order to promote the app.</p> <p>Patient oriented, evidence-based web page with information on most common chronic diseases was created. Target group are patients with leading chronic noncommunicable diseases (COPD, hypertension, diabetes mellitus...multimorbidity). Educational materials have been created on NCD'S (diabetes, hypertension, COPD, osteoporosis etc.) WEB page has been designed and demo version is available.</p> <p>Since there was an emphasis on digital health promotion and disease management of Diabetes mellitus, an invitation letter was sent to GPs, National Reference Center for diabetes and Croatian Federation of Diabetic Associations.</p>
What does it mean?	
Summary	QA results showed a low proportion of the GPs uses the Portal zdravlja app. As the web page is not online yet, we do not have data on its usage. Key findings: we identified GPs that are ready for cooperation and have patients with Diabetes mellitus. We also prepared materials for webpage that will be uploaded and renewed periodically.
Interpretation	As digital literacy is increasing, we expect many more people, even in the older age groups, will be willing to use the web page and the Portal zdravlja app, which will help the disease management and make the GP-patient communication more efficient. We established communication with GPs that are willing to use educational materials on webpage and we

	<p>believe that with time more GPs will be interested in this content and encourage their patients to use webpage. We will also work on promotion of digital literacy amongst general population.</p>
<p>Limitations</p>	<p>A survey on the use of the Health Portal (Portal zdravlja) We are still not sure how many GPs have received the QA, and whether in some GP offices only nurses replied and even opened the QA. The sample of the GPs may be biased, with those using the app being more prone to answer the QA. Some GPs are not willing to participate due to other work-related obligations. The COVID-19 pandemic affected the implementation of planned activities. The project team (CIPH) has been very much engaged in controlling the COVID-19 pandemic activities including continuous vaccination. Family physicians had also been extremely engaged and it was agreed that a questionnaire should be sent later when the pandemic slows down. The questionnaire had to pass the permission of the Ministry of Health and the Croatian Health Insurance Fund, which took longer due to the administrative procedures. Due to the use of several different digital service providers in the primary health care system in Croatia, it is still unclear how many GPs received the questionnaire through their service provider. QA was sent out twice, so we believe that the majority of GPs received it.</p> <p>As for the web page creation, basic concept and preliminary materials were sent to the designers and web developers, and demo version of the web page is available. The process took longer than expected. Major issue in the web page creation was a financing problem; namely, the funds for the web page were not allocated in the project budget, so we had to organize our own funding in the CIPH on a very short notice. This has slowed down the process.</p>
<p>Conclusions</p>	<ul style="list-style-type: none"> • A web page is a relatively low-cost, user-friendly way for patients with NCDs to obtain useful, evidence-based information on disease management. Also, it is sustainable as it will be easy to maintain, and it will be even more relevant as we expect an increase in the number of people with NCDs. Content of the webpage will be expanded, and we will include information on disease prevention, other health related topics such as pregnancy, vaccination, workplace disease management etc. • Digital tools use is increasing in people of all ages. Also, European commission focused its attention on the availability of their respective health data for the citizens, by establishing regulation to set up the European Health Data Space. Health portal app was established for patients to have access to their health data, and it also developed tools for communication with the GPs. Promotion of the app and education on its use will continue after the project, as the usefulness of such a tool is invaluable.

	We identified GPs through the letter of invitation in which we described the project itself and explained their role. Interested GPs then identified patients with enough digital literacy and compliance.
Other information	
Funding	Activities are funded by a combination of CIPH funds and JADECARE funds; human resources, represented as the NAWG salaries can be considered JADECARE funded during the duration of the project. The funding for other outputs such as digital tools: web domains, and maintenance of web page are funded by the CIPH. Due to the relevance and usefulness of the web page, we believe the CIPH funding for its maintenance will be continued.

Consejería de Salud y Consumo Junta de Andalucía & Fundación Pública Andaluza Progreso y Salud, Spain, CSCJA & FPS

Pre-implementation

Scope definition

1. **Next Adopter name:** Regional Ministry of Health and Families of Andalusia

2. **Next Adopter Working Group:**

Organization	Profile	Level of involvement
CSFJA ¹ : Deputy Director for Social and Health Care, Strategies and Plan	<ul style="list-style-type: none"> • Decision maker • Organizer • Expert 	Full participation
CSFJA : Senior Advisor	<ul style="list-style-type: none"> • Decision maker • Organizer • Expert 	Full participation
CSFJA : Chief of Unit for Health Strategies and Plans	<ul style="list-style-type: none"> • Organizer • Expert 	Consultation
SAS ² : Deputy Director for Healthcare Management	<ul style="list-style-type: none"> • Expert • Front-line stakeholder 	Consultation
SAS : Deputy Director for Primary Healthcare Coordination	<ul style="list-style-type: none"> • Expert • Front-line stakeholder 	Consultation
SAS : Deputy Director for ICT	<ul style="list-style-type: none"> • Expert • Front-line stakeholder 	Consultation
SAS : Chief of Unit for Citizen care management	<ul style="list-style-type: none"> • Expert • Front-line stakeholder 	Consultation

¹ **CSFJA**: Regional Ministry of Health and Families of Andalusia

² **SAS**: Andalusian Health Service

SAS: Chief of Unit for Information Systems Coordination	<ul style="list-style-type: none"> • Expert • Front-line stakeholder 	Consultation
SAS: Andalusian Care Plan	<ul style="list-style-type: none"> • Expert • Front-line stakeholder 	Consultation
FPS³: Project manager/research assistant	<ul style="list-style-type: none"> • Organizer • Implementer 	Full participation
SAS/FPS: Sub-director for ICT	<ul style="list-style-type: none"> • Expert • Front-line stakeholder 	Consultation

3. Analysis of Next Adopter's needs:

The internal brainstorming session was introduced during a meeting held on 16/12/2020. All participants shared the needs each one identified which are listed below.

Block	Needs (brainstorming)
B1: Standards and agreements	1. Improve coordination between primary healthcare and hospitals and with the municipalities (health promotion activities)
	2. Better definition of elements included in referrals for improving coordination within the healthcare system and collaboration with the social care system
	3. Establish management agreements between levels of care (between primary and hospital care)
	4. Establish work coordination teams between primary care and socio-health care, both at municipal and regional level.
	5. Establish agreements between the competent Regional Ministries in the field of health and social services
	6. Provide technological tools that allow the above ideas
	7. Improved coordination between primary and hospital care.
	8. Development of socio-health care coordination.
	9. Integration or coordination of Health Care information systems (at primary and hospital care level) with Social Services.
	10. The health care and social care records should be linked as well as with those from home nursing and prisons records, as applicable.
	11. The functionality of the EHR need to be improved, opening it to other professionals and to the patients.
	12. It is necessary (as a good practice) to include in the EHR the health promotion and disease prevention managed by each specialist who interacts with the patient.
	13. We need to carry out a Digital Communication Plan that links the Patient / PC / HC / Social Care.

³ **FPS:** Progress and Health Foundation

Block	Needs (brainstorming)
B2: Additional solutions to support complex disease areas	1. Improve healthcare at home by family doctors and nurses, facilitating connectivity and additional activities (point-of-care tests), linked with the patient's electronic health record
	2. Foster patients' empowerment and self-care of their health conditions
	3. Improve health literacy
	4. Include the option of uploading patients' information and data by patients or carers
	5. Possibility of a system for collective video-conference among pre-established groups for supporting self-help activities, preventing deterioration of patients with specific mental health problems and improving self-esteem.
	6. Availability of the information about patients' options for their healthcare and end of life support (living wills) to all healthcare professionals.
	7. Access to health promotion information and activities provided at municipal level (health assets) by healthcare professionals, in particular at primary healthcare level.
	8. Promote patient empowerment.
	9. Facilitate the work of patient support groups with mental illness.
	10. Facilitate palliative care.
	11. Improve home care in the field of palliative care.
	12. Facilitate the management of advance directives (living wills).
	13. Facilitate the notification of the evolution /levels of pain in the field of musculoskeletal diseases at primary care level.
	14. Development of ICT tools (app and/or software) that allows the improvement of communication between (chronic) patients (at homes) and their reference healthcare professionals (family physicians, nurses, etc.).
	15. Development of ICT tools (app and/or software) that allows patients to monitor their disease (indicators, levels, etc.) as well as their prescription / treatment.
	16. Development of a software that connects citizens with their healthcare centres and allows them to be informed and interact for the development of health promotion actions.
	17. Reinforce and expand rehabilitation and training programs and apps.
	18. "Health care professionals (both at Primary and Hospital Care level) need to have up-to-date and easily accessible information on the process and health outcomes of patients with complex chronic diseases (at the Medical Code / Hospital level, compared to the CAP / UGC, Health District/Hospital Area and Autonomous Community).
	19. In the process, the individual situation of patients regarding compliance with the frequency of clinical controls, complementary tests, quality standards of integrated care processes or other selected control objectives is specifically included."
	20. "Perhaps there is a lack of training that allows to better know the corporative EHR-DIRAYA (maybe it is underused due to ignorance).

Block	Needs (brainstorming)
	21. May be a better linkage between Primary and Hospital health records is needed.
	22. Tele-health care should be deployed throughout Andalusia, including an active patient participation."
	23. Expand and improve the communication channels between the health care system and users (including apps to provide users with information on appointments, reminders, notifications or institutional messages of interest).
	24. "Provide health education (general or specific for certain pathologies) to the population (healthy people and patients), through non-face-to-face communication channels (i.e. streaming, live or recorded health education chats,...).
	25. Of particular interest to diabetes general education as one of the main therapeutic measures to type 2 diabetes that primary care centres can put in place."
	26. Transfer directly to individual EHR (through electronic devices/means) patients specific data/information coming from self-completed questionnaires.
	27. To get the promotion of healthy lifestyles to the general population through non- face-to-face channels (i.e. streaming).
	28. "Have a common, secure and easily accessible system for citizens and professionals that enable telematic care. This would allow:
	29. - That citizens can transfer personal information to their EHR and that information is easily accessible to the professionals who must respond.
	30. - That professionals, services and centres can make personal information available to citizens in an easy and safe way."
	31. Define a procedure that, based on clinical parameters available on-line, to help make decisions to keep the patient stable at home or define the need of an intervention on the patient.
	32. Prepare stratified therapy sessions according to the patient pathology (and its severity/level). The therapies would be prescribed, and the patient could download the digital session thanks to a password (tele-treatment)*
	33. Expand the content of the APP "Salud Responde" (corporative App that allows to make/modify primary health care appointments, get access to health news, among other): increase the information offered, that the information can be configured by the patient according to their pathology.
	34. Idem to *
	35. Develop tools that allow that patients will be invited to participate to health promotion and disease prevention activities offered in their district/municipality.
	36. Elements that facilitate the dissemination and deployment of health promotion technological tools.
	37. Tools and methodologies that allow the assessment of health promotion interventions carried out through technological tools.

Block	Needs (brainstorming)
	<p>38. Improve communication healthcare professionals-patients (not only accessing to their own health information, appointments, prescriptions, ... but also allowing to upload patient own data, to generate automatic alerts/reminders, to access to personalized health education resources, validated questionnaires, to provide general/specific health certificates..., as well as having an asynchronous messaging system between professionals and patients).</p>
	<p>39. Promote healthy lifestyles as the main strategy for improving the health of population through digital resources.</p>
	<p>40. Promote Telemedicine, not only in general but especially in its ability to provide interventions/care (i.e.: Tele-rehabilitation; Tele-psychiatry...) and in the remote monitoring/follow-up of chronic patients (i.e.: COPD, DM, HF, ...) including measuring devices and digital tools.</p>
	<p>41. "Promote telemonitorization systems from the Sub-directorate of TIC in coordination with the Care Strategy and the Primary Care Coordination Sub-Directorate for the proactive follow-up of patients with HF/COPD in complex situations that they need continuous telemonitoring during long period of time.</p>
	<p>42. This information would be accessible to all care providers involved in the care process."</p>
	<p>43. Develop a proactive telephone monitoring program to people with HF/COPD carried out by their family physician-primary care nurse (from the primary care centre) to detect clinical alerts, lack of treatment (or self-care) adherence, situations of social risk or need for support for self-care.</p>
	<p>44. "Systematically incorporate to all hospitals (at least in the Internal medicine services), telecare services between levels of care (PC/HC) to prevent (when alerts signs are detected) and/or early attend to situations of clinical instability that allow patients to remain at home and prevent unnecessary income.</p>
	<p>45. Include the development of related clinical pathways between levels of care."</p>
	<p>46. Systematize that professionals who provide care to psychiatric patients (for example, with severe mental disorder-SMI) use shared instruments with technological support (individualized treatment plan-ITP).</p>
	<p>47. "Integrate into the primary care health history-Click salud digital (space for the patient and their interaction with the health system) the Personalized Action Plan for Complex Chronic Patients (phase 1: HF/COPD and/or poorly controlled concomitant diabetes or uncontrolled that have a priority need for a response from the health system);</p>
	<p>48. This plan allows a joint decision-making between the professionals involved in the patient's care process (regardless of levels care: PC, HC, Emergencies ...), with the patient/relatives' participation in the in decision-making process."</p>

Block	Needs (brainstorming)
	49. Develop audio-visual programs (videos with exercises performed by physiotherapists) accessible to patient/relatives for training and support patient recovery/rehabilitation.
	50. Promote the prescription of community assets from health care centres: Use of technology to support to link the local health assets' location (assets geolocation) to the primary care health record. The prescription of local health assets will improve the response from the centres so that people can know and access to assets that improve their health.
	51. Promote intersectoral agreements to improve health and well-being outcomes in people over 55 years through physical exercise (Regional Ministry of Health, Regional Ministry of Education and Sports, Universities and Mass Media).
	52. Design new tools to improve the effectiveness of therapeutic patient education through reinforcement questionnaires for telephone monitoring.
	53. Activate the development of patient workshops for people with chronic health problems in a more complex situation.

These needs were grouped according to an agreed list of categories, in an interactive way through mail exchanges.

Block	Needs (grouped)
B1: Standards and agreements	1. Coordination with municipalities (Health Promotion-Health Assets)
	2. Coordination of healthcare / socio-health care / social care
	3. Improve (identify criteria) referral between health and social care systems
	4. Improve management agreements between levels of care (between primary and hospital care)
	5. Provide ICT tools to improve coordination between health and social care systems (for example, nursing homes, prisons ...)
B2: Additional solutions to support complex disease areas	1. Improvement of home care (including nursing homes) and its connection with the electronic health record, as well as the improvement of home care (including palliative care) with telemonitoring.
	2. Patient empowerment, self-care improvement and health education.
	3. Improve patients / citizens access to their electronic health record, data, appointments, reminders, and allowing them to upload data on scales / questionnaires; self-help video conference sessions.
	4. Improvements to the electronic health record, including scales (e.g. pain scales), questionnaires, aggregated information on chronic diseases (including mental health), comprehensive treatment plans, alert and alarm systems; improvement in the knowledge and use of Diraya (corporate health information system of the Andalusian Public Healthcare System).
	5. Video-sessions for therapy (e.g. in mental health) and rehabilitation (e.g. audiovisual physiotherapy sessions).
	6. Access to ICT information on health promotion activities.
	7. Access to information on living wills.
	8. Tools for assessing interventions (e.g. in health promotion)

The groups were prioritised according to the number of related needs addressed (votes in brackets):

Block	Needs (prioritized)
B1: Standards and agreements	1. Coordination of healthcare / socio-health care / social care (11)
	2. Provide ICT tools to improve coordination between health and social care systems (for example, nursing homes, prisons ...) (7)

Block	Needs (prioritized)
	3. Improve (identify criteria) referral between health and social care systems /5) 4. Improve management agreements between levels of care (between primary and hospital care) (3) 5. Coordination with municipalities (Health Promotion-Health Assets) (2)
B2: Additional solutions to support complex disease areas	1. Improvement of home care (including nursing homes) and its connection with the electronic health record, as well as the improvement of home care (including palliative care) with telemonitoring. (14) 2. Improve patients / citizens access to their electronic health record, data, appointments, reminders, and allowing them to upload data on scales / questionnaires; self-help video conference sessions. (14) 3. Improvements to the electronic health record, including scales (e.g. pain scales), questionnaires, aggregated information on chronic diseases (including mental health), comprehensive treatment plans, alert and alarm systems; improvement in the knowledge and use of Diraya (corporate health information system of the Andalusian Public Healthcare System). (9) 4. Patient empowerment, self-care improvement and health education. (8) 5. Access to ICT information on health promotion activities. (8) 6. Therapy (e.g. in mental health) and rehabilitation (e.g. audiovisual physiotherapy sessions) video sessions. (7) 7. Access to information on living wills (2) 8. Tools for assessing interventions (e.g. in health promotion) (1)

4. Asses and select the Core Features (CF)

The prioritised needs are matched to the oGP CF in the following tables:

B1: Standards and agreements	B1-CF1: Health Agreements	B1-CF2: Messaging Standards	B1-CF3: SAM:BO Agreement
1. Coordination of healthcare / socio-health care / social care	x		
2. Provide ICT tools to improve coordination between health and social care systems (for example, nursing homes, prisons ...)			x
3. Improve (identify criteria) referral between health and social care systems			x
4. Improve management agreements between levels of care (between primary and hospital care)	x		
5. Coordination with municipalities (Health Promotion-Health Assets)	x		

B2: Additional solutions to support complex disease areas	B2-CF1: Tele-COPD	B2-CF2: Tele- psychiatry	B2-CF3: My hospital ⁴	B2-CF4: Online physical rehabilitation	B2-CF5: Digital Health Centre	B2-CF6: Geri Toolbox
1. Improvement of home care (including nursing homes) and its connection with the electronic health record, as well as the improvement of home care (including palliative care) with telemonitoring.	x					x
2. Improve patients / citizens access to their electronic health record, data, appointments, reminders, and allowing them to	x		x			

⁴ Former "My Patient Journey"

B2: Additional solutions to support complex disease areas	B2-CF1: Tele-COPD	B2-CF2: Tele- psychiatry	B2-CF3: My hospital ⁴	B2-CF4: Online physical rehabilitation	B2-CF5: Digital Health Centre	B2-CF6: Geri Toolbox
upload data on scales / questionnaires; self-help video conference sessions.						
3. Improvements to the electronic health record, including scales (e.g. pain scales), questionnaires, aggregated information on chronic diseases (including mental health), comprehensive treatment plans, alert and alarm systems; improvement in the knowledge and use of Diraya (corporate health information system of the Andalusian Public Healthcare System).	x		x			x
4. Patient empowerment, self-care improvement and health education.	x		x		x	
5. Access to ICT information on health promotion activities.					x	
6. Therapy (e.g. in mental health) and rehabilitation (e.g. audiovisual physiotherapy sessions) video sessions.		x		x		
7. Access to information on living wills			x			
8. Tools for assessing interventions (e.g. in health promotion)	x	x	x	x	x	x

Original Good Practice Name: DIGITAL ROADMAP TOWARDS AN INTEGRATED HEALTH CARE SECTOR (REGION OF SOUTH DENMARK)

Scirocco Model

Dimension	Maturity requirement	B1-CF1	B1-CF2	B1-CF3
D1 Readiness to Change	2: Dialogue and consensus-building underway - plan being developed	X		
	4: Leadership, vision and plan clear to the general public; pressure to change		X	
	5: Political consensus; public support; visible stakeholder engagement			X
D2 Structure and Governance	3: Governance established at a regional or national level	X		
	4: Roadmap for a change programme defined and accepted by stakeholders involved		X	X
D3 Digital Infrastructure	0: There is no digital infrastructure to support integrated care	X		
	2: There is a mandate and plan(s) to deploy regional/national digital infrastructure, including a set of agreed technical standards, across the health and social care system, but it is not yet implemented		X	X
D4 Process Coordination	2: Some standardised coordinated care processes are underway; guidelines are used, some initiatives and pathways are formally described, but no systematic approach is planned	X	X	
	4: Most coordinated care processes, including care pathways, are subject to a systematic approach, and are standardised and deployed throughout the whole region/country			X
D5 Funding	0 No additional funding is available to support the move towards integrated care	X		X
	1: Funding is available but mainly for the pilot projects and testing		X	
D6 Removal of Inhibitors	2: Strategy to removing inhibitors agreed at a high level	X		
	3: Implementation plan and process for removing inhibitors have started being implemented locally		X	X
D7 population approach	0: Population health approach is not applied to the provision of integrated care services		X	
	3: Risk stratification used for specific groups i.e. those who are at risk of becoming frequent service users	X		X
D8 Citizen empowerment	0: Citizen empowerment is not considered as part of integrated care provision		X	X
	1: Citizen empowerment is recognised as important part of integrated care provision but effective policies to support citizen empowerment are still in development	X		
D9 Evaluation methods	1: Evaluation of integrated care services is planned to take place and be established as part of a systematic approach		X	
	2: Evaluation of integrated care services exists, but not as a part of a systematic approach	X		
	3: Some integrated care initiatives and services are evaluated as part of a systematic approach			X

Dimension	Maturity requirement	B1-CF1	B1-CF2	B1-CF3
D10 Breadth of ambition	3: Integration between care levels (e.g., between primary and secondary care) is achieved	X	X	X
D11 Innovation management	2: Innovations are captured and there are some mechanisms in place to encourage knowledge transfer		X	
	3: Formalised innovation management process is planned and partially implemented	X		X
D12 Capacity building	2: Cooperation on capacity building for integrated care is growing across the region			X
	3: Learning about integrated care and change management is in place but not widely implemented		X	
	4: Systematic learning about integrated care and change management is widely implemented; knowledge is shared, skills retained and there is a lower turnover of experienced staff	X		

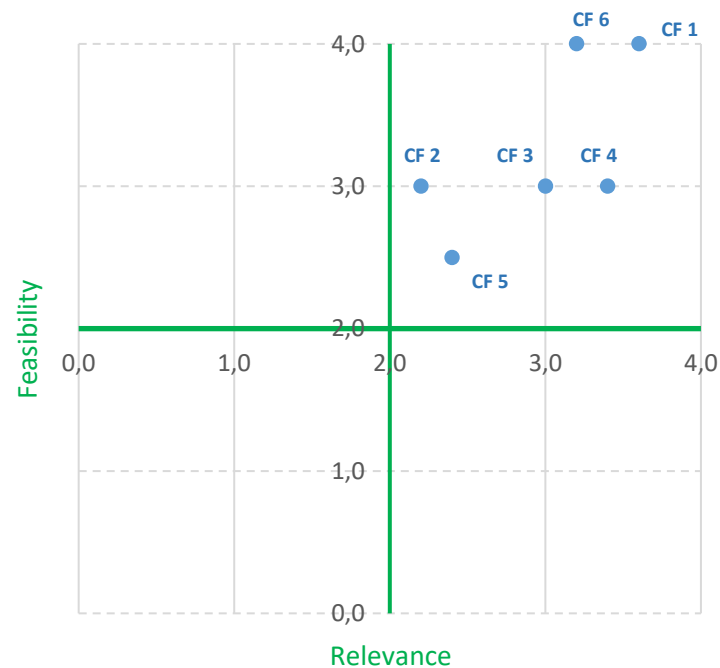
At the time of elaborating this report, CF B2 Maturity Assessment using the Scirocco Model has not been provided.

NAWG participants scored the oGP CF Relevance and Feasibility and the averages are detailed in the following table:

Block	Core Feature	Relevance	Feasibility
B1 (Standards and agreements)	CF1 Health Agreements	2,8	N/A
	CF2 Messaging Standards	2,8	N/A
	CF3 SAM:BO Agreement	2,5	N/A
B2 (Additional solutions to support complex disease areas)	CF1 Tele-COPD	3,6	4
	CF2 Tele-psychiatry	2,2	3
	CF3 My hospital (former "My Patient Journey")	3,0	3
	CF4 Online physical rehabilitation	3,4	3
	CF5 Digital Health Centre	2,4	2,5

	CF6	Geri Toolbox	3,2	4
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The graphical representation is:



After this initial analysis, the first list of Core Features selected to be implemented in Andalusia was:

Initial Core Features	
CF1	Tele-COPD
CF6	Geri Toolbox
CF4	Online physical rehabilitation

CF3	My hospital (former "My Patient Journey")-Optional
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After the WP8 study visits carried out in May, Jun and July 2021, the Andalusian NAWG decided to implement the first two core features (CF1 and CF6). These are the core features that better adapt to the current situation and developments in the region.

Besides, during the WP8 study visits the original good practice owner explained that the audio-visual materials which would serve as a basis for the implementation of the CF4 (Online physical rehabilitation) could not be shared with the next adopter sites due to property-rights constraints. Therefore, its implementation would not be feasible within the timeframe of the JA.

CF3 (My hospital) was listed as optional but will not be implemented, because efforts will be dedicated to the implementation of the final selected CF.

The final list of Core Features to be implemented in Andalusia is:

Final Core Features	
CF1	Tele-COPD
CF6	Geri Toolbox

Definition of the LGP and LAP

Local good practice

Local Good Practice	Improving healthcare at home for complex chronic patients (CCPs), including proactive follow-up, in Andalusia	
Target population	Setting(s)	
Complex chronic patients in Andalusia (125.000 patients, approx.). A sample of 500 of these patients will be included in the Andalusian pilot	Andalusian Health Service (SAS) (in particular, at primary healthcare level).	
Main aim		
Improve health status and quality of life of CCPs by enhancing home healthcare proactive follow-up and its evaluation.		
Outcomes	Local Core Features and their Components	Inputs

<ul style="list-style-type: none"> • Provide timely and appropriate care to CCPs at their home based on their care needs. • Allow CCP proactive interventions and follow-up. • Enable communication among healthcare professionals and with patients. 	<ul style="list-style-type: none"> • Development of a Centralised System for Proactive Follow-up (SCSP) of chronic patients. <ul style="list-style-type: none"> • Tendering of the SCSP implementation <ul style="list-style-type: none"> • SCSP design. • SCSP development. • Deployment of "proactive follow-up" in primary healthcare centres. <ul style="list-style-type: none"> • Definition and selection of participating healthcare centres and teams. • Training of healthcare professionals. • Patient selection • Monitor the corporate system for improving healthcare at home (SCSP+Teleconsultation). <ul style="list-style-type: none"> • Definition of KPI. • Data gathering. • Data assessment. 	<ul style="list-style-type: none"> • Decision makers. • Alignment of policy makers. • Funding. • Reference documents/guidelines and procedures • IT systems. • IT Staff / Technical assistance. • Program managers. • Training. • SAS Managers. • Healthcare professionals
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General description

- The Andalusian local good practice will be based on the components Tele-COPD (CF1) and Geri-Toolbox (CF6) of the Danish good practice and will be aligned to the “Andalusian Comprehensive Healthcare Plan for Patients with Chronic Diseases”, the “Andalusian Integrated Care Process ‘Healthcare for Multimorbidity Patients’”, the “Andalusian Comprehensive Care Plan” and the “Chronic Patients "Proactive Monitoring" in Primary Healthcare Plan.
- Thus, to improve the healthcare at home of complex chronic patients, a Centralised System for Proactive Follow-up (SCSP) that will allow to gather information from homecare professionals when attending CCPs at home will be developed and integrated within the corporate IT system (Diraya). The collected data will be uploaded to Diraya/Patient EHR. The platform will be a key element for healthcare professionals in the proactive and remote monitoring of chronic patients, by mean of the early identification of warning signs/signals, the adaptation of prescriptions, the anticipation of health problems, providing support to caregivers, avoiding unplanned inpatient episodes, etc. Besides, the Andalusian teleconsultation platform will also use to facilitate the communication between healthcare professionals (mainly between primary and hospital healthcare professionals) so it will be also included in the assessment.
- Phone-questionnaires and other elements will be used as a support in the proactive “proactive monitoring” process with a double purpose:

<ul style="list-style-type: none"> • The early identification of information and/or warning signs/signals that need a quick response by the reference healthcare professionals. • Assess the therapeutic patient education to determine patient self-care ability and needs. • In summary, the SCSP will facilitate the patient follow-up, will improve the continuity of care by healthcare professionals and improve patient's quality of life.
Local Core Feature 1
<ul style="list-style-type: none"> • Development of a Centralised System for Proactive Follow-up (SCSP) of chronic patients.
Local Core Feature 2
<ul style="list-style-type: none"> • Deployment of "proactive follow-up" in healthcare centres.
Local Core Feature 3
<ul style="list-style-type: none"> • Monitor the corporate system for improving healthcare at home (SCSP+Teleconsultation).

Related original Good Practices and their Core Feature (s)		Digital Roadmap Towards an Integrated Health Care Sector (Region of South Denmark); B2-CF1 (Tele-COPD) and B2-CF6 (Geri Toolbox)			
Local Core Feature 1					
<ul style="list-style-type: none"> • Development of a Centralised System for Proactive Follow-up (SCSP) of chronic patients. 					
SMART objective					
By the end of 2022, a Centralised System for Proactive Follow-up (SCSP) of chronic patients that will allow gathering information from homecare healthcare professionals will be implemented (and which will also allow the connection with home/mobile health devices in the future).					
Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> • Tendering of the SCSP implementation. 	<ul style="list-style-type: none"> • Information and communication technology service (STIC). 	<ul style="list-style-type: none"> • Professionals from different settings 	<ul style="list-style-type: none"> • SAS 	<ul style="list-style-type: none"> • Process started in July 2021 (expected to be finalised by the end of 2021) 	<ul style="list-style-type: none"> • Tender awarded (Y/N).

	<ul style="list-style-type: none"> • General Directorate of Healthcare (DGAS). • Management unit 				
SCSP design.	<ul style="list-style-type: none"> • SAS staff, • Healthcare professionals, • IT experts. 	<ul style="list-style-type: none"> • Professionals from different settings 	<ul style="list-style-type: none"> • SAS 	<ul style="list-style-type: none"> • 3 months 	<ul style="list-style-type: none"> • Work plan accepted by SAS (Y/N). • Report on the technological environment drafted (Y/N). • Report on the functional analysis drafted (Y/N). • Training plan drafted (Y/N). • Knowledge transfer plan drafted (Y/N).
<ul style="list-style-type: none"> • SCSP development. 	<ul style="list-style-type: none"> • IT professionals. • Project researchers, • Project Manager, • Healthcare professionals. 	<ul style="list-style-type: none"> • Professionals from different settings, • IT infrastructure 	<ul style="list-style-type: none"> • SAS 	<ul style="list-style-type: none"> • 6 months 	<ul style="list-style-type: none"> • Supply and installation in the SAS corporate system of the starting components of the SCSP (Y/N). • Testing SCSP components (Y/N). <p>Solving the problems identified during the tests and adjustment of SCSP (Y/N).</p>

Local Core Feature 2					
<ul style="list-style-type: none"> • Deployment of "proactive follow-up" in primary healthcare centres. 					
SMART objective					
By the end of 2022, JADECARE Joint Action and expected outcomes among healthcare professionals will be carried out to promote data gathering and project development.					
Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> • Definition and selection of participating healthcare centres and teams. 	<ul style="list-style-type: none"> • General Directorate of Healthcare (DGAS). • Management unit. • PHC professionals, • Project researchers, • Project manager. 	<ul style="list-style-type: none"> • Professionals from different settings 	<ul style="list-style-type: none"> • SAS 	<ul style="list-style-type: none"> • 1 month 	<ul style="list-style-type: none"> • Selection of participating healthcare centres (Y/N)
<ul style="list-style-type: none"> • Training of healthcare professionals. 	<ul style="list-style-type: none"> • PHC professionals, • Project researchers, • Project manager. 	<ul style="list-style-type: none"> • Professionals from different settings. • SAS infrastructure. • Observatory of Innovative Practices for Complex Chronic Disease Management (OPIMEC) infrastructure 	<ul style="list-style-type: none"> • SAS 	<ul style="list-style-type: none"> • 3 months 	<ul style="list-style-type: none"> • N of awareness-raising sessions, • N of attendees to the awareness-raising sessions. • N of training sessions, • N of PHC professionals trained.

Patient selection	<ul style="list-style-type: none"> • PHC professionals, • Project researchers, • Project manager. 	<ul style="list-style-type: none"> • Professionals from different settings, • IT infrastructure 	<ul style="list-style-type: none"> • SAS 	<ul style="list-style-type: none"> • 1 month 	<ul style="list-style-type: none"> • N of cases selected \geq 500 (Y/N)
Local Core Feature 3					
<ul style="list-style-type: none"> • Monitor the corporate system for improving healthcare at home (SCSP+Teleconsultation). 					
SMART objective					
By Jun 2023, the assessment of the "proactive follow-up" will be carried out and the implementation report will be drafted and delivered.					
Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> • Definition of KPI. 	<ul style="list-style-type: none"> • PHC professionals, • IT professionals, • Project researchers, • Project manager. 	<ul style="list-style-type: none"> • Professionals from different settings, • IT infrastructure 	<ul style="list-style-type: none"> • SAS 	<ul style="list-style-type: none"> • 1 month 	<ul style="list-style-type: none"> • KPI defined (Y/N)
Data gathering.	<ul style="list-style-type: none"> • PHC professionals, • IT professionals, • Project researchers, • Project manager. 	<ul style="list-style-type: none"> • Professionals from different settings, • IT infrastructure 	<ul style="list-style-type: none"> • SAS 	<ul style="list-style-type: none"> • 6 months 	<ul style="list-style-type: none"> • Data gathered from followed patients (Y/N)
<ul style="list-style-type: none"> • Data assessment. 	<ul style="list-style-type: none"> • IT professionals, • Project researchers, • Project manager. 	<ul style="list-style-type: none"> • Professionals from different settings. 	<ul style="list-style-type: none"> • SAS 	<ul style="list-style-type: none"> • 3 months 	<ul style="list-style-type: none"> • Implementation report drafted and delivered (Y/N)

Implementation

1st PDSA cycle

QUESTIONS	DESCRIPTION
Step	PLAN, cycle 1
Date of the meeting	15/11/2021
Number and profile of the participants	1 Head of the ICT Development and Project (SAS), 1 representative of the Andalusian Care Plan (CSFJA), 1 Project manager (FPS), 1 Senior advisor (CSFJA).
Organizations involved	Regional Ministry of Health and Families of Andalusia (CSFJA) Andalusian Health Service (SAS) Andalusian Public Foundation Progress and Health (FPS)

LCF1		Centralised System for Proactive Follow-up (SCSP) of chronic patients.						
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Tendering of the SCSP implementation	<ul style="list-style-type: none"> Public tender for SCSP design and implementation 	Representatives of the: <ul style="list-style-type: none"> ICT unit (STIC) General Directorate of Healthcare (DGAS) Management unit 	<ul style="list-style-type: none"> 08/07/2021 to 31/12/2021 	<ul style="list-style-type: none"> Tender awarded (Y/N). 	<ul style="list-style-type: none"> Project Manager 	<ul style="list-style-type: none"> 31/12/2021 	<ul style="list-style-type: none"> Monitoring during the internal follow-up meetings 	<ul style="list-style-type: none"> Yes
SCSP design	<ul style="list-style-type: none"> Work plan development Report the technological environment Report the functional analysis Development of a training plan 	<ul style="list-style-type: none"> SAS staff Healthcare professionals IT experts 	<ul style="list-style-type: none"> 01/01/2021 to 31/03/2021 	<ul style="list-style-type: none"> Work plan accepted by SAS (Y/N). Report on the technological environment drafted (Y/N). 	<ul style="list-style-type: none"> Project Manager 	<ul style="list-style-type: none"> 31/03/2022 	<ul style="list-style-type: none"> Monitoring during the internal follow-up meetings 	<ul style="list-style-type: none"> Yes Yes Yes Yes

	<ul style="list-style-type: none"> Development of a knowledge transfer plan. 			<ul style="list-style-type: none"> Report on the functional analysis drafted (Y/N). Training plan drafted (Y/N). Knowledge transfer plan drafted (Y/N). 				
SCSP development.	<ul style="list-style-type: none"> Implementation of the starting components of the SCSP Test SCSP components. Solve and adjust the problems identified. 	<ul style="list-style-type: none"> IT professionals Project Manager Healthcare professionals 	<ul style="list-style-type: none"> 01/04/2022 to 30/06/2022 	<ul style="list-style-type: none"> Supply and installation in the SAS corporate system of the starting components of the SCSP (Y/N). Testing SCSP components (Y/N). 	<ul style="list-style-type: none"> Project Manager 	<ul style="list-style-type: none"> 31/05/2022 	<ul style="list-style-type: none"> Monitoring during the internal follow-up meetings 	<ul style="list-style-type: none"> Yes Yes Yes

				<ul style="list-style-type: none"> Solving the problems identified during the tests and adjustment of SCSP (Y/N). 				
<p>Definition and selection of participating healthcare centres and teams.</p>	<ul style="list-style-type: none"> Criteria definition for selecting collaborating healthcare centres. Identification of potential collaborating healthcare centres. Contact with potential collaborating healthcare centres. Criteria definition for selecting collaborating 	<ul style="list-style-type: none"> General Directorate of Healthcare (DGAS) Representative of the Andalusian Care Plan PHC professionals Project manager. 	<ul style="list-style-type: none"> 01/02/2022 to 01/03/2022 	<ul style="list-style-type: none"> Selection of participating healthcare centres (Y/N) 	<ul style="list-style-type: none"> Project Manager 	<ul style="list-style-type: none"> 01/03/2022 	<ul style="list-style-type: none"> Monitoring during the internal follow-up meetings 	<ul style="list-style-type: none"> Yes

	<p>healthcare teams.</p> <ul style="list-style-type: none"> • Identification of potential collaborating healthcare teams. • Contact with potential collaborating healthcare centres. • Selection of participating healthcare teams 							
<p>Training of healthcare professionals.</p>	<ul style="list-style-type: none"> • Healthcare professionals' training session 	<ul style="list-style-type: none"> • PHC professionals • Project researchers • Project manager 	<ul style="list-style-type: none"> • 01/03/2021 to 31/12/2021 	<ul style="list-style-type: none"> • N of Training / awareness-raising sessions, • N of attendees to the training / awareness-raising sessions. 	<ul style="list-style-type: none"> • Project Manager 	<ul style="list-style-type: none"> • 31/05/2021 	<ul style="list-style-type: none"> • Monitoring during the internal follow-up meetings 	<ul style="list-style-type: none"> • 2 sessions • 34 attendees to the sessions.

LCF2								
Teleconsultation (TC) for interprofessional referrals between primary and specialized (hospital based) healthcare for chronic patients' follow-up								
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Scale-up of teleconsultation system to the entire region.	<ul style="list-style-type: none"> Access to TC components within SAS corporate IT system. Testing TC components. Solving the problems identified during the tests and adjustment of TC. 	<ul style="list-style-type: none"> PHC professionals, IT professionals, Project manager. 	01/01/2022 to 31/12/2022	<ul style="list-style-type: none"> Supply and installation in the SAS corporate system of the starting components of the TC (Y/N). Testing TC components (Y/N). Solving the problems identified during the tests and adjustment of TC (Y/N). 	Project Manager	31/05/2022	Monitoring during the internal follow-up meetings	<ul style="list-style-type: none"> 50% 50% 50%

LCF3									
Monitor the corporate system for improving healthcare at home (SCSP+TC).									
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE					
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value	
Patient selection	<ul style="list-style-type: none"> Criteria definition Patient selection 	<ul style="list-style-type: none"> PHC professionals Representative of the Andalusian Care Strategy Representative of the Andalusian Comprehensive Healthcare Plan for Patients with Chronic Diseases Deputy Director for Social and Healthcare, Strategies and Plans 	<ul style="list-style-type: none"> 01/01/2022 to 01/02/2022 	<ul style="list-style-type: none"> N of cases selected \geq 500 (Y/N) 	<ul style="list-style-type: none"> Project Manager 	<ul style="list-style-type: none"> 01/02/2022 	<ul style="list-style-type: none"> Monitoring during the internal follow-up meetings 	<ul style="list-style-type: none"> 500 	

		<ul style="list-style-type: none"> Project manager 						
Definition of KPI.	<ul style="list-style-type: none"> Definition of KPI. 	<ul style="list-style-type: none"> PHC professionals, IT professionals, Project manager. 	<ul style="list-style-type: none"> 01/02/2022 to 01/03/2022 	<ul style="list-style-type: none"> KPI defined (Y/N) 	<ul style="list-style-type: none"> Project Manager 	<ul style="list-style-type: none"> 01/03/2022 	<ul style="list-style-type: none"> Monitoring during the internal follow-up meetings 	<ul style="list-style-type: none"> Yes

QUESTIONS	DESCRIPTION
Step	Do, cycle 1
Date of the meeting	11/03/2022
Number and profile of the participants	1 Head of the ICT Development and Projects (SAS), 1 Project manager (FPS), 1 Senior advisor (CSFJA),
Organizations involved	Regional Ministry of Health and Families of Andalusia (CSFJA) Andalusian Health Service (SAS) Andalusian Public Foundation Progress and Health (FPS)
QUESTIONS	DESCRIPTION
Organizations involved	Regional Ministry of Health and Families of Andalusia (CSFJA) Andalusian Health Service (SAS) Andalusian Public Foundation Progress and Health (FPS)
QUESTIONS	DESCRIPTION
Organizations involved	Regional Ministry of Health and Families of Andalusia (CSFJA) Andalusian Health Service (SAS) Andalusian Public Foundation Progress and Health (FPS)

LCF1: Centralised System for Proactive Follow-up (SCSP) of chronic patients. Cycle number (1 or 2)		1
Activity	KPI	Actual value
Tendering of the SCSP implementation	<ul style="list-style-type: none"> Tender awarded (Y/N) 	<ul style="list-style-type: none"> Yes
SCSP design	<ul style="list-style-type: none"> Work plan accepted by SAS (Y/N) Report on the technological environment drafted (Y/N) Report on the functional analysis drafted (Y/N) Training plan drafted (Y/N) Knowledge transfer plan drafted (Y/N) 	<ul style="list-style-type: none"> 80% of planned activities: Slight delay (1 month approx.) No mitigating action needed
Cycle number (1 or 2)		1
Activity	KPI	Actual value
SCSP development	<ul style="list-style-type: none"> Supply and installation in the SAS corporate system of the starting components of the SCSP (Y/N) Testing SCSP components (Y/N) Solving the problems identified during the tests and adjustment of SCSP (Y/N) 	<ul style="list-style-type: none"> 80% of planned activities: Slight delay (1 month approx.) No mitigating action needed (Target value 66% at 31/05/2022)
Definition and selection of participating healthcare centres and teams	<ul style="list-style-type: none"> Selection of participating healthcare centres (Y/N) 	<ul style="list-style-type: none"> 80% of planned activities: Slight delay (1 month approx.) No mitigating action needed

Training of healthcare professionals	<ul style="list-style-type: none"> • N of Training / awareness-raising sessions, • N of attendees to the training / awareness-raising sessions 	<ul style="list-style-type: none"> • 2 webinars were carried out • 373 attendees
LCF2: Teleconsultation (TC) for interprofessional referrals between primary and specialized (hospital based) healthcare for chronic patients' follow-up Cycle number (1 or 2)		1
Activity	KPI	Actual value
Scale-up of teleconsultation system to the entire region.	<ul style="list-style-type: none"> • Supply and installation in the SAS corporate system of the starting components of the TC (Y/N; 50% at 31/05/2022) • Testing TC components (Y/N; 50% at 31/05/2022) • Solving the problems identified during the tests and adjustment of TC (Y/N; 50% at 31/05/2022) 	<ul style="list-style-type: none"> • 50% • 50% • 50%

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LCF3: Monitor the corporate system for improving healthcare at home (SCSP+TC). Cycle number (1 or 2)		1
Activity	KPI	Actual value
Patient selection	<ul style="list-style-type: none"> N of cases selected ≥ 500 (Y/N) 	<ul style="list-style-type: none"> Yes
Cycle number (1 or 2)		1
Activity	KPI	Actual value
Definition of KPI	<ul style="list-style-type: none"> KPI defined (Y/N) 	<ul style="list-style-type: none"> Yes

QUESTIONS	ANSWERS
What was actually implemented? Any deviation from the planned actions	<ul style="list-style-type: none"> Most of the activities planned for the “Do step” of the 1st cycle were developed successfully. Short delay in development of LCF1(1month approx.), not affecting the LAP

Problems? Unexpected findings? Please describe	<ul style="list-style-type: none"> • No problems detected at this stage
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IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
	x		

QUESTIONS	DESCRIPTION
Step	Study, cycle 1
Date of the meeting	03/06/2022
Number and profile of the participants	1 representative of the Andalusian Care Plan (CSFJA), 1 Project manager (FPS), 1 Senior advisor (CSFJA),
Organizations involved	Regional Ministry of Health and Families of Andalusia (CSFJA) Andalusian Public Foundation Progress and Health (FPS)

QUESTIONS	DESCRIPTION
Step	Study, cycle 1
Date of the meeting	06/06/2022
Number and profile of the participants	1 Head of the ICT Development and Projects (SAS), 1 Project manager (FPS), 1 Senior advisor (CSFJA),

Organizations involved	Regional Ministry of Health and Families of Andalusia (CSFJA) Andalusian Health Service (SAS) Andalusian Public Foundation Progress and Health (FPS)
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LCF1: Centralised System for Proactive Follow-up (SCSP) of chronic patients.		1				
Cycle number (1or 2)						
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Tendering of the SCSP implementation	<ul style="list-style-type: none"> Tender awarded (Y/N) 		<ul style="list-style-type: none"> Yes 		<ul style="list-style-type: none"> Yes 	
SCSP design	<ul style="list-style-type: none"> Work plan accepted by SAS (Y/N) Report on the technological environment drafted (Y/N) Report on the functional analysis drafted (Y/N) Training plan drafted (Y/N) Knowledge transfer plan drafted (Y/N) 	<ul style="list-style-type: none"> Yes Yes Yes Yes Yes 	<ul style="list-style-type: none"> 80% of planned activities 	Slight delay (1 month approx.)	No mitigating action needed	

SCSP development	<ul style="list-style-type: none"> Supply and installation in the SAS corporate system of the starting components of the SCSP (Y/N) Testing SCSP components (Y/N) Solving the problems identified during the tests 	<ul style="list-style-type: none"> 80% of activities 	Slight delay (1 month approx.)	No mitigating action needed	
Definition and selection of participating healthcare centres and teams	<ul style="list-style-type: none"> Selection of participating healthcare centres (Y/N) 	<ul style="list-style-type: none"> Yes 	Slight delay (1 month approx.)	No mitigating action needed	

Training of healthcare professionals	<ul style="list-style-type: none"> • N of Training / awareness-raising sessions, • N of attendees to the training / awareness-raising sessions 	<ul style="list-style-type: none"> • 2 sessions • 34 attendees to the sessions. 	Face-to-face sessions were replaced by webinars that eased the participation of more healthcare professionals than expected.		
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LCF2: Teleconsultation (TC) for interprofessional referrals between primary and specialized (hospital based) healthcare for chronic patients' follow-up. Cycle number (1or 2)				1		
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Scale-up of teleconsultation system to the entire region.	<ul style="list-style-type: none"> • Supply and installation in the SAS corporate system of the starting components of the TC (Y/N) • Testing TC components (Y/N) 	<ul style="list-style-type: none"> • 50% • 50% • 50% 	<ul style="list-style-type: none"> • 50% • 50% • 50% 			

	<ul style="list-style-type: none"> Solving the problems identified during the tests and adjustment of TC (Y/N) 					
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LCF3: Monitor the corporate system for improving healthcare at home (SCSP+TC). Cycle number (1or 2)				1		
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Patient selection	<ul style="list-style-type: none"> N of cases selected \geq 500 (Y/N) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Yes 			
Definition of KPI	<ul style="list-style-type: none"> KPI defined (Y/N) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Yes 			

No. meetings	No. professionals involved	No. organizations represented
PLAN (Cycle 1)	1	4
DO (Cycle 1)	4	5
STUDY (Cycle 1)	2	4

1.1 ACT

QUESTIONS	DESCRIPTION
Step	PLAN, cycle 1
Date of the meeting	30/06/2022
Number and profile of the participants	1 Deputy Director for Social and Health Care, Strategies and Plan, 1 Head of the ICT Development and Project (SAS), 1 Senior advisor (CSFJA), 1 Project manager (FPS),
Organizations involved	Regional Ministry of Health and Families of Andalusia (CSFJA) Andalusian Health Service (SAS) Andalusian Public Foundation Progress and Health (FPS)

LCF1: Centralised System for Proactive Follow-up (SCSP) of chronic patients

Cycle number (1 or 2)	1		
Activity	Maintain	Adapt	Abandon
Tendering of the SCSP implementation	X		
SCSP design	X		

SCSP development	X		
Definition and selection of participating healthcare centres and teams	X		
Training of healthcare professionals	X		

QUESTIONS	ANSWERS
Any new proposed action for the future?	N/A

LCF2: Teleconsultation (TC) for interprofessional referrals between primary and specialized (hospital based) healthcare for chronic patients' follow-up

Cycle number (1 or 2)	1		
Activity	Maintain	Adapt	Abandon
Scale-up of teleconsultation system to the entire region.	X		

QUESTIONS	ANSWERS
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Any new proposed action for the future?	N/A
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LCF3: Monitor the corporate system for improving healthcare at home (SCSP+TC)

Cycle number (1 or 2)	1		
Activity	Maintain	Adapt	Abandon
Patient selection	X		
Definition of KPI	X		

QUESTIONS	ANSWERS
Any new proposed action for the future?	N/A

1.2 MEETINGS

STEP	No. meetings	No. professionals involved	No. organizations represented
PLAN (Cycle 1)	1	4	3
DO (Cycle 1)	4	5	3
STUDY (Cycle 1)	2	4	3
ACT (Cycle 1)	1	4	3

2nd PDSA Cycle

1.1 PLAN

QUESTIONS	DESCRIPTION
Step	PLAN, cycle 2
Date of the meeting	30/06/2022
Number and profile of the participants	1 Head of the ICT Development and Project (SAS), 1 Deputy Director for Social and Health Care, Strategies and Plan, 1 Project manager (FPS), 1 Senior advisor (CSFJA),
Organizations involved	Regional Ministry of Health and Families of Andalusia (CSFJA) Andalusian Health Service (SAS) Andalusian Public Foundation Progress and Health (FPS)

QUESTIONS	DESCRIPTION
Step	PLAN, cycle 2
Date of the meeting	29/09/2022
Number and profile of the participants	1 Head of the ICT Development and Project (SAS), 1 Deputy Director for Social and Health Care, Strategies and Plan, 1 Project manager (FPS), 1 Senior advisor (CSFJA),

Organizations involved	Regional Ministry of Health and Families of Andalusia (CSFJA) Andalusian Health Service (SAS) Andalusian Public Foundation Progress and Health (FPS)
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LCF1	Centralised System for Proactive Follow-up (SCSP) of chronic patients. ²							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
SCSP development.	<ul style="list-style-type: none"> Implementation of the starting components of the SCSP Test SCSP components. Solve and adjust the problems identified. 	<ul style="list-style-type: none"> IT professionals Project Manager Healthcare professionals 	<ul style="list-style-type: none"> 30/06/2022 to 31/10/2022 	<ul style="list-style-type: none"> Supply and installation in the SAS corporate system of the starting components of the SCSP (Y/N). Testing SCSP 	<ul style="list-style-type: none"> Project Manager 	<ul style="list-style-type: none"> 01/11/2022 	<ul style="list-style-type: none"> Monitoring during the internal follow-up meetings 	<ul style="list-style-type: none"> Yes Yes Yes

² There is a 3-months delay due to problems occurred during the implementation process of the new platform in the SAS corporate system

				<p>components (Y/N).</p> <ul style="list-style-type: none"> Solving the problems identified during the tests and adjustment of SCSP (Y/N). 				
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LCF2								
Teleconsultation (TC) for interprofessional referrals between primary and specialized (hospital based) healthcare for chronic patients' follow-up								
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Scale-up of teleconsultation system to the entire region.	<ul style="list-style-type: none"> Access to TC components within SAS corporate IT system. Testing TC components. 	<ul style="list-style-type: none"> PHC professionals, IT professionals, Project manager. 	<ul style="list-style-type: none"> 01/01/2022 to 31/12/2022 	<ul style="list-style-type: none"> Supply and installation in the SAS corporate system of the starting components 	<ul style="list-style-type: none"> Project Manager 	<ul style="list-style-type: none"> 31/12/2022 	<ul style="list-style-type: none"> Monitoring during the internal follow-up meetings 	<ul style="list-style-type: none"> 100% 100% 100%

	<ul style="list-style-type: none"> Solving the problems identified during the tests and adjustment of TC. 			<ul style="list-style-type: none"> of the TC (Y/N). Testing TC components (Y/N). Solving the problems identified during the tests and adjustment of TC (Y/N). 				
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LCF3								
Monitor the corporate system for improving healthcare at home (SCSP+TC)³.								
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Data gathering.	<ul style="list-style-type: none"> Data gathering from 	<ul style="list-style-type: none"> PHC professionals, 	<ul style="list-style-type: none"> 01/11/2022 to 31/03/2023 	<ul style="list-style-type: none"> Data gathered from followed patients (Y/N) 	<ul style="list-style-type: none"> Project Manager 	<ul style="list-style-type: none"> 01/04/2023 	<ul style="list-style-type: none"> Monitoring during the 	<ul style="list-style-type: none"> Yes

³ There is a 3-months delay due to problems occurred during the implementation process of the new platform in the SAS corporate system, so this activity have also a 3 months delay.

