



D4.1 Guide on maturity requirements of Good Practices viable for scaling up

WP4 Maturity requirements in selected Good Practices



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Executive summary

The overall objective of the Deliverable D4.1 “Guide on Maturity Requirements of Good Practices for Scaling up” is to provide a contextual analysis of the requirements for the adoption of Good Practices in integrated care in Europe. The potential of a Good Practice to be transferable within or outside the region / organisation depends on its viability but also on the maturity required for the system in which the Good Practice is implemented. In fact, the transferability potential would increase, the higher the viability score and the lower the system maturity levels needed for a particular Good Practice.

To this end, the Guide describes:

- The definition and methodology for the collection of Good Practices;
- The assessment of the viability of Good Practices for scaling up;
- The outcomes of maturity assessment of Good Practices in integrated care, using the B3 Maturity Model (B3-MM).

Thirty-four Good Practices in integrated care were collected from five European regions participating in SCIROCCO project - Basque Country, Norbotten County Council, Olomouc region in Czech Republic, Puglia region in Italy and Scotland. The Good Practices were initially assessed in terms of their viability for scaling up. As a result, 15 Good Practices were prioritised for the application of the B3-MM to assess the maturity requirements necessary for their adoption and replication in Europe.

This Guide can be used by potential adopters of Good Practices to help them to understand the conditions and requirements for a particular Good Practice to be scaled up or transferred. The Guide has also an ambition to facilitate the implementation and scaling up of Good Practices at local, regional or country level by providing a tool enabling multidimensional assessment of the capacity of regions for adoption of Good Practices in integrated care in Europe.

The outcomes of this deliverable will feed into the next stages of SCIROCCO project, in particular by providing further inputs into the refinement of the B3-MM and development of the SCIROCCO tool