	Corporate IT system.	<ul style="list-style-type: none"> IT professionals, Project researchers, Project manager. 					internal follow-up meetings	
Data assessment.	<ul style="list-style-type: none"> Development of an evaluation model Data assessment. 	<ul style="list-style-type: none"> IT professionals, Project researchers, Project manager. 	<ul style="list-style-type: none"> 01/04/2023 to 30/06/2023 	<ul style="list-style-type: none"> Implementation report drafted and delivered (Y/N) 	<ul style="list-style-type: none"> Project Manager 	<ul style="list-style-type: none"> 01/07/2023 	<ul style="list-style-type: none"> Monitoring during the internal follow-up meetings 	<ul style="list-style-type: none"> Yes

STEP	No. meetings	No. professionals involved	No. organizations represented
PLAN (Cycle 1)	1	4	3
DO (Cycle 1)	4	5	3
STUDY (Cycle 1)	2	4	3
ACT (Cycle 1)	2	4	3

Post-implementation

SQUIRE 2.0 guidelines

Title and Abstract	
ITEM	ANSWER
Title	Improving healthcare at home for complex chronic patients (CCPs), including proactive follow-up, in Andalusia
Abstract	<p>The Andalusian local good practice is based on the components Tele-COPD (CF1) of the Danish good practice and is aligned to the "Andalusian Comprehensive Healthcare Plan for Patients with Chronic Diseases", the "Andalusian Integrated Care Process 'Healthcare for Multimorbidity Patients'", the "Andalusian Comprehensive Care Plan" and the "Chronic Patients Proactive Monitoring" in Primary Healthcare Plan.</p> <p>Thus, to improve the healthcare at home of complex chronic patients, a Centralised System for Proactive Follow-up (CSPFU) that will allow to gather information from healthcare professionals when attending CCPs at home has been developed and integrated within the corporate IT system (Diraya). The collected data are uploaded to Diraya/Patient EHR. The platform will be a key element for healthcare professionals in the proactive and remote monitoring of chronic patients, by mean of the early identification of warning signs/signals, the adaptation of prescriptions, the anticipation of health problems, providing support to caregivers, avoiding unplanned inpatient episodes, etc.</p> <p>Besides, the Andalusian teleconsultation (TC) platform is also used to facilitate the communication between healthcare professionals, mainly between primary and hospital healthcare professionals, so it will be also included in the assessment.</p> <p>In summary, the CSPFU and TC will facilitate the patient follow-up, will improve the continuity of care by healthcare professionals and improve patient's quality of life.</p>

Why did you start?	
ITEM	ANSWER
Problem description	<p>The Andalusian Public Healthcare System (Servicio Andaluz de Salud -SAS-) is responsible for the provision of universal health care in the region, with two levels of care: (i) primary health care, which forms the backbone of the system and is provided in 1513 centres (411 main ones) grouped in 34 health districts, the managerial unit for this level of care, throughout the region; and (ii) specialized care of diverse complexity, which is available in 50 public hospitals including specialised outpatient care.</p> <p>Andalusia, with a population of 8.4 million and a life expectancy reaching on average 82.22 years (79.57-males and 84.85-females), as well as other European countries, faces a rapid increase in their population living with chronic conditions, which puts a high pressure on their health systems. Multimorbidity (defined as the coexistence of several chronic conditions in the same individual) has become in one of the most important challenge for healthcare system that must be tackled.</p> <p>In Andalusia, people with chronic conditions represent the main reason for all primary healthcare appointments (50% doctor appointments and 68% if we add the nurses appointments). Moreover, more than 60% of inpatient days are due to people with chronic conditions. In this context, 404,092 complex chronic patients (patients with chronic severe health problems, multimorbidity and polypharmacy were identified in 2022. complex chronic patients (CCP) correspond to 5% of the whole people included in the User database (BDU) of Andalusia and consume up to 30% of primary healthcare and hospital resources.</p> <p>Healthcare is mainly provided in primary healthcare centres and hospitals, while home-care is given usually in a reactive way. Proactive care at home is an area of improvement in our system.</p>

<p>Available knowledge</p>	<p>Multimorbid patients usually have complex health needs. However, there is still a focus on traditional disease-oriented approaches, so most healthcare systems are designed around single diseases approach. Thus, these patients often receive a fragmented form of care, leading to inefficient, contradictory and even potentially harmful clinical interventions. They are often exposed to complex drug regimens, which increase the risk drug–drug interactions, adverse drug reactions and, therefore, poor treatment adherence. Compared to patients with single chronic disease, multimorbid patients more often have problems related to self-care, and quality of life. Even more, multimorbidity is more prevalent among socially disadvantaged population groups, so a system failure providing appropriate care have a deep impact on citizens equity. Therefore, multimorbid patients need specialized care, inter-sectoral coordination as well as collaboration between primary care and specialized care which leads to a challenging care and treatment.</p> <p>Thus, integrated care programs are needed for people with multimorbidity. This kind of programs support patient involvement thanks to the development of individual care plans, tailored to the patient needs, explicitly involving informal carers and establishing multidisciplinary and cross-sectoral synergies. Some integrated care programs for multimorbidity have been developed and implemented during the past years to address this problem (the NICE guideline for the clinical management of multimorbidity, the WHO document on Integrated care Models, among others). However, most of the models have been tested in small populations and have not been implemented in real-life conditions, or without considering relevant dimensions (for example social and community resources), not providing comprehensive frameworks adaptable to different scenarios. Thus, although some results suggested that these approaches might increase patient satisfaction, health-related quality of life, and functioning, there is limited evidence on their real outcomes.</p> <p>Moreover, the Joint Action CHRODIS (JA on chronic diseases and promoting healthy ageing across the life cycle) and CHRODIS-PLUS (implementing good practices for chronic diseases) recently developed and assessed the Integrated Multimorbidity Care Model (IMCM) in different healthcare settings in Europe following a common implementation methodology. They found an improvement in the quality of care from the perspective of patients and healthcare managers and highlighted the benefits of a comprehensive approach to multimorbidity care and the need to integrate the model in National Health Systems to lessen the burden of multimorbidity for patients, healthcare managers and stakeholders.</p>
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Why did you start?	
ITEM	ANSWER
	<p>Heart failure (HF) and chronic obstructive pulmonary disease (COPD) are some of the most common chronic diseases in patients with multimorbidity.</p> <p>In recent years, there has been a growing number of studies on the use of telehealth in the management patients with HF and/or COPD. The focus of most of most of these studies has been to investigate the effect telehealth system on self-disease management, health-related outcomes and health systems resource consumption. The studies provide evidence of improved health outcomes and cost-effectiveness that supports the use of telehealth. However, there is limited evidence of their effectiveness in real-life conditions, so additional research to assess the effectiveness of telehealth in the management of multimorbid patients is still needed.</p> <p>Within JADECARE, TeleCOPD core feature (CF1) of the Danish good practice includes the proactive follow-up of COPD patients at home, and that showed benefits for patients, their caregivers as well as for the healthcare system.</p>
Rationale	<p>Self-management of patients with multimorbidity can contribute to improve their health outcomes. However, these patients usually have to cope with recommendations from disease-specific guidelines that may hamper their care. Therefore, their self-management is still challenging.</p> <p>The use of information and communication technologies to follow-up and/or monitor patients' health status while they are at home is a promising approach. This approach allows healthcare services to review patients' clinical data (heart rate, oxygen saturation, among others) more regularly and, thus, health issues can be quickly identified and addressed, aiming to improve clinical outcomes, greater patient self-management and reduce the consumption of healthcare resources. Healthcare evolves for a reactive care to a proactive follow-up.</p> <p>Given de available knowledge, the design, implementation and test of tele-health in CCPs, particularly those with HF and/or COPD is a topic of utmost interest.</p> <p>Thus, based on the component TeleCOPD of the Danish original good practice, its adaptation to the Andalusian setting was envisaged to address the healthcare at home for CCPs taking into account the Andalusian Strategies and Plans already in place.</p>

Why did you start?	
ITEM	ANSWER
Specific aims	Improve health status and quality of life of CCPs by enhancing home healthcare proactive follow-up and its evaluation.

What did you do?	
ITEM	ANSWER
Context	<p>As other healthcare services, one of the SAS main focus is patients with chronic diseases. This is reflected in the service portfolio at all levels of care (primary healthcare, outpatient care and hospital care), and in the implementation of tools aimed at facilitating accessibility, continuity of care and self-management of patients' own health condition. SAS has also responded to the new needs of the citizens, promoting the development of new healthcare professional skills and new spaces for healthcare that become closer and more accessible, which ease the care of each patient while support their caregivers.</p> <p>In this context, the Andalusian Comprehensive Healthcare Plan for Patients with Chronic Diseases and the Andalusian Comprehensive Care Strategy aim to guarantee the comprehensive and integrated healthcare of chronic patients with a multidisciplinary response that each patient need, including the health promotion and disease prevention, healthcare in decompensation episodes and functional rehabilitation.</p> <p>On the other hand, the "Primary Healthcare Strategy. Strategic Plan 2020-2022" of the SAS defines the structural measures on which Primary healthcare should be based in Andalusia in the coming years. In this strategy, special emphasis on CCP is stated. Thus, its measure No. 3 ("Attention to chronicity, socio-sanitary, mental health and support in palliative care") includes the "Proactive follow-up" of chronic patients, with special emphasis on those with complex chronicity (CCP).</p> <p>CCP correspond to 5% (404,092 people) of the whole people included in the User database (BDU) of Andalusia (8.8 million approx.). Among CCP, patient with HF and/or COPD have been prioritized (also called "prioritized complex chronic patients" or PCCP) by SAS. Prioritized complex chronic patients correspond to 50% of CCP (200,700 people). Special attention is paid to PCCPs that meet the following criteria:</p>

What did you do?	
ITEM	ANSWER
	<ul style="list-style-type: none"> • recent hospital discharge, • being in a clinical situation of instability, decompensation, or at risk • require immediate response and subsequent continuous monitoring. <p>The forecast is to extend this follow-up to the rest of the CCP (also called "Other Complex Chronic patients" or OCCP).</p> <p>Within the framework of JADECARE, the SWOT analysis identified the following main findings:</p> <ul style="list-style-type: none"> • STRENGTHS <ul style="list-style-type: none"> ○ Existence of a corporative and integrated information System with a shared electronic health record available throughout the APHS, accessible to patients through on-line secure login. ○ Several strategic lines, initiatives and projects based on ICT solutions in place that match elements of the Danish good practice chosen in the scope definition that will help in its implementation. ○ Availability of technical-functional capacity to undertake projects. ○ Existence of an Andalusian Care Model/Project for complex chronic patients, including tools. • WEAKNESSES <ul style="list-style-type: none"> ○ The ICT culture of healthcare professionals (HCP) is not homogeneous. ○ Resource constraints, including lack of time of HCP. ○ Andalusia covers a large territory. ○ The current healthcare model is not adequate for the management of chronicity and long-term care and HCP vary in the solutions needed to address the identified problems. • OPPORTUNITIES <ul style="list-style-type: none"> ○ Participation in European initiatives, existence of funds that help to improve/evolve the technological elements/ICT solutions and initiatives in the field of chronic patient management aligned with the priorities of the healthcare system.

What did you do?															
ITEM	ANSWER														
	<ul style="list-style-type: none"> o Patients/population demand new forms of healthcare (expectations of users regarding the available technology). o Possibility of knowledge exchange in the management of chronic patients within a changing environment. o The change/progress in the use of new technologies that the pandemic has led. <ul style="list-style-type: none"> • THREATS <ul style="list-style-type: none"> o Economic situation after the COVID-19 pandemic. o Difficulty getting projects started (bureaucracy, COVID-19 pandemic, etc.). o Difficulty in handling ICT tools by older patients; Resistance to change of patients. o Feeling of loss of the "person (patient, relative)-healthcare professional" relationship. <p>After that, some strategic intervention areas were defined and prioritized:</p> <table border="1"> <thead> <tr> <th>Strategic intervention area</th> <th>Ranking</th> </tr> </thead> <tbody> <tr> <td>Improve / adapt the Andalusian care model for chronic patients.</td> <td>1</td> </tr> <tr> <td>Strengthen home care within the Andalusian Comprehensive Healthcare Plan for Patients with Chronic Diseases.</td> <td>2</td> </tr> <tr> <td>Develop an assessment model for health outcomes of the use of ICT tools in chronic patients' healthcare.</td> <td>3</td> </tr> <tr> <td>Healthcare professionals training: <ul style="list-style-type: none"> • on available tools for the care and management of chronic patients, • to improve healthcare professional-patient relationship. </td> <td>4</td> </tr> <tr> <td>Development of an assessment model for home care.</td> <td>5</td> </tr> <tr> <td>Develop a strategy to produce acceptable, relevant and easy-to-use ICT tools to improve healthcare professional-patient relationship.</td> <td>6</td> </tr> </tbody> </table>	Strategic intervention area	Ranking	Improve / adapt the Andalusian care model for chronic patients.	1	Strengthen home care within the Andalusian Comprehensive Healthcare Plan for Patients with Chronic Diseases.	2	Develop an assessment model for health outcomes of the use of ICT tools in chronic patients' healthcare.	3	Healthcare professionals training: <ul style="list-style-type: none"> • on available tools for the care and management of chronic patients, • to improve healthcare professional-patient relationship. 	4	Development of an assessment model for home care.	5	Develop a strategy to produce acceptable, relevant and easy-to-use ICT tools to improve healthcare professional-patient relationship.	6
Strategic intervention area	Ranking														
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Develop a strategy to produce acceptable, relevant and easy-to-use ICT tools to improve healthcare professional-patient relationship.	6														

What did you do?	
ITEM	ANSWER
Intervention(s)	<ul style="list-style-type: none"> • Target Population: Prioritized complex chronic patients in Andalusia (200,700 patients). • Setting: SAS, in particular, at primary healthcare level. • Intervention: <p>The Andalusian local good practice is based on the components Tele-COPD (CF1) of the Danish good practice and is aligned to the "Andalusian Comprehensive Healthcare Plan for Patients with Chronic Diseases", the "Andalusian Integrated Care Process 'Healthcare for Multimorbidity Patients'", the "Andalusian Comprehensive Care Plan" and the "Chronic Patients 'Proactive Monitoring' in Primary Healthcare Plan.</p> <p>Thus, to improve the healthcare at home of complex chronic patients, a Centralised System for Proactive Follow-up (CSPFU) that will allow to gather information from homecare professionals when attending CCPs at home has been developed and integrated within the corporate IT system (Diraya). The collected data are uploaded to Diraya/Patient EHR. The platform will be a key element for healthcare professionals in the proactive and remote monitoring of chronic patients, by mean of the early identification of warning signs/signals, the adaptation of prescriptions, the anticipation of health problems, providing support to caregivers, avoiding unplanned inpatient episodes, etc.</p> <p>Besides, the Andalusian teleconsultation (TC) platform is also used to facilitate the communication between healthcare professionals (mainly between primary and hospital healthcare professionals) so it will be also included in the assessment.</p> <p>In summary, the CSPFU and TC will facilitate the patient follow-up, will improve the continuity of care by healthcare professionals and improve patient's quality of life.</p> • Local Core features: <ul style="list-style-type: none"> o LCF1: Centralised System for Proactive Follow-up (CSPFU) of chronic patients. SMART objective: By the end of 2022, a Centralised System for Proactive Follow-up (CSPFU) of chronic patients that will allow gathering information from homecare healthcare professionals will be implemented (and which will also allow the connection with home/mobile health devices in the future).

What did you do?	
ITEM	ANSWER
	<ul style="list-style-type: none"> o LCF2: Teleconsultation (TC) for interprofessional referrals between primary and specialized healthcare (hospital based) for chronic patients' follow-up SMART objective: By the end of 2022, a teleconsultation (TC) for interprofessional referrals between primary and specialized hospital-based healthcare professional for chronic patients' follow-up that will improve the continuity of care between healthcare levels and a better coordination among healthcare professionals, avoiding unnecessary patients' travels. o LCF3: Monitor the corporate system for improving healthcare at home (CSPFU+TC). SMART objective: By Jun 2023, the assessment of the "proactive follow-up" will be carried out and the implementation report will be drafted and delivered. <p>The Andalusian working group (local NAWG) is composed of professionals from the APHS and was defined initially as follows:</p> <ul style="list-style-type: none"> • Deputy Director for Social and Health Care, Strategies and Plan (Regional Ministry of Health and Consumers Affairs of Andalusia-CSCJA); • Deputy Director for Healthcare Management (Andalusian Public Health Service, SAS); • Deputy Director for Primary Healthcare Coordination (SAS); • Deputy Director for ICT (SAS); • Chief of Unit for Health Strategies and Plans (CSCJA); • Chief of Unit for Citizens' Care Management (SAS); • Chief of Unit for Information Systems Coordination (SAS); • Deputy Director for ICT (SAS/FPS); • Andalusian Care Plan (SAS); • Project manager/research assistant (Progress and Health Foundation); • Senior Advisor (CSCJA); <p>This NAWG has been completed with other specific profiles according to the needs of the project during its development, including:</p> <ul style="list-style-type: none"> • Head of the ICT Development and Projects (SAS);

What did you do?	
ITEM	ANSWER
	<ul style="list-style-type: none"> • Representative of the Andalusian Care Plan (CSCJA); • Chief of Unit for Strategies and Health Plans (CSCJA); • Deputy Director of Information Management (SAS);
Study of the Intervention(s)	<p>At the time of initial evaluation, the development of evaluation of the Andalusian pilot included:</p> <ul style="list-style-type: none"> • Geographic coverage: <ul style="list-style-type: none"> o CCP (both prioritised and non-prioritised) per primary healthcare centre (PHC). • Process indicators: <ul style="list-style-type: none"> o CCP within the proactive follow-up programme o CCP within the teleconsultation programme o Teleconsultations per hospital and healthcare specialty area • Health outcomes indicators: <ul style="list-style-type: none"> o Unplanned hospitalisation potentially preventable: It has been selected as main health outcome indicator of the intervention, following the recommendations from the report by the Spanish Ministry of Health, Social Services and Equality "Proposal of indicators for the assessment of multimorbid patients care in the framework of the strategy for tackling the chronicity within the Spanish National Health System" (2016). o Together with this indicator, the following additional ones have been analysed: <ul style="list-style-type: none"> ▪ Inpatient episodes ▪ Family physicians' visits at PHC ▪ Family physicians' home-visits ▪ Family nurses' visits at PHC ▪ Family nurses' home-visits ▪ Emergency episodes at PHC ▪ Emergency episodes at hospitals ▪ Outpatient visits

What did you do?	
ITEM	ANSWER
Measures	<p>The Key Performance indicators of each LCF were:</p> <ul style="list-style-type: none"> • LCF1: Centralised System for Proactive Follow-up (CSPFU) of chronic patients: <ul style="list-style-type: none"> ○ Tender awarded (Y/N). ○ Work plan accepted by SAS (Y/N). ○ Report on the technological environment drafted (Y/N). ○ Report on the functional analysis drafted (Y/N). ○ Training plan drafted (Y/N). ○ Knowledge transfer plan drafted (Y/N). ○ Supply and installation in the SAS corporate system of the starting components of the CSPFU (Y/N). ○ Testing CSPFU components (Y/N). ○ Solving the problems identified during the tests and adjustment of CSPFU (Y/N). ○ Selection of participating healthcare centres (Y/N) ○ N of awareness-raising sessions, ○ N of attendees to the awareness-raising sessions. ○ N of training sessions, ○ N of PHC professionals trained. • LCF2: Teleconsultation (TC) for interprofessional referrals between primary and specialized healthcare (hospital based) for chronic patients' follow-up: <ul style="list-style-type: none"> ○ Supply and installation in the SAS corporate system of the starting components of the TC (Y/N). ○ Testing TC components (Y/N). ○ Solving the problems identified during the tests and adjustment of TC (Y/N). • LCF3: Monitor the corporate system for improving healthcare at home (CSPFU+TC): <ul style="list-style-type: none"> ○ N of cases selected \geq 500 (Y/N) ○ KPI defined (Y/N) ○ Data gathered from followed patients (Y/N)

What did you do?	
ITEM	ANSWER
	<ul style="list-style-type: none"> o Implementation report drafted and delivered (Y/N)
Analysis	<p>Different analysis have been performed, including quantitative and qualitative ones.</p> <ol style="list-style-type: none"> 1) Geographic coverage: Overview of PHC centres, primary health Districts and hospitals of the patients included in the pilot. 2) Awareness sessions: Review of summaries from the reports of the sessions held. 3) Process indicators: Process outcomes data have been retrieved by request to the Information Management Unit of the SAS. Data has been analysed in an aggregated way. 4) Health outcomes/utilization assessment: Health outcomes data have been retrieved from patients' electronic health records stored within the corporate IT system and has been analysed in an aggregated way. Total number for each indicator for years 2021 and 2022 have been calculated, and comparisons between the increments are described.

What did you find?	
ITEM	ANSWER
Results	<p><u>LCF1: CENTRALISED SYSTEM FOR PROACTIVE FOLLOW-UP (CSPFU) OF CHRONIC PATIENTS.</u></p> <p>CSPFU. Tendering, design, development and implementation of the new system</p> <p>Although the first activities were developed as expected (the tender process was carried out as planned and there was only a 1-month delay in the CSPFU design and development stages), unexpected problems arose during the integration between the solution developed for the Centralised System for Proactive Follow-up and pre-existing corporate IT system (Diraya). Therefore, an in-depth assessment of</p>

	<p>the identified problems and subsequent new tests had to be carried out, resulting in a 6-months delay (it is expected that the CSPFU will be fully adjusted in early summer 2023).</p> <p>In the field of training of healthcare professionals, face-to-face sessions were replaced by webinars that eased the participation of more healthcare professionals than expected (ten times higher). Besides, a subject on "Strategies for proactive follow-up of complex chronic patients" was included within the course "Telemedicine for the healthcare of patients with complex chronic diseases" (data on participating healthcare professionals are not yet available) that took place November 2022.</p> <p><u>LCF2: TELECONSULTATION (TC) FOR INTERPROFESSIONAL REFERRALS BETWEEN PRIMARY AND SPECIALIZED (HOSPITAL BASED) HEALTHCARE FOR CHRONIC PATIENTS' FOLLOW-UP.</u></p> <p>Scale-up of teleconsultation system to the entire region was carried out as expected, so any mitigation actions were needed.</p> <p><u>LCF3: MONITOR THE CORPORATE SYSTEM FOR IMPROVING HEALTHCARE AT HOME (CSPFU+TC).</u></p> <p>Data on healthcare utilisation were supplied by the General Directorate of Information Management of the Andalusian Health Service.</p> <p>The pilot includes all PCCP identified in 2022, all Andalusian healthcare districts (34), 72,4% of PHC and 88,2% of hospitals.</p> <p>404,092 complex chronic patients -CCP- (patients with chronic severe health problems, multimorbidity and polypharmacy) were identified in 2022. 49,7% corresponds to the target population of the pilot: prioritized complex chronic patients -PCCP- (patient with HF and/or COPD that meet the following criteria: recent hospital discharge, being in a clinical situation of instability, decompensation or at risk, and or require immediate response and subsequent continuous monitoring).</p> <p>Data on teleconsultation programme were collected without problems.</p> <p>In 2022, 11,6% of PCCP (23.369) were included in the teleconsultation programme. Almost 90% of TC were related to 10 specialty areas, being the most demanded Dermatology, Cardiology, Rehabilitation, Digestive System, Trauma and Orthopaedic Surgery, accounting for almost 70% of all of them. Data from</p>
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this programme is only available since January 2002, so comparisons with previous data cannot be carried out.

Data on the CSPFU digital platform were no available due to the six-month delay in the implementation process. To overcome this situation, the assessment has been performed based on surrogate data coming from the proactive follow-up programme of complex chronic patients performed directly in the eHR without the new digital platform. This programme was initiated in 2021 and it is currently available within Diraya.

39,5% of identified PCCP (79358) were included within the Proactive Follow-Up programme (surrogate) in 2022. As this programme started in 2021, around 3% of PCCP (5852) identified in 2022 were enrolled in the programme the year before.

Hospitalisation data for December 2022 were not available at the time this report was finished. Thus, for comparative purposes, a linear extrapolation was carried out on 2022 2nd semester data.

Comparing 2021 and 2022 health outcomes/utilization indicators for all PCCP identified in 2022, a decrease in visits at PHC was observed, both at family physicians' and nurses' levels, as well as outpatient visits level. On the contrary, significant increases were observed in home visits (by family physicians and family nurses), emergency episodes (both at PHC and at hospitals) and a small increase in unplanned inpatient episodes. Total number of inpatient episodes remained almost steady.

In the case of PCCP with proactive follow-up, major decrease in outpatient visits is observed, but most indicators show an increment, particularly home visits, both by family physicians and nurses.

Regarding PCCP with teleconsultation, the decrease in outpatient visits is less and all the rest of indicators show bigger increments

When analysing the rates of utilization (use divided by population), all indicators show an intensive use by PCCP compared to general population was observed, being included in PFU or TC or not, except for the rate of outpatient visits, which is lower than the general population, and less for the PCCP included in programmes that for those not included. Nurses visits in PHC and at home are higher in the case of PCCP with PFU.

All collected data are shown below.

Table 0: Training of healthcare professionals on the Proactive Follow-Up programme.

	2022
Awareness-raising sessions (Webinars)	2
Attendees to the awareness-raising sessions	373

Table 1: Complex chronic patients identified in Andalusia in 2022.

	2022	
	Prioritized complex chronic patients (PCCP)	Other Complex Chronic patients (OCCP)
Complex chronic patients (CCP)	200.700	203.392
	404.092	

Table 2: Coverage of the Andalusian pilot.

Geographic coverage	Pilot	Total Andalusia	Coverage
Healthcare Districts	34	34	100,0%
Primary healthcare centres (PHC)	1.095	1.513	72,4%
Hospitals	45	51	88,2%

Table 3: PCCP identified in 2022 that were enrolled in the Proactive Follow-Up programme.

	2021		2022	
	1st Semester	2nd Semester	1st Semester	2nd Semester
PCCP enrolled in the Proactive Follow-Up programme	770	5.082	28.641	50.717
Total		5.852		79.358

Table 4: PCCP identified in 2022 that were included in the Teleconsultation programme.

	2022	
	1st Semester	2nd Semester
PCCP included in the Teleconsultation programme	11.742	11.627
Total		23.369

Table 5: Teleconsultations carried-out to PCCP per specialty area.

Specialty Area	Number of TC	%
Dermatology	8.026	34,3%
Cardiology	2.777	11,9%
Rehabilitation	2.259	9,7%
Digestive System	1.500	6,4%
Trauma and orthopaedic surgery	1.428	6,1%
Internal medicine	1.273	5,4%
Pneumology	1.204	5,2%
Endocrinology	1.050	4,5%
Nephology	776	3,3%
Neurology	689	2,9%
Others	2.387	10,2%

Table 6.a: Healthcare utilization indicators of prioritized complex chronic patients.

	PCCP		
	2021	2022	(2022-2021)/2021 (%)
Unplanned hospitalisation potentially preventable	54.946	56.883*	3,52%
Inpatient episodes	69.234	69.793*	0,81%
Family physicians' visits at PHC	2.277.017	2.066.083	-9,26%
Family physicians' home-visits	156.732	218.519	39,42%
Family nurses' visits at PHC	2.242.849	2.136.136	-4,76%
Family nurses' home-visits	768.038	900.909	17,30%
Emergency episodes at PHC	217.275	232.109	6,83%
Emergency episodes at hospitals	240.661	256.771	6,69%
Outpatient visits	130.981	117.351	-10,41%

*Data from December 2022 was not available at the time this report was finished. Thus, for comparative purposes, a linear extrapolation was carried out on 2022 2nd semester data.

PCCP: prioritized complex chronic patients.

Table 6.b: Healthcare utilization indicators of prioritized complex chronic patients enrolled in the proactive follow-Up programme.

	PCCP+PFU		
	2021	2022	(2022-2021)/2021 (%)
Unplanned hospitalisation potentially preventable	20.249	23.575	16,43%
Inpatient episodes	25.567	29.100	13,82%
Family physicians' visits at PHC	910.741	894.472	-1,79%
Family physicians' home-visits	74.411	122.298	64,35%
Family nurses' visits at PHC	963.518	1.075.890	11,66%
Family nurses' home-visits	373.097	546.759	46,55%
Emergency episodes at PHC	86.492	100.563	16,27%
Emergency episodes at hospitals	78.647	91.719	16,62%
Outpatient visits	32.160	14.717	-54,24%

*Data from December 2022 was not available at the time this report was finished. Thus, for comparative purposes, a linear extrapolation was carried out on 2022 2nd semester data.

PCCP: prioritized complex chronic patients; PFU: Proactive follow-up programme (surrogate).

Table 6.c: Healthcare utilization indicators of prioritized complex chronic patients enrolled in the teleconsultation programme.

	PCCP+TC		
	2021	2022	(2022-2021)/2021 (%)
Unplanned hospitalisation potentially preventable	5.456	7.087	29,90%
Inpatient episodes	7.053	8.709	23,49%
Family physicians' visits at PHC	282.646	305.936	8,24%
Family physicians' home-visits	15.837	29.275	84,85%
Family nurses' visits at PHC	264.292	289.445	9,52%
Family nurses' home-visits	71.590	107.485	50,14%
Emergency episodes at PHC	25.488	29.490	15,70%
Emergency episodes at hospitals	14.926	19.082	27,84%
Outpatient visits	11.165	7.618	-31,77%

*Data from December 2022 was not available at the time this report was finished. Thus, for comparative purposes, a linear extrapolation was carried out on 2022 2nd semester data.

PCCP: prioritized complex chronic patients; TC: Teleconsultation programme

Table 7: Frequency of use*. General population (Andalusia) - PCCP - PCCP+PFU - PCCP+TC

Healthcare actions	Andalusia	PCCP ¹		PCCP+PFU ²		PCCP+TC ³	
	2021	2021	2022	2021	2022	2021	2022
Unplanned hospitalisation potentially preventable	0,039	0,274	0,283	0,255	0,297	0,233	0,303
Inpatient episodes	0,055	0,345	0,348	0,322	0,367	0,302	0,373
Family physicians' visits at PHC	4,939	11,345	10,294	11,476	11,271	12,095	13,092
Family physicians' home-visits	0,103	0,781	1,089	0,938	1,541	0,678	1,253
Family nurses' visits at PHC	4,533	11,175	10,643	12,141	13,557	11,310	12,386
Family nurses' home-visits	0,377	3,827	4,489	4,701	6,890	3,063	4,599
Emergency episodes at PHC	0,631	1,083	1,156	1,090	1,267	1,091	1,262
Emergency episodes at hospitals	0,471	1,199	1,279	0,991	1,156	0,639	0,817
Outpatient visits	1,541	0,653	0,585	0,405	0,185	0,478	0,326

*Activity/Reference population.

PCCP: prioritized complex chronic patients; PFU: Proactive follow-up programme (surrogate); TC: Teleconsultation programme

Reference population: 1: PCCP identified in 2022; 2: PCCP identified in 2022 enrolled in the proactive Follow-Up programme; 3: PCCP enrolled in the Teleconsultation programme.

What does it mean?	
ITEM	ANSWER
Summary	<p>The Andalusian pilot focuses on improving healthcare at home based on TeleCOPD component of the Danish good practice.</p> <p>Alignment with regional strategies and plans on chronic care, strong corporate information systems to support data retrieval and analysis, and political support may help future implementations, sustainability and replicability of this pilot to the broader EU arena. Training of healthcare professionals is also a key element. Dissemination and reporting results of the implemented activities will support the generation of solid evidence-based practices to be shared across Europe.</p> <p>Specific support thanks to the participation in JADECARE Joint Action has allowed us to carry out the assessment of the local good practice and provide evidence for its scaling up.</p>
Interpretation	<p>The evolution of the PCCP follow-up model, from reactive care to a proactive approach leads to a significant increase of primary healthcare professionals' home visits, and a reduction of outpatient visit is observed.</p>
Limitations	<p>The development of the JADECARE pilot in Andalusia takes advantage of the existence of a regional public funded healthcare system, with universal coverage and that has put in place Plans and Strategies addressing patients with chronic conditions and complex healthcare needs. Also, a massive use of the corporate IT system, Diraya, which includes eHR available at all levels of care facilitates the adaptation of the Andalusian pilot, since allows both at registering information and retrieving data for assessment. Results needs to be referred to this context and potential transferability may be limited to these facts.</p> <p>Internal limitations include unexpected issues emerging during the integration of the solution developed for the Centralised System for Proactive Follow-up in pre-existing corporate IT systems. An in-depth assessment of the identified problems was carried out and subsequent new tests were needed. This caused a delay of six month in the implementation process. In any case, the new system is expected to be fully adjusted and operative in early summer 2023. No limitations affected the TC system, which has been expanded as expected.</p>

	<p>For this reason:</p> <ul style="list-style-type: none"> • Surrogate data from alternative proactive follow-up service in place was considered, not affecting TC data. • Initial data analysis has been based mainly on process indicators and health outcomes. Further analysis, including healthcare professional acceptance and patients' satisfaction, will be carried out with some delay. <p>Therefore, the assessment of the influence of the pilot on healthcare outcomes and process indicator is limited.</p> <p>Data collection and analysis refer to years 2021 and 2022.</p>
<p>Conclusions</p>	<p>The sustainability of the Andalusian pilot is guaranteed since it is imbedded in the long-term plans and strategies of the Regional Ministry of Health Consumers Affairs of Andalusia.</p> <p>This pilot has been strongly supported by political leaders and directors of the Plan for CCPs in Andalusia. Close implication by General Directorate for Healthcare and Health Outcomes of the Andalusian Health Service and General Directorate for Social and Health Care, Strategies and Plan of the Regional Ministry has been a reality.</p> <p>Direct involvement of healthcare professionals has been possible thanks to both personal commitment and inclusion of objectives to be considered for incentives.</p> <p>Results needs to be referred to the overall Andalusian context and potential transferability may be limited to the local conditions of the pilot.</p> <p>Additional assessments have to be addressed in a following stage. Thus, once full 2022 data will be released, healthcare utilisation indicators on PCCP included in proactive follow-up programme will be included in the next update of this report. Moreover, patient experience and technology acceptance by healthcare professionals will be addressed in a following stage.</p>

Other information	
ITEM	ANSWER
Funding	<p>Teleconsultation of CCPs in Andalusia are included in regular daily clinical practice of the SAS professionals. Therefore, implementation and extension are covered by the overall budget of the SAS. This include provision of healthcare services (PHC and hospital care) as well as training (continued education).</p> <p>The development and set up of the Centralised System for Proactive Follow-up is specifically funded by the Spanish government through the General Directorate of the Public Business Entity RED.ES. (tender ID: 039/21-SP) of the Spanish Ministry of Economic Affairs and Digital Transformation.</p> <p>All design, assessment, reporting activities and dissemination of the LGP and the pilot itself has been supported by JADECARE JA.</p>

Servicio Cántabro de Salud & Instituto de Investigación Marqués de Valdecilla, Spain, SCS & IDIVAL

Pre-implementation

Definition of the LGP and LAP

Local Good Practice	Support program in tele-psychogeriatrics for nursing homes in Cantabria. Spain	
Target population	Setting(s)	
Elderly people in nursing homes in Santander Health Area. Cantabria. Spain	Cantabria Health Service & Regional Ministry of Health of Cantabria	
Main aim		
Improve the quality of health care for the elderly with mental illness and cognitive impairment, institutionalized in nursing homes		

Outcomes	Local Core Features and their Components	Inputs
<ul style="list-style-type: none"> • Facilitate accessibility to a comprehensive bio-psycho-social and functional psychogeriatric evaluation, in this population according to their care needs • Develop a tele-psychogeriatric program through IT aimed at the elderly admitted to nursing homes in the health area • Increase care focused on institutionalized patients with mental illness and cognitive-functional impairment, guaranteeing continuity of care • To improve the knowledge of the processes of cognitive-functional deterioration and mental illness among the socio-sanitary professionals of the nursing homes • Improve communication between the Psychogeriatric Team of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital, the elderly, their families and caregivers and the professional teams of socio-sanitary work in the nursing homes • Reduce travel from nursing homes to hospital health care facilities for regular consultations. • Facilitate various bureaucratic and administrative tasks online for the elderly, families, caregivers and socio-health professionals of the nursing homes 	<p>1. Geriatric Tele-Psychiatry Online</p> <p>2. Online management of the psychological and behavioral disorders of the elderly with dementia institutionalized in nursing homes</p> <ul style="list-style-type: none"> • Contact with the socio-sanitary professionals of the nursing homes to provide information on the program and the various technological aspects used • Psychogeriatric program adapted to the different evolutionary moments of mental illnesses and the functional cognitive situation of the elderly • Fundamentally synchronous online communication channels between the elderly, family members, socio-health professionals of the nursing homes and the Psychogeriatric Team • Development of web applications for tele-psychogeriatrics in electronic medical records of the Cantabrian Health Service • Development of the Application for mobile devices • Online questionnaires to assess progress. • Online Tele-psychogeriatric consultations 	<ul style="list-style-type: none"> • Financing • Staff time for the design, development and implementation of the tele-psychogeriatric program. • IT experts for health • Computer system: improvement of web applications in electronic medical records. • Hardware for the development of the program • Training and technical assistance
General description		

Online Tele-psychogeriatric program aimed at the health care of the elderly with cognitive-functional impairment and mental illness institutionalized in nursing homes, with the objectives of facilitating accessibility to specialized hospital programs without the need for travel, with care focused on the patient and their environment in nursing homes, to obtain an improvement in the symptomatic control of psychogeriatric pathologies, better health results and reduction of direct and indirect costs. This modality of online service provision includes a wide range of care services for the elderly with institutionalized mental illness, from evaluation and diagnosis to pharmacological and psychosocial interventions, and monitoring and care in the residence, development of clinical care plans, case management, crisis intervention and severe behavioral disturbances, neuropsychological tests, liaison services for other medical specialties, nursing care, etc. Paradigm shift in the health care system, centered on the patient with chronic psychogeriatric mental illness, based on the development of electronic medical records, and the use of new technologies from which short-term benefits are expected.

Local Core Feature 1

Geriatric Tele-psychiatry Online

Local Core Feature 2

Online management of the psychological and behavioral disorders of the elderly with dementia institutionalized in nursing homes

Local Good Practice	Support program in tele-psychogeriatrics for nursing homes in Cantabria. Spain
Target population	Setting
Elderly in nursing homes in the Santander Health Area. Cantabria, Spain.	Cantabria Health Service & Regional Ministry of Health of Cantabria
Main aim	
Improve the quality of health care for the elderly, with mental illness and cognitive impairment, institutionalized in nursing homes	
General description	

Online Tele-psychogeriatric program aimed at the health care of the elderly with cognitive-functional impairment and mental illness institutionalized in nursing homes, with the objectives of facilitating accessibility to specialized hospital programs without the need for travel, with care focused on the patient and their environment in nursing homes, to obtain an improvement in the symptomatic control of psychogeriatric pathologies, better health results and reduction of direct and indirect costs. This modality of online service provision includes a wide range of care services for the elderly with institutionalized mental illness, from evaluation and diagnosis to pharmacological and psychosocial interventions, and monitoring and care in the residence, development of clinical care plans, case management, crisis intervention and severe behavioral disturbances, neuropsychological tests, liaison services for other medical specialties, nursing care, etc. Paradigm shift in the health care system, centered on the patient with chronic psychogeriatric mental illness, based on the development of electronic medical records, and the use of new technologies from which short-term benefits are expected.

Related original Good Practices and their Core Feature	South Denmark : B2-CF2: Tele-psychiatry
Local Core Feature 1	Geriatric Telepsychiatry Online

SMART objective

By the end of 2022, the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital will have designed and launched the Psychogeriatric Program for the care of institutionalized elderly with mental illness, mainly psychosis, depression, cognitive and / or functional impairment as a support measure to the nursing homes, establishing a direct online consultation between the Psychogeriatric Team of the Long Term Care Unit of the Psychiatry Service of the Valdecilla University Hospital, the patients and families and the professional teams of socio-sanitary work in the nursing homes

Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> • Create professional work teams for 	<ul style="list-style-type: none"> • Psychogeriatric team (Psychiatry, 	<ul style="list-style-type: none"> • Professionals of Psychiatry, Geriatrics, 	<ul style="list-style-type: none"> • Long Term Care Unit of the Psychiatry 	<ul style="list-style-type: none"> • 2 months • 2 months 	<ul style="list-style-type: none"> • App availability (Y/N) • Teleconsultation availability (Y/N)

<p>psychogeriatric care</p> <ul style="list-style-type: none"> • Create protocols for care programs for various chronic psychogeriatric pathologies with special attention to depression and cognitive and functional impairment. • Development of online strategies and programs for institutionalized elderly with chronic mental illness and cognitive and functional impairment • Evaluation of the results of the trial period to 	<p>Geriatrics, Clinical Psychology and Nursing) of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital</p> <ul style="list-style-type: none"> • Professional socio-sanitary work teams in nursing homes • Expert in health informatics. • Hospital IT department. • Department for Digital Transformation and Relations with Health Users of the Regional Ministry of 	<p>Clinical Psychology and Nursing</p> <ul style="list-style-type: none"> • Specific time in work schedule agenda • Financing - subcontractor for professionals • Computer, informatics and IT Service of the Valdecilla University Hospital and the Cantabria Health Service 	<p>Service of Valdecilla University Hospital.</p>	<ul style="list-style-type: none"> • 6 months • 2 months 	<ul style="list-style-type: none"> • Profile of the professionals involved and composition of the online psychogeriatric care teams for nursing homes. • Number of protocols approved and published by the work team • Number of elderly users of each program • Number of first and subsequent consultations made • Number of elderly registered in the program. • Number of consultations with other Hospital Services and Primary Health Care Teams • Number of programs included in the electronic medical record at the end of the schedule. • Results availability of the satisfaction survey of the elderly users of the Program (Y/N).
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<p>the actors involved. patients and relatives, and social-health work teams in nursing homes</p>	<p>health of Cantabria</p>				<ul style="list-style-type: none"> • Results availability of the satisfaction survey of the social health professionals of the nursing homes (Y/N). • Results availability of the satisfaction survey of the professionals of the Psychogeriatric Team (Y/N).
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Local Good Practice	Cantabria's Online physical rehabilitation	
Target population	Setting(s)	
Outpatients with lower limb fractures living in Marques de Valdecilla University hospital health area.	Marqués de Valdecilla University Hospital. Rehabilitation Service.	
Main aim		
Improve results in rehabilitation in outpatients after suffering a lower limb fracture, the patient satisfaction and reduce direct and indirect costs. Improve the active participation of the patient and therapeutic compliance in the rehabilitation program from hospital discharge and throughout the process.		
Outcomes	Local Core Features and their Components	Inputs
<ul style="list-style-type: none"> • Early start of the active mobilization program at home after hospital discharge or surgery. • Improve therapeutic compliance with the rehabilitation program by the patient at home. • Improve knowledge of the process by the patient and caregiver. • Improve communication between the rehabilitation team and the patient. • Decrease the need to travel to perform physiotherapy programs in the hospital 	<ul style="list-style-type: none"> • Information and training program for video-directed exercises: <ul style="list-style-type: none"> ○ Exercise programs recorded on video aimed at different processes (fractures) and evolutionary moments • Synchronous and asynchronous online communication channels between patient and therapist and between patients and medical specialists <ul style="list-style-type: none"> ○ Application Web for tele-rehabilitation in electronic medical record. ○ App for mobile devices ○ Online questionnaires to evaluate progress. ○ Teleconsultations 	<ul style="list-style-type: none"> • Funding • Health IT expert • IT system: application web in electronic medical record. • Rehabilitation staff time to design the programme, development and commissioning. • Video recording and video edition system • Training and technical assistance.
General description		
Video-directed tele rehabilitation home program for patients with lower limb fractures with the objectives of early mobilization, greater patient participation, better health outcomes and reduction of direct and indirect costs.		

It involves a paradigm shift and a new form of care that requires training of patients and professionals and integration with electronic medical records, but short-term benefits are expected.


Local Core Features

- Synchronous and asynchronous online communication channels between patient and therapist and between patients and medical specialists
- Information and training program for video-directed exercises

Local Good Practice		Cantabria's Online physical rehabilitation			
Target population		Setting			
Outpatients with lower limb fractures living in Marques de Valdecilla University hospital health area.		Marqués de Valdecilla University hospital. Rehabilitation Service			
Main aim					
Improve results in rehabilitation in outpatients after suffering a lower limb fracture, the patient satisfaction and reduce direct and indirect costs. Improve the active participation of the patient and therapeutic compliance in the rehabilitation program from hospital discharge and throughout the process.					
General description					
Video-directed tele rehabilitation home program for patients with lower limb fractures with the objectives of early mobilization, greater patient participation, better health outcomes and reduction of direct and indirect costs. It involves a paradigm shift and a new form of care that requires training of patients and professionals and integration with electronic medical records, but short-term benefits are expected.					
Related original Good Practices and their Core Feature (s)		South Denmark B2-CF4: Online physical rehabilitation			
Local Core Feature 1		Information and training program for video-directed exercises			
SMART objective					
By the end of 2022, the Rehabilitation service of the Marques de Valdecilla University Hospital will have designed and recorded on video tutorial exercise programs for the most frequent processes: Ankle fracture, Tibial plateau fracture and fractures of the proximal end of the femur in different evolutionary stages. . The videos will be accessible to the patient on a web platform to be consulted as many times as necessary.					
Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
Create professional work teams for each process / fracture	<ul style="list-style-type: none"> Head of Rehabilitation service 	<ul style="list-style-type: none"> Physical Therapist and PM & rehabilitation specialists 	Marques de Valdecilla hospital Rehabilitation Service	1 month	<ul style="list-style-type: none"> Profile of professionals engaged and teams composition members.
Create exercise program protocols for each fracture and evolutionary moment.	<ul style="list-style-type: none"> Professional work teams: Physical Therapist and PM & 	<ul style="list-style-type: none"> Specific time in working agenda 	Marques de Valdecilla hospital Rehabilitation Service	3 months	<ul style="list-style-type: none"> Number of protocols approved and published by each working group

	rehabilitation specialists				
Video - recording and video-editing of exercise programs	<ul style="list-style-type: none"> • Video Professionals • Professional work teams: Physical Therapist and PM & rehabilitation specialists 	<ul style="list-style-type: none"> • Funding – subcontractor for professionals • Specific time in working agenda 	Marques de Valdecilla hospital Rehabilitation Service	2 months	<ul style="list-style-type: none"> • Number of finished video programs • Comprehensibility analysis test of videos
Inclusion of the programs in the web system and electronic health records	<ul style="list-style-type: none"> • Health IT expert • IT Hospital department • Head of Rehabilitation service 	<ul style="list-style-type: none"> • Funding – subcontractor for professionals • Specific time in working agenda 	Marques de Valdecilla hospital IT Health Service	2 months	<ul style="list-style-type: none"> • Number of programs included in electronics medical record by the end of the timeline.
Training for Rehabilitation and Traumatology professionals	<ul style="list-style-type: none"> • Head of Rehabilitation service • Professional work teams: Physical Therapist and PM & rehabilitation specialists 	<ul style="list-style-type: none"> • Specific time in working agenda 	Marques de Valdecilla hospital Rehabilitation Service	1 month	<ul style="list-style-type: none"> • % physical therapist completing the training. • Evaluation by professionals of the rehabilitation service
Start-up of a pilot project and evaluation of the results of the trial period	<ul style="list-style-type: none"> • Head of Rehabilitation service • Professional work teams: Physical Therapist and PM & rehabilitation specialists • Marques de Valdecilla 	<ul style="list-style-type: none"> • Specific time in working agenda 	Marques de Valdecilla hospital Rehabilitation Service	4 months	<ul style="list-style-type: none"> • Number of patient users of each program. • Number of views of each video-program. • Patient satisfaction survey results. • Percentage of patients in each group who did not require

	Hospital Quality service				inclusion in a physical therapy program after the tele-rehabilitation program.
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Local Good Practice	<p>Cantabria Online physical rehabilitation</p> <p><small>of digitally enabled integrated person-centred care</small></p>  <p><small>Co-funded by the Health Programme of the European Union</small></p>
Target population	Setting
<p>Outpatients with lower limb fractures living in Marques de Valdecilla University hospital health area.</p>	<p>Marqués de Valdecilla University hospital. Rehabilitation Service</p>
Main aim	
<p>Improve results in rehabilitation in outpatients after suffering a lower limb fracture, the patient satisfaction and reduce direct and indirect costs. Improve the active participation of the patient and therapeutic compliance in the rehabilitation program from hospital discharge and throughout the process.</p>	
General description	
<p>Video-directed tele rehabilitation home program for patients with lower limb fractures with the objectives of early mobilization, greater patient participation, better health outcomes and reduction of direct and indirect costs. It involves a paradigm shift and a new form of care that requires training of patients and professionals and integration with electronic medical records, but short-term benefits are expected.</p>	
Related original Good Practices and their Core Feature (s)	<p>South Denmark B2-CF4: Online physical rehabilitation</p>
Local Core Feature 2	<p>Synchronous and asynchronous online communication channels between patient and therapist and between patients and medical specialists</p>
SMART objective	

By the end of JADECARE (Sep 2023), the Rehabilitation service of the Marques de Valdecilla University Hospital will have designed synchronous and asynchronous online communication channels between patient and therapist and between patients and medical specialists including:

- Application Web for tele-rehabilitation in electronic medical record.
- App for mobile devices
- Online questionnaires to evaluate progress.
- Teleconsultations

Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
Design of Application web for tele-rehabilitation and App for mobile devices	<ul style="list-style-type: none"> • Health IT expert • IT Hospital department • Head of Rehabilitation service 	Funding – subcontractor for professionals Specific time in working agenda	Marques de Valdecilla hospital IT Heath Service	4 months	<ul style="list-style-type: none"> • App availability (Y/N)
Create Online questionnaires to evaluate progress of patients	<ul style="list-style-type: none"> • Professional work teams: Physical Therapist and PM & rehabilitation specialists • Selected Expert patient 	Specific time in working agenda	Marques de Valdecilla hospital Rehabilitation Service	3 months	<ul style="list-style-type: none"> • Number of questionnaires. • Comprehensibility analysis test of questionnaires. (Y/N)

<p>Create online tele-consultations</p>	<ul style="list-style-type: none"> • Health IT expert • IT Hospital department • Head of Rehabilitation service • Professional work teams: Physical Therapist and PM & rehabilitation specialists • Selected Expert patient 	<p>Funding – subcontractor for professionals Specific time in working agenda</p>	<p>Marques de Valdecilla hospital Rehabilitation Service</p>	<p>3 months</p>	<ul style="list-style-type: none"> • Availability of teleconsultation (Y/N)
<p>Training for Rehabilitation professionals</p>	<ul style="list-style-type: none"> • Health IT expert • Head of Rehabilitation service • Professional work teams: Physical Therapist and PM & 	<p>Funding – subcontractor for professionals Specific time in working agenda</p>	<p>Marques de Valdecilla hospital Rehabilitation Service</p>	<p>1 month</p>	<ul style="list-style-type: none"> • % physical therapist and physicians completing the training. • Evaluation by professionals of the rehabilitation service (Y/N)

	rehabilitation specialists				
Start-up of a pilot project and evaluation of the results of the trial period	<ul style="list-style-type: none"> • Head of Rehabilitation service • Professional work teams: Physical Therapist and PM & rehabilitation specialists • Marques de Valdecilla Hospital Quality service 	Specific time in working agenda	Marques de Valdecilla hospital Rehabilitation Service	4 months	<ul style="list-style-type: none"> • Number of patient users of each program. • Patient satisfaction survey results available (Y/N). • Professional satisfaction survey results available (Y/N). • Percentage of patients in each group who did not require inclusion in a physical therapy program after the tele-rehabilitation program.

Local Good Practice	Cantabrian School of Health - Patients' School	
Target population	Setting(s)	
All kind of patients living in Cantabria.	Online Portal hosted by the Cantabrian Health Service (SCS)	
Main aim		
<p>The main aim is to provide health promotion and disease prevention to the citizens. The focus is on providing tools, motivation and support for self-managing a change of their lifestyle and routines. Patients' School also create network possibilities for citizens, as well as provide knowledge to health organizations in the civil society.</p> <p>One of the objectives of the Cantabrian School of Patients is to develop and integrated digital solution to empower the patients. The use of this digital solution should result in: flexibility, motivation and resource optimization.</p>		
Outcomes	Local Core Features and their Components	Inputs
<ul style="list-style-type: none"> • Patients empowerment. • Motivation, flexibility and resources optimization • Improve patients' knowledge in healthy lifestyle • Improve communication between patients and medical staff • Decrease the need to visit the doctor • Meeting point between patients 	<ul style="list-style-type: none"> • Patients' School <ul style="list-style-type: none"> - Application Web with content about health, courses and contact details - Responsible Care Workshop - Online self-management program in population with chronic disease - Meeting space patient - patient, patient-associations and patient - healthcare professional - Digital skills course. - Online space for consultations by patients and answers from experts 	<ul style="list-style-type: none"> • Funding • Health IT expert • IT system: application web in electronic medical record. • Medical staff time to design the program, development and commissioning. • Video recording and video edition system • Training and technical assistance.
General description		
<p>The Cantabrian School of patients is providing tools to improve the patient empowerment through health promotion and disease prevention. This is e.g. done through workshops, courses, small texts, guidance and counselling on a healthy lifestyle. The focus is on providing tools, motivation and support for self-managing a change of their lifestyle and routines. Cantabrian Patients' School has also created network possibilities for citizens, associations and healthcare professionals, as well as provide knowledge to health organizations in the civil society. A lot of nurses, dieticians, physiotherapists and doctors are collaborating in the Patients' School.</p>		

The principal activity of the Cantabrian Patients' School is to develop and integrate digital solutions to improve the patient empowerment. Under this vision, several subprojects are unfolded (Responsible Care Workshop, Online self-management program in population with chronic disease, Meeting space, Digital skills course, Online space for consultations). Patients can join from home, where they can see pre-recorded information, participate in webinars gain knowledge by reading short texts, and chat with both health care professionals and other patients.

Local Core Feature 1

Patients' School

Local Good Practice	Cantabrian School of Health - Patients' School
Target population	Setting
All kind of patients living in Cantabria	Online Portal hosted by the Cantabrian Health Service (SCS)
Main aim	
<p>The main aim is to provide health promotion and disease prevention to the citizens. The focus is on providing tools, motivation and support for self-managing a change of their lifestyle and routines. Patients' School also create network possibilities for citizens, as well as provide knowledge to health organizations in the civil society.</p> <p>The objective of the Cantabrian School of Patients is to develop and integrated digital solution to empower the patients. The use of this digital solution should result in: flexibility, motivation and resource optimization.</p>	
General description	
<p>The Cantabrian School of patients is providing tools to improve the patient empowerment through health promotion and disease prevention. This is e.g. done through workshops, courses, small texts, guidance and counselling on a healthy lifestyle. The focus is on providing tools, motivation and support for self-managing a change of their lifestyle and routines. Cantabrian Patients' School has also created network possibilities for citizens, associations and healthcare professionals, as well as provide knowledge to health organizations in the civil society. A lot of nurses, dieticians, physiotherapists and doctors are collaborating in the Patients' School.</p> <p>The principal activity of the Cantabrian Patients' School is to develop and integrate digital solutions to improve the patient empowerment. Under this vision, several subprojects are unfolded (Responsible Care Workshop, online self-management program in population with chronic disease, Meeting space, Digital skills course, Online space for consultations). Patients can join from home, where they can see pre-recorded information, participate in webinars gain knowledge by reading short texts, and chat with both health care professionals and other patients.</p>	
Related original Good Practices and their Core Feature (s)	South Denmark B2-CF5: Digital Health Centre
Local Core Feature 1	Patients' School
SMART objective	

By the end of 2022, the Cantabrian School of Health will have improved the content and organization of the patients' school and appointed the team that will work on it. This will be possible if we fulfill the following activities: Create a professional work team, design and record webinars and courses to promote healthy lifestyle, update the online platform with new content, create a new online space to solve the most common questions of patients... All this content will be available on a web platform to be consulted as many times as necessary.

Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
Create professional work team	<ul style="list-style-type: none"> Responsible of Cantabrian School of health 	<ul style="list-style-type: none"> Nurses, doctors, patients that would be interested in participate as voluntaries 	Online Portal – Patients' School	1 month	<ul style="list-style-type: none"> Profile of professionals engaged and teams composition members.
Create the annual program/agenda for the Patients' school.	<ul style="list-style-type: none"> Professional work teams: nurses, doctors, patients, associations... 	<ul style="list-style-type: none"> Specific time in working agenda 	Cantabrian School of Health (SCS)	3 months	<ul style="list-style-type: none"> Number of activities planned
Creating Material (slides, small text) Video - recording and video-editing of webinars	<ul style="list-style-type: none"> Video Professionals Professional work teams: nurses, doctors, patients associations... 	<ul style="list-style-type: none"> Funding – subcontractor for professionals Specific time in working agenda 	Cantabrian School of Health (SCS) Online Portal – Patients' School	3 months	<ul style="list-style-type: none"> Number of finished video courses / webinars

Upload the courses / webinars in the online portal	<ul style="list-style-type: none"> • Health IT expert • Professional team 	<ul style="list-style-type: none"> • Funding – subcontractor for professionals • Specific time in working agenda 	Online Portal – Patients’ School	2 months	<ul style="list-style-type: none"> • Number of courses included in the web portal
Training for Patients to learn how to use the online platform	<ul style="list-style-type: none"> • Patients • Professional work teams: nurses, doctors, patients, associations... 	<ul style="list-style-type: none"> • Specific time in working agenda 	Cantabrian School of Health (SCS) Online Portal – Patients’ School	1 month	<ul style="list-style-type: none"> • Number of patients completing the training.
Start-up of a pilot and evaluation of the results	<ul style="list-style-type: none"> • Professional work teams: nurses, doctors, patients, associations... • Patients • Marqués de Valdecilla Hospital Quality Service 	<ul style="list-style-type: none"> • Specific time in working agenda 	Cantabrian School of Health (SCS) Online Portal – Patients’ School	4 months	<ul style="list-style-type: none"> • Number of patient users of Patients’ School Platform. • Number of views of each course/webinar. • Patient satisfaction survey results available (Y/N).

Implementation

1st PDSA cycle

QUESTIONS	DESCRIPTION
Step	PLAN – Spanish National Meeting – Implementation strategy
Date of the meeting	16/12/2021
Number and profile of the participants	20 (Project managers, researchers, physicians, nurses, politicians)
Organizations involved	Instituto de Investigación en Servicios de Salud KRONIKGUNE, Consejería de Salud y Familias de la Junta de Andalucía (CSFJA), Servicio Cántabro de Salud (SCS), Gerencia Regional de Salud de Castilla y León (SACYL), Servicio Murciano de Salud (SMS), Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Fundación Pública Andaluza Progreso y Salud (FPS), Instituto de Investigación Marqués de Valdecilla (IDIVAL), Fundación para la Formación e Investigaciones Sanitarias de la Región de Murcia (FFIS), Agència de Qualitat i Avaluació Sanitàries de Catalunya (AQUAS), Ministerio de Sanidad de España

QUESTIONS	DESCRIPTION
Step	PLAN – Meeting with Kronikgune to review the action plan
Date of the meeting	24/01/2022

Number and profile of the participants	6 (Project manager, researchers, physicians, nurses, politicians)
Organizations involved	Instituto de Investigación en Servicios de Salud KRONIKGUNE, Servicio Cántabro de Salud (SCS), Gerencia Instituto de Investigación Marqués de Valdecilla (IDIVAL)

QUESTIONS	DESCRIPTION
Step	PLAN – Meeting with our main stakeholder (DGTDRU) to check the progress
Date of the meeting	07/02/2022
Number and profile of the participants	6 (Project managers, researchers, physicians)
Organizations involved	Dirección General de Transformación Digital Consejería de Sanidad (DGTDRU), Servicio Cántabro de Salud (SCS), Instituto de Investigación Marqués de Valdecilla (IDIVAL)

LCF1	Information and training program for video-directed exercises							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Create professional work teams for each process / fracture	Definition of professional profiles	Head of Rehabilitation service	January 2022	Profile of professionals engaged and team composition.	Head of Rehabilitation service	January 2022	Needs analysis followed by decision	5 professionals working in this LCF1 forming a multidisciplinary team
Create exercise program protocols for each fracture	Review the existing programmes.	Professional work teams: Physical Therapist and PM &	January-April 2022	Number of protocols approved and published	Professional work teams: Physical Therapist and PM &	April 2022	Report / protocols	3 protocols, 1 per type of fracture

and evolutionary moment.	Select and define the protocols	rehabilitation specialists			rehabilitation specialists			
Video - recording and video-editing of exercise programs	Plan recording sessions Record and edit videos Analyse comprehensibility of videos	Video Professionals Professional work teams: Physical Therapist and PM & rehabilitation specialists	June-July 2022	Number of finished video programs Comprehensibility analysis test of videos	Video Professionals Professional work teams: Physical Therapist and PM & rehabilitation specialists	July 2022	Recording Evaluation	60 (about 20 per fracture) short comprehensive videos
Inclusion of the programs in the web system and electronic health records	<ul style="list-style-type: none"> Feasibility analysis Implementation of programmes 	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation 	August-Sept 2022	Number of programs included in electronic medical record by the end of	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation 	Sept 2022	Implementation report	3 programs included in electronic medical record by the end of the timeline.

		tion service		the timeline.	ation service			
Training for Rehabilitation and Traumatology professionals	Organize and deliver internal training sessions	<ul style="list-style-type: none"> • Head of Rehabilitation service • Professional work teams: Physical Therapist and PM & rehabilitation specialists 	October 2022	<ul style="list-style-type: none"> • % physical therapist completing the training. • Evaluation by professionals of the rehabilitation service 	<ul style="list-style-type: none"> • Head of Rehabilitation service • Professional work teams: Physical Therapist and PM & rehabilitation specialists 	October 2022	<ul style="list-style-type: none"> • Attendance lists • Evaluation questionnaires 	<ul style="list-style-type: none"> • Invitation to 100% of physical therapists of Marqués de Valdecilla hospital Rehabilitation Service to be trained. • Overall satisfaction of the training above 7/10.
Start-up of a pilot project	<ul style="list-style-type: none"> • Define the patient profile to be 	<ul style="list-style-type: none"> • Head of Rehabilitation service 	November 2022-	<ul style="list-style-type: none"> • Number of patient users of 	<ul style="list-style-type: none"> • Head of Rehabilitation service 	February 2022	Extraction of enrolment, visualization	<ul style="list-style-type: none"> • At least 15 patients redirected

<p>and evaluation of the results of the trial period</p>	<p>directed to each programme.</p> <ul style="list-style-type: none"> • Redirect selected patients to each programme • Follow up and evaluation of participation / adherence to the programme 	<ul style="list-style-type: none"> • Professional work teams: Physical Therapist and PM & rehabilitation specialists • Marqués de Valdecilla Hospital Quality service 	<p>February 2022</p>	<p>each program.</p> <ul style="list-style-type: none"> • Number of views of each video-program. • Patient satisfaction survey results. • Percentage of patients in each group who did not require inclusion in a physical therapy program after the tele-rehabilitati 	<ul style="list-style-type: none"> • Professional work teams: Physical Therapist and PM & rehabilitation specialists • Marqués de Valdecilla Hospital Quality service 		<p>and satisfaction data from Web system</p>	<p>to the respective program (heterogeneous and representative sample).</p> <ul style="list-style-type: none"> • At least 1 view/day of each video-program • Overall patient satisfaction of the programme above 7/10 • Overall success rate of at least 10% of patients who did
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				on program.				not require inclusion in a physical therapy program after the tele-rehabilitation program.
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LCF2	Synchronous and asynchronous online communication channels between patient and therapist and between patients and medical specialists							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value

<p>Design of Application web for tele-rehabilitation and App for mobile devices</p>	<ul style="list-style-type: none"> Define the main features required Contact with IT companies 	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service Professional work teams: Physical Therapist and PM & rehabilitation specialists <ul style="list-style-type: none"> Selected patient 	<p>May-August 2022</p>	<p>App availability</p>	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service 	<p>August 2022</p>	<ul style="list-style-type: none"> Brainstorming of needed features and selection of core ones budgets requested 	<p>1 App created with selected features.</p>
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<p>Create Online questionnaires to evaluate progress of patients</p>	<ul style="list-style-type: none"> Review existing questionnaires Select and adapt questionnaires 	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service Professional work teams: Physical Therapist and PM & rehabilitation specialists Selected patient Marqués de Valdecilla Hospital 	<p>Sept-Nov 2022</p>	<ul style="list-style-type: none"> Number of questionnaires to evaluate progress. Comprehensibility analysis of questionnaires. 	<ul style="list-style-type: none"> Head of Rehabilitation service Professional work teams: Physical Therapist and PM & rehabilitation specialists. 	<p>Nov 2022</p>	<ul style="list-style-type: none"> Report with adapted questionnaires Patient and Marqués de Valdecilla Hospital Quality service evaluation on comprehension 	<p>1 questionnaire about the benefits offered by the programme</p> <p>1 questionnaire about the usability of the web app/platform</p>
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		Quality service						
Create online tele-consultations	<ul style="list-style-type: none"> • Feasibility analysis • Creation of teleconsultations platform 	<ul style="list-style-type: none"> • Health IT expert • IT Hospital department • Head of Rehabilitation service • Professional work teams: Physical Therapist and PM & rehabilitation specialists 	September 2022- November 2022	<ul style="list-style-type: none"> • Availability of new teleconsultation platform 	<ul style="list-style-type: none"> • Health IT expert • IT Hospital department • Head of Rehabilitation service • Professional work teams: Physical Therapist and PM & rehabilitation specialists 	Nov 2022	Report	Yes

		<ul style="list-style-type: none"> Selected Expert patient 			<ul style="list-style-type: none"> Selected Expert patient 			
Training for Rehabilitation professionals	Organize and deliver internal training sessions	<ul style="list-style-type: none"> Health IT expert Head of Rehabilitation service Professional work teams: Physical Therapist and PM & rehabilitation specialists 	December 2022	<ul style="list-style-type: none"> % physical therapist completing the training. Evaluation by professionals of the rehabilitation service 	<ul style="list-style-type: none"> Health IT expert Head of Rehabilitation service Professional work teams: Physical Therapist and PM & rehabilitation specialists 	December 2022	<ul style="list-style-type: none"> Attendance lists Evaluation questionnaires 	<ul style="list-style-type: none"> 100% of physical therapists of Marqués de Valdecilla hospital Rehabilitation Service being offered to be trained. Overall satisfaction of the

								training above 7/10
Start-up of a pilot project and evaluation of the results of the trial period	<ul style="list-style-type: none"> Define the patient profile to be directed to each programme. Redirect selected patients to each programme Follow up and evaluation of participation / adherence 	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service Professional work teams: Physical Therapist and PM & rehabilitation specialists 	January-April 2022	<ul style="list-style-type: none"> Number of patient users of each program. Patient satisfaction survey results. Professional satisfaction survey results Percentage of patients in each group who did not require a physical consultation after the usage of the synchronous and 	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service 	April 2022	<ul style="list-style-type: none"> Extraction of times the web app link was clicked, and results of questionnaires filled in the web app Results from satisfaction surveys 	<ul style="list-style-type: none"> At least 15 patients redirected to the respective program. At least 15 web app link clicked Overall patient satisfaction of the service above 7/10

	to the programme	<ul style="list-style-type: none"> Marqués de Valdecilla Hospital Quality service 		asynchronous online communications.				<ul style="list-style-type: none"> Overall professional satisfaction of the service above 7/10 Overall success rate of at least 10% of patients who did not require inclusion in a physical therapy program after the
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								tele-rehabilitation program.
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LCF3	Patients' School							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Create professional work team	Definition of professional profiles	Responsible of Cantabrian School of health	October 2021	Profile of professionals engaged and team composition	Responsible of Cantabrian School of health	October 2021	Needs analysis followed by decision	21 professionals and patients to work in the active patient peer learning programme (Asynchronous online platform and face-to face trainers) forming a multidisciplinary team

								Other professionals involved in the creation of training material for the web page.
Create the annual program/agenda for the Patients' school.	Analysis of current training gaps in the portfolio of trainings offered by the Cantabrian School of health	<ul style="list-style-type: none"> • Responsible of Cantabrian School of health • Professional work teams: nurses, doctors, patients, associations... 	October 2021-December 2021	Number of activities planned	<ul style="list-style-type: none"> • Responsible of Cantabrian School of health • Professional work teams: nurses, doctors, patients, associations... 	December 2021	Needs Analysis and calendar	A programme with at least 8 workshops and supporting educational material about at least 10 topics still uncovered by current training material in the web of the Cantabrian School of health

Creating Material (slides, small text) Video - recording and video-editing of webinars	<ul style="list-style-type: none"> Specify content Decide better format Create script and slides Record videos 	<ul style="list-style-type: none"> Video Professionals Professional work teams: nurses, doctors, patients' associations... 	January -March 2022	Number of finished video courses / webinars	<ul style="list-style-type: none"> Video Professionals Professional work teams: nurses, doctors, patients' associations... 	March 2022	Recording	12 entries for the web of the Cantabrian School of Health including webinars, podcasts, text and instructional videos created
Upload the courses / webinars in the online portal	Upload material	Health IT expert	March-April 2022	Number of courses included in the web portal	Health IT expert	April 2022	Report	12 entries for the web of the Cantabrian School of Health including webinars, podcasts, text and instructional videos uploaded and

								available for patients
Training for Patients to learn how to use the online platform	Create self-study material on digital skills	<ul style="list-style-type: none"> • Patients • Professional work teams: nurses, doctors, patients, associations... 	January 2022	Number of trainings on how to use the web and platform.	<ul style="list-style-type: none"> • Patients • Professional work teams: nurses, doctors, patients, associations... 	January 2022	<ul style="list-style-type: none"> • Guides created 	<ul style="list-style-type: none"> • At least 1 guide created to understand how to use the active patient peer learning Asynchronous online platform. • At least 1 guide on how to take advantage of the Cantabrian School of Health

<p>Start-up of a pilot and evaluation of the results</p>	<ul style="list-style-type: none"> • Launch of courses/webinars • Recommendation to Patients • Dissemination of new courses 	<ul style="list-style-type: none"> • Professional work teams: nurses, doctors, patients, associations... • Patients <ul style="list-style-type: none"> • Marqués de Valdecilla Hospital Quality Service 	<p>February 2022-December 2022</p>	<ul style="list-style-type: none"> • Number of patient users of the active patient peer learning programme <ul style="list-style-type: none"> • Number of views of the the Cantabrian School of Health webpage • Patient satisfaction 	<p>Professional work teams: nurses, doctors, patients, associations ...</p>	<p>December 2022</p>	<ul style="list-style-type: none"> • Extraction of completion data from the online platform • Web visualizations from google analytics • Results from satisfaction surveys 	<ul style="list-style-type: none"> • At least 80 patients participating in the active patient peer learning programme • At least 10.000 views of the Cantabrian School of Health webpage
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				n survey results.				<ul style="list-style-type: none"> Overall patient satisfaction of the active patient peer learning programme above 7/10
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LCF4		Geriatric Tele-Psychiatry Online						
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value

Create professional work teams for psychogeriatric care	Identification of professional profiles: experts in psychogeriatrics	Psychogeriatric team (one Psychiatrist one Geriatrician, one Clinical Psychologist and one registered Nurse) All of them belong to the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital.	October 2021	Profile of the professionals involved and composition of the online psychogeriatric care teams for nursing homes.	Psychogeriatric team	October 2021	Needs analysis followed by decision	4 professionals working in this LCF4 forming a multidisciplinary team (Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nurse with clinical experience in the care of elders) working on the program full-time.
Create protocols	Design the protocols	Psychogeriatric team that	November-	Number of protocols approved for	Psychogeriatric team (Psychiatry,	December 2021	Protocols written by	1 protocol per each chronic

for care programs for various chronic psychogeriatric pathologies with special attention to: depression and cognitive and functional impairment .	for each chronic pathology	belong to the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital	December 2021	internal operation of the team	Geriatrics, Clinical Psychology and Nursing) of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital		members of Psychogeriatric team after clinical consultation.	psychogeriatric pathology, having a pool of at least 5 protocols for: depression, cognitive impairment, behavioral disorders, functional impairment, others.
Development of online strategies and programs for	Implementation of teleconsultation (Rainbow system for video	Department for Digital Transformation and Relations with Health	January 2022- June 22	Videoconference program included in the "Altamira" electronic	Psychogeriatric team (Psychiatry, Geriatrics, Clinical Psychology and	June	Reports from "Altamira" electronic clinical	1 Videoconference program included in the

<p>institutionalized elderly with chronic mental illness and cognitive and functional impairment</p>	<p>conference) into Altamira. Design alternatives in case there are communication problems (switch to telephone teleconsultation.) Design alternatives in case of by decision of the medical team, direct care consultation is needed</p>	<p>Users of the Regional Ministry of health of Cantabria And by the psychogeriatrics team for the daily use of the tool</p>		<p>medical record of SCS</p> <ul style="list-style-type: none"> • 	<p>Nursing) of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital</p>		<p>records of SCS</p>	<p>"Altamira" electronic medical record of SCS</p>
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	(face to face).							
Start-up of a pilot project and evaluation of the results of the trial period to the actors involved: patients and relatives, and social-health work teams in nursing homes	<ul style="list-style-type: none"> Define the patient profile to be directed to each programme. Redirect selected patients to each programme Follow up and evaluation of participation / adherence 	<ul style="list-style-type: none"> Psychogeriatric team (Psychiatry, Geriatrics, Clinical Psychology and Nursing) of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital Professional socio- 	January 2022-January 2023	<ul style="list-style-type: none"> Number of elderly registered in the program Number of elderly users of each program <ul style="list-style-type: none"> Number of first and subsequent consultations made Number of consultations with other 	<ul style="list-style-type: none"> Psychogeriatric team through on line survey at the rest of the professionals involved 	January 2023 (After the first year of deployment of telepsychogeriatrics in the program: "Nursing Home's Psychogeriatric Support Program")	<ul style="list-style-type: none"> The data from the final online evaluation survey will be entered and analyzed in a database system 	<p>At least 50 elderly users enrolled in our "Nursing Home's Psychogeriatric Support Program"</p> <p>At least 50 first consultations carried out and a minimum of 25 subsequent teleconsultations.</p> <p>Reduction in the number of consultation</p>

	to the programme	<p>sanitary work teams in nursing homes</p> <ul style="list-style-type: none"> • Marqués de Valdecilla Hospital Quality Service 		<p>Hospital Services and Primary Health Care Teams</p> <ul style="list-style-type: none"> • Results of the satisfaction survey of the elderly users of the Program. • Results of the satisfaction survey of the social 				<p>s with other Hospital Services and Primary Health Care Teams (difficult to find and select a control group adjusted for different variables)</p> <p>Overall staff, social and health nursing home professionals satisfaction with the tele-</p>
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							collected ?	
Create professional work teams for psychogeriatric care	Identification of professional profiles: experts in psychogeriatrics	Psychogeriatric team (one Psychiatrist one Geriatrician, one Clinical Psychologist and one registered Nurse) All of them belong to the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital. • Professional socio-	October 2021- November 2021	Profile of the professionals involved and composition of the psychogeriatric assistance teams on line to nursing homes.	Psychogeriatric team (Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nurse) of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital	November 2021	Needs analysis followed by decision	4 professionals working in this LCF4 forming a multidisciplinary team (Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nurse with clinical experience in the care of elders) working on the program part-time.

				<p>health professionals of the nursing homes.</p> <ul style="list-style-type: none"> Results of the satisfaction survey of the professionals of the Psychogeriatric Team. 				<p>psychogeriatric program</p> <p>Overall satisfaction of the professionals of the Psychogeriatric Team with the program</p>
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LCF5	Online management of the psychological and behavioral disorders of the elderly with dementia institutionalized in nursing homes							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be	Target value

		<ul style="list-style-type: none"> sanitary work teams in nursing homes Hospital IT department. Department for Digital Transformation and Relations with Health Users of the Regional Ministry of health of Cantabria 						
Create protocols for care	Design the protocols for each	<ul style="list-style-type: none"> Psychogeriatric team 	November-December	Number of protocols approved and	Psychogeriatric team	December 2021	The data will be collected	At least 1 protocol per each chronic

<p>programs for online case management and crisis intervention with demented elderly institutionalized in nursing homes with severe psychological and behavioral disturbances</p>	<p>psychologic pathology</p>	<p>(Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nursing) of the Long Term Care Unit of the Psychiatry Service of Valdecilla University</p>	<p>ber 2021</p>	<p>published by the work team</p>	<p>of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital</p> <ul style="list-style-type: none"> Professional socio-sanitary work teams in nursing homes 		<p>in the SCS electronic medical record "Altamira"</p>	<p>psychogeriatric pathology, having a pool of at least 5 protocols</p>
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		<p>Hospital</p> <ul style="list-style-type: none"> Professional socio-sanitary work teams in nursing homes 						
Development of online strategies and programs for management and crisis intervention on severe psychological	Design the different online strategies and programs for each type of situation	<ul style="list-style-type: none"> Psychogeriatric team 	November-December 2021	<p>Number of strategies approved for internal use</p> <p>Number of programs included in the electronic medical record at the end of the schedule.</p>	<ul style="list-style-type: none"> Psychogeriatric team 	December 2022	The data will be collected in the SCS electronic medical record "Altamira"	At least one protocol for management institutionalized elderly with severe psychological and behavioral disturbances

cal and behavioral disturbances in institutionalized elderly								
Start-up of a pilot project and evaluation of the results of the trial period to the actors involved, patients and relatives, and social-health	<ul style="list-style-type: none"> Define the cases in which to activate the protocols/programmes designed Follow up and evaluation of to the programmes 	<ul style="list-style-type: none"> Psychogeriatric team Valdecilla Hospital Professional socio-sanitary work teams in nursing homes 	<ul style="list-style-type: none"> January 2022- January 2023 	<ul style="list-style-type: none"> Number of teleconsultations carried out, number of first teleconsultations, number of successive teleconsultations total number of elderly people 	<ul style="list-style-type: none"> Psychogeriatric team (Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nurse) of the Long Term Care 	January 2023 (After the first year of deployment of telepsychogeriatrics in the program: "Nursing Home's Psychogeriatric Support Program")	<ul style="list-style-type: none"> The data from the final evaluation survey will be entered and analyzed in a 	<ul style="list-style-type: none"> At least 50 teleconsultations carried out At least 30 first consultations made and a minimum of 20 subsequent teleconsultations.

work teams in nursing homes				<p>followed in teleconsultation,</p> <ul style="list-style-type: none"> • number of elderly registered in the program • Number of consultations proposed by the Psychogeriatric Team of the Long Term Care Unit of the Psychiatry Service of Valdecilla University 	<p>Unit of the Psychiatry Service of Valdecilla University Hospital through by on line survey at the rest of the professionals involved</p> <ul style="list-style-type: none"> • 		database system	<ul style="list-style-type: none"> • If possible, analysis of the impact of the program on consultations reduction with other Hospital Services and Primary Health Care Teams (difficulty finding and selecting a control group adjusted for
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				<p>Hospital to other Hospital Services and to the Primary Health Care Teams</p> <ul style="list-style-type: none"> . 				<p>different variables)</p> <ul style="list-style-type: none"> Overall staff, social and health nursing home professionals satisfaction with the tele-psychogeriatrics program Overall satisfaction of the professionals of the Psychogeriatric Team
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								with the program
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QUESTIONS	DESCRIPTION
Step	DO step, cycle 1
Date of the meeting	01-09-2022
Number and profile of the participants	6 (Project managers, researchers, physicians)
Organizations involved	Dirección General de Transformación Digital Consejería de Sanidad (DGTDRU), Servicio Cántabro de Salud (SCS), Instituto de Investigación Marqués de Valdecilla (IDIVAL)

Cycle number (1 or 2)	1	
Activity	KPI	Actual value
LCF1-Create professional work teams for each process / fracture	Profile of professionals engaged and team composition.	15

LCF1-Create exercise program protocols for each fracture and evolutionary moment.	Number of protocols approved and published	3
LCF1-Video - recording and video-editing of exercise programs	Number of finished video programs Comprehensibility analysis test of videos	63
LCF1-Inclusion of the programs in the web system and electronic health records	Number of programs included in electronics medical record by the end of the timeline.	0
LCF1-Training for Rehabilitation and Traumatology professionals	<ul style="list-style-type: none"> • % physical therapist completing the training. • Evaluation by professionals of the rehabilitation service 	0
LCF1- Start up of a pilot project and evaluation of the results of the trial period	<ul style="list-style-type: none"> • Number of patient users of each program. • Number of views of each video-program. • Patient satisfaction survey results. • Percentage of patients in each group who did 	0

	not require inclusion in a physical therapy program after the tele-rehabilitation program.	
Activity	KPI	Actual value
LCF2-Design of Application web for tele-rehabilitation and App for mobile devices	App availability	No
LCF2-Create Online questionnaires to evaluate progress of patients	<ul style="list-style-type: none"> • Number of questionnaires to evaluate progress. • Comprehensibility analysis of questionnaires. 	0
LCF2-Create online tele-consultations	Availability of new teleconsultation platform	No
LCF2-Training for Rehabilitation professionals	<ul style="list-style-type: none"> • % physical therapist completing the training. • Evaluation by professionals of the rehabilitation service 	0
LCF2-Start-up of a pilot project and evaluation of	<ul style="list-style-type: none"> • Number of patient users of each program. 	0

the results of the trial period	<ul style="list-style-type: none"> • Patient satisfaction survey results. • Professional satisfaction survey results <p>Percentage of patients in each group who did not require a physical consultation after the usage of the synchronous and asynchronous online communications.</p>	
Activity	KPI	Actual value
LCF3-Create professional work team	Profile of professionals engaged and team composition	6 (4 for the online platform and 2 for the face-to-face sessions) Several professionals involved in creation of training material for web page
LCF3-Create the annual program/agenda for the Patients' school.	Number of activities planned	5 workshops held following the active patient peer learning methodology
LCF3-Creating Material (slides, small text) Video - recording and video-editing of webinars	Number of finished video courses / webinars	4 (physical activity, healthy eating, macular degeneration, sleep hygiene)
LCF3-Upload the courses / webinars in the online portal	Number of courses included in the web portal	3 (physical activity, healthy eating, sleep hygiene)

LCF3-Training for Patients to learn how to use the online platform	Number of trainings on how to use the web and platform.	1 (a promotional video on how to take advantage of the Cantabrian School of Health webpage)
LCF3-Start-up of a pilot and evaluation of the results	<ul style="list-style-type: none"> • Number of patient users of the active patient peer learning programme • Number of views of the Cantabrian School of Health webpage • Patient satisfaction survey results. 	61 patients have finished the programme About 60.000 new users of the webpage (January-September 2022) Satisfaction rate of 4/5 of the peer learning active patient programme
Activity	KPI	Actual value
LCF4-Create professional work teams for psychogeriatric care	Profile of the professionals involved and composition of the online psychogeriatric care teams for nursing homes.	2
LCF4-Create protocols for care programs for various chronic psychogeriatric pathologies with special attention to depression and	Number of protocols approved for internal operation of the team	1

cognitive and functional impairment.		
LCF4-Development of online strategies and programs for institutionalized elderly with chronic mental illness and cognitive and functional impairment	<ul style="list-style-type: none"> • Videoconference program included in the "Altamira" electronic medical record of SCS 	1
LCF4-Start-up of a pilot project and Evaluation of the results of the trial period to the actors involved. patients and relatives, and social-health work teams in nursing homes	<ul style="list-style-type: none"> • Number of elderly registered in the program • Number of elderly users of each program • Number of first and subsequent consultations made • Number of consultations with other Hospital Services and Primary Health Care Teams • Results of the satisfaction survey of the elderly users of the Program. • Results of the satisfaction survey of 	.

	<p>the social health professionals of the nursing homes.</p> <ul style="list-style-type: none"> Results of the satisfaction survey of the professionals of the Psychogeriatric Team. 	
Activity	KPI	Actual value
LCF5-Create professional work teams for psychogeriatric care	Profile of the professionals involved and composition of the psychogeriatric assistance teams on line to nursing homes.	2
LCF5-Create protocols for care programs for online case management and crisis intervention with demented elderly institutionalized in nursing homes with severe psychological and behavioral disturbances	Number of protocols approved and published by the work team	1
LCF5-Development of online strategies and	Number of programs included in the	1

<p>programs for management and crisis intervention severe psychological and behavioral disturbances in institutionalized elderly</p>	<p>electronic medical record at the end of the schedule.</p>	
<p>LCF5-Start-up of a pilot project and evaluation of the results of the trial period to the actors involved, patients and relatives, and social-health work teams in nursing homes</p>	<ul style="list-style-type: none"> • Number of teleconsultations carried out, • number of first teleconsultations, • number of successive teleconsultations • total number of elderly people followed in teleconsultation, • number of elderly registered in the program • Number of consultations proposed by the Psychogeriatric Team of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital to other Hospital Services and to 	

	<p>the Primary Health Care Teams</p> <ul style="list-style-type: none"> • Number of programs included in the electronic medical record at the end of the schedule. 	
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QUESTIONS	ANSWERS
<p>What was actually implemented? Any deviation from the planned actions</p>	<p>Most of the activities planned for the DO step of the first cycle are being developed successfully, however we are a bit behind the schedule and dealing with lack of staff and administrative issues. For instance in LCF4 and LCF5, teleconsultation by video has operational problems, occasionally the internet works poorly, there are communication cuts, if they happen several times, it usually requires telephonic consultation. Agenda adjustment problems between the telepsychogeriatrics team and the nursing home staff, since they require a simultaneous connection that is sometimes not achieved. Although the members of the team are stable, with the registered nurses there is excessive rotation, in 9 months it has been attended by 5 different professionals. (Further explained in STUDY step)</p>

Problems? Unexpected findings? Please describe	<p>In addition, regarding LCF4 and LCF5, sometimes the members of the team are required for attention needs on demand by other patients of the Long Term Care Unit ward, which makes it difficult to synchronize the agendas.</p> <p>Problems of connections between the psychogeriatric team and users that the team generally cannot solve, can generate a feeling of inefficiency on the part of the users of the program</p> <p>Administrative organizational problems (excessive turnover of some professionals, team members work in the program only part time) whose resolution does not depend on the team. (Further explained in STUDY step)</p>
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IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
		x	

QUESTIONS	DESCRIPTION
Step	Study, cycle 1
Date of the meeting	15/09/2022
Number and profile of the participants	6 (Project managers, researchers, physicians, physiotherapists)
Organizations involved	Dirección General de Transformación Digital Consejería de Sanidad (DGTDRU), Servicio Cántabro de Salud (SCS), Instituto de Investigación Marqués de Valdecilla (IDIVAL)

Cycle number (1or 2)		1				
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
LCF1-Create professional	Profile of professionals engaged and	5	15	No major deviations	No mitigation actions were needed	-

I work teams for each process / fracture	team composition.					
LCF1- Create exercise program protocols for each fracture and evolutionary moment.	Number of protocols approved and published	3	3	No major deviations	No mitigation actions were needed	-
LCF1-Video - recording and video-editing of exercise programs	Number of finished video programs Comprehensibility analysis test of videos	60	63	No major deviations	No mitigation actions were needed	-
LCF1- Inclusion of the programs in the web system and	Number of programs included in electronics medical record	3	0	We are a bit delayed and we expect it to be done in Oct-Nov 2022. All videos are recorded and awaiting to be	Delay the implementation but find the right company to do the implementation to our current system to	As a consequence, we are 3 months behind the schedule

electronic health records	by the end of the timeline.			uploaded and implemented in the system. The reasons were mainly administrative to find a subcontractor that could integrate the protocols in the departmental programme.	avoid that doctors and other health care professionals out of the Rehabilitation service could not have access to the information of the specific programme in which each patient is enrolled.	
LCF1- Training for Rehabilitation and Traumatology professionals	<ul style="list-style-type: none"> % physical therapist completing the training. Evaluation by professionals of the rehabilitation service	0	0	Delay due to the difficulties to involve the company to implement the protocols in the system. Will be done in January 2023	Delay due to the difficulties to involve the company to implement the protocols in the system.	Delay due to the difficulties to involve the company to implement the protocols in the system.
LCF1- Start up of a pilot project and evaluation	<ul style="list-style-type: none"> Number of patient users of 	0	0	Delay due to the difficulties to involve the company to implement the protocols in the	Delay due to the difficulties to involve the company to implement the	Delay due to the difficulties to involve the company to implement the

<p>of the results of the trial period</p>	<p>each program.</p> <ul style="list-style-type: none"> • Number of views of each video-program. • Patient satisfaction survey results. Percentage of patients in each group who did not require inclusion in a physical therapy program after the tele- 			<p>system. Will be done in January-April 2023</p>	<p>protocols in the system.</p>	<p>protocols in the system.</p>
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Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
LCF2- Design of Application web for tele-rehabilitation and App for mobile devices	App availability	Yes	No	It has been decided to create a web app. Due to the summer season and the administrative delays to find the right subcontractor to develop the app, we are a bit behind the schedule, and it will be ready in Nov 2022	Delay preferred in benefit of a better implementation	Delay of a couple of months
LCF2- Create Online questionnaires to evaluate progress of patients	<ul style="list-style-type: none"> Number of questionnaires to evaluate 	2	0	Delay of a couple of months as it is dependent on other required previous activities	Delay preferred in benefit of a better implementation	Delay of a couple of months

	progress. Comprehensibility analysis of questionnaires.					
LCF2-Create online teleconsultations	Availability of new teleconsultation platform	Yes	No	During the feasibility study, we identified that it was better to implement a chat box instead as an asynchronous service. The main reasons were: rejection to change, labour intrusion, difficulties to involve physiotherapists and traumatologists. It makes more sense to use the app “just” as a complement to the face-to-face sessions. It may be interesting to implement the online	It was decided to not continue with this activity. And implement instead an asynchronous chat box.	There is no negative impact for patients as they will continue having their regular face-to-face sessions.

				teleconsultation service for other pathologies in the future.		
LCF2-Training for Rehabilitation professionals	<ul style="list-style-type: none"> • % physical therapist offered the training. • Evaluation by professionals of the rehabilitation service 	100	0	Delay due to the difficulties to involve the company to develop the web app.	Delay due to the difficulties to involve the company to develop the web app.	Delay due to the difficulties to involve the company to develop the web app.
LCF2-Start-up of a pilot project and	<ul style="list-style-type: none"> • Number of patient users 	15	0	Delay due to the difficulties to involve the company to	Delay due to the difficulties to involve the company to develop the web app.	Delay due to the difficulties to involve the company to develop the web app.

evaluation of the results of the trial period	<ul style="list-style-type: none"> • Patient satisfaction survey results. • Professional satisfaction survey results • Percentage of patients in each group who did not require a physical consultation after the usage of the synchronous and asynchronous online 			develop the web app.		
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Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
LCF3- Create professional work team	Profile of professionals engaged and team composition	21	6	<p>Right now, 4 people has been trained under the Stanford methodology (SMRC) for the online workshops (2 patients and 2 nurses) and 2 for the face-to-face workshops (1 nurse and 1 physiotherapist)</p> <p>A training (28 hours) for 15 more trainers will begin on November. This delay is due to the lack of accredited trainer as “master-trainer” to perform this train the trainers course.</p>	-	No impact
LCF3- Create the annual	Number of activities planned	8	5	The Stanford methodology (SMRC) license allows to perform 8 courses (of	Decided to have only 7 groups in the pilot this year	No impact

program/agenda for the Patients' school.				6 weeks) per year. From those, 6 were organized up to now (2 in February, 2 in April and 2 in September), and 4 more are pending. From those already organized for the month of September, one had to be cancelled due to lack of participants.		
LCF3- Creating Material (slides, small text) Video - recording and video-editing of webinars	Number of finished video courses / webinars	12	4	Training material to be included in the Cantabrian School of Health webpage and YouTube channel was created up to now on 4 topics (physical activity, healthy eating, macular degeneration, sleep hygiene). The lack of personnel involved has delayed the creation of material	-	Delay in delivering the content

				(not only videos) on the following 8 topics: liver transplantation, pre-implantation prothesis treatment, cystic fibrosis, pelvic floor, temporomandibular joints relief, nephrostomy, safety of medications, pain management		
LCF3- Upload the courses / webinars in the online portal	Number of courses included in the web portal	12	3	Training material has been included in the Cantabrian School of Health webpage and YouTube channel on 3 topics (physical activity, healthy eating, and sleep hygiene). Content on macular degeneration is about to be published	-	Delay in publishing the content

LCF3- Training for Patients to learn how to use the online platform	Number of patients completing the training.	2	1	There is a promotional video on how to take advantage of the Cantabrian School of Health webpage. However, we are awaiting to receive the user guide on how to use the asynchronous online platform from our subcontractors.	We have improved our description on how to use the platform by email and phone calls to solve the usability problems our patients could have. We have created a guide on how to use Zoom, and other online tools to mitigate the absence of the user guide.	We are observing high abandon rates probably because patients get demotivated when entering the asynchronous platform and not fully understanding how to use it. Right now, we have experienced an abandon rate of 44%.
LCF3-Start-up of a pilot and evaluation of the results	<ul style="list-style-type: none"> • Number of patient users of Patients' School Platform. • Number of views of each course/webinar 	80 10.000 7/10	61 60.000 8/10	We are experiencing that the Stanford methodology (SMRC) is quite rigid, and the platform not user friendly. The consequence is a high abandon rate. (Satisfaction of 4/5 on surveys, however, data available mainly from those who happily	We are improving the guidance on how to use the platform by email and phone calls to solve the usability problems our patients could have.	We expect no impact, achieving the 80 participants by the end of the year.

Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
	Patient satisfaction survey results.			attended the whole program)		
LCF4- Create professional work teams for psychogeriatric care	Profile of the professionals involved and composition of the online psychogeriatric care teams for nursing homes.	4 team members working full time	2 team members working part time	Administrative and organizational difficulties to hire personnel and lack of continuity of personnel.	Resolution does not depend on the team. 2 team members (psychiatrist and geriatrician doing most of the workload)	Increased workload
LCF4- Create protocols for care programs for various chronic psychogeriatric pathologies	Number of protocols approved for internal operation of the team	1 protocol per each chronic psychogeriatric pathology, having a pool of at least 5 protocols for: depression, cognitive	1 generic protocol: "Nursing Home's Psychogeriatrics Support Program" which includes the different approaches for	The members of the team have reconsidered the situation, given that different protocols would imply different agendas which would complicate the organizational	Although the team could consider the complete separation of the different ones, it would be a major organizational complication, especially considering that all the members	-

with special attention to depression and cognitive and functional impairment .		impairment, behavioral disorders, functional impairment, others.	the clinical problems faced that include: depression, cognitive impairment, behavioral disorders, functional impairment, elderly with chronic mental illness, others,	aspects, finally it has been decided to include all the actions in a single agenda and protocol system, each member of the team deciding at each moment how to act and manage the case depending on the clinical situation depression, cognitive impairment, chronic mental illness, functional impairment and behavioral disorders	work on the program part-time.	
LCF4- Development of online strategies and programs for institutionalized	Videoconference program included in the "Altamira" electronic medical record of SCS	1	1	-	-	-

elderly with chronic mental illness and cognitive and functional impairment						
LCF4-Start-up of a pilot project and Evaluation of the results of the trial period to the actors involved. Patients and relatives, and social-health work teams in nursing homes	<ul style="list-style-type: none"> • Number of elderly registered in the program • Number of elderly users of each program • Number of first and subsequent consultations made • Number of consultations 	50 patients	more than 200 patients included until October 2022	-	-	-

	<p>ons with other Hospital Services and Primary Health Care Teams</p> <ul style="list-style-type: none"> • Results of the satisfaction survey of the elderly users of the Program. • Results of the satisfaction survey of the social health professionals of 					
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	the17isturb homes. Results of the satisfaction survey of the professionals of the Psychogeriatric Team.					
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
LCF5- Create 17isturbanc e17 work teams for psychogeriatric care	Profile of the professionals involved and composition of the psychogeriatric assistance teams on line to nursing homes.	4 team members working full time	2 team members working part time	Administrative and organizational difficulties to hire personnel and lack of continuity of personnel.	Resolution does not depend on the team. 2 team members (psychiatrist and geriatrician doing most of the workload)	Increased workload
LCF5- Create protocols for care programs	Number of protocols approved and published by	1	1	-	-	-

for online case management and crisis intervention with demented elderly institutionalized in nursing homes with severe psychological and behavioral disturbances	the work team					
LCF5- Development of online strategies and programs for management and	Number of programs included in the electronic medical record at the end of the schedule.	1	1	-	-	-

crisis intervention severe psychological and behavioral disturbance in institutionalized elderly						
LCF5-Start-up of a pilot project and evaluation of the results of the trial period to the actors involved, patients and relatives, and social-health work teams	<ul style="list-style-type: none"> • Number of teleconsultations carried out, • number of first teleconsultations, • number of successive teleconsultations 	During the first year we planned 50 consultations per month	<p>But during the first 5 months almost 800 consultations were made.</p> <p>However, almost 200 are face-to-face consultations, reflecting the need for programs and protocols that allow mixed teleconsultation and face-to-face</p>	Needs of patients and needs of support in nursing homes	the team believes that since it is a need, it should be attended to as it is, and not insist that the program focus exclusively on teleconsultation	-

<p>in nursing homes</p>	<ul style="list-style-type: none"> • total number of elderly people followed in teleconsultation, • number of elderly registered in the program • Number of consultations proposed by the Psychogeriatric Team of the Long Term Care Unit of the 		<p>visits to health professionals</p>			
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	Psychiatry Service of Valdecilla University Hospital to other Hospital Services and to the Primary Health Care Teams <ul style="list-style-type: none"> Number of programs included in the electronic medical record at the end of the schedule. 					
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STEP	No. meetings	No. professionals involved	No. organizations represented
PLAN (Cycle 1)	3	17	3
DO (Cycle 1)	1	6	3
STUDY (Cycle 1)	1	6	3
ACT (Cycle 1)	1	6	3
PLAN (Cycle 2)	1		3
DO (Cycle 2)	1	6	3

QUESTIONS	DESCRIPTION
Step	ACT step cycle 1
Date of the meeting	30/09/2022
Number and profile of the participants	6 (Project managers, researchers, physicians)
Organizations involved	Dirección General de Transformación Digital Consejería de Sanidad (DGTDRU), Servicio Cántabro de Salud (SCS), Instituto de Investigación Marqués de Valdecilla (IDIVAL)

Cycle number (1 or 2)	1		
Activity	Maintain	Adapt	Abandon

LCF1-Create professional work teams for each process / fracture	This activity has been successfully completed.		
LCF1-Create exercise program protocols for each fracture and evolutionary moment.	This activity has been successfully completed.		
LCF1-Video - recording and video-editing of exercise programs	This activity has been successfully completed.		
LCF1-Inclusion of the programs in the web system and electronic health records	This activity will soon be implemented as expected		
LCF1-Training for Rehabilitation and Traumatology professionals	This activity will soon be implemented as expected		
LCF1- Start-up of a pilot project and evaluation of the results of the trial period	This activity will soon be implemented as expected		
Activity	Maintain	Adapt	Abandon
LCF2-Design of Application web for tele-rehabilitation		To be performed as planned in the “web app” format	

and App for mobile devices			
LCF2-Create Online questionnaires to evaluate progress of patients	This activity will soon be implemented as expected		
LCF2-Create online tele-consultations			For the reasons already explained, this activity will continue abandoned for the 2 nd cycle. The asynchronous chat box will be implemented instead.
LCF2-Training for Rehabilitation professionals	This activity will soon be implemented as expected		
LCF2-Start-up of a pilot project and evaluation of the results of the trial period	This activity will soon be implemented as expected		
Activity	Maintain	Adapt	Abandon
LCF3-Create professional work team	To be maintained, trying to involve more patients and maintain them motivated as trainers, as well as more professionals to accelerate the content creation.		

LCF3-Create the annual program/agenda for the Patients' school.	The agenda is created and will be implemented as soon as more professionals get involved.		
LCF3-Creating Material (slides, small text) Video - recording and video-editing of webinars	The training material creation is a bit delayed and will be available as soon as possible.		
LCF3-Upload the courses / webinars in the online portal	The training material creation is a bit delayed and will be available as soon as possible.		
LCF3-Training for Patients to learn how to use the online platform		Better training on platform usability is required to reduce the abandon rate.	
LCF3-Start-up of a pilot and evaluation of the results	The Cantabrian school of health web page will continue as planned, as the number of new users is much higher than expected.	The asynchronous platform offered by Stanford methodology (SMRC) methodology is very rigid and needs to be adapted to our local circumstances. Thus, alternatives should be explored, such as to continue with a similar methodology out of SMRC license with more flexible features. We expect this will improve the satisfaction rate.	
Activity	Maintain	Adapt	Abandon

LCF4-Create professional work teams for psychogeriatric care		Try to have a team with all team members working full time	
LCF4-Create protocols for care programs for various chronic psychogeriatric pathologies with special attention to depression and cognitive and functional impairment.	Definitively continue with the single common program approach, in which the professionals of the team decide at each moment, in which sub-protocol the patient should be included (depression, cognitive impairment, chronic mental illness, functional impairment and behavioral disorders)		
LCF4-Development of online strategies and programs for institutionalized elderly with chronic mental illness and cognitive and functional impairment	There is really only one generic program: "Nursing Home´s Psychogeriatric Support Program", displayed in the "Altamira", which includes the different approaches for the clinical problems faced (depression, cognitive impairment, chronic mental illness, functional impairment and behavioral disorders). Through the same software		

	you can access the videoconference (Rainbow), teleconference or direct consultation in Day Care Hospital		
LCF4-Start-up of a pilot project and evaluation of the results of the trial period to the actors involved. patients and relatives, and social-health work teams in nursing homes	Continue as it is	-	-
Activity	Maintain	Adapt	Abandon
LCF5-Create professional work teams for psychogeriatric care		Try to have all team members working full time	
LCF5-Create protocols for care programs for online case management and crisis intervention with demented elderly institutionalized in nursing homes with severe		Definitively adapt to a single program, in which the professionals of the team decide at each moment, in which sub-protocol the patient should be attended (depression, cognitive impairment, chronic mental illness, functional impairment and behavioral disorders)	

psychological and behavioral disturbances			
LCF5-Development of online strategies and programs for management and crisis intervention severe psychological and behavioral disturbances in institutionalized elderly	There is really only one generic program: "Nursing Home's Psychogeriatric Support Program", displayed in the "Altamira", which includes the different approaches for the clinical problems faced (depression, cognitive impairment, chronic mental illness, functional impairment and behavioral disorders). Through the same software you can access the videoconference (Rainbow), teleconference or direct consultation in Day Care Hospital		
LCF5-Start-up of a pilot project and evaluation of the results of the trial period to the actors involved, patients and relatives, and social-health work teams in nursing homes	Evaluation is planned for January 2023	-	-

2nd PDSA Cycle

QUESTIONS	DESCRIPTION
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Step	PLAN – Thematic Workshop on Block-2 CF4- Online physical rehabilitation, Danish Good Practice
Date of the meeting	06/07/2022 - 06/08/2022
Number and profile of the participants	<i>4 from IDIVAL (Project managers, researchers and physicians)</i>
Organizations involved	Fundación para la Formación e Investigación Sanitarias de la Región de Murcia (FFIS- IMIB) / - Servicio Murciano de Salud (SMS), Lombardy Region, Cantabrian Health Service (SCS) and IDIVAL.

QUESTIONS	DESCRIPTION
Step	PLAN – Thematic Workshop on B2-CF2: Telepsychiatry (Digital Roadmap towards an Integrated Healthcare Sector, Region of Southern Denmark
Date of the meeting	20/06/2022 & 21/06/2022
Number and profile of the participants	<i>10 face to face (Project managers, researchers, physicians)</i>
Organizations involved	Dirección General de Transformación Digital Consejería de Sanidad (DGTDRU), Servicio Cántabro de Salud (SCS), Instituto de Investigación Marqués de Valdecilla (IDIVAL)

LCF1 Information and training program for video-directed exercises								
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected ?	How will the data be collected?	Target value
Inclusion of the programs in the web system and electronic health records	<ul style="list-style-type: none"> Feasibility analysis Implementation of programmes 	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service	February 2023	Number of programs included in electronic medical record by the end of the timeline.	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service	June 2023	Implementation report	3 programs included in electronic medical record by the end of the timeline.
Training for Rehabilitation and Traumatology professionals	Organize and deliver internal training sessions	<ul style="list-style-type: none"> Head of Rehabilitation service Professional work teams: Physical Therapist and PM &	February 2023	<ul style="list-style-type: none"> % physical therapist completing the training. Evaluation by professionals of the 	<ul style="list-style-type: none"> Head of Rehabilitation service Professional work teams: Physical Therapist and PM & rehabilitation specialists	February 2023	<ul style="list-style-type: none"> Attendance lists Evaluation questionnaires 	<ul style="list-style-type: none"> Invitation to 100% of physical therapists of Marqués de Valdecilla hospital Rehabilitation

		rehabilitation specialists		rehabilitation service				<p>Service to be trained.</p> <ul style="list-style-type: none"> Overall satisfaction of the training above 7/10.
<p>Start-up of a pilot project and evaluation of the results of the trial period</p>	<ul style="list-style-type: none"> Define the patient profile to be directed to each programme. Redirect selected patients to each programme <p>Follow up and evaluation of participation / adherence to the programme</p>	<ul style="list-style-type: none"> Head of Rehabilitation service Professional work teams: Physical Therapist and PM & rehabilitation specialists <p>Marqués de Valdecilla Hospital Quality service</p>	<p>February 2023</p>	<ul style="list-style-type: none"> Number of patient users of each program. Number of views of each video-program. Patient satisfaction survey results. <p>Percentage of patients in each group who did not require inclusion in a physical therapy program after the tele-</p>	<ul style="list-style-type: none"> Head of Rehabilitation service Professional work teams: Physical Therapist and PM & rehabilitation specialists <p>Marqués de Valdecilla Hospital Quality service</p>	<p>June 2023</p>	<p>Extraction of enrolment, visualization and satisfaction data from Web system</p>	<ul style="list-style-type: none"> At least 15 patients redirected to the respective program (heterogeneous and representative sample). At least 1 view/day of each video-program Overall patient satisfaction of the programme above 7/10

				rehabilitation program.				Overall success rate of at least 10% of patients who did not require inclusion in a physical therapy program after the tele-rehabilitation program.
Involve Trauma Service	Present the Programme and ask for advisory and recommendations	<ul style="list-style-type: none"> • Head of Rehabilitation Service • Head of Trauma Service • Professional work teams 	November 2022	Information for Rehabilitation patients validated by Trauma Service	Rehabilitation Service working team	January 2023	Meetings between both Services	

LCF2	Synchronous and asynchronous online communication channels between patient and therapist and between patients and medical specialists							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value

						collected?		
Design of Application web for tele-rehabilitation and App for mobile devices	<ul style="list-style-type: none"> Define the main features required Contact with IT companies 	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service Professional work teams: Physical Therapist and PM & rehabilitation specialists <ul style="list-style-type: none"> Selected patient 	January 2023	App availability	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service 	June 2023	<ul style="list-style-type: none"> Brainstorming of needed features and selection of core ones budgets requested 	1 App created with selected features.
Create Online questionnaires to evaluate progress of patients	<ul style="list-style-type: none"> Review existing questionnaires Select and adapt questionnaires 	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service 	Sept-Nov 2022	<ul style="list-style-type: none"> Number of questionnaires to evaluate progress. Comprehensibility analysis of questionnaires. 	<ul style="list-style-type: none"> Head of Rehabilitation service Professional work teams: Physical Therapist and PM & 	June 2023	<ul style="list-style-type: none"> Report with adapted questionnaires Patient and Marques de Valdecilla Hospital 	1 questionnaire about the benefits offered by the programme

		<ul style="list-style-type: none"> • Professional work teams: Physical Therapist and PM & rehabilitation specialists • Selected patient • Marqués de Valdecilla Hospital Quality service 			rehabilitation specialists.		Quality service evaluation on comprehension	1 questionnaire about the usability of the web app/platform
Training for Rehabilitation professionals	Organize and deliver internal training sessions	<ul style="list-style-type: none"> • Health IT expert • Head of Rehabilitation service • Professional work teams: Physical Therapist and PM & rehabilitation 	January - February 2023	<ul style="list-style-type: none"> • % physical therapist completing the training. • Evaluation by professionals of the rehabilitation service 	<ul style="list-style-type: none"> • Health IT expert • Head of Rehabilitation service • Professional work teams: Physical Therapist and PM & rehabilitation 	January-February 2023	<ul style="list-style-type: none"> • Attendance lists • Evaluation questionnaires 	<ul style="list-style-type: none"> • 100% of physical therapists of Marqués de Valdecilla hospital Rehabilitation Service being offered to be trained.

		on specialists			on specialists			<ul style="list-style-type: none"> Overall satisfaction of the training above 7/10
Start-up of a pilot project and evaluation of the results of the trial period	<ul style="list-style-type: none"> Define the patient profile to be directed to each programme. Redirect selected patients to each programme Follow up and evaluation of participation / adherence to the programme 	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service Professional work teams: Physical Therapist and PM & rehabilitation on specialists Marqués de Valdecilla Hospital Quality service 	February 2023	<ul style="list-style-type: none"> Number of patient users of each program. Patient satisfaction survey results. Professional satisfaction survey results Percentage of patients in each group who did not require a physical consultation after the usage of the synchronous and asynchronous online communications. 	<ul style="list-style-type: none"> Health IT expert IT Hospital department Head of Rehabilitation service 	June 2023	<ul style="list-style-type: none"> Extraction of times the web app link was clicked, and results of questionnaires filled in the web app Results from satisfaction surveys 	<ul style="list-style-type: none"> At least 15 patients redirected to the respective program. At least 15 web app link clicked Overall patient satisfaction of the service above 7/10 Overall professional satisfaction of the service above 7/10

								<ul style="list-style-type: none">Overall success rate of at least 10% of patients who did not require inclusion in a physical therapy program after the tele-rehabilitation program.
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LCF3	Patients' School							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Create professional work team	Definition of professional profiles	Responsible of Cantabrian School of health	October 2021	Profile of professionals engaged and team composition	Responsible of Cantabrian School of health	June 2023	Needs analysis followed by decision	21 professionals and patients to work in the active patient peer learning programme (Asynchronous online platform and face-to-face trainers) forming a multidisciplinary team Other professionals involved in the creation of training material for the web page.
Create the annual program/agenda for the Patients' school.	Analysis of current training gaps in the portfolio of trainings offered by the	<ul style="list-style-type: none"> Responsible of Cantabrian School of health Professional work teams: nurses, 	October 2021-December 2022	Number of activities planned	<ul style="list-style-type: none"> Responsible of Cantabrian School of health Professional work teams: 	December 2022	Needs Analysis and calendar	A programme with at least 8 workshops and supporting educational material about at least 10 topics still uncovered by current training material in the web of the Cantabrian

	Cantabrian School of health	doctors, patients, associations...			nurses, doctors, patients, associations ...			School of health (www.escuelacantabradesa.lud.es/)
Creating Material (slides, small text) Video - recording and video-editing of webinars	<ul style="list-style-type: none"> Specify content Decide better format Create script and slides Record videos 	<ul style="list-style-type: none"> Video Professionals Professional work teams: nurses, doctors, patients' associations ... 	January-March 2023	Number of finished video courses / webinars	<ul style="list-style-type: none"> Video Professionals Professional work teams: nurses, doctors, patients' associations ... 	March 2023	Recording	12 entries for the web of the Cantabrian School of Health including webinars, podcasts, text and instructional videos created
Upload the courses / webinars in the online portal	Upload material	Health IT expert	March - April 2022	Number of courses included in the web portal	Health IT expert	April 2022	Report	12 entries for the web of the Cantabrian School of Health including webinars, podcasts, text and instructional videos uploaded and available for patients
Training for Patients to learn how to use the online platform	Create self-study material on digital skills	<ul style="list-style-type: none"> Patients Professional work teams: nurses, doctors, patients, 	January 2022	Number of trainings on how to use the web and platform.	<ul style="list-style-type: none"> Patients Professional work teams: nurses, doctors, patients, 	January 2022	<ul style="list-style-type: none"> Guides created 	<ul style="list-style-type: none"> At least 1 guide created to understand how to use the active patient peer learning Asynchronous online platform.

		associations ...			associations ...			<ul style="list-style-type: none"> At least 1 guide on how to take advantage of the Cantabrian School of Health
Start-up of a pilot and evaluation of the results	<ul style="list-style-type: none"> Launch of courses/webinars Recommendation to Patients Dissemination of new courses 	<ul style="list-style-type: none"> Professional work teams: nurses, doctors, patients, associations... Patients Marqués de Valdecilla Hospital Quality Service 	February 2022-December 2022	<ul style="list-style-type: none"> Number of patient users of the active patient peer learning programme <ul style="list-style-type: none"> Number of views of the Cantabrian School of Health webpage Patient satisfaction survey results. 	Professional work teams: nurses, doctors, patients, associations...	December 2022	<ul style="list-style-type: none"> Extraction of completion data from the online platform. Web visualizations from google analytics Results from satisfaction surveys 	<ul style="list-style-type: none"> At least 80 patients participating in the active patient peer learning programme At least 10.000 views of the Cantabrian School of Health webpage Overall patient satisfaction of the active patient peer learning programme above 7/10
LCF4	Tele-Psychogeriatrics Online							
	Actions	Actors		KPIs MEASURE				

Activities (from the LAP)			Time line	KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Create professional work teams for psychogeriatric care	Identification of professional profiles: experts in psychogeriatrics	Psychogeriatric team (one Psychiatrist one Geriatrician, one Clinical Psychologist and one registered Nurse) All of them belong to the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital.	October 2021	Profile of the professionals involved and composition of the online psychogeriatric care teams for nursing homes.	Psychogeriatric team	October 2021	Needs analysis followed by decision	4 professionals working in this LCF4 forming a multidisciplinary team (Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nurse with clinical experience in the care of elders) working on the program full-time.
Single common program approach for various	The professionals of the team decide at each moment, in	Psychogeriatric team that belong to the Long Term Care Unit of	November-December	Number of protocols approved for internal operation of the team	Psychogeriatric team (Psychiatry, Geriatrics, Clinical Psychology and	June 2023	Protocols written by members of Psychogeriatric team	Single common program with subprotocol per each chronic psychogeriatric pathology, having a

chronic psychogeriatric pathologies with special attention to: depression and cognitive and functional impairment.	which sub-protocol the patient should be included (depression, cognitive impairment, chronic mental illness, functional impairment and behavioral disorders)	the Psychiatry Service of Valdecilla University Hospital	r 2021		Nursing) of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital		after clinical consultation.	pool of at least 5 protocols for: depression, cognitive impairment, behavioral disorders, functional impairment, others.
Development of online strategies and programs for institutionalized elderly with chronic mental illness and cognitive and functional impairment	Implementation of teleconsultation (Rainbow system for video conference) into Altamira. Design alternatives in case there are communication problems (switch to telephone	Department for Digital Transformation and Relations with Health Users of the Regional Ministry of health of Cantabria And by the psychogeriatrics team for the daily use of the tool	January 2022 - June 22	Videoconference program included in the "Altamira" electronic medical record of SCS	Psychogeriatric team (Psychiatry, Geriatrics, Clinical Psychology and Nursing) of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital	June 2023	Reports from "Altamira" electronic clinical records of SCS	1 Videoconference program included in the "Altamira" electronic medical record of SCS

	teleconsultation.) Design alternatives in case of by decision of the medical team, direct care consultation is needed (face to face).							
Start-up of a pilot project and evaluation of the results of the trial period to the actors involved: patients and relatives, and social-health work teams in nursing homes	<ul style="list-style-type: none"> Define the patient profile to be directed to each programme. Redirect selected patients to each programme Follow up and evaluation of participation / adherence 	<ul style="list-style-type: none"> Psychogeriatric team (Psychiatry, Geriatrics, Clinical Psychology and Nursing) of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital 	January 2022 - January 2023	<ul style="list-style-type: none"> Number of elderly registered in the program Number of elderly users of each program <ul style="list-style-type: none"> Number of first and subsequent consultations made Number of consultations with other 	<ul style="list-style-type: none"> Psychogeriatric team through on line survey at the rest of the professionals involved 	January 2023 (After the first year of deployment of telepsychogeriatrics in the program: "Nursing Home's Psychogeriatric Support Program")	<ul style="list-style-type: none"> The data from the final online evaluation survey will be entered and analyzed in a database system 	At least 50 elderly users enrolled in our "Nursing Home's Psychogeriatric Support Program" At least 50 first consultations carried out and a minimum of 25 subsequent teleconsultations. Reduction in the number of consultations with other Hospital Services and Primary Health Care Teams (difficult to find and select a

	to the programme	<ul style="list-style-type: none"> • Professional socio-sanitary work teams in nursing homes • Marqués de Valdecilla Hospital Quality Service 		<p>Hospital Services and Primary Health Care Teams</p> <ul style="list-style-type: none"> • Results of the satisfaction survey of the elderly users of the Program. • Results of the satisfaction survey of the social health professionals of the nursing homes. • Results of the satisfaction survey of the professionals of 			<p>control group adjusted for different variables) Overall staff, social and health nursing home professionals satisfaction with the tele-psychogeriatrics program Overall satisfaction of the professionals of the Psychogeriatric Team with the program</p>
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				the Psychogeriatric Team.				
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LCF5 Online management of the psychological and behavioral disorders of the elderly with dementia institutionalized in nursing homes								
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Create professional work teams for psychogeriatric care	Identification of professional profiles: experts in psychogeriatrics	Psychogeriatric team (one Psychiatrist one Geriatrician, one Clinical Psychologist and one registered Nurse)	October 2021- November 2021	Profile of the professionals involved and composition of the psychogeriatric assistance teams on line to nursing homes.	Psychogeriatric team (Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nurse) of the Long Term Care Unit of the Psychiatry Service of	November 2021	Needs analysis followed by decision	4 professionals working in this LCF5 forming a multidisciplinary team (Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nurse with clinical experience in the care of elders) working on the program part-time.

		<p>All of them belong to the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital.</p> <ul style="list-style-type: none"> • Professional socio-sanitary work teams in nursing homes • Hospital IT department. • Department for Digital Transformation and Relations with Health Users of the Regional Ministry of 			Valdecilla University Hospital			
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		health of Cantabria						
Single common program approach for online case management and crisis intervention with demented elderly institutionalized in nursing homes with severe psychological and behavioral disturbances	The professionals of the team decide at each moment, in which sub-protocol the patient should be included (depression, cognitive impairment, chronic mental illness, functional impairment and behavioral disorders	<ul style="list-style-type: none"> • Psychogeriatric team (Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nursing) of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital • Professional socio-sanitary work teams in nursing homes 	November-December 2021	Number of protocols approved and published by the work team	Psychogeriatric team of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital Professional socio-sanitary work teams in nursing homes	December 2021	The data will be collected in the SCS electronic medical record "Altamira"	Single common program with subprotocol per each chronic psychogeriatric pathology, having a pool of at least 5 protocols

Development of online strategies and programs for management and crisis intervention severe psychological and behavioral disturbances in institutionalized elderly	Design the different online strategies and programs for each type of situation	<ul style="list-style-type: none"> Psychogeriatric team 	November-December 2021	Number of strategies approved for internal use Number of programs included in the electronic medical record at the end of the schedule.	<ul style="list-style-type: none"> Psychogeriatric team 	December 2022	The data will be collected in the SCS electronic medical record "Altamira"	At least one protocol for management institutionalized elderly with severe psychological and behavioral disturbances

<p>Start-up of a pilot project and evaluation of the results of the trial period to the actors involved, patients and relatives, and social-health work teams in nursing homes</p>	<ul style="list-style-type: none"> Define the cases in which to activate the protocols/programmes designed Follow up and evaluation of the programmes 	<ul style="list-style-type: none"> Psychogeriatric team Valdecilla Hospital Professional socio-sanitary work teams in nursing homes 	<p>January 2022- January 2023</p>	<ul style="list-style-type: none"> Number of teleconsultations carried out, number of first teleconsultations, number of successive teleconsultations total number of elderly people followed in teleconsultation, number of elderly registered in the program Number of consultations proposed by the Psychogeriatric Team of the Long Term Care Unit of the Psychiatry 	<ul style="list-style-type: none"> Psychogeriatric team (Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nurse) of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital 	<p>January 2023 (After the first year of deployment of telepsychogeriatrics in the program: "Nursing Home's Psychogeriatric Support Program")</p>	<ul style="list-style-type: none"> The data from the final evaluation survey will be entered and analyzed in a database system 	<ul style="list-style-type: none"> At least 50 teleconsultations carried out At least 30 first consultations made and a minimum of 20 subsequent teleconsultations. If possible, analysis of the impact of the program on consultations reduction with other Hospital Services and Primary Health Care Teams (difficulty finding and selecting a control group adjusted for different variables) Overall staff, social and health nursing home professionals
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				Service of Valdecilla University Hospital to other Hospital Services and to the Primary Health Care Teams	through by on line survey at the rest of the professionals involved			<p>satisfaction with the tele-psychogeriatrics program</p> <ul style="list-style-type: none"> • Overall satisfaction of the professionals of the Psychogeriatric Team with the program
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DO TEMPLATE

The NAWG will complete the following templates at the end of the “DO” step to monitor the implementation process.

QUESTIONS	DESCRIPTION
Step	DO – Internal meeting
Date of the meeting	01-09-2022
Number and profile of the participants	6 (<i>Project managers, researchers, physicians</i>)

Organizations involved	Dirección General de Transformación Digital Consejería de Sanidad (DGTDRU), Servicio Cántabro de Salud (SCS), Instituto de Investigación Marqués de Valdecilla (IDIVAL)
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QUESTIONS	DESCRIPTION
Step	DO – 2nd JADECARE Consortium Meeting
Date of the meeting	26/10/2022 & 27/10/2022
Number and profile of the participants	94 participants: 49 onsite + 45 online (Project managers, researchers, physicians)
Organizations involved	16 Competent Authorities and 31 Affiliated Entities of JADECARE

QUESTIONS	DESCRIPTION
Step	DO – Spanish National Meeting –
Date of the meeting	21/12/2022
Number and profile of the participants	14 (Project managers, researchers, physicians)
Organizations involved	Instituto de Investigación en Servicios de Salud KRONIKGUNE, Consejería de Salud y Consumo de la Junta de Andalucía (CSFJA), Servicio Cántabro de Salud (SCS), Gerencia Regional de Salud de Castilla y León (SACYL), Servicio Murciano de Salud (SMS), Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Fundación Pública Andaluza Progreso y Salud (FPS), Instituto de Investigación Marqués de Valdecilla (IDIVAL), Fundación para la Formación e Investigaciones Sanitarias de la Región de Murcia (FFIS), Agència de Qualitat i Avaluació Sanitàries de Catalunya (AQUAS).

Cycle number (1 or 2)	2	
Activity	KPI	Actual value
LCF1-Create professional work teams for each process / fracture	Profile of professionals engaged and team composition.	15

LCF1-Create exercise program protocols for each fracture and evolutionary moment.	Number of protocols approved and published	3
LCF1-Video - recording and video-editing of exercise programs	Number of finished video programs Comprehensibility analysis test of videos	63
LCF1-Inclusion of the programs in the web system and electronic health records	Number of programs included in electronics medical record by the end of the timeline.	0
LCF1-Training for Rehabilitation and Traumatology professionals	<ul style="list-style-type: none"> • % physical therapist completing the training. • Evaluation by professionals of the rehabilitation service 	0
LCF1- Start up of a pilot project and evaluation of the results of the trial period	<ul style="list-style-type: none"> • Number of patient users of each program. • Number of views of each video-program. • Patient satisfaction survey results. • Percentage of patients in each group who did not require inclusion in a physical therapy program after the tele-rehabilitation program. 	0

Activity	KPI	Actual value
LCF2-Design of Application web for tele-rehabilitation and App for mobile devices	App availability	Yes (in progress)
LCF2-Create Online questionnaires to evaluate progress of patients	<ul style="list-style-type: none"> • Number of questionnaires to evaluate progress. • Comprehensibility analysis of questionnaires. 	0
LCF2-Training for Rehabilitation professionals	<ul style="list-style-type: none"> • % physical therapist completing the training. • Evaluation by professionals of the rehabilitation service 	0
LCF2-Start-up of a pilot project and evaluation of the results of the trial period	<ul style="list-style-type: none"> • Number of patient users of each program. • Patient satisfaction survey results. • Professional satisfaction survey results <p>Percentage of patients in each group who did not require a physical consultation after the usage of the synchronous and asynchronous online communications.</p>	0

Activity	KPI	Actual value
LCF3-Create professional work team	Profile of professionals engaged and team composition	6 (4 for the online platform and 2 for the face-to-face sessions) 5 patients 11 professionals Total: 22
LCF3-Create the annual program/agenda for the Patients' school.	Number of activities planned	6 online workshops held following the active patient peer learning methodology 1 face-to-face workshop
LCF3-Creating Material (slides, small text) Video - recording and video-editing of webinars	Number of finished video courses / webinars (not uploaded yet at the website)	Physical activity, healthy eating and macular degeneration. Sleep hygiene was replaced by other topics. 12 YouTube videos (https://www.youtube.com/@escuelacantabradesalud7433/videos)
LCF3-Upload the courses / webinars in the online portal	Number of courses included in the web portal	Physical activity, healthy eating. Sleep hygiene was replaced by other topics. 7 patient experience related videos available at website (https://www.escuelacantabradesalud.es/onlinepacienteactivo_cuidadoresponsible) 10 educative videos at the website (gender diversity, early detection of celiac disease, nasal bleeding, cardiorespiratory arrest, choking and seizure protocols, mouth/teeth hygiene, etc.)
LCF3-Training for Patients to learn how to use the online platform	Number of trainings on how to use the web and platform.	1 (a promotional video on how to take advantage of the Cantabrian School of Health webpage)
LCF3-Start-up of a pilot and evaluation of the results	<ul style="list-style-type: none"> Number of patient users of the 	82 patients have finished the programme considering 6 groups from February to November, 2022 (More than 180 patients registered, but later the participation becomes lower)

	<p>active patient peer learning programme</p> <ul style="list-style-type: none"> • Number of views of the Cantabrian School of Health webpage • Patient satisfaction survey results. 	<p>Webpage (February-December 2022)</p> <ul style="list-style-type: none"> - Users: 86.009 (España-46,17%, México-20,32%) - New visitors: 88,9% - Old visitors: 11,1% - Sessions: 106.946 - Views: 188.647 <p>Satisfaction rate of 4/5 of the peer learning active patient program</p>
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Activity	KPI	Actual value
LCF4-Create professional work teams for psychogeriatric care	Profile of the professionals involved and composition of the online psychogeriatric care teams for nursing homes.	2 (one Psychiatrist part time and one Geriatrician part time)
LCF4-Create protocols for care programs for various chronic psychogeriatric pathologies with special attention to depression and cognitive and functional impairment.	Number of protocols approved for internal operation of the team	<p>5</p> <p>Available protocols for:</p> <ul style="list-style-type: none"> • Cognitive impairment • Depression • Behavioral disorders pharmacologic approach • Behavioral disorders non pharmacologic approach

		<ul style="list-style-type: none"> • Functional impairment (physical exercise recommendations, healthy diet recommendations)
LCF4-Development of online strategies and programs for institutionalized elderly with chronic mental illness and cognitive and functional impairment	<ul style="list-style-type: none"> • Videoconference program included in the "Altamira" electronic medical record of SCS 	1
LCF4-Start-up of a pilot project and Evaluation of the results of the trial period to the actors involved. patients and relatives, and social-health work teams in nursing homes	<ul style="list-style-type: none"> • Number of elderly registered in the program • Number of elderly users of each program • Number of first and subsequent consultations made • Number of consultations with other Hospital Services and Primary Health Care Teams • Results of the satisfaction survey of the elderly users of the Program. • Results of the satisfaction survey of the social health professionals of the nursing homes. • Results of the satisfaction survey of the professionals of the Psychogeriatric Team. 	<p>286 patients included until December 2022</p> <p>(208 evaluated by Psychiatrist, 59 evaluated by a Geriatrician and 19 by both of them)</p> <p>46 patients died during the study period</p> <p>1201 consultations made (195 face-to-face and 1006 telephone or online)</p> <p>The expertise of the professionals is mandatory to select the patients who qualify for no face-to-face consultation</p>

Activity	KPI	Actual value
LCF5-Create professional work teams for psychogeriatric care	Profile of the professionals involved and composition of the psychogeriatric assistance teams on line to nursing homes.	2 (one Psychiatrist part time and one Geriatrician part time)
LCF5-Create protocols for care programs for online case management and crisis intervention with demented elderly institutionalized in nursing homes with severe psychological and behavioral disturbances	Number of protocols approved and published by the work team	5 Available protocols for: <ul style="list-style-type: none"> • Cognitive impairment • Depression • Behavioral disorders pharmacologic approach • Behavioral disorders non pharmacologic approach • Functional impairment (physical exercise recommendations, healthy diet recommendations) if the patients can collaborate
LCF5-Development of online strategies and programs for management and crisis intervention severe psychological and behavioral disturbances in institutionalized elderly	Number of programs included in the electronic medical record at the end of the schedule.	1
LCF5-Start-up of a pilot project and evaluation of the results of the trial period to the actors involved, patients and relatives, and social-health work teams in nursing homes	<ul style="list-style-type: none"> • Number of teleconsultations carried out, • number of first teleconsultations, • number of successive teleconsultations 	286 patients included until December 2022 (208 evaluated by Psychiatrist, 59 evaluated by a Geriatrician and 19 by both of them) 46 patients died during the study period

	<ul style="list-style-type: none"> • total number of elderly people followed in teleconsultation, • number of elderly registered in the program • Number of consultations proposed by the Psychogeriatric Team of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital to other Hospital Services and to the Primary Health Care Teams • Number of programs included in the electronic medical record at the end of the schedule. 	<p>1201 consultations made (195 face-to-face and 1006 telephone or online)</p> <p>During the first 5 months almost 800 consultations were made.</p> <p>However, almost 200 are face-to-face consultations, reflecting the need for programs and protocols that allow mixed teleconsultation and face-to-face visits to health professionals</p> <p>The expertise of the professionals is mandatory to select the patients who qualify for no face-to-face consultation</p>
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QUESTIONS	ANSWERS
<p>What was actually implemented? Any deviation from the planned actions</p>	<p>Most of the activities planned for the DO step of the first cycle are being developed successfully, however we are a bit behind the schedule and dealing with lack of staff and administrative issues.</p> <p>Regarding LCF1 and LCF2, we are experiencing some delay related with the IT tool which has made impossible to evaluate any patient at this stage. In this context, our new prevision is to evaluate 10 patients instead of the 15 originally planned. This reduction is due to an adaptation of the patients selection way. Originally we planned to get them derived from Trauma Service, but this is a longer way and in order to mitigate the current delay, we will work with 10 patients that are already enrolled at Rehabilitation Service. We will start their evaluations as soon as the platform becomes available.</p> <p>About LCF3 we have to point out that the sleeping hygiene materials were not tackled yet, but there were created some other protocols related with other topics such as: gender diversity, early detection of celiac disease, nasal bleeding, cardiorespiratory arrest,</p>

	<p>choking and seizure protocols, mouth/teeth hygiene, etc. We have also to add that there are more created materials than the ones available at the web site right now. The creation process was really productive, but we have to enhance the communication tasks.</p> <p>With respect to LCF4 and LCF5, teleconsultation by video sometimes has operational problems, occasionally the internet works poorly, there are communication cuts, if they happen several times, it usually requires telephonic consultation.</p> <p>In addition, the mobile application that patients used to access the Rainbow videoconferencing system was recently replaced by a new MyHealth@SCS app on 7 December 2022. In the next semester we will have to analyse whether this change facilitates or hinders the user experience during the JADECARE implementation process.</p> <p>(Further explained in STUDY step)</p>
<p>Problems? Unexpected findings? Please describe</p>	<p>As we mentioned before, as far as LCF1 and LCF2 are concerned, there have been delays with the technology company that provides the video platform and web app service to the user. At present (January 2023) the pilot should have started, however, the implementation process of the technological solution is not yet in place. It should be noted that this implementation process consists of different phases.</p> <p>In addition, regarding LCF4 and LCF5, usually the only two the members of the team are required for attention needs on demand by other patients of the Long Term Care Unit ward or other clinical commitments which makes it difficult to synchronize agendas. From the 4 members team planned, we have just 2 working members on the program (part time) and their dedication depends on their availability regarding their other professional commitments. Nevertheless, we have treated about 300 patients even when the previsions were about 50.</p> <p>Problems of connections between the psychogeriatric team and users that the team generally cannot solve, can generate a feeling of inefficiency on the part of the users of the program</p> <p>Administrative organizational problems (excessive turnover of some professionals, team members work in the program only part time) whose resolution does not depend on the team.</p> <p>(Further explained in STUDY step)</p>

IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE

0-25%	25-50%	50-75%	75-100%
		x	

2. MEETINGS

The NAWG will report the number of meetings conducted in each step of the PDSA cycle.

STEP	No. meetings	No. professionals involved	No. organizations represented
PLAN (Cycle 1)	3	17	3
DO (Cycle 1)	1	6	3
STUDY (Cycle 1)	1	6	3
ACT (Cycle 1)	1	6	3
PLAN (Cycle 2)	2		3
DO (Cycle 2)	3	114	27

1. DO TEMPLATE

The NAWG will complete the following templates at the end of the “DO” step to monitor the implementation process.

QUESTIONS	DESCRIPTION
Step	DO – Internal meeting
Date of the meeting	01-09-2022
Number and profile of the participants	6 (Project managers, researchers, physicians)
Organizations involved	Dirección General de Transformación Digital Consejería de Sanidad (DGTDRU), Servicio Cántabro de Salud (SCS), Instituto de Investigación Marqués de Valdecilla (IDIVAL)

QUESTIONS	DESCRIPTION
Step	DO – 2nd JADECARE Consortium Meeting
Date of the meeting	26/10/2022 & 27/10/2022
Number and profile of the participants	94 participants: 49 onsite + 45 online (Project managers, researchers, physicians)
Organizations involved	16 Competent Authorities and 31 Affiliated Entities of JADECARE

QUESTIONS	DESCRIPTION
Step	DO – Spanish National Meeting –
Date of the meeting	21/12/2022
Number and profile of the participants	14 (Project managers, researchers, physicians)
Organizations involved	Instituto de Investigación en Servicios de Salud KRONIKGUNE, Consejería de Salud y Consumo de la Junta de Andalucía (CSFJA), Servicio Cántabro de Salud (SCS), Gerencia Regional de Salud de Castilla y León (SACYL), Servicio Murciano de Salud (SMS), Institut d’Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Fundación Pública Andaluza Progreso y Salud (FPS), Instituto de Investigación Marqués de Valdecilla (IDIVAL), Fundación para la Formación e Investigaciones Sanitarias de la Región de Murcia (FFIS), Agència de Qualitat i Avaluació Sanitàries de Catalunya (AQUAS).

Cycle number (1 or 2)	2	
Activity	KPI	Actual value
LCF1-Create professional work teams for each process / fracture	Profile of professionals engaged and team composition.	15
LCF1-Create exercise program protocols for each fracture and evolutionary moment.	Number of protocols approved and published	3

LCF1-Video - recording and video-editing of exercise programs	Number of finished video programs Comprehensibility analysis test of videos	63
LCF1-Inclusion of the programs in the web system and electronic health records	Number of programs included in electronics medical record by the end of the timeline.	0
LCF1-Training for Rehabilitation and Traumatology professionals	<ul style="list-style-type: none"> • % physical therapist completing the training. • Evaluation by professionals of the rehabilitation service 	0
LCF1- Start up of a pilot project and evaluation of the results of the trial period	<ul style="list-style-type: none"> • Number of patient users of each program. • Number of views of each video-program. • Patient satisfaction survey results. • Percentage of patients in each group who did not require inclusion in a physical therapy program after the tele-rehabilitation program. 	0

Activity	KPI	Actual value
LCF2-Design of Application web for tele-rehabilitation and App for mobile devices	App availability	Yes (in progress)

LCF2-Create Online questionnaires to evaluate progress of patients	<ul style="list-style-type: none"> • Number of questionnaires to evaluate progress. • Comprehensibility analysis of questionnaires. 	0
LCF2-Training for Rehabilitation professionals	<ul style="list-style-type: none"> • % physical therapist completing the training. • Evaluation by professionals of the rehabilitation service 	0
LCF2-Start-up of a pilot project and evaluation of the results of the trial period	<ul style="list-style-type: none"> • Number of patient users of each program. • Patient satisfaction survey results. • Professional satisfaction survey results <p>Percentage of patients in each group who did not require a physical consultation after the usage of the synchronous and asynchronous online communications.</p>	0

Activity	KPI	Actual value
LCF3-Create professional work team	Profile of professionals engaged and team composition	6 (4 for the online platform and 2 for the face-to-face sessions) 5 patients 11 professionals Total: 22

LCF3-Create the annual program/agenda for the Patients' school.	Number of activities planned	6 online workshops held following the active patient peer learning methodology 1 face-to-face workshop
LCF3-Creating Material (slides, small text) Video - recording and video-editing of webinars	Number of finished video courses / webinars (not uploaded yet at the website)	Physical activity, healthy eating and macular degeneration. Sleep hygiene was replaced by other topics. 12 YouTube videos (https://www.youtube.com/@escuelacantabradesalud7433/videos)
LCF3-Upload the courses / webinars in the online portal	Number of courses included in the web portal	Physical activity, healthy eating. Sleep hygiene was replaced by other topics. 7 patient experience related videos available at website (https://www.escuelacantabradesalud.es/onlinepacienteactivo_cuidadoresponsible) 10 educative videos at the website (gender diversity, early detection of celiac disease, nasal bleeding, cardiorespiratory arrest, choking and seizure protocols, mouth/teeth hygiene, etc.)
LCF3-Training for Patients to learn how to use the online platform	Number of trainings on how to use the web and platform.	1 (a promotional video on how to take advantage of the Cantabrian School of Health webpage)
LCF3-Start-up of a pilot and evaluation of the results	<ul style="list-style-type: none"> • Number of patient users of the active patient peer learning programme • Number of views of the Cantabrian School of Health webpage • Patient satisfaction survey results. 	82 patients have finished the programme considering 6 groups from February to November, 2022 (More than 180 patients registered, but later the participation becomes lower) Webpage (February-December 2022) - Users: 86.009 (España-46,17%, México-20,32%) - New visitors: 88,9% - Old visitors: 11,1% - Sessions: 106.946

		- Views: 188.647
		Satisfaction rate of 4/5 of the peer learning active patient program

Activity	KPI	Actual value
LCF4-Create professional work teams for psychogeriatric care	Profile of the professionals involved and composition of the online psychogeriatric care teams for nursing homes.	2 (one Psychiatrist part time and one Geriatrician part time)
LCF4-Create protocols for care programs for various chronic psychogeriatric pathologies with special attention to depression and cognitive and functional impairment.	Number of protocols approved for internal operation of the team	5 Available protocols for: <ul style="list-style-type: none"> • Cognitive impairment • Depression • Behavioral disorders pharmacologic approach • Behavioral disorders non pharmacologic approach • Functional impairment (physical exercise recommendations, healthy diet recommendations)
LCF4-Development of online strategies and programs for	<ul style="list-style-type: none"> • Videoconference program included in the 	1

institutionalized elderly with chronic mental illness and cognitive and functional impairment	"Altamira" electronic medical record of SCS	
LCF4-Start-up of a pilot project and Evaluation of the results of the trial period to the actors involved. patients and relatives, and social-health work teams in nursing homes	<ul style="list-style-type: none"> • Number of elderly registered in the program • Number of elderly users of each program • Number of first and subsequent consultations made • Number of consultations with other Hospital Services and Primary Health Care Teams • Results of the satisfaction survey of the elderly users of the Program. • Results of the satisfaction survey of the social health professionals of the nursing homes. • Results of the satisfaction survey of the professionals of the Psychogeriatric Team. 	<p>286 patients included until December 2022 (208 evaluated by Psychiatrist, 59 evaluated by a Geriatrician and 19 by both of them)</p> <p>46 patients died during the study period</p> <p>1201 consultations made (195 face-to-face and 1006 telephone or online)</p> <p>The expertise of the professionals is mandatory to select the patients who qualify for no face-to-face consultation</p>

Activity	KPI	Actual value
LCF5-Create professional work teams for psychogeriatric care	Profile of the professionals involved and composition of the psychogeriatric assistance teams on line to nursing homes.	2 (one Psychiatrist part time and one Geriatrician part time)

<p>LCF5-Create protocols for care programs for online case management and crisis intervention with demented elderly institutionalized in nursing homes with severe psychological and behavioral disturbances</p>	<p>Number of protocols approved and published by the work team</p>	<p>5</p> <p>Available protocols for:</p> <ul style="list-style-type: none"> • Cognitive impairment • Depression • Behavioral disorders pharmacologic approach • Behavioral disorders non pharmacologic approach • Functional impairment (physical exercise recommendations, healthy diet recommendations) if the patients can collaborate
<p>LCF5-Development of online strategies and programs for management and crisis intervention severe psychological and behavioral disturbances in institutionalized elderly</p>	<p>Number of programs included in the electronic medical record at the end of the schedule.</p>	<p>1</p>
<p>LCF5-Start-up of a pilot project and evaluation of the results of the trial period to the actors involved, patients and relatives, and social-health work teams in nursing homes</p>	<ul style="list-style-type: none"> • Number of teleconsultations carried out, • number of first teleconsultations, • number of successive teleconsultations • total number of elderly people followed in teleconsultation, • number of elderly registered in the program • Number of consultations proposed by the Psychogeriatric Team of the 	<p>286 patients included until December 2022 (208 evaluated by Psychiatrist, 59 evaluated by a Geriatrician and 19 by both of them)</p> <p>46 patients died during the study period</p> <p>1201 consultations made (195 face-to-face and 1006 telephone or online)</p> <p>During the first 5 months almost 800 consultations were made.</p>

	<p>Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital to other Hospital Services and to the Primary Health Care Teams</p> <ul style="list-style-type: none"> • Number of programs included in the electronic medical record at the end of the schedule. 	<p>However, almost 200 are face-to-face consultations, reflecting the need for programs and protocols that allow mixed teleconsultation and face-to-face visits to health professionals</p> <p>The expertise of the professionals is mandatory to select the patients who qualify for no face-to-face consultation</p>
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QUESTIONS	ANSWERS
<p>What was actually implemented? Any deviation from the planned actions</p>	<p>Most of the activities planned for the DO step of the first cycle are being developed successfully, however we are a bit behind the schedule and dealing with lack of staff and administrative issues.</p> <p>Regarding LCF1 and LCF2, we are experiencing some delay related with the IT tool which has made impossible to evaluate any patient at this stage. In this context, our new prevision is to evaluate 10 patients instead of the 15 originally planned. This reduction is due to an adaptation of the patients selection way. Originally we planned to get them derived from Trauma Service, but this is a longer way and in order to mitigate the current delay, we will work with 10 patients that are already enrolled at Rehabilitation Service. We will start their evaluations as soon as the platform becomes available.</p> <p>About LCF3 we have to point out that the sleeping hygiene materials were not tackled yet, but there were created some other protocols related with other topics such as: gender diversity, early detection of celiac disease, nasal bleeding, cardiorespiratory arrest, choking and seizure protocols, mouth/teeth hygiene, etc. We have also to add that there are more created materials than the ones available at the web site right now. The creation process was really productive, but we have to enhance the communication tasks.</p>

	<p>With respect to LCF4 and LCF5, teleconsultation by video sometimes has operational problems, occasionally the internet works poorly, there are communication cuts, if they happen several times, it usually requires telephonic consultation.</p> <p>In addition, the mobile application that patients used to access the Rainbow videoconferencing system was recently replaced by a new MyHealth@SCS app on 7 December 2022. In the next semester we will have to analyse whether this change facilitates or hinders the user experience during the JADECARE implementation process.</p> <p>(Further explained in STUDY step)</p>
<p>Problems? Unexpected findings? Please describe</p>	<p>As we mentioned before, as far as LCF1 and LCF2 are concerned, there have been delays with the technology company that provides the video platform and web app service to the user. At present (January 2023) the pilot should have started, however, the implementation process of the technological solution is not yet in place. It should be noted that this implementation process consists of different phases.</p> <p>In addition, regarding LCF4 and LCF5, usually the only two the members of the team are required for attention needs on demand by other patients of the Long Term Care Unit ward or other clinical commitments which makes it difficult to synchronize agendas. From the 4 members team planned, we have just 2 working members on the program (part time) and their dedication depends on their availability regarding their other professional commitments. Nevertheless, we have treated about 300 patients even when the previsions were about 50.</p> <p>Problems of connections between the psychogeriatric team and users that the team generally cannot solve, can generate a feeling of inefficiency on the part of the users of the program</p> <p>Administrative organizational problems (excessive turnover of some professionals, team members work in the program only part time) whose resolution does not depend on the team.</p>

	(Further explained in STUDY step)
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IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
		x	

STEP	No. meetings	No. professionals involved	No. organizations represented
PLAN (Cycle 1)	3	17	3
DO (Cycle 1)	1	6	3
STUDY (Cycle 1)	1	6	3
ACT (Cycle 1)	1	6	3
PLAN (Cycle 2)	2		3
DO (Cycle 2)	3	114	27

We have to mention that the **LCF2-Create online tele-consultations** activity was suppressed because during the feasibility study, we identified that it was better to implement a chat box instead as an asynchronous service. The main reasons were: rejection to change, labour intrusion, difficulties to involve physiotherapists and traumatologists. It makes more sense to use the app “just” as a complement to the face-to-face sessions. It may be interesting to implement the online teleconsultation service for other pathologies in the future. It also must be mentioned that there is no negative impact for patients as they will continue having their regular face-to-face sessions.

QUESTIONS	DESCRIPTION
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Step	Study, cycle 2
Date of the meeting	01/18/2023
Number and profile of the participants	6 (Project managers, researchers, physicians, physiotherapists)
Organizations involved	Dirección General de Transformación Digital Consejería de Sanidad (DGTDRU), Servicio Cántabro de Salud (SCS), Instituto de Investigación Marqués de Valdecilla (IDIVAL)

Cycle number (1or 2)		2				
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
LCF1-Create professional work teams for each process / fracture	Profile of professionals engaged and team composition.	5	15	No major deviations. Moreover, this increase of professionals (both doctors and physiotherapists) will allow to jointly develop protocols. This change enhances the project and improves its sustainability.	No mitigation actions were needed	-
LCF1-Create exercise program protocols for each fracture and evolutionary moment.	Number of protocols approved and published	3	3	No major deviations	No mitigation actions were needed	-

LCF1-Video - recording and video-editing of exercise programs	Number of finished video programs Comprehensibility analysis test of videos	60	63	No major deviations	No mitigation actions were needed	-
LCF1-Inclusion of the programs in the web system and electronic health records	Number of programs included in electronics medical record by the end of the timeline.	3	0 (not started yet)	We are a bit delayed and we expect it to be done in Oct-Nov 2022. All videos are recorded and awaiting to be uploaded and implemented in the system. The reasons where mainly administrative to find a subcontractor that could integrate the protocols in the departmental programme.	Delay the implementation but find the right company to do the implementation to our current system to avoid that doctors and other health care professionals out of the Rehabilitation service could not have access to the information of the specific programme in which each patient is enrolled.	As a consequence, we are 3 months behind the schedule
LCF1-Training for Rehabilitation and Traumatology professionals	<ul style="list-style-type: none"> % physical therapist completing the training. Evaluation by professionals of the rehabilitation service	Invitation to 100% of the professionals 70% patients satisfied	0 (not started yet)	Delay due to the difficulties to involve the company to implement the protocols in the system. Will be done in January 2023	Delay due to the difficulties to involve the company to implement the protocols in the system.	Delay due to the difficulties to involve the company to implement the protocols in the system.
LCF1- Start up of a pilot project and evaluation of the results of the trial period	<ul style="list-style-type: none"> Number of patient users of each program. Number of views of each video-program. 	15 patients 1 view/day 70% patients satisfied	0 (not started yet)	Delay due to the difficulties to involve the company to implement the protocols in the system. Will be done in January-April 2023	Delay due to the difficulties to involve the company to implement the protocols in the system.	Delay due to the difficulties to involve the company to implement the protocols in the system.

	<ul style="list-style-type: none"> • Patient satisfaction survey results. <p>Percentage of patients in each group who did not require inclusion in a physical therapy program after the tele-rehabilitation program</p>	10% rehabilitation success				
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Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
LCF2-Design of Application web for tele-rehabilitation and App for mobile devices	App availability	Yes	In progress	It has been decided to create a web app. Due to the summer season and the administrative delays to find the right subcontractor to develop the app, we are a bit behind the schedule, and it will be ready in Nov 2022	Delay preferred in benefit of a better implementation	Delay of a couple of months
LCF2-Create Online questionnaires to evaluate progress of patients	<ul style="list-style-type: none"> • Number of questionnaires to evaluate progress. <p>Comprehensibility analysis of questionnaires.</p>	2	0	Delay of a couple of months as it is dependent on other required previous activities	Delay preferred in benefit of a better implementation	Delay of a couple of months

LCF2-Training for Rehabilitation professionals	<ul style="list-style-type: none"> • % physical therapist offered the training. • Evaluation by professionals of the rehabilitation service 	<p>Invitation to 100% of the professionals</p> <p>70% patients satisfied</p>	<p>0 (delayed)</p>	<p>Delay due to the difficulties to involve the company to develop the web app.</p>	<p>Delay due to the difficulties to involve the company to develop the web app.</p>	<p>Delay due to the difficulties to involve the company to develop the web app.</p>
LCF2-Start-up of a pilot project and evaluation of the results of the trial period	<ul style="list-style-type: none"> • Number of patient users • Patient satisfaction survey results. • Professional satisfaction survey results • Percentage of patients in each group who did not require a physical consultation after the usage of the synchronous and asynchronous online communications. 	<p>15</p> <p>70% patients satisfied</p> <p>70% professionals satisfied</p> <p>10% rehabilitation success</p>	<p>0 (delayed)</p>	<p>Delay due to the difficulties to involve the company to develop the web app.</p>	<p>Delay due to the difficulties to involve the company to develop the web app.</p>	<p>Delay due to the difficulties to involve the company to develop the web app.</p>

Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
LCF3-Create professional work team	Profile of professionals engaged and team composition	21	22	<p>Right now, 4 people has been trained under the Stanford methodology (SMRC) for the online workshops (2 patients and 2 nurses) and 2 for the face-to-face workshops (1 nurse and 1 physiotherapist)</p> <p>A training (28 hours) for 15 more trainers will begin on November. This delay is due to the lack of accredited trainer as “master-trainer” to perform this train the trainers’ course.</p>	-	No impact
LCF3-Create the annual program/agenda for the Patients’ school.	Number of activities planned	8	7 (6 online + 1 face-to-face)	The Stanford methodology (SMRC) license allows to perform 8 courses (of 6 weeks) per year. From those, 6 were organized up to now (2 in February, 2 in April and 2 in September), and 4 more are pending. From those already organized for the month of September, one had to be cancelled due to lack of participants.	Decided to have only 7 groups in the pilot this year	No impact

LCF3-Creating Material (slides, small text) Video - recording and video-editing of webinars	Number of finished video courses / webinars	12	12 YouTube videos (not uploaded to the website yet)	<p>Training material to be included in the Cantabrian School of Health webpage and YouTube channel was created up to now on 4 topics (physical activity, healthy eating, macular degeneration, sleep hygiene).</p> <p>The lack of personnel involved has delayed the creation of material (not only videos) on the following 8 topics: liver transplantation, pre-implantation protesisis treatment, cystic fibrosis, pelvic floor, temporomandibular joints relief, nephrostomy, safety of medications, pain management</p>	-	Delay in delivering the content
LCF3-Upload the courses / webinars in the online portal	Number of courses included in the web portal	12	17 videos available at the website	<p>Training material has been included in the Cantabrian School of Health webpage and YouTube channel on 3 topics (physical activity, healthy eating, and sleep hygiene).</p> <p>Content on macular degeneration is about to be published</p>	-	Delay in publishing the content
LCF3-Training for Patients to learn	Number of patients completing the training.	2	1	There is a promotional video on how to take advantage of the	We have improved our description on how to use	We are observing high abandon rates

how to use the online platform				<p>Cantabrian School of Health webpage.</p> <p>However, we are awaiting to receive the user guide on how to use the asynchronous online platform from our subcontractors.</p>	<p>the platform by email and phone calls to solve the usability problems our patients could have.</p> <p>We have created a guide on how to use Zoom, and other online tools to mitigate the absence of the user guide.</p>	<p>probably because patients get demotivated when entering the asynchronous platform and not fully understanding how to use it. Right now, we have experienced an abandon rate of 44%.</p>
LCF3-Start-up of a pilot and evaluation of the results	<ul style="list-style-type: none"> Number of patient users of Patients' School Platform. Number of views of each course/webinar <p>Patient satisfaction survey results.</p>	<p>80</p> <p>10.000</p> <p>7/10</p>	<p>82</p> <p>188.647</p> <p>8/10</p>	<p>We are experiencing that the Stanford methodology (SMRC) is quite rigid, and the platform not user friendly.</p> <p>The consequence is a high abandon rate.</p> <p>(Satisfaction of 4/5 on surveys, however, data available mainly from those who happily attended the whole program)</p>	<p>We are improving the guidance on how to use the platform by email and phone calls to solve the usability problems our patients could have.</p>	<p>We expect no impact, achieving the 80 participants by the end of the year.</p>

Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
LCF4-Create professional work teams for	Profile of the professionals involved and composition of the online	4 team members	2 team members working part time (Psiquiatrist, Geriatrician)	Administrative and organizational difficulties to hire	Resolution does not depend on the team.	Increased workload.

psychogeriatric care	psychogeriatric care teams for nursing homes.	working full time		personnel and lack of continuity of personnel. The nurse assigned for this collaboration was changed 5 times during between April and December 2022. This turn over minders the nursing staff from assimilating how the program works. In addition, the dedication is less than 10%	2 team members (psychiatrist and geriatrician doing most of the workload)	Ward with 50 beds and other clinical activities
LCF4-Create protocols for care programs for various chronic psychogeriatric pathologies with special attention to depression and cognitive and functional impairment.	Number of protocols approved for internal operation of the team	1 protocol per each chronic psychogeriatric pathology, having a pool of at least 5 protocols for: depression, cognitive impairment, behavioral disorders, functional impairment, others.	5 Available protocols for: <ul style="list-style-type: none"> • Cognitive imparment • Depression • Behavioral disorders pharmacologic approach • Behavioral disorders non pharmacologic approach • Functional impairment (physical exercise recommendations, 	The members of the team have reconsidered the situation, given that different protocols would imply different agendas which would complicate the organizational aspects, finally it has been decided to include all the actions in a single agenda and protocol system, each member of the team deciding at each moment how to act and manage the case depending on the clinical situation depression, cognitive	Although the team could consider the complete separation of the different ones, it would be a major organizational complication, especially considering that all the members work on the program part-time. Recommendations on a healthy diet and aerobic/resistance physical exercise were designed for all patients.	-

			healthy diet recommendations)	impairment, chronic mental illness, functional impairment and behavioral disorders	Specifically, for patients with cognitive impairment, there are protocols on the use of off-label psychopharmaceuticals to control behavioural disorders and recommendations for a non-pharmacological approach at home or the nursing house.	
LCF4-Development of online strategies and programs for institutionalized elderly with chronic mental illness and cognitive and functional impairment	Videoconference program included in the "Altamira" electronic medical record of SCS	1	1	-	-	-
LCF4-Start-up of a pilot project and Evaluation of the results of the trial period to the actors involved. Patients and relatives, and social-health	<ul style="list-style-type: none"> • Number of elderly registered in the program • Number of elderly users of each program • Number of first and subsequent 	50 patients	More than 300 patients included until December 2022	-	-	-

work teams in nursing homes	consultations made <ul style="list-style-type: none"> • Number of consultations with other Hospital Services and Primary Health Care Teams • Results of the satisfaction survey of the elderly users of the Program. • Results of the satisfaction survey of the social health professionals of theisturb homes. Results of the satisfaction survey of the professionals of the Psychogeriatric Team.					
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
LCF5-Create work teams for psychogeriatric care	Profile of the professionals involved and composition of the psychogeriatric assistance teams on line to nursing homes.	4 team members working full time	2 team members working part time	Administrative and organizational difficulties to hire personnel and lack of continuity of personnel.	Resolution does not depend on the team. 2 team members (psychiatrist and geriatrician)	Increased workload

					doing most of the workload)	
LCF5-Create protocols for care programs for online case management and crisis intervention with demented elderly institutionalized in nursing homes with severe psychological and behavioral disturbances	Number of protocols approved and published by the work team	1 (with 5 subprotocols)	5	-	-	-
LCF5-Development of online strategies and programs for management and crisis intervention severe psychological and behavioral disturbance in institutionalized elderly	Number of programs included in the electronic medical record at the end of the schedule.	1	1	-	-	-
LCF5-Start-up of a pilot project and evaluation of the results of the trial period to the	<ul style="list-style-type: none"> Number of teleconsultations carried out, number of first teleconsultations, 	During the first year planned	But during the first 5 months almost 50800 consultations were made.	Needs of patients and needs of support in nursing homes	the team believes that since it is a need, it should be attended to as it is, and not insist that the program	-

<p>actors involved, patients and relatives, and social-health work teams in nursing homes</p>	<ul style="list-style-type: none"> • number of successive teleconsultations • total number of elderly people followed in teleconsultation, • number of elderly registered in the program • Number of consultations proposed by the Psychogeriatric Team of the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital to other Hospital Services and to the Primary Health Care Teams • Number of programs included in the electronic medical record at the end of the schedule. 	<p>consultations per month</p>	<p>However, almost 200 are face-to-face consultations, reflecting the need for programs and protocols that allow mixed teleconsultation and face-to-face visits to health professionals</p>		<p>focus exclusively on teleconsultation</p>	
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Post-implementation

ITEM	DESCRIPTION	INFORMATION FROM IMPLEMENTATION PROCESS TO SUPPORT	ANSWER
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Title and Abstract			
Title		Local Good Practice name	Strategy for the digitization of health services in Cantabria
Abstract		“Description” of the Local Good Practice template	<p>Regarding each of sub-initiative inside of the Strategy for the digitization of health services in Cantabria;</p> <p>The Cantabria’s Online physical rehabilitation programme is a video-directed tele rehabilitation home program for patients with lower limb fractures with the objectives of early mobilization, greater patient participation, better health outcomes and reduction of direct and indirect costs. It involves a paradigm shift and a new form of care that requires training of patients and professionals and integration with electronic medical records, but short-term benefits are expected.</p> <p>Secondly, The Cantabrian School of patients is providing tools to improve the patient empowerment through health promotion and disease prevention. This is e.g. done through workshops, courses, small texts, guidance and counselling on a healthy lifestyle. The focus is on providing tools, motivation and support for self-managing a change of their lifestyle and routines. Cantabrian Patients’ School has also created network possibilities for citizens, associations and healthcare professionals, as well as provide knowledge to health organizations in the civil society. A lot of nurses, dieticians, physiotherapists and doctors are collaborating in the Patients’ School.</p> <p>The principal activity of the Cantabrian Patients’ School is to develop and integrate digital solutions to improve the patient empowerment. Under this vision, several subprojects are unfolded (Responsible Care Workshop, online self-management program in population with chronic disease, Meeting space, Digital skills course, Online space for consultations). Patients can join from home, where they can see pre-recorded information, participate in webinars gain knowledge by reading short texts, and chat with both health care professionals and other patients.</p> <p>Finally, online Tele-psychogeriatric program aimed at the health care of the</p>

			<p>elderly with cognitive-functional impairment and mental illness institutionalized in nursing homes, with the objectives of facilitating accessibility to specialized hospital programs without the need for travel, with care focused on the patient and their environment in nursing homes, to obtain an improvement in the symptomatic control of psychogeriatric pathologies, better health results and reduction of direct and indirect costs. This modality of online service provision includes a wide range of care services for the elderly with institutionalized mental illness, from evaluation and diagnosis to pharmacological and psychosocial interventions, and monitoring and care in the residence, development of clinical care plans, case management, crisis intervention and severe behavioral disturbances, neuropsychological tests, liaison services for other medical specialties, nursing care, etc. Paradigm shift in the health care system, centered on the patient with chronic psychogeriatric mental illness, based on the development of electronic medical records, and the use of new technologies from which short-term benefits are expected.</p>
Why did you start?		Information from impl. process	Answer
Problem description	Nature and significance of the local problem	-	<p>Before start this project, the healthcare ecosystem of Cantabria identified some problems that we needed to solve</p> <ol style="list-style-type: none"> 1. To update the “Health Plan of Cantabria” (2014-2019) 2. To improve the cross-sectorial collaboration. 3. To involve patients in the definition of a new Health Plan 4. To know another successful plans implemented in other regions 5. To offer adapted digital solutions for the patients 6. To use IT solutions in order to improve the continuous follow up 7. To receive feedback from the patients 8. To train the implementers and patients in telemedicine 9. To update the technology used in the hospital <p>In summary the main problems were:</p>

			<ul style="list-style-type: none"> • Lack of data on the influence of the systematized application of individualized and comprehensive care plans to complex chronic patients in their general health status • Need to improve the disease self-management by patient and their caregivers • Unresolved continuity of care between care levels (inter/intra level) • Lack of coordination between healthcare and social services <p>In addition, we identified two main challenges that haven't been described in the JA plan that we considered very important:</p> <ul style="list-style-type: none"> • Digital alphabetization of the patients • Extension of broadband throughout the region, because there are areas without fast internet access
<p>Available knowledge</p>	<p>Summary of what is currently known about the problem, including relevant previous studies</p>	<p>-</p>	<p>In Cantabria we already have some initiatives related to the Good Practices proposed in JADECARE:</p> <ul style="list-style-type: none"> • Existence of a specific physiotherapy part in the <u>Cantabrian health school</u> (neck, back and shoulders) • Promotion and intervention in mental health is one of the priority axes of the Health Plans of Cantabria (Health Plan and Mental Health Plan) • Approach a large group in Cantabria. Only among the elderly population does depression affect more than 20%, anxiety more than 16% and dementia 5.6% • The Cantabrian health system (hospitals and health centers) has implemented telecare some years ago • Network and specific work program for prison health (+1,800 video consultations to judicialized patients) • Cantabria has endorsed its quality system with international guidelines such as the ATA (American Telemedicine Association) • Existence of a specific program in psychogeriatrics in our residences with more than 700 consultations in the last year • Availability of a committee on telehealth in the services of hospitals, residences and health centers • Universal coverage of the Cantabrian public health care system. • Existence of a corporative and integrated information System with a

			<p>shared electronic health record available throughout the Cantabrian public health care system.</p> <ul style="list-style-type: none"> • Existence the Patients School • Network of researchers focused on creating eHealth solutions to support patients and professionals with mood disorders.
Rationale	<p>Informal or formal frameworks, models, concepts, and/or theories used to explain the problem, any reasons or assumptions that were used to develop the intervention(s), and reasons why the intervention(s) was expected to work</p>	-	<p>Despite the fact that the telemedicine service is implemented in almost all services, there are no unanimous criteria for its use:</p> <ul style="list-style-type: none"> • Videoconference vs phone call • Setting teleconsultation (lighting, framing, non-verbal communication guidelines ...) • Privacy and data storage <p>Lack of specific plans for patients who do not meet criteria for a diagnosis but show clinically significant discomfort</p> <p>In Addition in Cantabria we have identified other problems that would need to be solved, as for example Waiting lists for specialized Rehabilitation and Physical Therapy Services, Difficulties to do the patients Follow up, Unresolved continuity of care between care levels (inter/intra level). And finally one of the main reasons to implement this project in to improve the coordination between healthcare and social services.</p>
Specific aims	<p>Purpose of the project and of this report</p>	<p>“Main aim” of the Local Good Practice template</p>	<p>The main aim of the Strategy for the digitization of health services in Cantabria is to improve and develop new ways to continue caring for patients with digital and technological tools</p> <ul style="list-style-type: none"> • Specific, the Cantabria’s Online physical rehabilitation programme has as main objective to Improve results in rehabilitation in outpatients after suffering a lower limb fracture, the patient satisfaction and reduce direct and indirect costs. Improve the active participation of the patient and therapeutic compliance in the rehabilitation program from hospital discharge and throughout the process. • On the other hand, the main aim of the Cantabrian Patients’ schools, is to provide health promotion and disease prevention to the citizens. The focus is on providing tools, motivation and support for self-managing a change of their lifestyle and routines. Patients’

			<p>School also create network possibilities for citizens, as well as provide knowledge to health organizations in the civil society. One of the objectives of the Cantabrian School of Patients is to develop and integrated digital solution to empower the patients. The use of this digital solution should result in: flexibility, motivation and resource optimization.</p> <ul style="list-style-type: none"> • Lastly, Support program in tele-psychogeriatric for nursing homes in Cantabria aims to improve the quality of health care for the elderly with mental illness and cognitive impairment, institutionalized in nursing homes.
What did you do?		Information from impl. process	Answer
Context	Contextual elements considered important at the outset of introducing the intervention(s)	Main output of the Situation Analysis. SWOT analysis	<ul style="list-style-type: none"> • Lack of data on the influence of the systematized application of individualized and comprehensive care plans to complex chronic patients in their general health status • Need to improve the disease self-management by patient and their caregivers • Unresolved continuity of care between care levels (inter/intra level) • Lack of coordination between healthcare and social services
Intervention(s)	<ul style="list-style-type: none"> • Description of the intervention(s) in sufficient detail that others could reproduce it 	<ul style="list-style-type: none"> • “Target population” and “Description” of the Local Good Practice template 	<p>Telerehabilitation intervention: have designed and recorded on video tutorial exercise programs for the most frequent processes: Ankle fracture, Tibial plateau fracture and fractures of the proximal end of the femur in different evolutionary stages. The videos are accessible to the patient on a web platform to be consulted as many times as necessary. The tools developed are:</p> <ul style="list-style-type: none"> • Application Web for tele-rehabilitation in electronic medical record. • App for mobile devices • Online questionnaires to evaluate progress. • Teleconsultations <p>Patients school intervention: The Cantabrian School of Health have improved the content and organization of the patients’ school and appointed the team that is working on it. This have been possible fulfilling the following activities: Create a professional work team, design and</p>

			<p>record webinars and courses to promote healthy lifestyle, update the online platform with new content, create a new online space to solve the most common questions of patients. All this content is available on a web platform to be consulted as many times as necessary.</p> <p>Geriatric Tele-psychiatry online intervention: the Long Term Care Unit of the Psychiatry Service of Valdecilla University Hospital have designed and launched the Psychogeriatric Program for the care of institutionalized elderly with mental illness, mainly psychosis, depression, cognitive and / or functional impairment as a support measure to the nursing homes, establishing a direct online consultation between the Psychogeriatric Team of the Long Term Care Unit of the Psychiatry Service of the Valdecilla University Hospital.</p> <p>Target population; All kind of patients living in Cantabria. Mainly Outpatients with lower limb fractures living in Marques de Valdecilla University hospital health area. Elderly people in nursing homes in Santander Health Area. Cantabria. Spain</p>
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	<ul style="list-style-type: none"> • Specifics of the team involved in the work 	<ul style="list-style-type: none"> • Description of the NAWG participants (number, profiles, roles) 	<p>Participants and resources:</p> <ul style="list-style-type: none"> • Health IT expert • IT system: application web in electronic medical record. • Medical Staff time to develop the action plans • Rehabilitation staff time to design the programme, development and commissioning. • Video recording and video edition system • Training and technical assistance. • Computer system: improvement of web applications in electronic medical records. • Hardware for the development of the program
Study of the Intervention(s)	<ul style="list-style-type: none"> • Approach chosen for assessing the impact of the intervention(s) (quantitative or qualitative analysis) • Approach used to establish whether the observed outcomes were due to the intervention(s) 	-	<p>In order to assess the impact of our intervention, the different professional teams defined some indicators to know the progress and success of each activity.</p> <p>The proposed indicators were quantitative and qualitative. Our teams considered very important to know the opinion of the users (in this case patients), for this reason, all action plans include a patient satisfaction survey. The other indicators were similar to milestones that could help us to know if the task was fulfilled or not.</p> <p>In addition to these indicators, established in the action plan, our team is going to evaluate the usability of the digital tools thanks to our research tem “evaltec”, the people in charge of this evaluation are human factor engineers and will give a qualitative feedback about the usability of the tools.</p>
Measures	Measures chosen for studying processes and outcomes of the intervention(s), including rationale for choosing them, their operational definitions,	Key Performance Indicator of the Local Action Plan	<p>The main KPIs proposed to check the progress of the activities were:</p> <ul style="list-style-type: none"> • Profile of professionals engaged and teams composition members. • Number of protocols approved and published by each working group • Number of finished video programs

	<p>and their validity and reliability</p>		<ul style="list-style-type: none"> • Comprehensibility analysis test of videos • Number of programs included in electronics medical record by the end of the timeline. • % physical therapist completing the training. • Evaluation by professionals of the rehabilitation service • Number of patient users of each program. • Number of views of each video-program. • Patient satisfaction survey results. • Percentage of patients in each group who did not require inclusion in a physical therapy program after the tele-rehabilitation program.
<p>Analysis</p>	<ul style="list-style-type: none"> • Qualitative and quantitative methods used to draw inferences from the data • Methods for understanding variation within the data, including the effects of time as a variable 	<p>PLAN template and STUDY analysis</p>	<p>The PLAN for this implementation was to achieve the inclusion of these programs in the electronic medical record. In order to do that 100% of physical therapists of Marqués de Valdecilla hospital Rehabilitation Service will be invited to be trained. We expect a satisfaction of about 70% (patients and specialists). 15 patients will be involved and we expect 10% less patients in a physical therapy program after the tele-rehabilitation program.</p> <p>As well some learning objectives will be achieved, such as: 21 professionals and patients working in the active patient peer learning programme (Asynchronous online platform and face-to face trainers) forming a multidisciplinary team. A programme with at least 8 workshops and supporting educational material about at least 10 topics still uncovered by current training material in the web of the Cantabrian School of health. This will require training material creation (webinars, podcasts, text and instructional videos, guides, website, etc.) which will hold the participation of 80 patients at least and a multidisciplinary team (Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nurse with clinical experience in the care of elders) working on the program full-time.</p> <p>A videoconference program will be included with at least 50</p>

			elderly users enrolled in our "Nursing Home's Psychogeriatric Support Program". We will start with consultations and then teleconsultations. We expect an overall staff, social and health nursing home professionals' satisfaction with the telepsychogeriatric program. A multidisciplinary team (Psychiatrist, Geriatrician, Clinical Psychologist and Registered Nurse with clinical experience in the care of elders) will work on the program part-time.
What did you find?		Information from impl. process	Answer
Results	<ul style="list-style-type: none"> • Intervention(s) and their evolution over time (e.g., time- line diagram, flow chart, or table), including modifications made to the intervention during the project • Details of the process measures and outcome • Observed associations between outcomes, interventions, and relevant contextual elements • Unintended consequences such as unexpected benefits, problems, failures, or costs associated with the intervention(s). • Details about missing data 	<ul style="list-style-type: none"> • DO and STUDY steps: Deviations from the planned actions. • STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle 	<p>To DO the planned actions, regarding the telerehabilitation program, we engaged 15 professionals and we approved and published 3 protocols. 63 video programs were finished. The APP availability is in progress. Regarding the patients' school program, 5 patients and 11 professionals were involved. 6 online workshops and 1 face-to-face workshop were held following the active patient peer learning methodology. Almost 20 videos available. 82 patients have finished the programme considering 6 groups from February to November, 2022 (More than 180 patients registered, but later the participation becomes lower). We accomplished an 80% satisfaction rate between patients. Finally, regarding the telepsychogeriatrics program, one Psychiatrist part time and one Geriatrician part time were involved. 5 available protocols are available. 286 patients included until December 2022 (208 evaluated by Psychiatrist, 59 evaluated by a Geriatrician and 19 by both of them), 46 patients died during the study period. 1201 consultations made (195 face-to-face and 1006 telephone or online). The expertise of the professionals is mandatory to select the patients who qualify for no face-to-face consultation.</p>
What does it mean?		Information from impl. process	Answer

<p>Summary</p>	<ul style="list-style-type: none"> • Key findings, including relevance to the rationale and specific aims • Particular strengths of the project 	<p>STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle</p>	<p>It must be highlighted that the mobile application that patients used to access the Rainbow videoconferencing system was recently replaced by a new MyHealth@SCS app on 7 December 2022. This new app, with a significantly improved visual interface, improved accessibility and functionality for the user, includes a virtual health card. Its modular design will allow for the progressive incorporation of new functionalities, patient experience questionnaires or medical imaging, among others. In the next semester we will have to analyze whether this change facilitates or hinders the user experience during the JADECARE implementation process.</p> <p>We have to mention that the LCF2-Create online teleconsultations activity was suppressed because during the feasibility study, we identified that it was better to implement a chat box instead as an asynchronous service. The main reasons were: rejection to change, labor intrusion, difficulties to involve physiotherapists and traumatologists. It makes more sense to use the app “just” as a complement to the face-to-face sessions. It may be interesting to implement the online teleconsultation service for other pathologies in the future. It also must be mentioned that there is no negative impact for patients as they will continue having their regular face-to-face sessions.</p>
<p>Interpretation</p>	<ul style="list-style-type: none"> • Nature of the association between the intervention(s) and the outcomes • Comparison of results with findings from other publications • Impact of the project on people and systems 	<p>STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle</p>	<p>Most of the activities planned for the DO step of the first cycle are being developed successfully, however we are a bit behind the schedule and dealing with lack of staff and administrative issues.</p> <p>Regarding LCF1 and LCF2, we are experiencing some delay related with the IT tool which has made impossible to evaluate any patient at this stage. In this context, our new prevision is to evaluate 10 patients instead of the 15 originally planned. This reduction is due to an adaptation of the patients’ selection way. Originally we planned to get</p>

	<ul style="list-style-type: none"> • Reasons for any differences between observed and anticipated outcomes • Costs and strategic trade-offs, including opportunity costs 		<p>them derived from Trauma Service, but this is a longer way and in order to mitigate the current delay, we will work with 10 patients that are already enrolled at Rehabilitation Service. We will start their evaluations as soon as the platform becomes available.</p> <p>About LCF3 we have to point out that the sleeping hygiene materials were not tackled yet, but there were created some other protocols related with other topics such as: gender diversity, early detection of celiac disease, nasal bleeding, cardiorespiratory arrest, choking and seizure protocols, mouth/teeth hygiene, etc. We have also to add that there are more created materials than the ones available at the web site right now. The creation process was really productive, but we have to enhance the communication tasks.</p> <p>With respect to LCF4 and LCF5, teleconsultation by video sometimes has operational problems, occasionally the internet works poorly, there are communication cuts, if they happen several times, it usually requires telephonic consultation.</p> <p>In addition, the mobile application that patients used to access the Rainbow videoconferencing system was recently replaced by a new MyHealth@SCS app on 7 December 2022. In the next semester we will have to analyse whether this change facilitates or hinders the user experience during the JADECARE implementation process.</p>
<p>Limitations</p>	<ul style="list-style-type: none"> • Limits to the generalizability of the work • Factors that might have limited internal validity such as confounding, bias, or imprecision in the design, methods, measurement, or analysis • Efforts made to minimize and adjust for limitations 	<p>STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle</p>	<p>At the very beginning of the project. Our team identified some barriers as for example:</p> <ul style="list-style-type: none"> • The regulatory framework • The collaboration between health care sectors • The user adherence • The Usability • The access to health data

			<ul style="list-style-type: none"> • The compatibility in digital environments <p>But during the implementation of the project we faced some new limitations, there have been delays with the technology company that provides the video platform and web app service to the user. Then the pilot implementation was also delayed.</p> <p>In addition, staff involved in the project was not enough because they have other professional commitments and very busy agendas.</p> <p>Administrative organizational problems (excessive turnover of some professionals, team members work in the program only part time) whose resolution does not depend on the team.</p>
<p>Conclusions</p>	<ul style="list-style-type: none"> • Usefulness of the work • Sustainability • Potential for spread to other contexts • Implications for practice and for further study in the field • Suggested next steps 	-	<p>Mainly, with the help of this project, we have improved the digitalization of our health care system, other of our main objectives was to empower the citizens/patients, and we think that we have achieved it partially.</p> <p>To carry out the tasks proposed in this JA we have re-organized our health care system and improved the cohesion between the relevant stakeholders</p> <p>Our participation in this JA have helped us to wide our international network and boost the regional cooperation.</p> <p>We will make the whole study from the discharge from Trauma Service passing through consultation, secretary, appointments, etc. As well, we consider It could be possible to study other pathologies.</p> <p>This program could be considered sustainable because it can be assimilated as an enhancement of the current procedures that simplifies the duty to provide effective information to a patient.</p> <p>Nevertheless, regarding tele-psycho-geriatric program the</p>

			subjective impression of the Psychiatrist and the Geriatrician is oriented towards a real need of face-to-face consultation. It might not be enough to carry out just tele-psycho-geriatric consultation in all cases. The selection between face-to-face or teleconsultation is related with the patient's pathologies not with their technological skills.
Other information		Information from impl. process	Answer
Funding	<ul style="list-style-type: none"> Sources of funding that supported this work. Role, if any, of the funding organization in the design, implementation, interpretation, and reporting 	-	This project is supported only by the JADECARE funding

Gerencia Regional de Salud de Castilla y León, Spain SACYL

Pre-implementation

Scope definition

1. **Next Adopter name:** Gerencia Regional de Salud de Castilla y León –SACYL (Spain)

2. **Next Adopter Working Group:** WP 8

Organization	Profile	Level of involvement
Gerencia Regional de Salud	Innovation department (Organizer and Decision maker)	Full Participation
Gerencia Regional de Salud	Social health service(expert and decision maker)	Full Participation
Gerencia Regional de Salud	Technology of the information and communication (expert and decision maler)	Full Participation
Gerencia Regional de Salud	Health System Department (expert)	Consultation
Gerencia de Servicios Sociales (Social Services Management)	Expert and implementers	Consultation
Hospitals	Medical and nurse staff (front-line stakeholders and implementers)	Consultation and Implementation
Primary Care	Medical and nurse staff , social worker and physiotherapy (front-line stakeholders and implementers)	Consultation and Implementation

3. Analysis of Next Adopter’s needs:

Block	Needs (brainstorming)
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Block 1: Cross sectorial digital communication: standards and agreements	1- Transition to the V Health Plan
	2- National e-Health strategy and standard messaging
	3- Improving inter-sectoral cooperation: socio-health coordination
	4-Regulatory developments in telemedicine and telecare
	5- Improving interlevel communication for continuity of care
	6- Telemedicine care protocols
	7- Homogenise the electronic health record in all hospitals.
	8- Shared EHR in all health care settings
	9-Access to HCE from socio-health field
	10- Generate agreements between health, provincial councils, social services management, local authorities, third sector
	11-Adaptation for compliance with information security regulations in health care
Block 2: Cross sectorial digital communication	1- Improving health technology equipment
	2- Increase information available in APP/Patient Folder
	3- Creating communication channels from health data patients
	4- Increasing citizens' digital skills, especially among the elderly.
	5-Improving connectivity in some rural areas
	6 Facilitating digital healthcare
	7- Telemonitoring
8- Improving communication between levels of care	

Block	Needs (grouped)
Block 1: Cross sectorial digital communication: standards and agreements	Related to national and regional regulations (4,11)
	Health plans and strategies (1,2 y 6)
	Local and regional agreements (3 y 10)
	Interconnectivity of health data (2,5,7,8 y 9)
Block 2: Cross sectorial digital communication	Improving health technology equipment (1,5 y 7)
	Improving digital patient communication (2,3 y 4)
	Digitally facilitated healthcare (6 y 7)
	Improving communication between levels of care (8)

Block	Needs (prioritized)
Block 1: Cross sectorial digital communication: standars and agreements	Standard messaging - Interconnectivity of health data
	Adaptation of telemedicine regulations
	Telehealth care protocols
	Improving socio-health coordination
Block 2: Cross sectorial digital communication	Digitally facilitated healthcare
	Improving communication between levels of care
	Increase digital patient communication

4. Asses and select the Core Features

Original Good Practice Name: **Digital Roadmap towards an Integrated Healthcare Sector-Region of Southern Denmark**

Block 1: Cross sectorial digital communication: standars and agreements	Core Feature 1.1	Core Feature 1.2	Core Feature 1.3
Standard messaging - Interconnectivity of health data		x	
Adaptation of telemedicine regulations	x		
Telehealth care protocols	x		
Improving socio-health coordination	x		x

Block 2: Cross sectorial digital communication	Core Feature 2.1	Core Feature 2.2	Core Feature 2.3	Core Feature 2.4	Core Feature 2.5	Core Feature 2.6
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Digitally facilitated healthcare		x				x
Improving communication between levels of care		x				x
Increase digital patient communication		x				x

Original Good Practice Name: Digital Roadmap towards an Integrated Healthcare Sector-Region of Southern

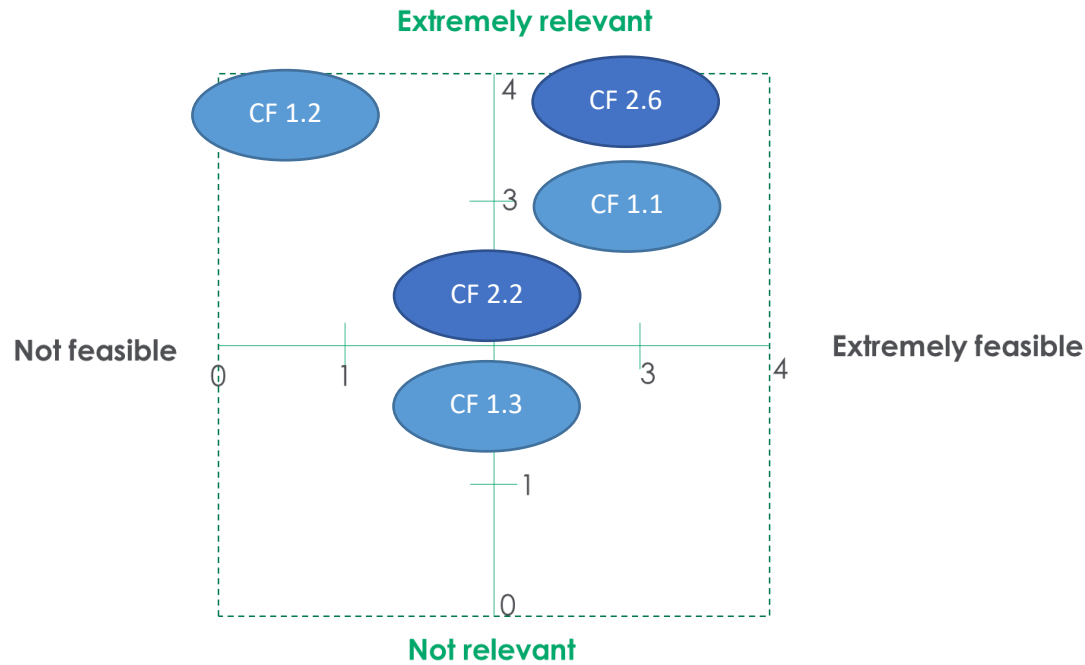
Scirocco Model	CF1 .1	CF1.2	CF1.3	CF 2.2	CF 2.6
Maturity requirement 1	5	5	5		
Maturity requirement 2	5	5	3		
Maturity requirement 3	5	5	4		
Maturity requirement 4	3	4	4		
Maturity requirement 5	3	4	0		
Maturity requirement 6	2	5	4		
Maturity requirement 7	4	2	3		
Maturity requirement 8	4	3	3		
Maturity requirement 9	5	4	5		
Maturity requirement 10	4	4	4		
Maturity requirement 11	4	3	4		
Maturity requirement 12	4	4	4		

[Coloured in green the maturity requirements meet at Health System of Castilla y León-SACYL]

Core Feature	Relevance	Feasibility
Core Feature 1.1	3	3
Core Feature 1.2	4	1
Core Feature 1.3	3	2
Core Feature 2.2	3	2
Core Feature 2.6	4	3

Scores:

0= Not at all; 1= Slightly; 2= Moderately; 3= Very and 4= Extremely]



Core Features to be implemented from Digital Roadmap towards an Integrated Healthcare Sector-Region of Southern Denmark

Final Core Features
Core Feature 2.6: The GERI Toolbox (Improving communication between levels of care)
Core Feature 1.1: Health Agreements (Improving socio-health coordination and Telehealth care protocols)
Core Feature 2.2: Telepsychiatry (Digitally facilitated healthcare)

Definition of the LGP and LAP

Local good practice

Local Good Practice	Improving communication between levels of care and Digitally facilitated healthcare	
Target population	Setting(s)	
The entire population of the Castilla y León region (2.3 M people) depending on the healthcare need	The Regional Health System: from primary care to hospitals	
Main aim		
Facilitate communication between healthcare levels and integrated healthcare through digital and technological support, and support and the definition of efficient and decisive healthcare pathways.		
Outcomes	Local Core Features and their Components	Inputs
<ul style="list-style-type: none"> Use of new digital communication channels for teleconsultation and resolution between Primary Care and Hospital Care professionals (Dermatology and Continuity of Care Unit). Assessment of the interconsultation by the hospital specialist and response in a short time with the consequent reduction of the patient's waiting time for inpatient care. Avoid unnecessary patient trips to the hospital by improving the accessibility of the healthcare system. Incorporation of devices to guide diagnosis. 	<p>Non-face-to-face consultation (Non-presential consultation) Teledermatology y teleconsultation with Continuity of Care Unit (CCU)</p> <ul style="list-style-type: none"> Referral protocols healthcare pathways <ul style="list-style-type: none"> Patients at home Patients in socio health center 	<ul style="list-style-type: none"> <u>Technological resources and materials:</u> Smartphones and dermatoscopes, videoconferencing system, electronic medical record system, and other devices. <u>Human resources:</u> personnel from the Regional Health Service, project managers from the peripheral Health Departments (technical and functional), health care professionals from the public health system of Castilla y León and healthcare professionals from the socio-healthcare residential centers. <u>Economic resources:</u> SACYL 's own budget allocation for technological equipment. <u>Organizational resources:</u> Definition of the care pathway, work agendas to establish synchronous communication between

		<p>professionals from different healthcare centers and levels of care..</p> <ul style="list-style-type: none"> • <u>Training resources for professionals and patients.</u>
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General description

Implement new forms of communication between primary care and hospitals, through the technological modernization of the healthcare system, applicable to the field of dermatology and care of chronic multi-pathological patients, supported by organizational innovation and training, especially in rural areas.

Local Core Feature 1

Teledermatology

Local Core Feature 2

Teleconsultation of pluripathological chronic patients with the continuity of care unit.

Local Action Plan

Local Good Practice	Improving communication between levels of care and digitally facilitated healthcare	
Target population	Setting	
The entire population of the Castilla y León region (2.3 M people) depending on the healthcare need	The Regional Health System: from primary care to hospitals	
Main aim		

Facilitate communication between healthcare levels and integrated healthcare through digital and technological support, and support and the definition of efficient and decisive healthcare pathways.

General description

To implement new forms of communication between primary care and hospitals, through the technological modernization of the healthcare system, applicable to the field of dermatology and care of chronic multi-pathological patients, supported by organizational innovation and training, especially in rural areas.

Related original Good Practices and their Core Feature (s)

Danish oGP; CF1.1, CF 2.2 and 2.6

Local Core Feature 1

Tele dermatology

SMART objective

To reduce the waiting time for dermatology consultations from primary care and avoid unnecessary patient trips to receive hospital specialist care.

Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
Define protocols for referral, photographic and dermatoscopic acquisition.	Family doctor and dermatologist	Institutional Communication platform	Web based	October-november 2021	Defined protocols : yes/no
Purchase of the necessary technology Smartphone and dermatocospio	General Directorate of Infrastructures and Information Technology (GDIAIT) Health Information Systems Service	Own budgets	primary care health centers	November 2021- february 2022	Percentage of health centers with devices purchased. Provided by GDIAIT.
Define registration protocols in EHR	Health Information Systems Service	Institutional Communication platform	Web based	October-november 2021	Defined protocols: yes/no

Select and train program representatives at each health center.	Healthcare professionals	Institutional Communication platform Training activities	primary care health centers	November 2021 Training: 2021-2023	Percentage of health centers with teledermatology managers with completed training. Total hours of training completed per professional, taken from the professional training registry application.
Implement in each health area : 1. Preparation: Select technical and assistance manager in coordination with the IT service of each hospital. 2. Upstart: testing the service and Technical support Webinar and video tutorial 3. Operation: Technical support Follow up KPI	Health Information Systems Service IT department of each hospital Head of dermatology service	Institutional Communication platform and mail On-site training	In each hospital / dermatology service Web based Hotline technical support	June 21 -february 2022	Percentage of dermatology services in the community using teledermotology taken from the service portfolio. Number of tutorials created Reduction in average waiting time for dermatology consultation from health information systems Percentage of resolution in teleconsutla
...					
Local Core Feature 2	Teleconsultation of pluripathological chronic patients with the continuity of care unit.				

SMART objective

Implement new forms of communication between primary care and hospital in the care of chronic multi-pathological patients, avoiding unnecessary displacement.

Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
Define implementation centers	Central and Peripheral managements	Institutional Communication platform and mail Health Information Systems	managements	October- November 2021	List of selected centers Number and percentage of connected health care centers
Installation of telepresence equipment	General Directorate of Infrastructures and Information Technology (GDIAIT) Peripheral managements	Own budgets	primary health care centers and hospitals	January -march 2022	
Connection tests	General Directorate of Infrastructures and Information Technology (GDIAIT) Peripheral managements	Own personnel	Primary Care- Hospital	January-june 2022	Correct technical communication criteria
Pilot test of connection with social services Management	General Directorate of Infrastructures	Own personnel and Social Services Management	Pilot center and selected hospital	January-June 20022	Correct technical communication criteria

	and Information Technology (GDIAIT) Peripheral managements IT of Social Services Management				
Define protocols for referral or adaptation of oGP	Group of internal medicine and primary care	Institutional Communication platform	Web based	january -march 2022	Defined protocols: yes/no
Define care pathway with all the necessary aspects to be taken into account or adapted from the oGP	Regional Health Management – several services Healthcare professionals	Institutional Communication platform	Web based	january -march 2022	Defined protocols: yes/no
Activity registration procedure	Regional Health Management – several services (Specially Health Information Systems Service)	Institutional Communication platform	Web based	january -march 2022	Defined protocols: yes/no

Define organization and human resources required for synchronous consultation from Primary Care	Peripheral and Regional managements Healthcare professionals	Institutional Communication platform and mail	Web based Meetings	january -march 2022	Defined protocols: yes/no
Transmission of the program to professionals.	physicians and nurses (of continuity of care units, primary care and socio health center	Institutional Communication platform Tutorials(video, pdf...) webinar	Web based Meeting at each health center	2022-2023	Total number of hours of training provided . Total number of students trained.
Dissemination of project start-up to health centers and hospitals	Management team	Institutional Communication platform mail	Web based	March-junie2022	Number and type of informative material created in different formats
Project follow-up	Peripheral and Regional managements Responsible for the project in the centers	Regional and in each health area	Web based Health information systems	2022-2023	Number of patients attended by teleconsultation /year Number of face-to-face hospital contacts per year, before-after comparison

					Satisfaction survey to professionals and patients
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Implementation

1st PDSA Cycle

QUESTIONS	DESCRIPTION
Step	Define the activities of each LCF
Date of the meeting	24/11/2021
Number and profile of the participants	<i>10: 4 heads of services (decision makers), 1 project manager and 3 experts (IT, communication and legal), 2 health professionals</i>
Organizations involved	Regional Health Management: 5 services: Health information systems, IT, communications, primary care management and innovation service.

LCF1	Tele dermatology							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Define protocols for referral, photographic	Define protocols	Family doctor and dermatologist	October-November 2021	Defined protocols	Coordinator working group	December 2021	Ask the group	yes/no
Purchase of the necessary technology Smartphone and dermatoscopic	Dermatoscopic acquisition	General Directorate of Infrastructures and Information Technology (GDIAIT)	November 2021- february 2022	Percentage of health centers with devices purchased.	Coordinator working group	March 2022	Provided by GDIAIT.	80%
Define registration protocols in EHR	Define how and where register in EHR	Health Information Systems Service	October-November 2021	Defined protocols	Coordinator working group	December 2021	Provided by Health Information Systems Service	yes/no

Select and train program representatives at each health center.	-Select a professional in each center	Healthcare professionals	November 2021	-Percentage of health centers with tele dermatology managers with completed training.	Coordinator working group	November 2021	Sent by each management area	80% of the centers
	-Training activities	Training service	December 2021- February 2022	-Total hours of training completed per professional, taken from the professional training registry application.		February 2022	Provided by training services	10 h/professional
Implement in each health area: Preparation:	Select technical and assistance manager in coordination with the IT service of each hospital	Health Information Systems Service IT department of each area Head of dermatology service	June 21 - February 2022		Coordinator working group	June 21 - february 2022	Sent by each management area	80% of the centers

Test and technical support:	testing the service and Technical support	Service IT department of each area	October 21 - February 2022	-Percentage of dermatology services in the community using teledermatology taken from the service portfolio. -Number of tutorials created related to technical skills	Coordinator working group	March 2022	By programme of health information system Provided by teledermatology working group	80% of the areas A complete tutorial of use-
Operation:	Technical support	Service IT department of each area	October 21 - February 2022	Not necessary, already included in their work	Coordinator working group	March 2022	Ask directly to IT department	
Follow up KPI	Follow up KPI	NAWG	February - June 2022	Reduction in average waiting time for dermatology consultation from health information systems	Coordinator working group	June 2022	By programme of health information system	Any reduction

				Percentage of resolution in teleconsultation				30% of resolution
LCF 2	Teleconsultation of pluripathological chronic patients with the continuity of care unit.							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Define centers to start	Define implementation centers	Central and Peripheral managements	October- November 2021	List of selected centers	Coordinator working group	November 2021	Sent by each management area	100% centers to install
Installation of telepresence equipment	Installation of telepresence equipment	General Directorate of Infrastructures and Information Technology (GDIAT) Peripheral managements	January - March 2022	Number and percentage of connected health care centers	General Directorate of Infrastructures and Information Technology (GDIAT)	April 2022	Sent by each management area and company awarded the tender	100% of the centes of bidding documents

Connection tests	Make connection test	General Directorate of Infrastructures and Information Technology (GDIAIT) Peripheral managements	January-June 2022	Correct technical communication criteria	Coordinator working group	January-june 2022	Provided by GDIAIT	100% of equipment
Pilot test of connection with social services Management	Make connection test between different communication networks	General Directorate of Infrastructures and Information Technology (GDIAIT) Peripheral managements IT of Social Services Management	January-June 2022	Correct technical communication criteria between different communication networks	Coordinator working group	January-june 2022	Provided by GDIAIT	Done test: yes/no
Define protocols for referral or adaptation of oGP	Define protocols	Group of internal medicine and primary care	January - March 2022	Defined protocols	Coordinator working group	May-June 2022	Done by NAWG	yes/no

Define care pathway with all the necessary aspects to be taken into account or adapted from the oGP	Define care pathway	Regional Health Management – several services Healthcare professionals	January - March 2022	Defined protocols	Coordinator working group	April 2022	Done by NAWG	yes/no
Activity registration procedure	Define activity registration procedure	Regional Health Management – several services (Specially Health Information Systems Service)	January - March 2022	Defined procedure	Coordinator working group	March 2022	Provided by Health Information Systems Service	yes/no
Define organization and human resources required for synchronous	Study organization and human resources in each area	Peripheral and Regional managements Healthcare professionals	January - March 2022	Defined protocols in each area	Coordinator working group	April 2022	Sent by each management area	yes/no

consultation from Primary Care								
Transmission of the program to professionals.	broadcast of the program	physicians and nurses (of continuity of care units, primary care and socio health center	2022	-Total number of hours of training provided. -Total number of students trained.	Coordinator working group	June 2022	Provided by training service	80% of trained target professionals
Dissemination of project start-up to health centers and hospitals	broadcast of the program	Management team	March-June 2022	Number and type of informative material created in different formats	Coordinator working group	June 2022	Sent by each management area	At least two different formats
Follow up KPI	Follow up KPI	Peripheral and Regional managements Responsible for the project in the centers	2022	-Number of patients attended by teleconsultation /year -Number of face-to-face hospital contacts per year, before-after comparison	Coordinator working group	June 2022	By programme of health information system	At least 1 speciality started Any reduction of face to face consultation in

				-Satisfaction survey to professionals and patients				the same speciality 7/10 on average
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QUESTIONS	DESCRIPTION
Step	DO step, cycle 1
Date of the meeting	02/06/2022
Number and profile of the participants	11: 5 heads of services, 1 project manager and 3 experts, 2 health professionals
Organizations involved	Regional Health Management: 5 services: Health information systems, IT, communications, primary care management and innovation service.

Some important steps were solved by e-mail, by Institutional Communication platform or health information systems.

Some issues were worked in small meeting between members of NAWG and the organization/service responsible.

Organizations involved during the Do process: primary care and hospital management teams, health professionals (medicine, internal medicine, family medicine, dermatology-; nurses), scientific societies. Social service regional ministry.

Cycle number 1		
LCF1	Tele dermatology	
Activity	KPI	Actual value
Define protocols for referral, photographic	Defined protocols	Yes

Purchase of the necessary technology Smartphone and dermatoscope	Percentage of health centers with devices purchased.	80%
Define registration protocols in EHR	Defined protocols	Yes
Select and train program representatives at each health center.	- Percentage of health centers with teledermatology managers with completed training. -Total hours of training completed per professional, taken from the professional training registry application.	80% Completed in half of the health areas. The training of the Primary Care professionals is underway.
Implement in each health area: Preparation:		80% of the centers (Defined)
Test and technical support:	-Percentage of dermatology services in the community using teledermatology taken from the service portfolio.	80% of the health areas

	-Number of tutorials created related to technical skills	Partially completed. It is being carried out the improvement in the process of accessing the photos.
Operation:	Already included in their work.	Completed
Follow up KPI	-Reduction in average waiting time for dermatology consultation from health information systems. -Percentage of resolution in teleconsultation	Approx. 20 days of reduction for the most experienced centers. No reduction has yet been observed for the rest of the centers. 39% (Variability of the resolution depending on the experience in the different health areas)

Cycle number 1		
LCF2	Teleconsultation of pluripathological chronic patients with the continuity of care unit	
Activity	KPI	Actual value
Define implementation centers	List of selected centers	Yes (Defined)
Installation of telepresence equipment	Number and percentage of	198 (80% of the total), pending 20% of the equipment.

	connected health care centers	
Connection tests	Correct technical communication criteria	80%
Pilot test of connection with social services Management	Correct technical communication criteria	yes
Define protocols for referral or adaptation of oGP	Defined protocols	yes
Define care pathway with all the necessary aspects to be taken into account or adapted from the oGP	Defined protocols	yes
Activity registration procedure	Defined protocols	yes
Define organization and human resources required for synchronous consultation from Primary Care	Defined protocols	yes
Transmission of the program to professionals.	-Total number of hours of training provided.	10 h/professional

	-Total number of professionals trained.	-30 professionals from CCUs (100% of professionals from CCUs) -Aprox. 1000 professionals from Primary Care (15% of Primary Care professionals.)
Dissemination of project start-up to health centers and hospitals	Number and type of informative material created in different formats	Done
Project follow-up	-Number of patients attended by teleconsultation /year -Number of face-to-face hospital contacts per year, before-after comparison -Satisfaction survey to professionals and patients	Patients with chronic diseases (COPD, diabetes, heart failure...) 15 patients in total 913 before comparison 960 after comparison -9/10 for patients -9/10 for professionals

QUESTIONS	ANSWERS
<p>What was actually implemented? Any deviation from the planned actions</p>	<p>LCF1: All equipments are sent, reference professional in each center, training programs and LCF running in 10 of 12 health areas.</p> <p>LCF2: During the first cycle, the telepresence project has been piloted to respond to complex chronic patients in the Care Continuity Unit (CCU) of the Zamora Care Complex with the Benavente Norte Health Center. During the second cycle, the project will continue to be extended to the rest of the health areas. The delay in the training of professionals was mainly due to the delay in the installation of telepresence equipment in the centers.</p>
<p>Problems? Unexpected findings? Please describe</p>	<p>LCF1: Interoperability problem in digital medical record in 2 hospitals. They will change to new version throughout 2022</p> <p>LCF1 y 2: The change of government in the region has meant having to adapt the timetable and establish modifications in the programmed activities and methodology. It has meant that some actions have been delayed, such as the bidding process and installation of telepresence equipment in the centres.</p>

IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
			x

QUESTIONS	DESCRIPTION
Step	Study, cycle 1
Date of the meeting	07/06/2022
Number and profile of the participants	10: 4 heads of services, 1 project manager and 3 experts, 2 health professionals
Organizations involved	Regional Health Management: 5 services: Health information systems, IT and communications, primary care management and innovation service.

Cycle number 1						
LCF1		Tele dermatology				
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Define protocols for referral, photographic	Defined protocols	Yes	Yes	No deviations.		
Purchase of the necessary technology	Percentage of health centers with devices purchased.	80%	80%	No major deviations from the		

Smartphone and dermatoscope				planned activities.		
Define registration protocols in EHR	Defined protocols	Yes	Yes	No deviations		
Select and train program representatives at each health center.	<p>- Percentage of health centers with tele dermatology managers with completed training.</p> <p>-Total hours of training completed per professional, taken from the professional training registry application.</p>	80%	80%	No deviations		
		Completed. (10h/professional)	Partially	The training of Primary Care professionals is underway. Completed in half of the health areas.	An on-line training is already prepared.	During the 2 nd cycle the training will be finished.
Implement in each health area: Preparation:		80%	80%	No deviations		

Test and technical support:	<p>-Percentage of dermatology services in the community using teledermatology taken from the service portfolio.</p> <p>-Number of tutorials created related to technical skills</p>	80%	80%	No deviations		
		Completed	Partially completed	Due to the process of accessing the photos.	It is being carried out the improvement in the process of accessing the photos.	Better efficiency in the process.
Operation:	Already included in their work.	Completed	Completed			
Follow up KPI	-Reduction in average waiting time for dermatology consultation from health information systems.	Any reduction	Approx. 20 days of reduction for the most experienced centers. No reduction has yet been observed for	The delay in the training in some of the health centers.	The training is underway.	All health centers will be operational.

	-Percentage of resolution in teleconsultation	30% of resolution	the rest of the centres. 39%	No deviations		
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Cycle number 1						
LCF2		Teleconsultation of pluripathological chronic patients with the continuity of care unit				
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Define implementation centers	List of selected centers	Yes	Yes	No deviations		
Installation of telepresence equipment	Number and percentage of connected health care centers	100%	80%	Delay in bidding for equipment.	The purchase of the equipment has	100% of the equipment installed.

					already been completed	
Connection tests	Correct technical communication criteria	100%	80%	All the equipment was not yet installed.	Installation is underway.	100% of the equipment connected.
Pilot test of connection with social services Management	Correct technical communication criteria	yes	yes	No deviations		
Define protocols for referral or adaptation of oGP	Defined protocols	yes	yes	No deviations		
Define care pathway with all the necessary aspects to be taken into account or adapted from the oGP	Defined protocols	yes	yes	No deviations		

Activity registration procedure	Defined protocols	yes	yes	No deviations		
Define organization and human resources required for synchronous consultation from Primary Care	Defined protocols	yes	yes	No deviations		
Transmission of the program to professionals.	-Total number of hours of training provided. -Total number of students trained.	80% of trained target professionals	Partially: -100% of professionals from CCUs -15% of Primary Care professionals.	Delay in equipment installation.	Equipment installation is in progress.	Training will start soon.
Dissemination of project start-up to health centers and hospitals	Number and type of informative material created in different formats	At least two different formats	Done in two different formats.	No deviations		

<p>Project follow-up</p>	<p>-Number of patients attended by teleconsultation /year</p> <p>-Number of face-to-face hospital contacts per year, before-after comparison</p> <p>-Satisfaction survey to professionals and patients</p>	<p>At least 1 speciality started</p> <p>Any reduction of face to face consultation in the same speciality.</p> <p>7/10 on average</p>	<p>Patients with chronic diseases (COPD, diabetes...), 15 patients were attended.</p> <p>913/960</p> <p>-Patient satisfaction: 9/10 - Professional satisfaction: 9/10</p>	<p>No deviations</p> <p>Because it is not operational in all centers, it is still not significant.</p> <p>No major deviations from the planned activity.</p>	<p>Equipment installation is in progress.</p>	<p>Operative in all centers.</p>
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QUESTIONS	DESCRIPTION
Step	ACT step cycle 1 and PLAN step cycle 2
Date of the meeting	30/6/2022, together with the PLAN step of cycle 2
Number and profile of the participants	10: 4 heads of services, 1 project manager and 3 experts, 2 health professionals
Organizations involved	Regional Health Management: 5 services: Health information systems, IT, communications, primary care management and innovation service.

One of the meetings were attended by 2 general directors (relevant decision makers)

Cycle number 1			
LCF1	Tele dermatology		
Activity	Maintain	Adapt	Abandon
Define protocols for referral, photographic	This activity has been successfully completed.		
Purchase of the necessary technology Smartphone and dermatoscope	This activity has been successfully completed.		
Define registration protocols in EHR	This activity has been successfully completed.		

Select and train program representatives at each health center.		Extend the end point of the action "Training activities" from end of February 2022 to end of October 2022.	
Implement in each health area: Preparation:	This activity has been successfully completed.		
Test and technical support.		Extend the end point of the action "Testing the service and Technical support" from end of March 2022 to end of October 2022.	
Operation:	This activity has been successfully completed.		
Follow up KPI		Extend the end point of the action "Follow up KPI" from end of June 2022 to end of October 2022.	

Cycle number 1			
LCF2	Teleconsultation of pluripathological chronic patients with the continuity of care unit		
Activity	Maintain	Adapt	Abandon
Define implementation centers	Completed.		
Installation of telepresence equipment		Extend the end point of the action "Installation of telepresence equipment" from end of April 2022 to end of August 2022.	
Connection tests		Extend the end point of the action "Make connection test" from end of April 2022 to end of August 2022.	
Pilot test of connection with social services Management	This activity has been successfully completed.		
Define protocols for referral or adaptation of oGP	This activity has been successfully completed.		
Define care pathway with all the necessary aspects to be taken into account or	This activity has been successfully completed.		

adapted from the oGP			
Activity registration procedure	This activity has been successfully completed.		
Define organization and human resources required for synchronous consultation from Primary Care	This activity has been successfully completed.		
Transmission of the program to professionals.		Extend the end point of the action "Broadcast of the program" from end of June 2022 to end of November 2022.	
Dissemination of project start-up to health centers and hospitals	This activity has been successfully completed.		
Project follow-up	This activity has been successfully completed.		

QUESTIONS	ANSWERS
Any new proposed action for the future?	- Presentation of the project to the patient associations, and incorporation of the improvement elements.

	<ul style="list-style-type: none"> - Inclusion of the contributions of the professionals in relation to the information necessary for the teleconsultation. - Integration of the patient survey in the touch panel of the equipment.
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 2nd PDSA Cycle

LCF1	Tele dermatology							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Select and train program representatives at each health center.	Training activities	Training service	October-November 2022	-Total hours of training completed per professional , taken from the professional training registry	Coordinator or working group	January 2023	Provided by training services	10 h / professional responsible in each center

				application				
Test and technical support:	Improvement suggested by professionals: new way to include photos	Service IT department of each area	September-October 2022	Number of tutorials created related to technical skills	Coordinator or working group	End of October 2022	Provided by GDIAT.	A complete tutorial of use
Follow up KPI	Follow up KPI	NAWG	October-December 2022	-Reduction in average waiting time for dermatology consultation from health information systems - Percentage of resolution in teleconsultation	Coordinator or working group	January 2023	By programme of health information system	Any reduction 30 % of resolution

Presentation of the project to the patient associations	Call meeting with patient association	NAWG	October 2022	Number of patients association implicated	Coordinator or working group	October 2022	By coordinator directly	At least 2 patients associations
LCF2	Teleconsultation of pluripathological chronic patients with the continuity of care unit							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Installation of telepresence equipment	Installation of telepresence equipment	General Directorate of Infrastructures and Information Technology (GDIAT) Peripheral managements	August 2022	Number and percentage of connected health care centers	General Directorate of Infrastructures and Information Technology (GDIAT)	August 2022	Sent by each management area and company awarded the tender	100% of the centres of bidding documents

Connection tests	Make connection test	General Directorate of Infrastructures and Information Technology (GDIAIT) Peripheral managements	August 2022	Correct technical communication criteria	Coordinator or working group	August 2022	Provided by GDIAIT	100% of equipment
Improvements	Integration of the patient survey in the touch panel of the equipment.	bidding company	Early September 2022	Survey integrated in touch panel	Coordinator or working group	September 2022	Provided by GDIAIT	Yes/no
Transmission of the program to professionals.	Broadcast of the program	Bidding company and physicians and nurses primary care	September-October 2022	-Total number of hours of training provided. -Total number of	Coordinator or working group	End October 2022	Provided by bidding company	80% of trained target professionals

				students trained.				
Presentation of the project to the patient associations	Call meeting with patient association	NAWG	October 2022	Number of patients association implicated	Coordinator or working group	October 2022	By coordinator directly	At least 2 patients associations
Project follow-up	Follow up KPI	Peripheral and Regional managements Responsible for the project in the centers	September –November 2022	-Number of patients attended by teleconsultation /year -Number of face-to-face hospital contacts per year, before-after comparison - Satisfaction survey to professionals	Coordinator or working group	December 2022	By programme of health information system	At least 1 speciality started Any reduction of face to face consultation in the same speciality -7/10 on average

				and patients				
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MEETINGS

The NAWG will report the number of meetings conducted in each step of the PDSA cycle.

STEP	No. meetings	No. professionals involved	No. organizations represented
PLAN (Cycle 1)	2	10	5
DO (Cycle 1)	9	155	25
STUDY (Cycle 1)	1	10	5
ACT (Cycle 1)	2	10	5
PLAN (Cycle 2)			
DO (Cycle 2)			

The NAWG will complete the following templates at the end of the "DO" step to monitor the implementation process.

QUESTIONS	DESCRIPTION
Step	DO step, cycle 2
Date of the meeting	25/01/2023 and 27/01/2023
Number and profile of the participants	<i>12: 4 heads of services, 1 project manager and 4 experts, 3 health professionals</i>
Organizations involved	Regional Health Management: 4 services: Health information systems, IT, communications, primary care management and innovation service.

Some important steps were solved by e-mail, by Institutional Communication platform or health information systems.

Some issues were worked in small meeting between members of NAWG and the organization/service responsible.

Organizations involved during the Do process: primary care and hospital management teams, health professionals (medicine, internal medicine, family medicine, dermatology-; nurses), scientific societies. Social service regional ministry.

Cycle number 2		
LCF1	Teledermatology	
Activity	KPI	Actual value
Select and train program	-Total hours of training completed per professional, taken from	10 h / professional responsible in each centre

representatives at each health center.	the professional training registry application.	
Test and technical support:	Number of tutorials created related to technical skills	An integrated tutorial that covers each step of the process. This tutorial includes a modification in uploading photos to the repository.
Follow up KPI	<p>-Reduction in average waiting time for dermatology consultation from health information systems</p> <p>-Percentage of resolution in teleconsultation</p>	<p><i>This result will not be available until February.</i></p> <p>Annual average: 38%, (not less than 30% monthly). Variability of the resolution based on the experience of the different healthcare areas. An average annual value of up to 46% has been obtained in the Segovia area, which was where the project was piloted.</p>
Presentation of the project to the patient associations	Number of patients association implicated	Five patient associations implicated in the project

Cycle number 2		
LCF2	Teleconsultation of pluripathological chronic patients with the continuity of care unit	
Activity	KPI	Actual value
Installation of telepresence equipment	Number and percentage of	100% of the centers

QUESTIONS	DESCRIPTION
Step	Study, cycle 2
Date of the meeting	25/01/2023 and 27/01/2023
Number and profile of the participants	12: 4 heads of services, 1 project manager and 4 experts, 3 health professionals
Organizations involved	Regional Health Management: services: Health information systems, IT and communications, primary care management and innovation service.

Cycle number 2						
LCF1		Tele dermatology				
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Select and train program representatives at each health center.	-Total hours of training completed per professional, taken from the professional training registry application.	10 h / professional responsible in each centre	10 h / professional responsible in each centre	No deviations.		

Test and technical support:	Number of tutorials created related to technical skills	A complete tutorial of use	An integrated tutorial that covers each step of the process. This tutorial includes a modification in uploading photos to the repository	No impact on medical assistance.	Training of the professionals	Better efficiency in the process.
Follow up KPI	-Reduction in average waiting time for dermatology consultation from health information systems -Percentage of resolution in teleconsultation	Any reduction 30% of resolution	<i>This result will not be available until February.</i> 38% of resolution	No deviations		
Presentation of the project to the patient associations	Number of patients association implicated	At least 2 patients associations	Five patient associations implicated in the project	No deviations		

Cycle number 2						
LCF2		Teleconsultation of pluripathological chronic patients with the continuity of care unit				
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Installation of telepresence equipment	Number and percentage of connected health care centers	100% of the centers	100% of the centers	No major deviations from the planned activities.		
Connection tests	Correct technical communication criteria	100% of equipment	100% of equipment	No deviations.		
Improvements	Survey integrated in touch panel	Yes/no	Yes	No deviations.		
Transmission of the program to professionals.	-Total number of hours of training provided. -Total number of students trained.	80% of trained target professionals	Partially: -100% of professionals from CCUs -The training of trainers was completed of	Delay in equipment installation.	Cascade formation process and on-line training was prepared and carried out.	It has meant a rapid advance in the training.

			Primary Care professionals.			
Presentation of the project to the patient associations	Number of patients association implicated	At least 2 patients associations	Five patient associations implicated in the project	No deviations		
Project follow-up	<p>-Number of patients attended by teleconsultation /year</p> <p>-Number of face-to-face hospital contacts per year, before-after comparison</p> <p>-Satisfaction survey to professionals and patients</p>	<p>At least 1 speciality started</p> <p>Any reduction of face to face consultation in the same speciality</p> <p>-7/10 on average</p>	<p><i>These results of the previous year will not be available until February.</i></p> <p>-Patient satisfaction: 9/10 - Professional satisfaction: <i>This result will not be available until February-march</i></p>	No deviations		

QUESTIONS	DESCRIPTION
Step	ACT cycle 2
Date of the meeting	23/01/2023 and 27/01/2023, together with the STUDY step of cycle 2
Number and profile of the participants	12.-14* : 4 heads of services, 1 project manager and 4 experts, 3 health professionals
Organizations involved	Regional Health Management: 4 services: Health information systems, IT, communications, primary care management and innovation service.

*One of the meetings were attended by 2 managing directors (relevant decision makers)

Cycle number 2			
LCF1	Tele dermatology		
Activity	Maintain	Adapt	Abandon
Select and train program representatives at each health center.	This activity has been successfully completed.		
Test and technical support:	This activity has been completed with an improvement in the procedure.		
Follow up KPI	Pending to receive the data.		

Presentation of the project to the patient associations	This activity has been completed and the patient associations continue to collaborate on the project.		
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Cycle number 2			
LCF2			
Teleconsultation of pluripathological chronic patients with the continuity of care unit			
Activity	Maintain	Adapt	Abandon
Installation of telepresence equipment	This activity has been completed.		
Connection tests	This activity has been completed.		
Improvements	This activity has been completed.		
Transmission of the program to professionals.	Continues with the dissemination through the trainers.		
Presentation of the project to the patient associations	This activity has been completed and the patient associations continue to collaborate on the project.		
Project follow-up	Pending to receive the data		

QUESTIONS	ANSWERS
Any new proposed action for the future?	<ul style="list-style-type: none"> - Promote the training - Extend the project to other specialties

ITEM	DESCRIPTION	INFORMATION FROM IMPLEMENTATION PROCESS TO SUPPORT	ANSWER
Title and Abstract			
Title		Local Good Practice name	Improving communication between levels of care and digitally facilitated health.
Abstract		"Description" of the Local Good Practice template	Implement new forms of communication between primary care and hospitals, through the technological modernization of the healthcare system, applicable to the field of dermatology and care of chronic multi-pathological patients, supported by organizational innovation and training, especially in rural areas.
Why did you start?		Information from impl. process	Answer
Problem description	Nature and significance of the local problem	-	Castilla y León (Spain) is a large region in the central north of the Iberian Peninsula, distributed in 11 health areas and 249 Basic Health Zones. We have the lowest population density in Spain and the highest population of older people: More than 54.8% of people over the age of 65 live in rural areas and more than 50% of the population lives in municipalities with fewer than 1,000 inhabitants.

			This context of aging population, geographical dispersion and eminently rural poses a challenge for the effective and efficient provision of health and social services.
Available knowledge	Summary of what is currently known about the problem, including relevant previous studies	-	The Chronic Patient Care Strategy in Castilla y León (SACYL) aims to adapt the functioning of the Castilla y León healthcare system to the new reality of the growing demand for care derived from patients with chronic diseases. It focuses on five fundamental aspects: Organize and adapt hospital resources to the conditions and needs of these patients; Strengthen the role of primary care and improve its conditions to facilitate effective care; To ensure coordination between the professionals of the different levels of care that intervene to guarantee the continuity of care; To advance towards healthcare integration through the effective coordination of the health and social systems; To promote the active participation of patients and caregivers in the maintenance of health.
Rationale	Informal or formal frameworks, models, concepts, and/or theories used to explain the problem, any reasons or assumptions that were used to develop the intervention(s), and reasons why the intervention(s)	-	After studying the Danish experience, and carrying out and analyzing a SWOT, those actions that had already been planned to be carried out from the GRS were selected and aspects learned from Danish practice were introduced.

	was expected to work		
Specific aims	Purpose of the project and of this report	"Main aim" of the Local Good Practice template	Facilitate communication between healthcare levels and integrated healthcare through digital and technological support, and support and the definition of efficient and decisive healthcare pathways.
What did you do?		Information from impl. process	Answer
Context	Contextual elements considered important at the outset of introducing the intervention(s)	Main output of the Situation Analysis. SWOT analysis	<ul style="list-style-type: none"> • Incorporation of new organisational measures to improve continuity of care. • Incorporation of new technological measures to improve continuity of care. • Reduction of the digital divide among professionals and the population. • Promotion of intersectoral agreements (health, social...)
Intervention(s)	<ul style="list-style-type: none"> • Description of the intervention(s) in sufficient detail that others could 	<ul style="list-style-type: none"> • "Target population" and "Description" of the Local Good Practice template 	<ul style="list-style-type: none"> • The target population of this good practice are the 2.3 million people who depend on the public health system in Castilla y León (SACYL). The purpose of our project is the implementation, in rural and urban areas, of technological solutions that make it possible to improve person-centered care in their environment (either at home or in the immediate environment), especially caring for people with chronic illness and dependents, based on the adaptation and incorporation of the original good practice of the South Denmark region of the Joint Action: "Digital roadmap towards an integrated health care sector". The Local Core features selected are two: teledermatology through non-face-to-face enter consultation and teleconsultation with Continuity Care Unit through telepresence. • Regional Health Management: Health Research and Innovation Service (Organizer and Decision maker), Technology of the information and communication (Expert and Decision maker), Social health Service (Expert and Decision maker) and Health System Department (Expert). Primary care management and Hospitals (Managers and Medical and nurse staff).

	<p>reproduce it</p> <ul style="list-style-type: none"> • Specifics of the team involved in the work 	<ul style="list-style-type: none"> • Description of the NAWG participants (number, profiles, roles) 	
<p>Study of the Intervention(s)</p>	<ul style="list-style-type: none"> • Approach chosen for assessing the impact of the intervention(s) (quantitative or qualitative analysis) • Approach used to establish whether the observed outcomes were due to the 		<ul style="list-style-type: none"> • We have considered both qualitative and quantitative variables. A qualitative analysis knowing the satisfaction of the patients and that of the health professionals, and their assessment and a quantitative one studying variables such as the number of patients treated through tele dermatology and telepresence, reduction of waiting lists, completed training for professionals... • The approach used to monitor the interventions is through Key Performance Indicators assigned to each established activity of the Local Core Features of the Local Action Plan.

	intervention(s)		
Measures	Measures chosen for studying processes and outcomes of the intervention(s), including rationale for choosing them, their operational definitions, and their validity and reliability	Key Performance Indicator of the Local Action Plan	<p>KPIs for the LCF 1: Tele dermatology</p> <ul style="list-style-type: none"> - Defined protocols for referral, photographic (Yes/no). - Percentage of health centers with devices purchased (80%) - Defined registration protocols in EHR (Yes/no) - Percentage of health centers with tele dermatology managers with completed training (80%) - Total hours of training completed per professional, taken from the professional training registry application (10 h/professional) - Percentage of dermatology services in the community using tele dermatology taken from the service portfolio. (80%) - Number of tutorials created related to technical skills (A complete tutorial) - Reduction in average waiting time for dermatology consultation from health information systems (Any reduction) - Percentage of resolution in teleconsultation (30% of resolution) <p>KPIs for the LCF 2: Teleconsultation of pluripathological chronic patients with the continuity of care unit</p> <ul style="list-style-type: none"> - List of selected centers (100%) - Number and percentage of connected health care centers (100%) - Correct technical communication criteria (100%) - Correct technical communication criteria between different communication networks (Yes/no) - Defined protocols for referral (Yes/no) - Defined care pathway (Yes/no) - Defined activity registration procedure (Yes/no) - Defined organization and human resources protocols required for synchronous (Yes/no) - Total number of hours of training provided (80% of trained target professionals) - Total number of students trained - Number and type of informative material created in different formats (At least 2) - Number of patients attended by teleconsultation /year (At least 1 speciality started) - Number of face-to-face hospital contacts per year, before-after comparison (Any resuction)

			<p>- Satisfaction survey to professionals and patients. (Surveys)</p> <p>KPIs that are numerical data were extracted from the health information systems. Other KPIs are for achievement (Yes/no) and others through surveys. We collected this information through the corresponding managers.</p>
Analysis	<ul style="list-style-type: none"> Qualitative and quantitative methods used to draw inferences from the data Methods for understanding variation within the data, including the effects of time as a variable 	<p>PLAN template and STUDY analysis</p>	<p>Each of the Activities defined in the LAP for each Local Core Feature (LCF) was broken down into concrete actions to be implemented during the first cycle. We planned the work in the first step: "PLAN" of the cycle and established Key Performance Indicators (KPIs) for each of the actions. We also define a target value for each of the KPIs.</p> <p>The methods used to measure the KPIs were quantitative and qualitative. Qualitatively knowing the satisfaction of the patients through questionnaires and meetings with patient associations. The assessment and satisfaction of the professionals was carried out through periodic meetings. And quantitatively, periodically collecting: Percentage of dermatology services that use tele dermatology, number and percentage of telepresence equipment installed, reduction of time on waiting lists, number of patients attended by teleconsultation/year...</p> <p>In the "STUDY" step we analyzed and interpreted the data gathered in the "DO" step. The method used to assess the variations found was through follow-up meetings with the responsables for collecting the information for each of the KPIs and the responsables for the services involved.</p>
What did you find?		Information from impl. process	Answer
Results	<ul style="list-style-type: none"> Intervention(s) and 	<ul style="list-style-type: none"> DO and STUDY 	<p><i>Completed Activities of the project</i></p> <p>LCF 1: Tele dermatology</p>

	<p>their evolution over time (e.g., timeline diagram, flow chart, or table), including modifications made to the intervention during the project</p> <ul style="list-style-type: none"> • Details of the process measures and outcome • Observed associations between outcomes, interventions, and relevant contextual elements 	<p>steps: Deviations from the planned actions.</p> <ul style="list-style-type: none"> • STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle 	<ul style="list-style-type: none"> • During the period of execution of the project, the piloting of the project was carried out in all the health centers of the health area of Segovia. • Purchased and distributed all the smartphones and dermatoscopes planned to equip primary care centers in all health areas. (Accomplished during the 1st cycle) • Defined the referral protocols. (Accomplished during the 1st cycle) • Defined the record in the medical history. (Accomplished during the 1st cycle) • Completed the training of dermatologists (finished in the 1st cycle) and primary care professionals. (during the two cycles) • 80% of the health areas use teledermatology. (Accomplished during the 1st cycle) • Presented the project to Patient Associations. Five patient Associations implicated in the project. (Accomplished during the 2nd cycle). • Approx. 20 days of reduction of waiting time for dermatology consultation for the most experienced centers. (Result of the 1st cycle. <i>The data for the 2nd cycle are not yet available</i>). • Annual average of 38% resolution in teleconsultation. <p>LCF 2: Teleconsultation of pluripathological chronic patients with the continuity of care unit</p> <ul style="list-style-type: none"> • During the project execution period, the telepresence project was piloted to respond to complex chronic patients in the Care Continuity Unit (CCU) of the Zamora Care Complex with the Benavente Norte Health Center. • The telepresence equipment was purchased, installed, and connected in all health areas. (Accomplished during the two cycles). • Defined protocols for referral, adapted from the oGP (Accomplished during the 1st cycle) • Defined care pathway with aspects adapted from the oGP (Accomplished during the 1st cycle) • Defined Activity registration procedure (Accomplished during the 1st cycle) • Dissemination of the project to health centers and hospitals. (Accomplished during 1st cycle) • Completion of the training of the internal medicine doctors of the CCUs (during the 1st cycle). In primary care, the training of trainers was completed (247 trainers) (Accomplished during the two cycles). • Presented the project to Patient Associations. Five patient Associations implicated in the project. (Accomplished during 2nd cycle).
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	<ul style="list-style-type: none"> • Unintended consequences such as unexpected benefits, problems, failures, or costs associated with the intervention(s). • Details about missing data 	<p><i>Relevant contextual element</i></p> <p>The change of government in the region has meant that some actions were delayed, such as the bidding process and installation of telepresence equipment in the centres.</p> <p><i>Deviations and interventions, STUDY 1st cycle</i></p> <p>LCF 1: Interoperability problem in digital medical record in 2 hospitals. A new version throughout 2022 was implemented.</p> <p>LCF 1: An on-line training was prepared to speed up the training of primary care professionals during the 2nd cycle.</p> <p>LCF 2: The delay in the training of professionals from primary care was mainly due to the delay in the installation of telepresence equipment in the centers. Action performed: Sent all the informative material created in different formats to all the units and let them in our private intranet.</p> <p><i>Proposed actions after the 1st cycle</i></p> <ul style="list-style-type: none"> • Presentation of the project to the patient associations, and incorporation of the improvement elements. • Integration of the patient survey in the touch panel of the equipment. <p><i>Improvements implemented after the 2nd cycle</i></p> <p>LCF 1: An improvement in the process of uploading photos to the repository was accomplished and it was updated in the tutorial. Posterior training including this modification has been required.</p> <p>LCF 1: An advanced online training of dermatology has been prepared for trainers and in a presential way for primary care professionals.</p> <p>LCF 1: Satisfaction surveys for professionals and patients.</p> <p>LCF 2: The survey is integrated into the touch panel. Its activation is already taking place.</p> <p>LCF 2: The training of trainers was completed of Primary Care professionals. To make the process more agile for the rest of professionals a cascade formation process and on-line training was prepared and carried out.</p> <p><i>Problems and unexpected findings identified during implementation and mitigation actions</i></p> <p>- <i>Continuity of care units with insufficient staffing</i>: Updated personnel needs and elevated to competent body.</p>
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			<p>- Differences in the organization and functioning of the units in different health areas of the region: Training and reminder of the chronicity strategy and strategic objectives. Preparedated a telepresence common guide.</p> <p>- Different levels of motivation of professionals: Training and regular contacts with professionals to detect their difficulties</p> <p><i>Unexpected positive experiences</i></p> <p>1. Equipment allows calls from mobile phone: video consultation tests carried out from the patient's home.</p> <p>2. Equipment allows calls from outside intranet:</p> <ul style="list-style-type: none"> • Use of consultation teams outside of Castilla y León, very useful for national and European reference units. • Sessions of the regional committee of experts: childhood cancer, euthanasia... <p><i>Data for the 2nd cycle that will be available throughout February:</i></p> <p>LCF 1: Follow up KPI: Reduction in average waiting time for dermatology consultation from health information systems.</p> <p>LCF 2: Project Follow-up KPI: Number of patients attended by teleconsultation /year; Number of face-to-face hospital contacts per year, before-after comparison; Satisfaction survey to patinets and professionals.</p>
What does it mean?		Information from impl. process	Answer
Summary	<ul style="list-style-type: none"> • Key findings, including relevance to the rationale and 	STUDY step of 1 st cycle and STUDY and ACT steps of the 2 nd cycle	- The leadership of the people who promote the project is a strong point for the implementation of a telemedicine project: reference people are needed both in the central administration and in peripheral management and in the local teams themselves. Thus, a network of leaders must be established to help extend the project to the entire Autonomous Community. Managers have to push with enthusiasm and conviction, but healthcare professionals have to be leaders in their own environments, with the staff of their teams.

	<p>specific aims</p> <ul style="list-style-type: none"> Particular strengths of the project 		<ul style="list-style-type: none"> - Involve the health services and all the areas involved: regulations, material and technological equipment, information systems, care organization and human resources, among others. - In the implementation of telemedicine it is vital to take into account the previous work organization and adjust it to establish the modifications that improve the use of the new tool. - Training and motivation in the work environment are key elements for success. - Listening to healthcare professionals and other agents in the organization who will be influenced by the incorporation of telemedicine, including patients. - Involve the main users to develop digital strategies. - The commitment of the professionals. - Professionals have given good suggestions for improvement. In the team of the Regional Health Management, the contributions made have been considered and work has continued to improve the necessary aspects of the project. - The medical coordinators of the two pilot centers (hospital and primary care center) have promoted and suggested improvements. In the meetings with the homologous units, they have been of great help in convincing their colleagues. -The involvement of patient associations to incorporate their vision and improvement elements detected in the project document.
<p>Interpretation</p>	<ul style="list-style-type: none"> Nature of the association between the intervention(s) and the outcomes Comparison of results with findings 	<p>STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle</p>	<p>For teledermatology, the percentage of resolution in teleconsultations is 38% on an annual average and not less than 30% per month (resolution is understood when there is no need for hospital consultation). However, the variability of the resolution depends on the experience of the different healthcare areas. An average annual value of up to 46% has been obtained in the Segovia area, which was where the project was piloted. (The more experience taking pictures, the better results they got, according to publications.) In order to review and improve this variability, work is being done to establish work commissions in each center.</p> <p>Reference publications:</p> <ul style="list-style-type: none"> León Salas B, Trujillo Martín MM, Linertová R, Torres Castaño A, Toledo Chávarri A, Delgado Rodríguez J, Abt Sacks A, Hernández Yumar A, González Hernández Y, Infante Ventura D, de Armas Castellano A, García J, García Hernández M, de Pascual Medina AM, Rodríguez Baz I, Olazarán Rodríguez FJ, Dobato Ayuso JL, González Platas M, Carmona Rodríguez M, Rodríguez L, Serrano Aguilar P. Telemedicina para gestión de consultas, evaluaciones y manejo terapéutico

	<p>from other publications</p> <ul style="list-style-type: none"> • Impact of the project on people and systems • Reasons for any differences between observed and anticipated outcomes • Costs and strategic trade-offs, including opportunities and costs 		<p>en enfermedades neurológicas. Telemedicine for the management of consultations, evaluations and therapeutic management in neurological diseases. Ministerio de Sanidad. Servicio de Evaluación del Servicio Canario de la Salud; 2021. Informes de Evaluación de Tecnologías Sanitarias". https://redets.sanidad.gob.es/productos/buscarProductos.do?metodo=detalle&id=284</p> <ul style="list-style-type: none"> • Orruño, Aguado, Estibaliz. Asúa, Batarrita, José. Bayón, Yusta, Juan Carlos. Gagnon, Marie Pierre. Diseño y plan de implementación de la telemedicina en áreas clínicas específicas: telemonitorización y teledermatología. Evaluación de puesta en marcha y costes. [Design and implementation plan of telemedicine in specific clinical areas: telemonitoring and teledermatology. Assessment of initial results and costs]. [Documento en línea]. 2010. Vitoria-Gasteiz: Servicio Central de Publicaciones del Gobierno Vasco. 2010[2015][2010]. 141. http://www.osakidetza.euskadi.eus/contenidos/informacion/2010_osteba_publicacion/es_def/adjuntos/e_10_03_dis_plan.pdf. <p>At this moment we are waiting to receive the rest of the follow-up KPIs of the teledermatology and telepresence project.</p> <p>Regarding the costs of resolved activities of the project, they do not imply an additional cost, (apart from the acquisition of equipment) as we found in the added publications.</p> <p>Patient satisfaction with the care received was greatly improved (according to publications as well)</p> <p>Some expenses such as those made for the training of health professionals are an investment for the implementation of the LCF.</p>
<p>Limitations</p>	<ul style="list-style-type: none"> • Limits to the generalizability of the work • Factors that might 	<p>STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle</p>	<ul style="list-style-type: none"> - When there are many agents to make decisions, consensus can take time to reach. - Work overload: participation in multiple projects and activities for both GRS staff and health professionals. - Different languages and different rhythms of development in the parties involved in the evolution of the project: bidding deadlines, local preparation (initial training of professionals, cascade information transfer...)

	<p>have limited internal validity such as confounding, bias, or imprecision in the design, methods, measurement, or analysis</p> <ul style="list-style-type: none"> • Efforts made to minimize and adjust for limitations 		<p>To minimize the limitations we have held agile multidisciplinary meetings, consensus and cooperation between the parties: focus on common objectives and assess the different necessary and complementary paths to achieve them.</p> <p>On the other hand, a rational distribution of workload has been made to avoid inefficiencies.</p>
<p>Conclusions</p>	<ul style="list-style-type: none"> • Usefulness of the work • Sustainability • Potential for spread to other contexts 	-	<p>The usefulness of the work is that any citizen of Castilla y León can benefit from the services provided by this technology, especially in rural areas, a very important reality in the region.</p> <p>The fundamental actions for the sustainability of the practice once the project is finished are based on:</p> <ul style="list-style-type: none"> • Strategic and political support. • The participation and commitment of all parties through leaders in each area and in the health centres. • The training of healthcare professionals and good educational material.

	<ul style="list-style-type: none"> • Implications for practice and for further study in the field • Suggested next steps 		<ul style="list-style-type: none"> • Involve and transfer to the public the information necessary for them to accept and value the new modalities of health care. <p>As next steps we consider:</p> <ul style="list-style-type: none"> - Promote the training - The future possibility of combining telepresence with other telemonitoring diagnostic devices (as in the case of teleEPOC) is opened up: different possibilities and telemonitoring systems have been studied these months that, combined with telepresence, offer a more adequate care response to the needs. Other specialties would be: Telerehabilitation, teleictus, telecardiology... - The extension of the project to other healthcare areas in Castilla y León, through the SACYL technology already installed throughout the territory.
Other information		Information from impl. process	Answer
Funding	<ul style="list-style-type: none"> • Sources of funding that supported this work. Role, if any, of the funding organization in the design, implementation, interpretation, and reporting 	-	<ul style="list-style-type: none"> • Financing of the JADECARE project • Economic resources: The regional health management has invested for its budget for the technological endowment and economic support of the project. • Human resources: personnel from the Regional Health Service, project managers from the peripheral Health Departments (technical and functional), health care professionals from the public health system of Castilla y León and healthcare professionals from the socio-healthcare residential centers.

Servicio Murciano de Salud & Fundación para la Formación e Investigación Sanitario de la Región de Murcia, Spain, SMS & FFIF

Pre-implementation

Scope definition

1. Next Adopter name: Servicio Murciano de Salud (SMS) / Fundación para la Formación e Investigación Sanitario de la Región de Murcia (FFIS) (Murcia/Spain)

2. SWOT analysis frame

	STRENGTHS	WEAKNESSES
INTERNAL	<ul style="list-style-type: none"> - A robust and universal health system. - The support of a Primary Care Health Center where most of the professionals will be involved. - Existence of the School of Health, advised by high-level professionals. - SMS Innovation Area with extensive experience in pilots promoting technology. - The current crisis of the Covid 19 Pandemic has developed a special awareness among the population and professionals for the use of online digital technology and in turn has highlighted the importance in its development to optimize health care. - Chronicity strategies are developed in the Region. - Leadership of the Health Center in using the digital tools that are available to date. - High percentage of Population with access to the Patient Portal of the Murcian Health service in the chosen health center. 	<ul style="list-style-type: none"> - Need for a strategic plan - Generation or adaptation of tools. - Development of digital infrastructure to support integrated care is required. It is in the initial phase and does not yet have local coverage, and even less regional coverage. - Cultural barriers for the use of new tools and acceptance of new processes. - Lack of financing - It is necessary to normalize coordinated care processes, and formal plans are required to develop them. - Effective policies are not being developed to support patient empowerment. - Poor interoperability between the different actors. - Difficulties for the secure authentication of users and access to health data in an adequate legal environment.
EXTERNAL	OPPORTUNITIES	THREATS
	<ul style="list-style-type: none"> - Develop and integrate digital solutions to support citizens. - Develop an intervention plan for the population. - The need for the empowerment of patients or citizens is recognized. 	<ul style="list-style-type: none"> - Difficulty integrating some tools (Interoperability) - The risk of non-continuity of the programs.

<ul style="list-style-type: none"> - Involve the Public Health area in prevention and health promotion for the production of content. - Establish integrated care services as part of a systematic approach. - Partially implement the Innovation management process. - Increase the participation of clinical professionals. - Generate know-how from experience and learning in the implementation of tools that will have enormous value in the development of future health records. - Involve Government and leaders in actions. - Develop technology for remote medicine. - Create new competencies in nursing. - Establish a network of clinical professionals who face the new challenges to address the aging of the population. - Develop strategies to achieve interactive tools for the use of professionals. - Identify and nominate professionals as references for the use of tools in each organization. - The continuous improvement of tools taking into account the perspective of patients and professionals. - Achieve changes in lifestyles through timely interventions, and promoting greater motivation. - Try to work together with patient associations. - The future challenges of the population that demands health services has an increase and the complexity in the management therefore requires modifications in the approach to these problems (Telemedicine, home monitoring, video conferences, etc.) that will allow better results. in health. 	<ul style="list-style-type: none"> - Ensure maintaining lifestyle changes by developing new services and increasing user motivation. - Limited digital services. - Have an online platform that is sustained over time. - Have sufficient support from professionals to ensure the quality of the materials. - Have sufficient resources. - Large percentage of time dedicated to healthcare activity.
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3. Strategic intervention areas

Strategic intervention area	Priority score (1 to 3)	Ranking
Develop intervention plans	3	1
Development of digital infrastructure to support integrated care	3	2
Preparation of formal plans to develop coordinated care processes	2	3
Improve interoperability between the different actors	3	4
Development of Plans for the empowerment of patients	2	5

Definition of the LGP and LAP

Local Good Practice	Digital Roadmap towards an integrated Healthcare sector/Region Southern Denmark/ DK	
Target population	Setting(s)	
Patients who come to the Rehabilitation Service for a physiotherapist treatment.	Rehabilitation Service and Physiotherapy Service of the Morales Messenger Hospital, Murcia, Spain.	
Main aim		
Reinforce the rehabilitation treatment of patients who attend the physiotherapy service for post-surgical or post-traumatic rehabilitation through a digital health project with a more flexible approach to rehabilitation, maintaining personal contact with the professional, empowering the patient and maintaining a personalized follow-up.		
Outcomes	Local Core Features and their Components	Inputs
<ul style="list-style-type: none"> An online application available for various groups of patients(x n^o). 	<ul style="list-style-type: none"> Develop an online rehabilitation program that allows offering treatments to 	<ul style="list-style-type: none"> Financing Technological Professionals (1 SGTI-SMS - 1 Hospital)

<ul style="list-style-type: none"> • The user can take responsibility for their own rehabilitation and training recommended by the therapist based on his/her needs. • Program flexibility can increase compliance. • The user reports on his/her compliance and the experienced level of pain development. • Rehabilitation professionals can carry out personalized follow-up. • Web administration, where physical therapists, primary care physicians and other healthcare professionals can monitor progress and create individualized training programs. 	<p>patients with greater flexibility to perform them.</p> <ul style="list-style-type: none"> • Elaborate short videos with rehabilitation exercises according to the pathology of the patients. • Develop a combined treatment plan between face-to-face and online consultation, which can be supervised by professionals in Rehabilitation and Physiotherapy. • Define pain measurement criteria to evaluate recovery and progress. • Have an online platform where videos of rehabilitation exercises can be available. • Have an application for a smart mobile phone or tablet where patients can record their pain parameters and activities and where professionals can monitor patients. 	<ul style="list-style-type: none"> • Project managements (2-3) • Professionals in Rehabilitation(x n^a) • Physiotherapists(x n^a) • Support professionals in Design and Communication (1) • Trainers and technical assistants (1 SMS - 1 Hospital) • Directors and Support Managers (Medical Director - Deputy Director and Head of Rehabilitation and Physiotherapy Services). • Material resources such as smartphones, tablets, web access. (x n^o of phones, tablets) • Selected patients
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General description

The implementation of Rehab / DK is a project that aims to obtain higher quality and better support in the rehabilitation treatment with the development of activities at citizens' homes, offering greater flexibility in the rehabilitation process, both for health professionals and for patients by improving collaboration between sectors and achieving greater accessibility of person-centered comprehensive care data and reports and achieving patient empowerment. As well as facilitating the obtaining of information on pro indicators that patients register and that allows to the professional the transparency of the data and the respective monitoring and evaluation accessible to all the actors.

Local Core Feature LCF1

Develop an online rehabilitation program that allows offering treatments to patients with greater flexibility to perform them.

LCF2

Prepare short videos with rehabilitation exercises according to the pathology of the patients.

LCF 3

Develop a combined treatment plan between face-to-face and online consultation, which can be supervised by professionals in Rehabilitation and Physiotherapy.

LCF 4

Define pain measurement criteria to evaluate recovery and progress.

LCF 5

Have an online platform where videos of rehabilitation exercises can be available.

LCF 6

Have an application for a smart mobile phone or tablet where patients can record their pain parameters and activities and where professionals can monitor patients.

Local Action Plan

Local Good Practice	Digital Roadmap towards an integrated Healthcare sector/Region Southern Denmark/ DK	
Target population	Setting	
Patients attending the Rehabilitation service of the Morales Messenger Hospital, in the Region of Murcia, Spain.	Rehabilitation Services and Physiotherapy Service of the Morales Messenger Hospital in the Region of Murcia.	
Main aim		
Obtain, through an online process, an accessible home rehabilitation treatment that in turn empowers the patient and facilitates communication between professionals and patients.		

General description

Offer patients who require a rehabilitation process with physiotherapy, an online treatment alternative, through which the patient has greater flexibility to carry out their therapy, while making a record of the pain process and the activities carried out, which allows professionals to offer personalized and accessible follow-up and in turn promotes the empowerment of the patient in their own rehabilitation process.

Related original Good Practices and their Core Feature (s)	Digital Roadmap towards an integrated Healthcare sector/Region Southern Denmark/ DK
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Local Core Feature 1	B2- CF4 Online Physical Rehabilitation
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SMART objective

[...]

Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> Develop an online rehabilitation program that allows offering treatments to patients with greater flexibility to perform them. 	<ul style="list-style-type: none"> Project managements (1 SMS-1 FFIS-1 hospital). Physiotherapists (2) And Doctors in Rehabilitation (2). 	<ul style="list-style-type: none"> Time of the professionals dedicated to the elaboration of the program. 	<ul style="list-style-type: none"> Central SMS Services. Rehabilitation Service of the Morales Messenger Hospital. 	<ul style="list-style-type: none"> 4 weeks from the start (October). 	<ul style="list-style-type: none"> Hours dedicated to the development of the program or activity. Degree of progress of the activity according to the programmed time divided from 1-5.
<ul style="list-style-type: none"> Elaborate short videos with rehabilitation exercises according to 	<ul style="list-style-type: none"> Support professionals in Design and Communication (FFIS). 	<ul style="list-style-type: none"> Availability of equipment for video recording. Material that must be on stage for 	<ul style="list-style-type: none"> Stage availability at the Morales Messenger Hospital physiotherapy clinic. 	<ul style="list-style-type: none"> 4 months (12 weeks). 12 videos are planned: 6 knee videos 	<ul style="list-style-type: none"> To define

<p>the pathology of the patients.</p>	<ul style="list-style-type: none"> • Project managements (1 SMS-1 FFIS-1 hospital). • Physiotherapists (2) And Doctors in Rehabilitation (2). • Patients for video recording (4). 	<p>filming both in the physiotherapy clinic and in the patients' homes.</p>	<ul style="list-style-type: none"> • Stage availability in patients' homes. 	<ul style="list-style-type: none"> • 6 shoulder videos (1 video per week from November). 	
<ul style="list-style-type: none"> • Develop a combined treatment plan between face-to-face and online consultation, which can be supervised by professionals in Rehabilitation and Physiotherapy. 	<ul style="list-style-type: none"> • 2 professionals from the rehabilitation service of the Morales Messenger Hospital. • 2 professionals from the physiotherapist service of the Morales Messenger Hospital • 2 Project managements (1 SMS-1 FFIS-1). • 2 technological professionals (1SGTI-SMS/1 Hospital). 	<ul style="list-style-type: none"> • Time dedicated to developing the treatment plan for: -Rehabilitator -Physiotherapist -Manager -IT Technician of General Services (SGTI). -IT technicians from Hospital Morales Messenger 	<ul style="list-style-type: none"> • Rehabilitation service of the Morales Messenger Hospital. • Physiotherapist service of Hospital Morales Messenger. • Central services of SMS 	<ul style="list-style-type: none"> • 3 weeks development of the treatment plan by a Rehabilitator and a Physiotherapist. • 1 week for plan review by all participating physicians and physical therapists. • 1 semana para revisión de los gestores del proyecto en SMS y FFIS. 	
<ul style="list-style-type: none"> • Define pain measurement criteria to evaluate recovery and progress. 	<ul style="list-style-type: none"> • Doctors in Rehabilitation. • Physiotherapists. 	<ul style="list-style-type: none"> • Have various pain evaluation guides available. 	<ul style="list-style-type: none"> • Rehabilitation service of the Morales Messenger Hospital. • Physiotherapist service of Hospital 	<ul style="list-style-type: none"> • 1 week 	<p>To define</p>

			Morales Messenger.		
<ul style="list-style-type: none"> Have an online platform where videos of rehabilitation exercises can be available. 	<ul style="list-style-type: none"> 2 technological professionals. (1 SGTI-1 Hospital) 	<ul style="list-style-type: none"> General Management SGTI-SMS. Computer service of FFIS. (Health School) 	<ul style="list-style-type: none"> General Management of SGTI-SMS. Computer service of FFIS. (Health School) 	<ul style="list-style-type: none"> To define 	<ul style="list-style-type: none">
<ul style="list-style-type: none"> Have an application for a smart mobile phone or tablet where patients can record their pain parameters and activities and where professionals can monitor patients. 	<ul style="list-style-type: none"> Company that develops the App. 2 Project managements (1 SMS-1 FFIS-1). 2 technological professionals(1SGTI-SMS/1 Hospital) Physiotherapists And Doctors in Rehabilitation. 	<ul style="list-style-type: none"> Developer SME General Management SGTI-SMS. Time dedicated to developing the treatment plan for: <ul style="list-style-type: none"> -Rehabilitator -Physiotherapist -Manager -IT Technician from SGTI. -IT technicians from Hospital Morales Messenger 	<ul style="list-style-type: none"> Developer SME General Management SGTI-SMS. 	<ul style="list-style-type: none"> To define 	<ul style="list-style-type: none">

Implementation

1st PDSA cycle

QUESTIONS	DESCRIPTION
Step	PLAN
Date of the meeting	19/11/2021
Number and profile of the participants	14: 1-Project Managers, 1project Management technician,4-Physiotherapists, 1 Head of rehabilitation service (policy maker) 2- Rehabilitation specialists, 1 Primary care family physicians ,1 Principal Research,2 ITC technicians ,1 Communication technician.
Organizations involved	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center

LCF1	B2- CF4 Online Physical Rehabilitation							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected ?	How will the data be collected?	Target value
1-Develop an online rehabilitation program that allows offering treatments to patients with greater flexibility to perform them.	Definition of the treatment plan	<ul style="list-style-type: none"> Project managers (1 SMS-1 FFIS-1 hospital). Physiotherapists (2) and rehabilitation specialists (2) of healthcare (DGAS). Primary care family physicians (2) 	<ul style="list-style-type: none"> 4 weeks from the start (October). 	<ul style="list-style-type: none"> Hours dedicated to the development of the program or activity. Degree of progress of the activity according to the programmed time divided from 1-5. 	FFIS/SMS	Nov-Dec 2021	By meeting minutes	8 professionals involved in the development of the online rehabilitation program
2- Elaborate short videos with rehabilitation exercises according to the pathology of the patients.	<ul style="list-style-type: none"> -Define pathologies(3) - elaboration of the video scripts - recording of videos 	<ul style="list-style-type: none"> Support professionals in Design and Communication (FFIS). Project managements (1 SMS-1 FFIS-1 hospital). Physiotherapists (2) And Rehabilitation specialists (2). Patients for video recording (4). 	<ul style="list-style-type: none"> 4 months (12 weeks). 12 videos are planned: -6 knee videos - 6 shoulder videos (1 video per week from 	<ul style="list-style-type: none"> -3 pathologies -number of scripts developed -number of scripts recorded 	-Project manager/IT technician	-From January to April 2022	-through a platform	-12 videos planned

			November).					
3-Develop a combined treatment plan between face-to-face and online consultation, which can be supervised by professionals in Rehabilitation and Physiotherapy	-treatment protocol	<ul style="list-style-type: none"> 2 professionals from the rehabilitation service of the Morales Messenger Hospital. 2 professionals from the physiotherapist service of the Morales Messenger Hospital 2 Project managements (1 SMS-1 FFIS-1). 2 technological professionals (1SGTI-SMS/1 Hospital). 2 Primary care Family Physicians (La Flota Primary Health Center). 	<ul style="list-style-type: none"> 3 weeks development of the treatment plan by a Rehabilitator and a Physiotherapist. 1 week for plan review by all participating physicians and physical 	<p>-To define Development of the OMI (health care record of primary Care) protocol</p> <p>-To define Development of the SELENE (health care record of hospital Care) protocol</p>	- Physicians/ professionals from the rehabilitation service of the Morales Messenger Hospital	-From May to June 2022	-through the ITC database	-Protocols inserted in the health records of SMS

			<p>therapists.</p> <ul style="list-style-type: none"> 1 week for review by project managers in SMS and FFIS. 					
4-Define pain measurement criteria to evaluate recovery and progress.	<ul style="list-style-type: none"> Define pain assessment scales 	<ul style="list-style-type: none"> Rehabilitation specialists. Physiotherapists. Family Physicians 	<ul style="list-style-type: none"> 1 week 	<ul style="list-style-type: none"> EVA pain scale Oswestry pain scale Roland Morris pain scale 	-ITC technicians	-July 2022	-through a survey in the health record	-Scales defined
5-Have an online platform where videos of rehabilitation exercises	<ul style="list-style-type: none"> platform selection 	<ul style="list-style-type: none"> 2 technological professionals. (1 SGTI-1 Hospital) 2 Project Managers 	<ul style="list-style-type: none"> 3 months 	<ul style="list-style-type: none"> Completeness 	-ITC technicians -Communication technician	-From July to September 2022	-developing the platform	-have a space on the platform

can be available								
6-Have an application for a smart mobile phone or tablet where patients can record their pain parameters and activities and where professionals can monitor patients.	<ul style="list-style-type: none"> Develop the connexion from the App to the platform 	<ul style="list-style-type: none"> Company that develops the App. 2 Project managements (1 SMS-1 FFIS-1). 2 technological professionals(1SG TI-SMS/1 Hospital) Physiotherapists and Rehabilitation specialists. 	<ul style="list-style-type: none"> 3 months 	<ul style="list-style-type: none"> Develop of the App 	-ITC technicians	-From October to December 2022	-Developing the App	-The App itself

QUESTIONS	DESCRIPTION
Step	DO
Date of the meeting	24 Mayo 2022
Number and profile of the participants	14: 1-Project Managers, 1project Management technician,4-Physiotherapists, 1 Head of rehabilitation service (policy maker) 2- Rehabilitation specialists, 1 Primary care family physicians ,1 Principal Research,2 ITC technicians ,1 Communication technician.
Organizations involved	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center

Cycle number 1		
Activity	KPI	Actual value
1-Develop an online rehabilitation program that allows offering treatments to patients with greater flexibility to perform them.	<ul style="list-style-type: none"> Hours dedicated to the development of the program or activity. Degree of progress of the activity according to the programmed time divided from 1-5. 	*20 h per professional *2
2-Elaborate short videos with rehabilitation exercises according to the pathology of the patients.	-3 pathologies -number of scripts developed -number of scripts recorded -number of videos recorded (new KPI)	*Ankle sprain ,Lumbar and cervical pain (1 videos describing ankle pathology) *3 scripts per pathology *9 scripts recorded *40 videos recorded (100%)

<p>3-Develop a combined treatment plan between face-to-face and online consultation, which can be supervised by professionals in Rehabilitation and Physiotherapy</p>	<p>-To define Development of the OMI (health care record of primary Care) protocol</p> <p>-To define Development of the SELENE (health care record of hospital Care) protocol</p>	<p>*10%</p> <p>*2%</p>
<p>4-Define pain measurement criteria to evaluate recovery and progress.</p>	<ul style="list-style-type: none"> • EVA pain scale • Oswestry pain scale • Roland Morris pain scale 	<p>*100%</p> <p>*40%</p> <p>*40%</p>
<p>5-Have an online platform where videos of rehabilitation exercises can be available</p>	<p>-Completeness</p>	<p>*50%</p>
<p>6-Have an application for a smart mobile phone or tablet where patients can record their pain parameters and activities and where professionals can monitor patients.</p>	<p>-Develop of the App</p>	<p>*10%</p>

QUESTIONS	ANSWERS
What was actually implemented? Any deviation from the planned actions	It has been implemented the work to be carried out by the IT department.
Problems? Unexpected findings? Please describe	-Interoperability of OMI and SELENE protocols. -Work overload of professionals

IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
	X		

QUESTIONS	DESCRIPTION
Step	STUDY
Date of the meeting	14 July 2022
Number and profile of the participants	14: 1-Project Managers, 1project Management technician,4-Physiotherapists, 1 Head of rehabilitation service (policy maker) 2- Rehabilitation specialists, 1 Primary care family physicians ,1 Principal Research,2 ITC technicians ,1 Communication technician.
Organizations involved	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center

Cycle number 1						
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions

<p>1-Develop an online rehabilitation program that allows offering treatments to patients with greater flexibility to perform them.</p>	<p>-Hours dedicated to the development of the program or activity. -Degree of progress of the activity according to the programmed time divided from 1-5.</p>	<p>8 professionals involved in the development of the online rehabilitation program</p>	<p>*20 h per professional *2</p>	<p>*positive professionals interest on the online rehab project</p>	<p>No mitigation actions were needed</p>	
<p>2-Elaborate short videos with rehabilitation exercises according to the pathology of the patients.</p>	<p>-3 pathologies</p>	<p>-12 videos planned</p>	<p>*Ankle sprain ,Lumbar and cervical pain (1 videos describing ankle pathology)</p>	<p>-Great professional commitment</p>	<p>No mitigation actions were needed</p>	

	<p>-number of scripts developed</p> <p>-number of scripts recorded</p> <p>-number of videos recorded (new KPI)</p>		<p>*3 scripts per pathology</p> <p>*9 scripts recorded</p> <p>*40 videos recorded</p>			
<p>3-Develop a combined treatment plan between face-to-face and online consultation, which can be supervised by professionals in Rehabilitation and Physiotherapy</p>	<p>-To define Development of the OMI (health care record of primary Care) protocol</p> <p>-To define Development of the SELENE (health care record of hospital Care) protocol</p>	<p>-Protocols inserted in the health records of SMS</p>	<p>*10%</p> <p>*2%</p>	<p>-Work overload of the physicians and rehabilitation specialists.</p> <p>-Work overload of the ITC department</p>	<p>-Looking for different alternatives</p>	<p>-Delay of a couple of months. Looking for different alternatives</p>

4-Define pain measurement criteria to evaluate recovery and progress.	<ul style="list-style-type: none"> EVA pain scale Oswestry pain scale Roland Morris pain scale 	-Scales defined	<p>*100%</p> <p>*40%</p> <p>*40%</p>	-Clinicians have been looking for the possibility of adding other pain assessment scales.	-Review the evidence based on assessment pain scales	-Delay of a couple of months looking for new evidences
5-Have an online platform where videos of rehabilitation exercises can be available	-Completeness	-have a space on the platform	*50%	Delay due to the difficulties to involve the responsible of platform service	synergise with the server of a different platform (CIRCULO DEL PACIENTE)	-Delay of a couple of months getting new alternatives
6-Have an application for a smart mobile phone or tablet where patients can record their pain parameters and	-Develop of the App	-The App itself	*10%	-Work overload of the ITC department	It has been decided to create a direct access to the new platform avoiding the necessity to the App and simplifying the process	-Avoid the necessity of the use of the App

activities and where professionals can monitor patients.						
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QUESTIONS	DESCRIPTION
Step	ACT
Date of the meeting	28 July 2022
Number and profile of the participants	14: 1-Project Managers, 1project Management technician,4-Physiotherapists, 1 Head of rehabilitation service (policy maker) 2- Rehabilitation specialists, 1 Primary care family physicians ,1 Principal Research,2 ITC technicians ,1 Communication technician.
Organizations involved	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center

Cycle number 1			
Activity	Maintain	Adapt	Abandon
1-Develop an online rehabilitation program that allows offering treatments to patients with greater flexibility to perform them.	This activity has been successfully completed		
2-Elaborate short videos with rehabilitation exercises according to the pathology of the patients.	This activity has been successfully completed		

3-Develop a combined treatment plan between face-to-face and online consultation, which can be supervised by professionals in Rehabilitation and Physiotherapy		Due to the use of several different digital service providers in the primary health care and hospital services in Murcia is still unclear how can be solved the interoperability problems	
4-Define pain measurement criteria to evaluate recovery and progress.		Extend the endpoint of the action giving time to finalise the update of the review	
5-Have an online platform where videos of rehabilitation exercises can be available		We have found how to make synergies on an additional platform (CIRCULO DEL PACIENTE)	
6-Have an application for a smart mobile phone or tablet where patients can record their pain parameters and activities and where professionals can monitor patients.			We have decided to abandon the development process of the app due to the complication of the development process and limited resources. The problem has been solved by adapting the process to the platform CIRCULO DEL PACIENTE

QUESTIONS	ANSWERS
Any new proposed action for the future?	<p>YES.</p> <p>Action nº 6 have changed to:</p> <p><i>-6 Develop the connection processes to the platform for the professional and for the patient where patients can record their pain parameters and activities and where professionals can monitor patients</i></p> <p>New actions:</p> <p><i>-7 Get Interoperability in between Health records from PC, Specialized and the Platform</i></p> <p><i>-8 Preparation of the material for the training</i></p> <p><i>-9 Training to professionals and patients</i></p> <p><i>-10 Patient recruitment process</i></p> <p><i>-11 Future development of new pathologies</i></p> <p><i>-12 Evaluation of the platform for the project</i></p>

2nd PDSA cycle

QUESTIONS	DESCRIPTION
Step	PLAN
Date of the meeting	28 July 2022
Number and profile of the participants	14: 1-Project Managers, 1project Management technician,4-Physiotherapists, 1 Head of rehabilitation service (policy maker) 2- Rehabilitation specialists, 1 Primary care family physicians ,1 Principal Research,2 ITC technicians ,1 Communication technician.
Organizations involved	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center

LCF1	B2- CF4 Online Physical Rehabilitation							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected ?	How will the data be collected?	Target value
1-Develop an online rehabilitation program that allows offering treatments to patients with greater flexibility to perform them.	Definition of the treatment plan	<ul style="list-style-type: none"> Project managers (1 SMS-1 FFIS-1 hospital). Physiotherapists (2) and rehabilitation specialists (2) of healthcare (DGAS). Primary care family physicians (2) 	<ul style="list-style-type: none"> 12 weeks from the start (October) 	<ul style="list-style-type: none"> Hours dedicated to the development of the program or activity. Degree of progress of the activity according to the programmed time divided from 1-5. 	FFIS/SMS	Jan-March 2022	By time reports of the professionals	8 professionals involved in the development of the online rehabilitation program
2-Elaborate short videos with rehabilitation exercises according to the pathology of the patients.	<ul style="list-style-type: none"> -Define pathologies(3) -elaboration of the video scripts -recordi 	<ul style="list-style-type: none"> Support professionals in Design and Communication (FFIS). 	<ul style="list-style-type: none"> 5 months (18 weeks). 18 videos are planned: -6 ankle videos - 6 cervicalgiavideos -6 lumbalgia videos 	<ul style="list-style-type: none"> -3 pathologies -number of scripts developed -number of scripts recorded -number of videos recorded (new KPI) 	-Project manager/ITC technician/ Communication technician	-From Feb to May 2022	<ul style="list-style-type: none"> 1st Into our own repository 2nd into the platform 	-18 videos planned

	<p>ng of videos -Review of the videos - download of videos in the platform</p>	<ul style="list-style-type: none"> • Project managements (1 SMS-1 FFIS-1 hospital). • Physiotherapists (2) And Rehabilitation specialists (2). • Patients for video recording (4). 	<p>(1 video per week from November).</p>					
<p>3-Develop a combined treatment plan between face-to-face and online consultation , which can be supervised by professionals in Rehabilitation and</p>	<p>- treatment protocol</p>	<ul style="list-style-type: none"> • 2 professionals from the rehabilitation service of the Morales Messenger Hospital. • 2 professionals 	<ul style="list-style-type: none"> • 3 weeks development of the treatment plan by a Rehabilitator and a Physiotherapist. • 1 week for plan review by all participating 	<p>-To define Development of the OMI (health care record of primary Care) protocol</p> <p>-To define Development of the SELENE (health care record of hospital Care) protocol</p>	<p>-Physicians/ professionals from the rehabilitation service of the Morales Messenger Hospital/ ITC technicians</p>	<p>-From June to July 2022</p>	<p>-through the ITC database</p>	<p>- Protocols inserted in the health records of SMS</p>

Physiotherapy		nals from the physiotherapist service of the Morales Messenger Hospital <ul style="list-style-type: none"> • 2 Project managements (1 SMS-1 FFIS-1). • 2 technological professionals (1SGTI-SMS/1 Hospital). 2 Primary care Family Physicians (La Flota Primary 	physicians and physical therapists. <ul style="list-style-type: none"> • 1 week for review by project managers in SMS and FFIS. 					
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		Health Center).						
4-Define pain measurement criteria to evaluate recovery and progress.	<ul style="list-style-type: none"> Define pain assessment scales 	<ul style="list-style-type: none"> Rehabilitation specialists Physiotherapists. Family Physicians 	<ul style="list-style-type: none"> 4 weeks 	<ul style="list-style-type: none"> EVA pain scale Oswestry pain scale Roland Morris pain scale (NDI) Cervical disability index FAAM 	-ITC technicians/Project managers	-Sep 2022	<ul style="list-style-type: none"> -through a survey in the health record -through the platform 	-Scales defined
5-Have an online platform where videos of rehabilitation exercises can be available	<ul style="list-style-type: none"> platform selection 	<ul style="list-style-type: none"> 2 technological professionals. (1 SGTI-1 Hospital) 2 Project Managers 	<ul style="list-style-type: none"> 4 months 	<ul style="list-style-type: none"> Completeness 	-ITC technicians - Communication technician -project manager	-From September to December 2022	-developing the platform	-have a space on the platform
6- Develop the connection processes to the platform for the professional	<ul style="list-style-type: none"> Development of ITC area in the interop 	<ul style="list-style-type: none"> ITC technicians Project managers 	<ul style="list-style-type: none"> 4-6 weeks 	<ul style="list-style-type: none"> EVA pain scale Oswestry pain scale Roland Morris pain scale 	-ITC technicians -Project managers - Rehabilitation	-From Jan-Feb 2023	-through the platform	-Scales defined

and for the patient where patients can record their pain parameters and activities and where professionals can monitor patients	<ul style="list-style-type: none"> erability of the health records Development of the surveys in the platform 	<ul style="list-style-type: none"> Rehabilitation specialists 		<ul style="list-style-type: none"> (NDI) Cervical disability index FAAM 	specialists			
7- Get Interoperability between Health records from primary care, specialized care and the Platform	<ul style="list-style-type: none"> Develop the interoperability connections OMI-Platform SELENE - Platform 	<ul style="list-style-type: none"> ITC technicians Project managers Rehabilitation specialists 	<ul style="list-style-type: none"> 12 weeks 	<ul style="list-style-type: none"> Completeness of OMI and SELENE protocols 	<ul style="list-style-type: none"> -ITC technicians -Project managers - Rehabilitation specialists 	-From Oct 2022 to January 2023	-through OMI and SELENE development	-finalised protocols

<p>8- Preparation of the material for the training</p>	<ul style="list-style-type: none"> ITC platform development Project managers and rehabilitation specialists development 	<ul style="list-style-type: none"> ITC technicians Project managers Rehabilitation specialists 	<ul style="list-style-type: none"> 4 weeks 	<ul style="list-style-type: none"> Leaflet Short handbook 	<ul style="list-style-type: none"> -Project managers -ITC platform developers 	<p>-March 2023</p>	<p>-through a registration record signed by the patients</p>	<p>-material training</p>
<p>9-Training to professionals and patients</p>	<ul style="list-style-type: none"> Sessions of training to professionals Sessions of training to 	<ul style="list-style-type: none"> ITC technicians Project managers Rehabilitation specialists Physiotherapists 	<ul style="list-style-type: none"> 2 weeks 	<ul style="list-style-type: none"> Completeness 	<ul style="list-style-type: none"> -Project managers - Physiotherapists 	<p>-April 2023</p>	<p>-through a registration record signed by professionals and patients</p>	<p>-training session materials</p>

	patients	<ul style="list-style-type: none"> Patients 						
10-Patient recruitment process	<ul style="list-style-type: none"> Compliance with inclusion criteria Inclusion of patients into the Patient Circle 	<ul style="list-style-type: none"> Rehabilitation specialists Physiotherapists Primary care family physicians 	<ul style="list-style-type: none"> 4 months 	<ul style="list-style-type: none"> number of patients recruited to be treated with online rehabilitation 	<ul style="list-style-type: none"> - Rehabilitation specialists. - Physiotherapists -Primary care family physicians - Project managers 	-From April to July 2023	-health records (OMI and SELENE) and platform	-number of recruited patients
11- Future development of new pathologies	<ul style="list-style-type: none"> Analyse with professionals future pathologies to 	<ul style="list-style-type: none"> Rehabilitation specialists Physiotherapists Primary care 	<ul style="list-style-type: none"> 4 weeks 	<ul style="list-style-type: none"> Number of pathologies for future development 	<ul style="list-style-type: none"> - Rehabilitation specialists. - Physiotherapists 	-From mid-August to mid-sept 2023	-collected data by a plan of development	-number of new pathologies to be developed in online

	<p>be developed</p> <ul style="list-style-type: none"> Plan the necessary activities to develop new pathologies treatment 	<p>family physicians</p> <ul style="list-style-type: none"> Project managers 			<p>-Primary care family physicians</p> <p>- Project managers</p>			rehabilitation
12- Evaluation of the platform for the project	<ul style="list-style-type: none"> Satisfaction survey Results assessment 	<ul style="list-style-type: none"> Rehabilitation specialists Physiotherapists Primary care family physicians Project managers 	<ul style="list-style-type: none"> 4 weeks 	<ul style="list-style-type: none"> Satisfaction evaluation results 	<p>- Project managers</p>	<p>- September 2023</p>	<p>-By satisfaction surveys</p> <p>-By a summary of the results assessment of the platform</p>	<p>-patients treated with online rehabilitation</p> <p>- Satisfaction level</p>

QUESTIONS	DESCRIPTION
Step	DO
Date of the meeting	18 January 2023
Number and profile of the participants	10: 1-Project Managers, 1project Management technician,2-Physiotherapists, 1 Head of rehabilitation service (policy maker) 2- Rehabilitation specialists,1 Principal Research (primary care physician),2 ITC technicians .
Organizations involved	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center

Cycle number 2		
Activity	KPI	Actual value
1-Develop an online rehabilitation program that allows offering treatments to patients with greater flexibility to perform them.	<ul style="list-style-type: none"> Hours dedicated to the development of the program or activity. Degree of progress of the activity according to the programmed time divided from 1-5. 	<p>20 h per professional</p> <p>5</p>
2-Elaborate short videos with rehabilitation exercises according to the pathology of the patients.	<ul style="list-style-type: none"> 3 pathologies number of scripts developed number of scripts recorded 	<p>Ankle sprain ,Lumbar and cervical pain</p> <p>3 scripts, one per pathology</p> <p>9 scripts recorded</p>

	<ul style="list-style-type: none"> number of videos recorded (new KPI) 	<p>50 videos recorded:</p> <ul style="list-style-type: none"> 3 general videos, one per pathology 13 Lumbar pain 13 Cervical pain 21 ankle pain <p>+277%</p>
3-Develop a combined treatment plan between face-to-face and online consultation, which can be supervised by professionals in Rehabilitation and Physiotherapy	<ul style="list-style-type: none"> To define Development of the OMI (health care record of primary Care) protocol To define Development of the SELENE (health care record of hospital Care) protocol 	<p>100%</p> <p>90%</p>
4-Define pain measurement criteria to evaluate recovery and progress.	<ul style="list-style-type: none"> EVA pain scale Oswestry pain scale Roland Morris pain scale (NDI) Cervical disability index FAAM 	<p>100%</p> <p>100%</p> <p>100%</p> <p>100%</p> <p>100%</p>
5-Have an online platform where videos of rehabilitation exercises can be available	<ul style="list-style-type: none"> Completeness 	<p>95%</p>

6- Develop the connection processes to the platform for the professional and for the patient where patients can record their pain parameters and activities and where professionals can monitor patients	<ul style="list-style-type: none"> • EVA pain scale • Oswestry pain scale • Roland Morris pain scale • (NDI) Cervical disability index • FAAM 	<p>100%</p> <p>100%</p> <p>100%</p> <p>100%</p> <p>100%</p>
7- Get Interoperability between Health records from primary care, specialised care and the Platform	<ul style="list-style-type: none"> • Completeness of OMI and SELENE protocols 	<p>OMI 100%</p> <p>SELENE 90%</p>
8-Preparation of the material for the training	<ul style="list-style-type: none"> • Leaflet • Short handbook 	<p>40%</p> <p>20%</p>
9-Training to professionals and patients	<ul style="list-style-type: none"> • Completeness 	<p>0%</p>
10-Patient recruitment process	<ul style="list-style-type: none"> • number of patients recruited to be treated with online rehabilitation 	<p>0%</p>
11- Future development of new pathologies	<ul style="list-style-type: none"> • Number of pathologies for future development 	<p>0%</p>
12- Evaluation of the platform for the project	<ul style="list-style-type: none"> • Satisfaction evaluation results 	<p>0%</p>

QUESTIONS	ANSWERS
What was actually implemented? Any deviation from the planned actions	All the developments dependent on the project managers have been developed even better than planned, the interoperability problems between the Health records and the rest of the development have greatly delayed the possibility of implementation, however it is necessary to conclude them because they are the basis of The sustainability.
Problems? Unexpected findings? Please describe	<ul style="list-style-type: none"> -Development of protocols in OMI and SELENE. -Interoperability of OMI and SELENE protocols. -Some problems with the functionality of the platform. -Work overload of professionals. -Management problems with stakeholders decisions.

IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
		X	

QUESTIONS	DESCRIPTION
Step	STUDY
Date of the meeting	10 February 2023
Number and profile of the participants	13: 1-Project Managers, 1project Management technician,2-Physiotherapists, 1 Head of rehabilitation service (policy maker) 2- Rehabilitation specialists, 1 Principal Research (Primary care family physician) ,5 ITC technicians (1 OMI,1 SELENE,1 Platform,2 JADECARE -ITC technicians).
Organizations involved	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center

Cycle number 2						
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
1-Develop an online rehabilitation program that allows offering treatments to patients with greater flexibility to perform them.	-Hours dedicated to the development of the program or activity. -Degree of progress of the activity according to the programmed time divided from 1-5.	8 professionals involved in the development of the online rehabilitation program	20 h per professional 5	*No deviations *positive professionals interest on the online rehab project	No mitigation actions were needed	Does not apply
2-Elaborate short videos with rehabilitation exercises according	-3 pathologies -number of scripts developed	-18 videos planned	Ankle sprain ,Lumbar and cervical pain 3 scripts, one per pathology	*No deviations *Great professional commitment	No mitigation actions were needed	Does not apply

<p>to the pathology of the patients.</p>	<p>-number of scripts recorded</p> <p>-number of videos recorded</p>		<p>9 scripts recorded</p> <p>50 videos recorded:</p> <ul style="list-style-type: none"> • 3 general videos, one per pathology • 13 Lumbar pain • 13 Cervical pain • 21 ankle spain <p>+277%</p>			
<p>3-Develop a combined treatment plan between face-to-face and online consultation, which can be supervised by professionals in</p>	<p>-To define Development of the OMI (health care record of primary Care) protocol</p> <p>-To define Development of</p>	<p>-Protocols inserted in the health records of SMS</p>	<p>100%</p>	<p>-Work overload of the physicians and rehabilitation specialists.</p> <p>-Work overload of the ITC department</p>	<p>-Looking for different alternatives</p> <p>-Changes on the protocols design by the professionals</p> <p>-Adaptation of the protocols to</p>	<p>-Delay of a couple of months. We try to search different alternatives .</p> <p>-It was finally achieved that the ITC technicians modified the protocols after being simplified and reviewed several times</p>

Rehabilitation and Physiotherapy	the SELENE (health care record of hospital Care) protocol		90%		the new design by the ITC professionals	and negotiated the priorities
4-Define pain measurement criteria to evaluate recovery and progress.	<ul style="list-style-type: none"> • EVA pain scale • Oswestry pain scale • Roland Morris pain scale • (NDI) Cervical disability index • FAAM 	-Scales defined	<p>100%</p> <p>100%</p> <p>100%</p> <p>100%</p> <p>100%</p>	<p>-Clinicians have been looking for the possibility of adding other pain assessment scales.</p> <p>-Looking for more quality in the different option of the scales in the evaluation of the treatment</p>	<p>-Review the evidence based on assessment pain scales</p> <p>-Selection of different scales according to the pathology: ankle -2 scales ,cervicalgia- 3 scales, lumbalgia- 3 scales</p>	<p>-Delay of a couple of months looking for new evidences</p> <p>-achieve an adequate level in the selection of scales</p>

				of the pathologies		
5-Have an online platform where videos of rehabilitation exercises can be available	-Completeness	-have a space on the platform	95%	Delay due to the work overload of the ITC department responsible of the platform service	Synergise with the server of a platform (CIRCULO DEL PACIENTE) Support of the project managers in the platform tasks	-Delay of a couple of months getting new alternatives
6- Develop the connection processes to the platform for the professional and for the patient where patients can record their pain parameters and activities and where professionals can monitor patients	<ul style="list-style-type: none"> EVA pain scale Oswestry pain scale Roland Morris pain scale (NDI) Cervical disability index FAAM 	-Scales defined	100% 100% 100% 100%	Looking for more possibilities to register the scales of pain.	-Support of the project managers in the platform tasks to the development of the scale surveys	Obtain a better result of the pain evaluation
7- Get Interoperability between Health records from primary care,	<ul style="list-style-type: none"> Completeness of OMI and SELENE protocols 	- finalised protocols	OMI 100% SELENE 90%	Work overload of the ITC departments of the responsible	Numerous meetings to achieve an adequate response from	Achieve an adequate interoperability in the systems.

specialised care and the Platform				for OMI and SELENE	the stakeholders of the ITC area	Due to the right actions to get sustainability
8-Preparation of the material for the training	<ul style="list-style-type: none"> Leaflet Short handbook 	-material training	40% 20%	Delay in the previous tasks	Start to the preparation of the documents Mitigation on process	Does not apply
9-Training to professionals and patients	<ul style="list-style-type: none"> Completeness 	-training session materials	0%	Delay in the previous tasks	Starting to prepare the presentations for the training	Does not apply
10-Patient recruitment process	<ul style="list-style-type: none"> number of patients recruited to be treated with online rehabilitation 	-number of recruited patients	0%	Delay in the previous tasks	Starting to test all the system functionalities with patient's pilot testers	Does not apply
11- Future development of new pathologies	<ul style="list-style-type: none"> Number of pathologies for future development 	-number of new pathologies to be develop in online rehabilitation	0%	Delay in the previous tasks	It is not time for these actions	Does not apply

12- Evaluation of the platform for the project	<ul style="list-style-type: none"> Satisfaction evaluation results 	-patients treated with online rehabilitation -Satisfaction level	0%	Delay in the previous tasks	It is not time for these actions	Does not apply
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QUESTIONS	DESCRIPTION
Step	ACT
Date of the meeting	24 February 2023
Number and profile of the participants	13: 1-Project Managers, 1project Management technician,2-Physiotherapists, 1 Head of rehabilitation service (policy maker) 2- Rehabilitation specialists, 1 Principal Research (Primary care family physician) ,5 ITC technicians (1 OMI,1 SELENE,1 Platform,2 JADECARE -ITC technicians).
Organizations involved	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center

Cycle number 2			
Activity	Maintain	Adapt	Abandon
1-Develop an online rehabilitation program that allows offering treatments to patients with greater flexibility to perform them.	This activity has been successfully completed		
2-Elaborate short videos with rehabilitation exercises according to the pathology of the patients.	This activity has been successfully completed even better than expected		

3-Develop a combined treatment plan between face-to-face and online consultation, which can be supervised by professionals in Rehabilitation and Physiotherapy		We are in the piloting process	
4-Define pain measurement criteria to evaluate recovery and progress.	This activity has been successfully completed		
5-Have an online platform where videos of rehabilitation exercises can be available	This activity has been successfully completed		
6- Develop the connection processes to the platform for the professional and for the patient where patients can record their pain parameters and activities and where professionals can monitor patients.	This activity has been almost completed		

7- Get Interoperability between Health records from primary care, specialised care and the Platform		We are in the piloting process	
8-Preparation of the material for the training		We are finishing the material contents	
9-Training to professionals and patients		We are in the piloting process	
10-Patient recruitment process		We are in the piloting process	
11- Future development of new pathologies		We are waiting for the first result of the piloting process to decide the next steps	
12- Evaluation of the platform for the project		We are waiting for the first result of the piloting process	

QUESTIONS	ANSWERS
Any new proposed action for the future?	After the inclusion of new actions (7-12) in the cycle 1 ,we are waiting for the results of the piloting process before proposing new actions

MEETINGS

STEP	No. meetings	No. professionals involved	No. organizations represented
PLAN (Cycle 1)	10 (Online) 8 (in person)	14	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center

DO (Cycle 1)	-8 with Rehabilitation specialists -6 management -20 with Physiotherapists -10 with ITC technician	14	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center
STUDY (Cycle 1)	-4 with ITC technician -3 with rehabilitation specialists -4 management -2 with physiotherapists	14	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center
ACT (Cycle 1) PLAN (Cycle 2)	-4 with ITC technician -4 with rehabilitation specialists -4 management -2 with physiotherapists	14	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center
DO (Cycle 2)	-24 with ITC technician -12 with rehabilitation specialists -18 management -6 with physiotherapists	10	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center
STUDY (Cycle 2)	-4 with ITC technician -3 with rehabilitation specialists -2 management -2 with physiotherapists	13	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center
ACT (Cycle 2)	-4 with ITC technician -4 with rehabilitation specialists -3 management -1 with physiotherapists	13	FFIS/SMS/Hospital Morales Meseguer/ la Flota-Vistalegre Primary Care Center

Post-implementation

Title and Abstract	
ITEM	ANSWER
Title	Online Physical Rehabilitation (OGP :Digital Roadmap towards an integrated Healthcare sector/Region Southern Denmark/ DK)
Abstract	<p>According to the demand for Rehabilitation services in the health services of our region (Murcia Health Service -SMS), as waiting times and installed capacity, we are faced with a great challenge to solve, the online Rehabilitation alternative for certain conditions offers an interesting possibility of evaluate by implementing a Danish good practice in this field.</p> <p>An online physical rehabilitation process works with a platform with training programs designed by rehabilitation therapists. Patients access short specialized rehabilitation training videos on mobile devices, tablets, or computers and record pain level. Health professionals can follow up and monitor. The tool used is “Circulo de Salud del Paciente” that is a platform of the SMS which has facilitated the inclusion of the Rehabilitation Online project.</p> <p>This process offers patients who require a rehabilitation treatment with physiotherapy, an online alternative through the patient has greater flexibility to carry out their therapy, while making a record of the pain process and the activities carried out, which allows professionals to offer personalized and accessible follow-up and in turn promotes the empowerment of the patient in their own rehabilitation process.</p> <p>Collects PRO data on the development of pain experienced by the users and compliance - can be used by Family Practitioners, Rehabilitation Physicians and physiotherapists.</p> <p>Encourages and empowers patients to take responsibility for their own rehabilitation as recommended by the physiotherapist according to their needs. The flexibility of the program can increase compliance.</p> <p>This program is designed to give users access to their training program when and where it is convenient for them.</p> <p>The idea is that patients' improvement does not occur at the time they visit the physiotherapists but that rehabilitation occurs in the patients' own homes. It arises from the need for a more flexible approach to rehabilitation, while maintaining high quality, user-based training programs. It is a solution with the potential to meet the challenges of the rehabilitation process of patients, without replacing the personal contact with professionals.</p> <p>The target population of the OGP selected are patients attending the Rehabilitation service of the Morales Messenger Hospital and the Flota-Vistalegre Primary Care Centre, in the Region of Murcia, Spain.</p>

Why did you start?	
ITEM	ANSWER
Problem description	<p>The SMS, depending directly of the Regional Ministry of Health employs about 19.000 workers providing UNIVERSAL health services. The health service is divided into 9 health areas, we work with Area VI. The Morales Meseguer Hospital (HMM) is the reference hospital of the area and serves a population of 250.000 inhabitants. The Flota Vistalegre Primary Care Health Center corresponds to 2 basic health zones. It serves a population of 30.441 inhabitants in 2020.</p> <p>In both institutions, the Rehabilitation Service suffers from a great demand and a limited installed capacity that forces waiting times to be so long (sometimes between three to six months) that cause the patient in acute processes to have to choose to seek Outside of public services, other options, as long as their possibilities allow it, therefore it is imminent to seek alternative solutions that allow the preservation of quality care and an alternative service focused on the empowerment of patients, through online Rehabilitation.</p> <p>We are faced with a great challenge to solve, the online Rehabilitation alternative for certain conditions offers an interesting possibility of evaluate by implementing a Danish good practice in this field.</p>
Available knowledge	<p>Knowing the problem mentioned previously , we have Identified the following needs:</p> <ul style="list-style-type: none"> • High prevalence pathologies • High demand for the service • Overload in the agenda of professionals • Delay of care • Young population with generally active labor needs • Facilitate the rehabilitation process at home • With the most convenient schedule for the patient • Personalized follow-up of the professional

Why did you start?	
ITEM	ANSWER
Rationale	<p>According to the strategic intervention area we selected the following actions for the development of the intervention:</p> <ul style="list-style-type: none"> ▪ Planning the intervention. ▪ Involving the professionals who are part of the project ▪ Analyze the interoperability ▪ Obtain the functionality of online rehabilitation on a platform linked to health records ▪ To find out the level of knowledge and detect digital divides in older patients, despite the fact that the selected area has a high level of digital training. ▪ Describing the management and monitoring model of the intervention
Specific aims	<p>The main aim is to obtain, through an online process, an accessible home rehabilitation treatment that empowers the patient and facilitates communication between professionals and patients.</p> <p>It is a solution with the potential to meet the challenges of the rehabilitation process of patients, without replacing the personal contact with professionals.</p>

What did you do?	
ITEM	ANSWER
Context	<p>Once the needs for change were analyzed through the survey and a SWOT analysis, the following aspects were detected:</p> <ul style="list-style-type: none"> • An important motivation of the professionals, both Rehabilitation specialists, Family Doctors, Physiotherapists and Managers. • Collaboration and support from policy members and stakeholders. • Great support from the ICT area. • Identification of resources to make synergies and achieve the design of a platform compatible with the Project. • Make a great effort to achieve interoperability of medical records and the platform. • Obtaining institutional resources for the preparation of both scientific material and videos thanks to a great effort by Rehabilitators and physiotherapists and a Communication Technician. • Detailed and meticulous management and control process for the achievement of all tasks.
Intervention(s)	<p>Activities:</p> <ol style="list-style-type: none"> 1-Develop an online rehabilitation program that allows offering treatments to patients with greater flexibility to perform them. 2-Elaborate short videos with rehabilitation exercises according to the pathology of the patients. 3-Develop a combined treatment plan between face-to-face and online consultation, which can be supervised by professionals in Rehabilitation and Physiotherapy. 4-Define pain measurement criteria to evaluate recovery and progress. 5-Have an online platform where videos of rehabilitation exercises can be available.

6- Develop the connection processes to the platform for the professional and for the patient where patients can record their pain parameters and activities and where professionals can monitor patients.

7- Get Interoperability between Health records from primary care, specialized care and the Platform.

8-Preparation of the material for the training.

9-Training to professionals and patients.

10-Patient recruitment process.

11- Future development of new pathologies.

12- Evaluation of the platform for the project.

Target population:

Patients who come from the Rehabilitation Service and Physiotherapy Service of the Morales Messenger Hospital and the Flota-Vistalegre Primary Care Centre, in the Region of Murcia for a physiotherapist treatment :60 patients who need rehabilitation /physiotherapy for presenting pathologies that requires functional recovery (20 patients for each pathology)

The pathologies selected are.

-Ankle sprain pain

-Lumbar spine pain

-Cervical spine pain

The Murcia working group (local NAWG) is composed of professionals from the HMM, LA Flota, SMS and FFIS and was defined initially as follows:

- 1Project Manager, 1Project Management technician,4 Physiotherapists, 1 Head of rehabilitation service (policy maker) ,2 Rehabilitation specialists, 1 Primary care family physicians ,1 Principal Research, 5 ITC technicians (1 OMI,1 SELENE,1

	Platform,2 JADECARE -ITC technicians),1 Communication technician.
<p>Study of the Intervention(s)</p>	<p>At the time of initial evaluation, the development of evaluation of the Murcian pilot included:</p> <ul style="list-style-type: none"> • Selection of the LCF :B2- CF4 Online Physical Rehabilitation • Determinate the Geographic coverage: Health Area VI (HMM and The Flota-Vistalegre Primary care center) <p>The Morales Meseguer Hospital (HMM) is the reference hospital of the area and serves a population of 250.000 inhabitants and the Flota Vistalegre Primary Care Health Center corresponds to 2 basic health zones. It serves a population of 30.441 inhabitants in 2020</p> <ul style="list-style-type: none"> • Elaborate a survey for professionals of the Area VI of health to ensure to be aligned with the needs and it would be feasible that the rehabilitation process could be partially carried out at home (69 surveys sent, 45 answered). • Determinate the clinical process that the patients recruitment needs to follow up (definition of inclusion and exclusion criteria and clinical process). • Determinate the treatment process (rehabilitation online)
<p>Measures</p>	<p>The Key Performance indicators of the LAP were:</p> <ul style="list-style-type: none"> -Hours dedicated to the development of the program or activity. -Degree of progress of the activity according to the programmed time divided from 1-5. -3 pathologies -number of scripts developed

	<ul style="list-style-type: none"> -number of scripts recorded -number of videos recorded -To define Development of the OMI (health care record of primary Care) protocol -To define Development of the SELENE (health care record of hospital Care) protocol -Scales of pain: <ul style="list-style-type: none"> • EVA pain scale • Oswestry pain scale • Roland Morris pain scale • (NDI) Cervical disability index • FAAM -Completeness: <ul style="list-style-type: none"> • OMI and SELENE protocols • Leaflet • Short handbook -number of patients recruited to be treated with online rehabilitation -Number of pathologies for future development -Satisfaction evaluation results
Analysis	<p>The quantitative methods used to draw inferences from the data were:</p> <ul style="list-style-type: none"> -Definition of the treatment plan -Define pathologies(3) - elaboration of the video scripts

- recording of videos
- Review of the videos
- download of videos in the platform
- treatment protocol
- Define pain assessment scales
- platform selection
- Development of ITC area in the interoperability of the health records
- Development of the surveys in the platform
- Develop the interoperability connections
 - OMI-Platform
 - SELENE-Platform
- ITC platform development
- Project managers and rehabilitation specialists development
- Sessions of training to professionals
- Sessions of training to patients
- Compliance with inclusion criteria
- Inclusion of patients into the Patient Circle
- Analysis with professionals future pathologies to be developed
- Plan the necessary activities to develop new pathologies treatment
- Satisfaction survey

	-Results assessment
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What did you find?	
ITEM	ANSWER
Result	<p>Main results for the main actions :</p> <p>1-Definition of the treatment plan : This activity was carried out according to plan thanks to the extensive collaboration of professionals</p> <p>2-Define pathologies, elaboration of the video scripts, recording of videos, review of the videos , This activity was carried out with the team work of both Physiotherapists, communication technicians, project managers and the supervision of rehabilitation doctors during many work sessions that, despite the overload of the service, were able to be carried out.</p> <p>download of videos in the platform It was possible to achieve a platform development that in the future would have interoperability with health records systems</p> <p>3-Treatment protocol Due to the great demand of the ICT department and the few human resources to resolve complaints in time, in this matter the processes slowed down both in the development of the protocol in primary care, and in the development of the protocol in Hospitals have caused a great implementation delay</p> <p>4-Define pain assessment scales A meticulous review of scientific evidence was carried out regarding the various scales to assess pain through the app and the respective translations were made.</p> <p>5-Platform selection Synergies were made with a previous platform development existing in the health system (patient circle) and after multiple efforts, the online Rehabilitation project was integrated into the rehabilitation online project.</p>

	<p>Despite achieving this, there was a significant delay due to work overload of the ICT department responsible for the platform service.</p> <p>6-Development of ITC area in the interoperability of the health records; 7-Develop the interoperability connections, OMI-Platform, SELENE-Platform</p> <p>In this matter, the fundamental problem consisted in the development of the protocols, and once accepted, the interoperability process was carried out.</p> <p>-Development of the surveys in the platform</p> <p>The surveys were downloaded on the platform trying a simple design so that the patient can respond accordingly in the best way.</p> <p>8-ITC platform development</p> <p>In this matter, the fundamental problem consisted in the development of the protocols, and once accepted, the interoperability process was carried out.</p> <p>-Project managers and rehabilitation specialists development</p> <p>The delay in this activity has been due to the delay in the previous activities.</p> <p>From this activity the actions mentioned below have been delayed due to the delay in the implementation with patients</p> <p>9-Sessions of training to professionals</p> <p>-Sessions of training to patients</p> <p>10-Compliance with inclusion criteria</p> <p>-Inclusion of patients into the Patient Circle</p> <p>11-Analyse with professionals future pathologies to be developed</p> <p>-Plan the necessary activities to develop new pathologies treatment</p> <p>12 -Satisfaction survey</p> <p>-Results assessment</p>
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What does it mean?	
ITEM	ANSWER

Summary	Delay in the implementation with the pilot process
Interpretation	Delay in the implementation with the pilot process
Limitation	Delay in the implementation with the pilot process
Conclusions	Despite the fact that the implementation process of online rehabilitation has had to be delayed, it has nevertheless been a great achievement to have the interoperability of the systems with the patient records in Primary and Hospital Care and the Platform (Patient Circle) which it is almost never achieved in innovation processes, and when it is achieved there is a great possibility that the project will achieve sustainability over time

Other information	
ITEM	ANSWER
Funding	Does not apply by the moment

Regione Lombardia

Pre-implementation

Scope definition

≧	STRENGTHS	WEAKNESSES
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<ul style="list-style-type: none"> - Focus on Covid-19 related issues and consequences; - Efficient healthcare system, already oriented towards digitalization and implementation of innovative solutions; - Availability of technological skills and knowledge, oriented to the development and adaptation of the digital proposed solutions; - Good coordination between different administrative levels (RL-ATS-ASST) and shared good attitude to the digitalization in the healthcare; - Needs definition skills well developed; - Already using some teleconsulting technologies: efficient IT support in case of need; - Online programmes health-related covering also rehabilitation; 	<ul style="list-style-type: none"> - ICT related skills are not homogeneous among professionals; there are some resistances to change exist, along with distrust for digital approach; - The limited number of professionals causes a lack of time for new projects; - Lack of professionals imply focus only to severe cases (psychiatry); - Focus on Covid-19 pandemic related emergency: other projects could lack appropriate coverage; some hospitals are totally focused on dealing with the pandemic; - Professionals employed in vaccination; age turnover issues; general post-emergency exhaustion; - Length of administrative-technical process; - Limited devices availability (cam, microphones, headphones, tablet); - Need of population stratification;
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	<ul style="list-style-type: none"> - Users involvement in using tele-psychiatric tools, including family members in case of severe disturbs. 	<ul style="list-style-type: none"> - Privacy issues, particularly related to the first medical visit;
EXTERNAL	OPPORTUNITIES	THREATS
	<ul style="list-style-type: none"> - Ongoing patient empowerment and education; - Development of a flexible lifestyle, focused on individual needs; - Local participation to other European healthcare digitalization projects; - The pandemic emergency has led to developing a more positive attitude to the digital and technological domains: even among untrusting age groups; - Due to the pandemic aged people have already been using IT devices, developing skills related to the use of new technologies; - Youngsters already used to online communication; 	<ul style="list-style-type: none"> - Limited access or distortion of resources to Covid-related issue; - Digital illiteracy among the elders; - Lack of an adequate number of professionals; - Resistance to the fading of personal and direct relation with the professionals; Difficulties in involving care-givers; - Technological infrastructure / difficult internet access due to the rural environment: many well-spread small villages far away from towns where most of services are located; - IT skills and usage varies according to the areas considered;

<ul style="list-style-type: none"> - Ongoing projects implying remote rehabilitation: opportunity to expand the data availability; - The use of online outpatient visit has been normalized due to the pandemic: specific scientific guidelines on the topic have been developed; - Good impact on some categories of patients: those affected by social anxiety or minors; - Ongoing programs related to a healthy lifestyle with implication in physical activity and exercises: specially focused on mild or medium issues. 	<ul style="list-style-type: none"> - Difficulties in having a timely intervention in case of emergency due to the rural environment; - Existing platforms/tools could clash with new ones; 	
STRATEGIC INTERVENTION AREA	PRIORITY SCORE (1 TO 3)	RANKING
Low coverage of some users (geographic issues, mild disorders, etc...)	3	1
Focus on non-Covid-19 related issues (funds, professionals, activities, etc...)	2	2
Different individual approach to digitalization in the healthcare domain (patients and professionals)	2	3

1. Next Adopter name: Regione Lombardia

2. Next Adopter Working Group:

Organization	Profile	Level of involvement
Regione Lombardia	Manager of Health Research Sector	Full participation
ARIA	Program manager on e-health international projects	Full participation
ATS Valpadana	Health and Social care director in the NA site	Consultation Information
Regione Lombardia	Admin support	Full participation

3. Analysis of Next Adopter's needs:

Block	Needs (brainstorming)
Block 2 Cross sectorial digital communication: Additional solutions to support complex disease areas	Need 1 Tele-psychiatry accessible to remote geographical areas
	Need 2 Tele-psychiatry able to cover even mild disturbs
	Need 3 Make physical rehab more accessible and flexible according to users' needs
	Need 4 Physical rehab accessible to remote geographical areas
	Need 5 Create a longer rehabilitation program
	Need 6 Grant post rehabilitation assistance
Block 1 Cross sectorial digital	Need 7 Organize a cross-sectorial healthcare based on citizens needs, implemented and followed up

communication: standards and agreements	
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Block	Needs (grouped)
Block 2 Cross sectorial digital communication: Additional solutions to support complex disease areas	Tele-psychiatry (1 and 2)
	Online rehabilitation (3 and 4)
	Digital Health Center (5 and 6)
Block 1 Cross sectorial digital communication: standards and agreements	Coordination agreement (7)

Block	Needs (prioritized)
Block 2 Cross sectorial digital communication: Additional solutions to support complex disease areas	Prioritized Need 1 Tele-psychiatry (1 and 2)
	Prioritized Need 2 Online rehabilitation (3 and 4)
	Prioritized Need 4 Digital Health Center (5 and 6)

Block	Needs (prioritized)
Block 1 Cross sectorial digital communication: standards and agreements	Prioritized Need 3 Coordination Agreement (7)

4. Assess and select the Core Features

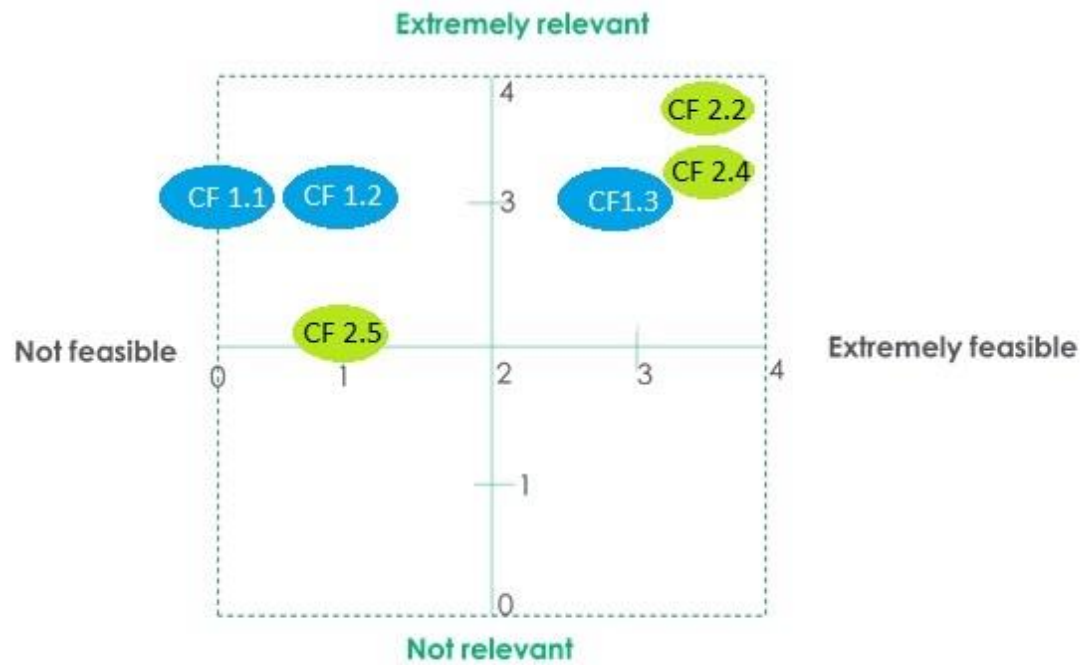
Block 2 Cross sectorial digital communication: Additional solutions to support complex disease areas	Core Feature 2.5 Digital Health Center	Core Feature 2.2 Tele-psychiatry	Core Feature 2.4 Online physical rehabilitation	Core Feature 1.3 SAM:BO Agreement
Prioritized Need 1 Tele-psychiatry		X		
Prioritized Need 2 Online rehabilitation			X	
Prioritized Need 3 Coordination agreement				X
Prioritized Need 4 Digital Health Center	X			

Original Good Practice Name: **DIGITAL ROADMAP TOWARDS AN INTEGRATED HEALTH CARE SECTOR**

Scirocco Model	Core Feature 1.1 Health Agreement	Core Feature 1.2 Messaging Standards	Core Feature 1.3 SAM:BO Agreement	Core Feature 2.5 Digital Health Center	Core Feature 2.2 Tele-psychiatry	Core Feature 2.4 Online physical rehabilitation
D1 Readiness to Change	5	5	5	5	5	5
D2 Structure and Governance	5	5	3	4	5	5
D3 Digital Infrastructure	5	5	4	4	5	5
D4 Process Coordination	3	4	4	3	5	5
D5 Funding	3	4	0	3	3	3
D6 Removal of Inhibitors	2	5	4	5	4	4
D7 population approach	4	2	3	2	3	3
D8 Citizen empowerment	4	3	3	3	5	5
D9 Evaluation methods	5	4	5	0	4	4
D10 Breadth of ambition	4	4	4	4	5	5
D11 Innovation management	4	3	4	5	4	4

D12 building	Capacity	4	4	4	5	3	5
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Core Feature	Relevance	Feasibility
Core Feature 1.1	3	0
Core Feature 1.2	3	1
Core Feature 1.3	3	3
Core Feature 2.5	2	1
Core Feature 2.2	4	4
Core Feature 2.4	3	4



Final Core Features	
CF 2.2	Tele-psychiatry
CF 2.4	Online physical rehabilitation

Definition of the LGP and LAP

Local Good Practice	Lombardy Digital Roadmap towards an Integrated Health Care Sector
Target population	Setting(s)

775.273 inhabitants	Lombardy Region – DG Welfare Local Healthcare Authority ATS Valpadana made up of three health hubs (ASST): Crema, Cremona and Mantua
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Main aim

Improving the quality of healthcare services addressing territories, users and mild needs still uncovered. Improving the digital transition of the regional healthcare system, handling accessibility issues

Outcomes	Local Core Features and their Components	Inputs
<ul style="list-style-type: none"> • Integrated communications among various healthcare actors: GPs, specialists, hospitals, caregivers etc... • Patients’ empowerment • Improved digital skills for professionals and patients, especially elders. Reduction of the digital divide. • Decrease hospitals’ crowding • Improved quality of home healthcare • Increase the number of patients treated, improving the efficiency 	<ul style="list-style-type: none"> • Telepsychiatry [LCF1] <ul style="list-style-type: none"> ○ Digital platform and app(s) for mobile devices (Component 1) ○ Design of a video consultation feature complementary to physical consultations (Component 2) ○ Integrated and coordinated communication among different actors (Component 3) ○ Video consultation among professionals feature to exchange good practices (Component 4) • Online Physical Rehabilitation [LCF2] <ul style="list-style-type: none"> ○ Exercise videos to recover from surgical intervention (Component 1) 	<ul style="list-style-type: none"> • Funding • IT experts’ and Healthcare professionals’ inputs to design a working integrated service • Existing app/platform adaptation • Professionals and patients training and technical assistance • Patient assessment on the 1st prototype

- Prevention exercise videos: to promote a healthy lifestyle (Component 2)
- Pain and progress questionnaires (Component 3)
- Digital platform and app(s) for devices to provide the videos and questionnaires (Component 4)

General description

The project aims bringing psychiatric and rehabilitation services to users who usually can hardly access them due to the physical geographical distance to be covered to reach the closest hospital.

The psychiatric service would allow to involve more easily users reluctant to have physical meetings, involving the access to crowded places such as hospitals.

The autonomous use of an app involving videos and pain record in rehabilitation domain would allow to relieve crowded Hospitals.

Local Core Feature 1

Telepsychiatry

Local Core Feature 2

Online Physical Rehabilitation

Local Action Plan

Local Good Practice

Lombardy Digital Roadmap towards an Integrated Health Care Sector

Target population		Setting
775.273 inhabitants		Lombardy Region – DG Welfare Local Healthcare Authority ATS Valpadana made up of three health hubs: Crema, Cremona and Mantua
Main aim		
Improving the quality of healthcare services addressing territories, users and mild needs still uncovered. Improving the digital transition of the regional healthcare system, handling accessibility issues		
General description		
<p>The project aims bringing psychiatric and rehabilitation services to users who usually can hardly access them due to the physical geographical distance to be covered to reach the closest hospital.</p> <p>The psychiatric service would allow to involve more easily users reluctant to have physical meetings, involving the access to crowded places such as hospitals.</p> <p>The autonomous use of an app involving videos and pain record in rehabilitation domain would allow to relieve crowded Hospitals.</p>		
Related original Good Practices and their Core Feature (s)		Digital Roadmap towards an Integrated Health Care Sector (Region of South Denmark) B2-CF2: Tele-psychiatry B2-CF4: Online physical rehabilitation
Local Core Feature 1	Telepsychiatry	
SMART objective		
By the end of the project, the three ASST would be able to use a common platform, integrated with the regional healthcare IT system. Such a platform would allow a direct online consultation between patient and Psychiatrist as a complementary tool for physical visits. Moreover, it would allow videoconsultation between professionals, in order to coordinate their action.		

Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> Determination of the app features (video consultation + ...) 	<ul style="list-style-type: none"> ATS DG Welfare ARIA 3 ASST 	<ul style="list-style-type: none"> IT professionals Healthcare professionals 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> November 2021 – January 2022 	<ul style="list-style-type: none"> Features chosen to be developed
<ul style="list-style-type: none"> Scouting of existing platform and adaptability Development of guidelines and requirements for developing a new platform 	<ul style="list-style-type: none"> ARIA 3 ASST 	<ul style="list-style-type: none"> IT professionals 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> December 2021 – June 2022 	<ul style="list-style-type: none"> App availability / integration of existing platforms
<ul style="list-style-type: none"> Questionnaires to measure and record progresses to be used during testing 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> Healthcare professionals 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> December 2021 – June 2022 	<ul style="list-style-type: none"> Number of questionnaires elaborated
<ul style="list-style-type: none"> Training of professionals 	<ul style="list-style-type: none"> ARIA Professionals involved in the testing phase 	<ul style="list-style-type: none"> Psychiatrists 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> June 2022 – July 2022 	<ul style="list-style-type: none"> Number of professionals trained
<ul style="list-style-type: none"> Testing 	<ul style="list-style-type: none"> Professionals Patients DG Welfare 	<ul style="list-style-type: none"> Psychiatrists Patients 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> August 2022 – December 2022 	<ul style="list-style-type: none"> Number of patients involved

	<ul style="list-style-type: none"> • ATS – 3 ASST 				<ul style="list-style-type: none"> • Patients and professionals feedbacks
Local Core Feature 2		Online Physical Rehabilitation			
SMART objective					
By the end of the project the three ASST will have a platform with recorded video tutorial for both postsurgical patients and for prevention activities. Such a platform would be integrated with the regional healthcare IT system. The videos will be accessible to the patient on a web platform or an app to be consulted as many times as necessary.					
Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> • Establishment of a professional working team to decide which domain has to be covered and target group definition 	<ul style="list-style-type: none"> • ATS • DG Welfare • 3 ASST 	<ul style="list-style-type: none"> • IT professionals • Physiotherapists 	<ul style="list-style-type: none"> • 3 ASST 	<ul style="list-style-type: none"> • November 2021 – January 2022 	<ul style="list-style-type: none"> • Number of people involved and profiles covered
<ul style="list-style-type: none"> • Determination of exercises to be recorded / questionnaires for pain record + progress achieved 	<ul style="list-style-type: none"> • Professional working team • ATS • DG Welfare 	<ul style="list-style-type: none"> • IT professionals • Physiotherapists 	<ul style="list-style-type: none"> • 3 ASST 	<ul style="list-style-type: none"> • December 2021 – January 2022 	<ul style="list-style-type: none"> • Number of exercises chosen / questionnaires elaborated
<ul style="list-style-type: none"> • Questionnaires to measure and record progresses to be used during testing 	<ul style="list-style-type: none"> • 3 ASST 	<ul style="list-style-type: none"> • Healthcare professionals 	<ul style="list-style-type: none"> • 3 ASST 	<ul style="list-style-type: none"> • December 2021 – June 2022 	<ul style="list-style-type: none"> • Number of questionnaires elaborated

<ul style="list-style-type: none"> • Video recording 	<ul style="list-style-type: none"> • ARIA • Professional working team 	<ul style="list-style-type: none"> • IT professionals • Physiotherapists • Funding for videorecorder and videomaker 	<ul style="list-style-type: none"> • 3 ASST 	<ul style="list-style-type: none"> • January 2022 – March 2022 	<ul style="list-style-type: none"> • Videos recorded
<ul style="list-style-type: none"> • Scouting of existing platform and adaptability • Development of guidelines and requirements for developing a new platform 	<ul style="list-style-type: none"> • ARIA • 3 ASST 	<ul style="list-style-type: none"> • IT professionals 	<ul style="list-style-type: none"> • 3 ASST 	<ul style="list-style-type: none"> • December 2021 – June 2022 	<ul style="list-style-type: none"> • App availability / integration of existing platforms
<ul style="list-style-type: none"> • Training of professionals 	<ul style="list-style-type: none"> • ARIA • Professionals involved in the testing phase 	<ul style="list-style-type: none"> • Physiotherapists 	<ul style="list-style-type: none"> • 3 ASST 	<ul style="list-style-type: none"> • June 2022 – July 2022 	<ul style="list-style-type: none"> • Number of professionals trained
<ul style="list-style-type: none"> • Testing 	<ul style="list-style-type: none"> • Professionals • Patients • DG Welfare • ATS – 3 ASST 	<ul style="list-style-type: none"> • Physiotherapists • Patients 	<ul style="list-style-type: none"> • 3 ASST 	<ul style="list-style-type: none"> • August 2022 – December 2022 	<ul style="list-style-type: none"> • Number of patient involved Patients and professionals feedbacks

Implementation

1st PDSA Cycle

QUESTIONS	DESCRIPTION
Step	Plan 1
Date of the meeting	November 25 th and November 18 th
Number and profile of the participants	8 people for Telepsychiatry and 12 people for Online Physical Rehabilitation
Organizations involved	DG Welfare, ATS Valpadana, ASST Crema, ASST Cremona, ASST Mantova

LCF1	Telepsychiatry							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Determination of the app features	<ul style="list-style-type: none"> Definition of all the app/platform features 	<ul style="list-style-type: none"> ATS DG Welfare ARIA 3 ASST 	<ul style="list-style-type: none"> November 2021 – May 2022 	<ul style="list-style-type: none"> Features chosen to be developed 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> May 2022 	<ul style="list-style-type: none"> Virtual meeting 	<ul style="list-style-type: none"> 1 (videoconsultation)
Scouting of existing platform and adaptability	<ul style="list-style-type: none"> Finding the platform to be used 	<ul style="list-style-type: none"> ARIA 3 ASST 	<ul style="list-style-type: none"> December 2021 – June 2022 	<ul style="list-style-type: none"> App availability / integration of existing platforms 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> March 2022 	<ul style="list-style-type: none"> Analysis of existing database 	<ul style="list-style-type: none"> 1 platform available
Questionnaires to measure and record progresses to be used during testing	<ul style="list-style-type: none"> Elaboration of the questionnaires 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> December 2021 – June 2022 	<ul style="list-style-type: none"> Number of questionnaires elaborated 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> June 2022 	<ul style="list-style-type: none"> File elaborated 	<ul style="list-style-type: none"> 1
Training of professionals	<ul style="list-style-type: none"> Professional s' raining sessions by platform developers 	<ul style="list-style-type: none"> ARIA Professionals involved in the testing phase 	<ul style="list-style-type: none"> June 2022 – July 2022 	<ul style="list-style-type: none"> Number of professionals trained 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> July 2022 	<ul style="list-style-type: none"> Training session 	<ul style="list-style-type: none"> TBD

Testing	<ul style="list-style-type: none"> Testing 	<ul style="list-style-type: none"> Professionals Patients DG Welfare ATS – 3 ASST 	<ul style="list-style-type: none"> August 2022 – December 2022 	<ul style="list-style-type: none"> Number of patients involved Patients and professionals feedbacks 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> December 2022 	<ul style="list-style-type: none"> Virtual evaluation meeting 	<ul style="list-style-type: none"> TBD
LCF2	Online Physical Rehabilitation							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Establishment of a professional working team to decide which domain has to be covered and target group definition	<ul style="list-style-type: none"> Constitution of a group made of professionals 	<ul style="list-style-type: none"> DG Welfare 3 ASST 	<ul style="list-style-type: none"> November 2021 – December 2021 	<ul style="list-style-type: none"> Professionals joining the team 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> December 2021 	<ul style="list-style-type: none"> Virtual meeting 	<ul style="list-style-type: none"> TBD divided in 3 groups(1 for each ASST)
Determination of exercises to be recorded / questionnaires for pain record + progress achieved	<ul style="list-style-type: none"> Listing of exercises Listing of questionnaires 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> December 2021 – June 2022 	<ul style="list-style-type: none"> Number of videos to be recorded and questionnaire to be administered 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> June 2022 	<ul style="list-style-type: none"> File elaborated 	<ul style="list-style-type: none"> TBD

Questionnaires to measure and record progresses to be used during testing	<ul style="list-style-type: none"> Elaboration of the questionnaires 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> December 2021 – June 2022 	<ul style="list-style-type: none"> Number of questionnaires elaborated 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> June 2022 	<ul style="list-style-type: none"> File elaborated 	<ul style="list-style-type: none"> 1
Video recording	<ul style="list-style-type: none"> Video recording 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> June 2022- August 2022 	<ul style="list-style-type: none"> Number of videos recorded 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> August 2022 	<ul style="list-style-type: none"> Collection of the videos 	<ul style="list-style-type: none"> TBD
Scouting of existing platform and adaptability	<ul style="list-style-type: none"> Finding the platform to be used 	<ul style="list-style-type: none"> ARIA 3 ASST 	<ul style="list-style-type: none"> December 2021 – June 2022 	<ul style="list-style-type: none"> App availability / integration of existing platforms 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> March 2022 	<ul style="list-style-type: none"> Analysis of existing database 	<ul style="list-style-type: none"> 1 platform available
Training of professionals	<ul style="list-style-type: none"> Professionals' training sessions by platform developers 	<ul style="list-style-type: none"> ARIA Professionals involved in the testing phase 	<ul style="list-style-type: none"> June 2022 – July 2022 	<ul style="list-style-type: none"> Number of professionals trained 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> July 2022 	<ul style="list-style-type: none"> Training session 	<ul style="list-style-type: none"> TBD
Testing	<ul style="list-style-type: none"> Testing 	<ul style="list-style-type: none"> Professionals Patients DG Welfare ATS – 3 ASST 	<ul style="list-style-type: none"> August 2022 – December 2022 	<ul style="list-style-type: none"> Number of patients involved Patients and professionals feedbacks 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> December 2022 	<ul style="list-style-type: none"> Virtual evaluation meeting 	<ul style="list-style-type: none"> TBD

QUESTIONS	DESCRIPTION
Step	Do 1
Date of the meeting	<i>May 13th , 2022</i>
Number and profile of the participants	<i>13 people belonging both to Telepsychiatry and Physical Rehabilitation</i>
Organizations involved	<i>DG Welfare, ASST Crema, ASST Cremona, ASST Mantova</i>

Cycle number (1 or 2)	1	
Activity	KPI	Actual value
TP: Determination of the app features	Features chosen to be developed	1 (videoconsultation)
TP: Scouting of existing platform and adaptability	App availability / integration of existing platforms	2 (no existing one in the database, 2 found with an existing agreement with Lombardy Region)
TP: Questionnaires to measure and record progresses to be used during testing	Number of questionnaires elaborated	ongoing
PR: Establishment of a professional working team to decide which domain has to be covered and target group definition	Professionals joining the team	10
PR: Determination of exercises to be recorded / questionnaires for pain record + progress achieved	Number of videos to be recorded and questionnaire to be administered	Ongoing
PR: Questionnaires to measure and record progresses to be used during testing	Number of questionnaires elaborated	ongoing

PR: Scouting of existing platform and adaptability	App availability / integration of existing platforms	2 (no existing one in the database, 2 found with an existing agreement with Lombardy Region)
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QUESTIONS	ANSWERS
What was actually implemented? Any deviation from the planned actions	Team set-up, main features definition, platform to be used has been defined
Problems? Unexpected findings? Please describe	Lack of platforms sharing from oGP, lack of translated documents and guidelines

IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
25%			

QUESTIONS	DESCRIPTION
Step	Study 1
Date of the meeting	September 15 th , 2022
Number and profile of the participants	15 people belonging both to Telepsychiatry and Physical Rehabilitation, as well as to local health authorities
Organizations involved	DG Welfare, ATS Val Padana, ASST Crema, ASST Cremona, ASST Mantova

Cycle number (1or 2)		1				
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions

TP: Determination of the app features	Features chosen to be developed	1	1 (videoconsultation)	None	---	---
TP: Scouting of existing platform and adaptability	App availability / integration of existing platforms	1	2 (no existing one in the database, 2 found with an existing agreement with Lombardy Region)	None	The platforms chosen are already in use in ASST Crema and ASST Cremona. The usage of the first is extended to ASST Mantova for autumn and winter 2022.	---
TP: Questionnaires to measure and record progresses to be used during testing	Number of questionnaires elaborated	1	ongoing	Delays concerning privacy and technical issues	Increase of meetings	Issues are being solved
PR: Establishment of a professional working team to decide which domain has to be covered and target group definition	Professionals joining the team	TBD divided in 3 groups(1 for each ASST)	10 (reunited in a single working group)	Research for a better coordination in the project activities implementations.	A better coordination is reached having a joint working group on physical rehabilitation.	Coordination improved
PR: Determination of exercises to be recorded / questionnaires for pain record + progress achieved	Number of videos to be recorded and questionnaire to be administered	TBD	Ongoing	Delays concerning privacy and technical issues	Increase of meetings	Issues are being solved
PR: Questionnaires to measure and record progresses to be used during testing	App availability / integration of existing platforms	1	ongoing	Delays concerning privacy and technical issues	Increase of meetings	Issues are being solved

PR: Scouting of existing platform and adaptability	Number of questionnaires elaborated	1	1 (no existing one in the database, 1 found with an existing agreement with Lombardy Region)	---	The platforms chosen are already in use in ASST Crema and ASST Cremona. The usage of the first is extended to ASST Mantova for autumn and winter 2022.	---
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QUESTIONS	DESCRIPTION
Step	Act 1
Date of the meeting	September 23 rd , 2022
Number and profile of the participants	15 people belonging both to Telepsychiatry and Physical Rehabilitation, as well as to local health authorities
Organizations involved	DG Welfare, ATS Val Padana, ASST Crema, ASST Cremona, ASST Mantova

Cycle number (1 or 2)	1		
Activity	Maintain	Adapt	Abandon
TP: Determination of the app features	X		
TP: Scouting of existing platform and adaptability	X		
TP: Questionnaires to measure and record progresses to be used during testing		X Postponed to beginning of October	
PR: Establishment of a professional working team to	X		

decide which domain has to be covered and target group definition			
PR: Determination of exercises to be recorded / questionnaires for pain record + progress achieved		X Postponed to beginning of October	
PR: Questionnaires to measure and record progresses to be used during testing		X Postponed to beginning of October	
PR: Scouting of existing platform and adaptability	X		

QUESTIONS	ANSWERS
Any new proposed action for the future?	[...]

2nd PDSA Cycle

QUESTIONS	DESCRIPTION
Step	Plan 2
Date of the meeting	September 23 rd , 2022
Number and profile of the participants	15 people belonging both to Telepsychiatry and Physical Rehabilitation, as well as to local health authorities
Organizations involved	DG Welfare, ATS Valpadana, ASST Crema, ASST Cremona, ASST Mantova

LCF1 + LCF2		Telepsychiatry + Online Physical Rehabilitation						
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Questionnaires to measure and record satisfaction rate of patients and physicians	<ul style="list-style-type: none"> Elaboration of the questionnaires 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> September 2022 	<ul style="list-style-type: none"> Number of questionnaires elaborated 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> October 2022 	<ul style="list-style-type: none"> File elaborated 	<ul style="list-style-type: none"> 3 (1 for each ASST) for patients 3 (1 for each ASST) for physicians
Training of professionals	<ul style="list-style-type: none"> Professionals' training sessions by platform developers 	<ul style="list-style-type: none"> Platform providers Professionals involved in the testing phase 	<ul style="list-style-type: none"> October 2022 	<ul style="list-style-type: none"> Number of professionals trained and of training sessions 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> November 2022 	<ul style="list-style-type: none"> Online training session 	<ul style="list-style-type: none"> 2 sessions (1 for each platform)

								<ul style="list-style-type: none"> at least 2 physicians for each ASST
Patients' selection criteria	<ul style="list-style-type: none"> Definition of needed patients 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> October 2022 	<ul style="list-style-type: none"> List of criteria 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> December 2022 	<ul style="list-style-type: none"> Online docs 	<ul style="list-style-type: none"> At least 3 criteria
Privacy	<ul style="list-style-type: none"> Elaboration of informed consent for patients 	<ul style="list-style-type: none"> DPOs belonging to DG Welfare, ATS and ASST 	<ul style="list-style-type: none"> July 2022 – September 2022 	<ul style="list-style-type: none"> Informed consent – GDPR compliant 	<ul style="list-style-type: none"> ATS - ASST 	<ul style="list-style-type: none"> December 2022 	<ul style="list-style-type: none"> Online docs 	<ul style="list-style-type: none"> 1 informed Consent
Patients' enrolment	<ul style="list-style-type: none"> Selection and informed consent sign 	<ul style="list-style-type: none"> ASST ATS 	<ul style="list-style-type: none"> November 2022 - December 2022 	<ul style="list-style-type: none"> Number of patients enrolled 	<ul style="list-style-type: none"> ASST 	<ul style="list-style-type: none"> January 2023 	<ul style="list-style-type: none"> Physically due to patients' signatures collection 	<ul style="list-style-type: none">

<p>Testing</p>	<ul style="list-style-type: none"> • Testing 	<ul style="list-style-type: none"> • Professionals • Patients • DG Welfare • ATS – 3 ASST 	<ul style="list-style-type: none"> • January 2023 – March 2023 	<ul style="list-style-type: none"> • Number of patients involved • Patients and professionals feedbacks through satisfaction questionnaires 	<ul style="list-style-type: none"> • DG Welfare 	<ul style="list-style-type: none"> • End of March 2023 	<ul style="list-style-type: none"> • Satisfaction questionnaires collection 	<ul style="list-style-type: none"> • 30 (10 for each ASST) for psychiatry + 30 (10 for each ASST) for rehabilitation • questionnaires general score “very satisfied” for at least
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								50% of patients and professionals
LCF2	Online Physical Rehabilitation							
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Determination of exercises to be recorded	<ul style="list-style-type: none"> Listing of exercises Listing of questionnaires 	<ul style="list-style-type: none"> 3 ASST 	<ul style="list-style-type: none"> September 2022 	<ul style="list-style-type: none"> Number of videos to be recorded 	<ul style="list-style-type: none"> DG Welfare 	<ul style="list-style-type: none"> October 2022 	<ul style="list-style-type: none"> Online docs 	<ul style="list-style-type: none"> at least one exercise for each rehabilitation discipline

<p>Video recording</p>	<ul style="list-style-type: none"> • Video recording 	<ul style="list-style-type: none"> • 3 ASST 	<ul style="list-style-type: none"> • October 2022 – December 2022 	<ul style="list-style-type: none"> • Number of videos recorded 	<ul style="list-style-type: none"> • ASST 	<ul style="list-style-type: none"> • December 2022 	<ul style="list-style-type: none"> • Collection of the videos 	<ul style="list-style-type: none"> • at least one video for each rehabilitation discipline
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QUESTIONS	DESCRIPTION
Step	Do 2
Date of the meeting	<i>November, 11th 2022</i> <i>November, 18th 2022</i> <i>December, 2nd 2022</i>
Number and profile of the participants	18 people belonging both to Telepsychiatry and Physical Rehabilitation, as well as to local health authorities
Organizations involved	<i>DG Welfare, ATS Val Padana, ASST Crema, ASST Cremona, ASST Mantova</i>

Cycle number (1 or 2)	2	
Activity	KPI	Actual value
Questionnaires to measure and record satisfaction rate of patients and physicians	Number of questionnaires elaborated	<ul style="list-style-type: none"> • 3 (1 for each ASST) for patients • 3 (1 for each ASST) for physicians
Training of professionals	Number of professionals trained	2 training sessions(1 for each platform)
Patients' selection criteria	List of criteria	<ul style="list-style-type: none"> ● Patients with possible need to be reached online do to long distance between home and ASST locations ● Patients hospitalised in a different location ● Patients with suitable diagnosis with respect to the ongoing pilot ● Patients who need multiple visits that can benefit of alternative ways of communication ● In case of young patients, patients whose parents has working impediments in driving them to the ASST location ● Patients who moved abroad and appreciate to continue the therapy with the same clinician

Privacy	Informed consent – GDPR compliant	Done and approved by DPO of each ASST, included in the patient’s enrollment process
Patients’ enrolment	Number of patients enrolled	about 40 patients already enrolled or asked to participate and waiting to start – delays due to privacy related issues
Testing	<ul style="list-style-type: none"> • Number of patients involved • Patients and professionals feedbacks 	<ul style="list-style-type: none"> • ongoing: about 40 patients already enrolled or asked to participate and waiting to start • questionnaire will be collected at the end of the testing (march 2023)

QUESTIONS	ANSWERS
What was actually implemented? Any deviation from the planned actions	One of the 3 ASST had to change the platform of televisits due to technical problems.
Problems? Unexpected findings? Please describe	Delays in the elaboration of Informed consent

IMPLEMENTATION PROGRESS OF THE LOCAL GOOD PRACTICE			
0-25%	25-50%	50-75%	75-100%
25%	50%		

QUESTIONS	DESCRIPTION
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Step	Study 2
Date of the meeting	<i>January, 20th 2023</i>
Number and profile of the participants	18 people belonging both to Telepsychiatry and Physical Rehabilitation, as well as to local health authorities
Organizations involved	<i>DG Welfare, ATS Val Padana, ASST Crema, ASST Cremona, ASST Mantova</i>

Cycle number (1or 2)		2				
Activity	KPI	Target value (from PLAN)	Actual value (from DO)	Reasons for the deviations	Mitigation actions implemented	Impact of mitigation actions
Questionnaires to measure and record satisfaction rate of patients and physicians	Number of questionnaires elaborated	3 (1 for each ASST)	3 (1 for each ASST)			
Training of professionals	Number of professionals trained	2 (1 for each platform)	2 sessions (1 for each platform)			
Patients' selection criteria	List of criteria	at least 3 criteria	6 criteria defined			
Privacy	Informed consent – GDPR compliant	1 informed Consent	done	Delays due to lacking communication between DPOs – IT technicians - physicians	Increase number of meetings and stronger coordination between stakeholders	Positive impact

<p>Patients' enrolment</p>	<p>Number of patients enrolled</p>	<ul style="list-style-type: none"> • 30 (10 for each ASST) for psychiatry • 30 (10 for each ASST) for rehabilitation 	<p>40 patients enrolled or waiting to</p>	<ul style="list-style-type: none"> - Delay due to privacy related issues - A pilot includes young patients that are less interested in online solutions and prefer direct contact with clinicians 	<p>Reduce target</p>	<p>The number of enrolled patients is still sufficient to draw conclusions about the testing of the solutions</p>
<p>Testing</p>	<ul style="list-style-type: none"> • Number of patients involved • Patients and professionals feedbacks through satisfaction 	<ul style="list-style-type: none"> • 30 (10 for each ASST) for psychiatry + 30 (10 for each ASST) for rehabilitation • questionnaires general score "very satisfied" for at least 50% 	<ul style="list-style-type: none"> • ongoing: about 40 patients already enrolled or asked to participate and waiting to start • questionnaire will be collected at the end of the testing (march 2023) 	<ul style="list-style-type: none"> - Delay due to privacy related issues - A pilot includes young patients that are less interested in online solutions and prefer direct contact with clinicians 	<p>Reduce target</p> <p>Feedbacks from patients and clinicians will be collected later on</p>	<p>The number of enrolled patients is still sufficient to draw conclusions about the testing of the solutions</p>

	questionnaires	of patients and professionals				
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QUESTIONS	DESCRIPTION
Step	Act 2
Date of the meeting	<i>February, 27th 2023</i>
Number and profile of the participants	18 people belonging both to Telepsychiatry and Physical Rehabilitation, as well as to local health authorities
Organizations involved	<i>DG Welfare, ATS Val Padana, ASST Crema, ASST Cremona, ASST Mantova</i>

Cycle number (1 or 2)	2		
Activity	Maintain	Adapt	Abandon
Questionnaires to measure and record satisfaction rate of patients and physicians	X		
Training of professionals		X	
Patients' selection criteria	X		
Privacy	X		
Patients' enrolment	X		
Testing	X		

QUESTIONS	ANSWERS
Any new proposed action for the future?	<ul style="list-style-type: none"> ● Implementing a common platform for the whole territory, keeping it integrated with the Regional data system, making it as simple and intuitive as possible ● (Testing) Investing more in digital innovation: improving IT infrastructure, strengthening the network, increase the number of available devices and of IT equipment ● (Training of professionals) Providing professionals with training on how to use digital platforms and devices and how to best integrate them with the services offered to patients ● (Training of professionals) Provide professionals with classes related to online psychiatry therapy sessions, how to deal with it not in terms of tools but more how to manage meetings and relation with the patients

MEETINGS

The NAWG will report the number of meetings conducted in each step of the PDSA cycle.

STEP	No. meetings	No. professionals involved	No. organizations represented
PLAN (Cycle 1)	2	8+12	4
DO (Cycle 1)	1	13	4
STUDY (Cycle 1)	1	15	5
ACT (Cycle 1)	1	15	5
PLAN (Cycle 2)			
DO (Cycle 2)	3	18	5
PLAN (Cycle 2)	1	18	5
ACT (Cycle 2)	1	18	5

Post-implementation

ITEM	DESCRIPTION	INFORMATION FROM IMPLEMENTATION PROCESS TO SUPPORT	ANSWER
Title and Abstract			
Title		Local Good Practice name	Lombardy Digital Roadmap towards an Integrated Health Care Sector
Abstract		"Description" of the Local Good Practice template	<ul style="list-style-type: none"> ● Covered territory: ATS Valpadana, consisting of 3 main healthcare hubs (ASST): Crema, Cremona and Mantua. ● the LGP favours the uniform use of IT platforms to facilitate and integrate communication among different actors, decreasing the hospital crowding and increasing the quality of home services. It consists in 2 main core features: telepsychiatry and digital rehabilitation. ● LCF1 - Telepsychiatry: it consists in using a digital platform, integrated with the existing IT systems in order to conduct televisits and teleconsults. ● LCF2 - Digital rehabilitation: it consists in using a digital platform where professionals can upload personalized weekly-based physical exercises for patients ● Both the core features provide for a

			<p>mix of virtual and physical activities: remote activities are always complementary and never substitutes.</p> <p>The main aim is to bring psychiatric and rehabilitation services to users who usually can hardly access them due to the physical geographical distance to be covered to reach the closest hospital.</p> <p>The psychiatric service would more easily involve users reluctant to have physical meetings, including the access to crowded places such as hospitals.</p> <p>The autonomous use of an app involving videos and pain record in rehabilitation domain would allow to relieve crowded Hospitals.</p>
Why did you start?		Information from impl. process	Answer
Problem description	Nature and significance of the local problem	-	Population is widely spread in a rural area with 3 main healthcare hubs: lack of physical infrastructures quickly connecting villages with hospitals; need to provide quickly accessible services to patients spread all over the countryside.

			Moreover the high crowding of hospitals does not allow to cover all the patients in need, especially those with mild issues.
Available knowledge	Summary of what is currently known about the problem, including relevant previous studies	-	<p>From a problem analysis it emerged that:</p> <ul style="list-style-type: none"> ● there is a lack of physical infrastructures quickly connecting villages with hospitals; ● there is the need to provide quickly accessible services to patients spread all over the countryside; ● there is a situation in which the high crowding of hospitals does not allow to cover all the patients in need, especially those with mild issues.
Rationale	Informal or formal frameworks, models, concepts, and/or theories used to explain the problem, any reasons or assumptions that were used to develop the intervention(s), and reasons why the intervention(s) was expected to work	-	Telemedicine services have already proved, in previous projects, to be a reliable and effective solution in order to provide healthcare services to people living far away from hospital hubs, limiting the time spent on commuting and limiting crowding of hospitals, favoring a more efficient time management and favoring an improvement of the services quality. Moreover a more efficient time management deriving from the use of new technologies allows to cover an higher number of patients: therefore even patients with mild issues which are not treated nowadays could be treated.

Specific aims	Purpose of the project and of this report	“Main aim” of the Local Good Practice template	Improving the quality of healthcare services addressing territories, users and mild needs still uncovered. Improving the digital transition of the regional healthcare system, handling accessibility issues.
What did you do?		Information from impl. process	Answer
Context	Contextual elements considered important at the outset of introducing the intervention(s)	Main output of the Situation Analysis. SWOT analysis	<p>Low coverage of some users (geographic issues, mild disorders, etc...).</p> <p>Focus on non-Covid-19 related issues (funds, professionals, activities, etc...).</p> <p>Different individual approach to digitalization in the healthcare domain (patients and professionals).</p>
Intervention(s)	<ul style="list-style-type: none"> ● Description of the intervention(s) in sufficient detail that others could reproduce it ● Specifics of the team involved in the work 	<ul style="list-style-type: none"> ● “Target population” and “Description” of the Local Good Practice template ● Description of the NAWG participants (number, profiles, roles) 	<p>The Local Healthcare Authority ATS Valpadana is made up of three healthcare hubs (ASST): Crema, Cremona and Mantua. For each ASST, two departments, the department of psychiatry and the department of rehabilitation, were involved in the pilot:</p> <ul style="list-style-type: none"> ● Telepsychiatry: the practice consists in using a digital platform, integrated with the existing IT systems in order to conduct televisits and teleconsults. ● Digital rehabilitation: the practice consists in using a digital platform where professionals can upload

			<p>personalized weekly-based physical exercises for patients.</p> <p>Both provided a mix of both virtual and physical services.</p> <p>The targeted population for each department was 10 patients (for a total of 60 patients). Patients were selected according to specific criteria, involving among others:</p> <ul style="list-style-type: none"> - distance patient-hospital; - parents work schedule; - hospitalization in another place; - diagnosis; - complex situations (in need of multiple meetings); - opportunity to dialogue even with parents living at home. <p>The NAWG is composed by representatives of Lombardy Region - DG Welfare (4), directors of the rehabilitation and psychology and psychiatry departments, physicians involved in the pilot, belonging to the chosen domains (18 professionals, including both</p>
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			psychiatrists and physiotherapists) and IT technicians (3).
-	<ul style="list-style-type: none"> ● Approach chosen for assessing the impact of the intervention(s) (quantitative or qualitative analysis) ● Approach used to establish whether the observed outcomes were due to the intervention(s) 	-	The chosen approach for assessing the impact of the intervention is mostly qualitative, but quantitative indicators were considered as well: our preference was to select a limited number of patients so as to properly test, on an individual basis, the efficiency and effectiveness of the designed solution. This was done mainly through satisfaction questionnaires aimed at collecting users and professionals feedback on the experience, also comparing online to in-presence visits. As far as professionals are concerned, opinions on the LGP were also collected during both online and in-presence meetings.
Measures	Measures chosen for studying processes and outcomes of the intervention(s), including rationale for choosing them, their operational definitions, and their validity and reliability	Key Performance Indicator of the Local Action Plan	<ul style="list-style-type: none"> ● Definition of a platform and its characteristics: this measure has been chosen because the entire LGP relies on the use of a platform. We considered three options: <ul style="list-style-type: none"> ○ rely on a platform already in use ○ adapt an already available and in use platform ○ search for a platform available on the market

			<p>The second option was finally selected. This is considered to be valid and reliable because it was already in use by the local healthcare authorities, having won a competition granting high quality standards.</p> <ul style="list-style-type: none"> ● Questionnaires (User satisfaction and professionals satisfaction): these tools proved to be effective means for collecting users and professionals feedback on the experience in previous studies; moreover, they appear to be flexible and easily adaptable tools to be tailored to the specific local needs; the reliability of the questionnaires is based on the fact that the original template (which has been then tailored by the professionals according to the specific local needs) has been developed by a University. Moreover, they are reliable in their content insofar as they are filled in directly by the users and the professionals involved in the pilot. ● Number of professionals trained: easy to collect but also very explicative.
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			<ul style="list-style-type: none"> Number of patients enrolled: easy to collect but also very explicative.
Analysis	<ul style="list-style-type: none"> Qualitative and quantitative methods used to draw inferences from the data Methods for understanding variation within the data, including the effects of time as a variable 	PLAN template and STUDY analysis	<p>Elaboration of a Plan part of the PDSA cycle which has been revised once, opening a 2nd PDSA cycle.</p> <p>Plan consists in defining the actions to be taken, in the context given, providing actor, time frame, and KPIs.</p> <p>Thanks to results coming from the 1st PDSA cycle it has been possible to amend the original Plan adopting mitigation measures such as the increase of NAWG meetings and the selection of platforms already in use at the hospitals.</p>
What did you find?		Information from impl. process	Answer
Results	<ul style="list-style-type: none"> Intervention(s) and their evolution over time (e.g., time-line diagram, flow chart, or table), including modifications made to the intervention during the project Details of the process measures and outcome 	<ul style="list-style-type: none"> DO and STUDY steps: Deviations from the planned actions. STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle 	<ul style="list-style-type: none"> the implementation of the project required some interventions to adapt the designed pilot to new needs and unplanned issues. At the beginning we were supposed to receive a teleconsultation platform from oGP but as soon as we understood we wouldn't receive anything three options were considered: using a platform already in use, adapting an existing one or look for it in the market. Finally platforms already in use were chosen to be adapted: such a

	<ul style="list-style-type: none"> ● Observed associations between outcomes, interventions, and relevant contextual elements ● Unintended consequences such as unexpected benefits, problems, failures, or costs associated with the intervention(s). ● Details about missing data 		<p>situation comported some modification to the original designed pilot: starting day was postponed, duration of the study was reduced as well as the number of patients involved.</p> <ul style="list-style-type: none"> ● In some cases the designed schedule of virtual-physical visits had to be modified in favor of an all-online program due to patients' related issues: such a development has been interpreted as a patients and professionals validation of the designed service. ● For the ASST which implemented a solution not already available within the hub before the pilot, there were problems raised from the lack of available devices: consequently, in order to grant the working of the project activities, it was necessary to use other devices (tablets and smartphones). ● Concerns have been expressed regarding the pre-implementation phase, mainly related to privacy policy, and many meetings have been organized involving many different actors. ● Satisfaction questionnaires were used as a means to collect feedback from both the patients and the professionals involved in the pilot. Overall, the majority of patients
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			<p> responding to the survey did not experience any differences in the treatment's outcome between online and face-to-face visits; among those experiencing differences, some prefer online visits because they felt more comfortable with staying at home, whereas some others prefer face-to-face visits, for example to avoid loss of connection with the professionals. 30 out of 33 patients providing feedback declared that receiving help through telemedicine has been helpful in their treatment pathway and 31 out of 32 would continue to conduct online visits. Among the positive elements of the practice patients listed: saving time compared to physical travels, less anxiety compared to in-presence visits, more flexibility, and continuity of care; whereas the negative elements reported mainly related to connection problems or the lack of physical interaction with the professional. Overall, the totality of patients did not have major problems during the practice, being able to easily connect, to properly see and interact well with the professional. 7 out of 8 professionals providing feedback would recommend a further development of </p>
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			<p> telemedicine and its application also by other professionals and are willing to conduct further online visits with patients. Professionals reported that online visits allowed better management of emergencies and crisis prevention and made the service more accessible; they appreciated the flexibility provided by conducting online visits, which allow for easier matching with patients' schedules as well as for continuity of care. Moreover, they were able to maintain close contacts with geographically distant patients and with less time availability. Among the negative aspects related to the practice, they reported difficulties in interpreting non-verbal communication as well as the lack of proper availability of IT devices and equipment (and, in some cases of patients' IT skills and abilities) as well as connection problems. Among the suggestions collected from the professionals for the development of the services provided through telemedicine, it emerged the need to simplify the platform used as well as the need to invest more in the technical/digital equipment (e.g. reinforce network, acquire equipment). </p>
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What does it mean?		Information from impl. process	Answer
<p>Summary</p>	<ul style="list-style-type: none"> ● Key findings, including relevance to the rationale and specific aims ● Particular strengths of the project 	<p>STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle</p>	<p>Among the key findings:</p> <ul style="list-style-type: none"> - to have a platform which allows professionals to conduct online visits already in place favors the implementation of the practice as it does not affect it with extra training activities; - the use of a single common platform providing various telemedicine services could decrease the time and effort spent in filling different databases and in training personnel; - to timely involve all of the stakeholders, including IT technicians, physicians and legal staff positively affects the implementation; - a good endowment of digital equipment and devices is a key element to properly perform the practice, as otherwise the lack of them would hinder the effectiveness of the whole process; - for patients, main positive elements related to the practice were: saving time compared to physical travels, less anxiety compared to in-presence

			<p>visits, more flexibility, and continuity of care;</p> <ul style="list-style-type: none"> - for professionals, main positive elements related to the practice were: online visits allowed for a better management of emergencies and crisis prevention and made the service more accessible; online visits are more flexible, which allow for easier matching with patients' schedules as well as for continuity of care. Moreover, professionals were able to maintain close contacts with geographically distant patients and with less time availability
<p>Interpretation</p>	<ul style="list-style-type: none"> ● Nature of the association between the intervention(s) and the outcomes ● Comparison of results with findings from other publications ● Impact of the project on people and systems ● Reasons for any differences between observed and anticipated outcomes 	<p>STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle</p>	<ul style="list-style-type: none"> ● The association between the intervention and the outcomes has been validated through the use of satisfaction questionnaires for both patients and professionals, asking for their feedback and opinions on the experience ● 7 out of 8 professionals providing feedback would recommend a further development of telemedicine and its application also by other professionals and are willing to conduct further online meetings with patients. 30 out of 33 patients providing feedback

	<ul style="list-style-type: none"> • Costs and strategic trade-offs, including opportunity costs 		<p>declared that receiving help through telemedicine has been helpful in their treatment pathway, and 31 out of 32 would continue to conduct online meetings. There has been a case particularly validating the telepsychiatric pilot: a patient who went on Erasmus was allowed to turn to a full-remote online televisit: without the pilot the patient would have been obliged to suspend the whole treatment.</p>
<p>Limitations</p>	<ul style="list-style-type: none"> • Limits to the generalizability of the work • Factors that might have limited internal validity such as confounding, bias, or imprecision in the design, methods, measurement, or analysis • Efforts made to minimize and adjust for limitations 	<p>STUDY step of 1st cycle and STUDY and ACT steps of the 2nd cycle</p>	<p>Televisit has to be conceived, when possible, as a tool complementary to physical meeting and not as a substitute: on psychiatric issues, operators highlighted the inability to grasp the patient's non-verbal communication which sometimes plays a key role. Another aspect to be considered prior to implementing the practice is the level of digital literacy of both professionals and patients and the availability of IT devices.</p> <p>Professionals have been provided with training on how to use the platform and patients have been supported by professionals</p>

			<p>in any difficulties they encountered with the device used during the practice.</p>
<p>Conclusions</p>	<ul style="list-style-type: none"> ● Usefulness of the work ● Sustainability ● Potential for spread to other contexts ● Implications for practice and for further study in the field ● Suggested next steps 	<p>-</p>	<p>The project has been defined as useful for local communities. Sometimes it allowed to refine a service already partially existing, considering new relevant elements (such as privacy related issues allowing a major safeguard of professionals' activities and a wider access to data).</p> <p>The platform has been particularly appreciated because of its capacity of depicting real time the patient situation and the activities done with him.</p> <p>Moreover the online activities have been recognized as a useful tool to keep a major continuity and involvement of patients and operators; furthermore digital tools allowed better scheduling of activities for patients living far away, using video calls for dealing and preventing emergencies.</p> <p>Regarding the sustainability, some hubs expressed the will to keep the activities beyond JADECARE; therefore, the most important general next step is related to the development and adoption of a common telemedicine platform, in order to reduce time</p>

			spent for training professionals and reduce costs.
Other information		Information from impl. process	Answer
Funding	<ul style="list-style-type: none"> Sources of funding that supported this work. Role, if any, of the funding organization in the design, implementation, interpretation, and reporting 	-	<p>EU4Health programme</p> <p>No extra funding</p>

Childrens Clinical University Hospital (CCUH)

Pre-implementation

Definition of the LGP and LAP

Local Good Practice	Development of digital eligible ecosystem for children's healthcare as national level pilot project	
Target population	Setting(s)	
359 000 children in Latvia; 70 000 patients annually in Emergency department (CCUH); 17 000 patients are being treated in Inpatient units of CCUH; 700 physicians and 600 of nursing staff in CCUH; 800 paediatricians in Latvia	Children's University Hospital of Latvia	
Main aim		
To equalize the quality of paediatricians services throughout Latvia		
Outcomes	Local Core Features and their Components	Inputs
<ul style="list-style-type: none"> • One evidence-based channel for parents, children and adolescents, as well as children's health professionals • Coordinated approach in children's healthcare using innovative methods • Effective usage of medical staff within Children's hospital and healthcare in General • More accurate and trustable source of information and services 	<ul style="list-style-type: none"> • Develop a strategy on implementation of digital eligible ecosystem <ul style="list-style-type: none"> - acquaintance with good practice abroad - the Telemedicine strategy - The Conceptual Design document - Digital solution implementation plan and structure in CCUH, development of system integration plan • Build the digital eligible innovation ecosystem for children's healthcare 	<ul style="list-style-type: none"> • Funding • IT staff • Program managers • Healthcare professionals • Patients/parents • Decision makers • Alignment of policy makers

<ul style="list-style-type: none"> • Cheaper for patients and families as they don't need to travel to Hospital in case it's not emergency • Improved availability of services inside and outside the hospital • Reduce waiting time for Hospital services • Empowered citizens for active participation in healthcare decision making 	<ul style="list-style-type: none"> - Collaboration Agreements and standards on cross-sectorial integrated care and continuity of care - Communication and promotion plan on promoting citizen involvement and increasing the use of digital solutions - Promotion plan on raising the competence of medical staff in working with telemedicine systems and equipment - Promotion plan on raising the competence of medical staff in working with telemedicine systems and equipment - Solution providers - Succession plan for updating and updating the content and solutions - Training with providers to assess incentives for IT deployment and usability assessment - Monitoring plan to evaluate the efficiency the pilot project and indicate possible improvements; protocol and recommendations on the introduction of telemedicine and digital services in Latvia 	<ul style="list-style-type: none"> • Training and technical assistance • IT systems
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General description

The digital eligible innovation ecosystem for children's healthcare consist of following levels: children's health portal, patient portal, portal for professionals

Local Core Feature 1

Develop a strategy of digital eligible ecosystem

Local Core Feature 2

Build the digital eligible innovation ecosystem for children's healthcare

Local Action Plan

Local Good Practice	Development of multi- level digital eligible innovation ecosystem for children's healthcare as national level pilot	
Target population	Setting	
359 000 children in Latvia; 70 000 patients annually in Emergency department (CCUH); 17 000 patients are being treated in Inpatient units of CCUH; 700 physicians and 600 of nursing staff in CCUH; 800 paediatricians in Latvia	Children's University Hospital of Latvia	
Main aim		
To equalize the quality of paediatrician's services throughout Latvia		
General description		
The digital eligible innovation ecosystem for children's healthcare consists of following levels: children's health portal, patient portal, portal for professionals		
Related original Good Practices and their Core Feature (s)	Digital Roadmap Denmark oGP, CF B1.1, B1.2., B1.3, B2.1, B2.2., B2.3, B2.4, B2.5, B2.6	
Local Core Feature 1	Develop a strategy of digital eligible ecosystem	
SMART objective		
By the end of February 2022 CCUH will develop a strategy on implementation of digital eligible ecosystem that contributes to the transition to digitally-enabled, integrated, person centred care with special emphasis un sustainability.		

Activities	Actors	Resources	Setting(s)	Timeline	Key Performance Indicators
<ul style="list-style-type: none"> Create a core group to develop strategy on implementation of digital eligible ecosystem 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts 	<ul style="list-style-type: none"> Professionals from CCUH 	<ul style="list-style-type: none"> CCUH 	<ul style="list-style-type: none"> 1 week from October 25 	<ul style="list-style-type: none"> Number and profile of professionals engaged
<ul style="list-style-type: none"> To get acquainted with examples of good practice and identify possible models to be adapted for the introduction of telemedicine and digital solutions 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts 	<ul style="list-style-type: none"> Jadecare, network with children's hospital abroad 	<ul style="list-style-type: none"> CCUH, web based (emails, meetings) 	<ul style="list-style-type: none"> 1 month from November 1 	<ul style="list-style-type: none"> Evaluation matrix of good practice approved (Y/N)
<ul style="list-style-type: none"> Development of the Telemedicine strategy 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts 	<ul style="list-style-type: none"> Professionals from CCUH 	<ul style="list-style-type: none"> CCUH 	<ul style="list-style-type: none"> 1 months from December 1 	<ul style="list-style-type: none"> Telemedicine strategy approved (Y/N)
<ul style="list-style-type: none"> Development of The Conceptual Design document 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts 	<ul style="list-style-type: none"> Professionals from CCUH 	<ul style="list-style-type: none"> CCUH 	<ul style="list-style-type: none"> 1 months from January 3 	<ul style="list-style-type: none"> The Conceptual Design document approved (Y/N)
<ul style="list-style-type: none"> Coordinated development of digital solution implementation plan and structure in CCUH, development of system integration plan 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts 	<ul style="list-style-type: none"> Professionals from CCUH 	<ul style="list-style-type: none"> CCUH 	<ul style="list-style-type: none"> 1 month from January 28 	<ul style="list-style-type: none"> Digital solution implementation plan and structure approved (Y/N)

Implementation

1st PDSA Cycle

QUESTIONS	DESCRIPTION
Step	PLAN, cycle 1
Date of the meeting	30/11/2021
Number and profile of the participants	2 decision makers, 8 healthcare professionals, 4 IT experts, 1 financial expert, 2 project manager
Organizations involved	CCUH and NHS of Latvia

LCF1		Develop a strategy of digital eligible ecosystem						
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Create a core group to develop strategy on implementation of digital eligible ecosystem	• Define the member of the group	• Project manager, decision makers	• 25/10/2021	• Number and profile of professionals engaged	• Project manager	• 29/10/2021	• In the first group meeting	• Yes
	• Set up the group meeting	• Project manager, Healthcare professionals, hospital, IT experts	• 26/10/2021-29/10/2021					
To get acquainted with examples of good practice and identify possible models to be adapted for the introduction of telemedicine	• Collect possible good practices	• Project manager	• 01/11/2021-05/11/2021	• Evaluation matrix of good practice approved	• Project manager	• 01/12/2021	• In final group meeting	• Yes
	• Evaluate good practices and identify possible models be adapted	• Project manager, Healthcare professionals, hospital, IT experts	• 08/11/2021-01/12/2021					

and digital solutions								
Development of the Telemedicine strategy	<ul style="list-style-type: none"> To create template for the strategy document 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 01/12/2021-08/12/2022 	<ul style="list-style-type: none"> Telemedicine strategy approved 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 04/01/2022 	<ul style="list-style-type: none"> In the final meeting with decision makers 	<ul style="list-style-type: none"> Yes
	<ul style="list-style-type: none"> To meet experts from all possible users 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts 	<ul style="list-style-type: none"> 09/12/2021-21/12/2021 					
	<ul style="list-style-type: none"> To put all information in the strategy document 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 22/12/2021-24/12/2021 					
	<ul style="list-style-type: none"> To review the draft of the strategy 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts 	<ul style="list-style-type: none"> 27/12/2021-30/12/2021 					
	<ul style="list-style-type: none"> To prepare final version 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 03/01/2022-04/01/2021 					

Development of The Conceptual Design document	<ul style="list-style-type: none"> To create template for Conceptual Design document 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 03/01/2022-07/01/2022 	<ul style="list-style-type: none"> The Conceptual Design document approved 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 03/02/2022 	<ul style="list-style-type: none"> In the final meeting with decision makers 	<ul style="list-style-type: none"> Yes
	<ul style="list-style-type: none"> To meet experts from all possible users 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts 	<ul style="list-style-type: none"> 07/01/2022-17/01/2021 					
	<ul style="list-style-type: none"> To put all information in Conceptual Design document 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 18/01/2022-20/01/2022 					
	<ul style="list-style-type: none"> To review the draft of Conceptual Design document 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts 	<ul style="list-style-type: none"> 21/01/2022-26/01/2022 					
	<ul style="list-style-type: none"> To prepare final version of the Conceptual 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 26/01/2022-02/02/2022 					

	Design document							
Coordinated development of digital solution implementation plan and structure in CCUH, development of system integration plan	<ul style="list-style-type: none"> To prepare digital solution implementation plan and structure in CCUH 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts 	<ul style="list-style-type: none"> 28/01/2022-28/02/2022 	<ul style="list-style-type: none"> Digital solution implementation plan and structure approved 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 01/03/2022 	<ul style="list-style-type: none"> In the meeting with decision makers 	<ul style="list-style-type: none"> Yes

LCF2		Build the digital eligible innovation ecosystem for children's healthcare						
Activities (from the LAP)	Actions	Actors	Timeline	KPIs MEASURE				
				KPIs (from the LAP)	Who will collect the data?	When will the data be collected?	How will the data be collected?	Target value
Creation of a general framework for cooperation in the provision / delivery of digital services at national level - integration with national e-health system to avoid of fragmentation of service tools	<ul style="list-style-type: none"> Define the members of the creation group 	<ul style="list-style-type: none"> Project manager, decision makers 	<ul style="list-style-type: none"> 01/03/2022-08/03/2022 	<ul style="list-style-type: none"> General framework for cooperation – templates of agreements, standards available 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 02/06/2022 	<ul style="list-style-type: none"> In the meeting with decision makers 	<ul style="list-style-type: none"> Yes
	<ul style="list-style-type: none"> develop the general framework 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts, public health staff 	<ul style="list-style-type: none"> 09/03/2022-01/06/2022 					
Creation of sustainable integration between primary, secondary and tertiary care in the implementation of telemedicine	<ul style="list-style-type: none"> Define the members of the creation group 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 01/03/2022-08/03/2022 	<ul style="list-style-type: none"> Templates of agreements, standards drafted/approved/available 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 02/06/2022 	<ul style="list-style-type: none"> In the meeting with decision makers 	<ul style="list-style-type: none"> Yes
	<ul style="list-style-type: none"> develop the sustainable integration plan 	<ul style="list-style-type: none"> Project manager, Healthcare professional 	<ul style="list-style-type: none"> 09/03/2022- 					

solutions (considering that primary care providers could be inflexible in the implementation of new solutions)		s, hospital, IT experts, public health staff, GPs	01/06/2022					
Promoting citizen involvement and increasing the use of digital solutions (reducing face-to-face attendance) - developing a communication and promotion plan	• Define the members of the promoting group	• Project manager	• 01/06/2022-08/06/2022	• Number of citizens involved in promotion	• Project manager	• 02/09/2022	• Monitoring during the implementation process	• ?
	• To set up the promotion plan	• Project manager, Healthcare professionals, hospital, IT experts, public health staff, GPs, patients	• 09/06/2022-30/06/2023					
	• To implement the promotion plan	• Project manager, Healthcare professional	• 01/07/2022-01/09/2022					

		s, hospital, IT experts, public health staff, GPs, patients						
Evaluate possible solution providers	• Collect possible solution providers	• Project manager	• 01/04/2022-02/05/2022	• Evaluation matrix of solution providers drafted	• Project manager	• 02/08/2022	• In the meeting with decision makers	• Yes
	• Evaluate and identify possible solution providers	• Project manager, Healthcare professionals, hospital, IT experts	• 03/05/2022-01/08/2022					
Development of a succession plan for updating the content and solutions	• To create template for succession plan	• Project manager,	• 01/08/2022-10/08/2022	• Succession plan for updating the content and solutions approved	• Project manager	• 02/11/2022	• In the meeting with decision makers	• Yes
	• To meet experts from all possible users	• Project manager, Healthcare professional	• 11/08/2022-31/08/2022					

		s, hospital, IT experts						
	<ul style="list-style-type: none"> To develop, review and prepare final version of succession plan 	<ul style="list-style-type: none"> Project manager, Healthcare professional s, hospital, IT experts 	<ul style="list-style-type: none"> 01/09/2022-01/11/2022- 					
To develop and perform monitoring plan to evaluate the efficiency the pilot project and indicate possible improvements;	<ul style="list-style-type: none"> To create template for monitoring plan 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 01/08/2022-10/08/2022 	<ul style="list-style-type: none"> Monitoring plan of project performance 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 02/11/2022 	<ul style="list-style-type: none"> In the meeting with decision makers 	<ul style="list-style-type: none"> Yes
	<ul style="list-style-type: none"> To meet experts from all possible users 	<ul style="list-style-type: none"> Project manager, Healthcare professional s, hospital, IT experts 	<ul style="list-style-type: none"> 11/08/2022-31/08/2022 					
	<ul style="list-style-type: none"> To develop, review and prepare final version of monitoring plan 	<ul style="list-style-type: none"> Project manager, Healthcare professional s, hospital, IT experts 	<ul style="list-style-type: none"> 01/09/2022-15/09/2022 					

	<ul style="list-style-type: none"> To perform monitoring plan 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 16/09/2022-01/11/2022 					
To develop a protocol and recommendations on the introduction of telemedicine and digital services in Latvia, Including such aspects as identification of the patient, recording of the provided health care services, storage of the records, organizational aspects of the remote consultation, etc	<ul style="list-style-type: none"> To create template for protocol and recommendations 	<ul style="list-style-type: none"> Project manager 	<ul style="list-style-type: none"> 01/09/2022-15/09/2022 	<ul style="list-style-type: none"> protocol and recommendations on the introduction of telemedicine and digital services in Latvia available 	<ul style="list-style-type: none"> project manager 	<ul style="list-style-type: none"> 04/01/2023 	<ul style="list-style-type: none"> In the meeting with decision makers 	<ul style="list-style-type: none"> Yes
	<ul style="list-style-type: none"> To meet experts from all possible users 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts, public health staff, GPs, patients 	<ul style="list-style-type: none"> 16/09/2022-17/10/2022 					
	<ul style="list-style-type: none"> To develop, review and prepare final version of protocol and 	<ul style="list-style-type: none"> Project manager, Healthcare professionals, hospital, IT experts, public 	<ul style="list-style-type: none"> 18/10/2022-02/01/2023 					

	recommendations	health staff, GPs, patients						
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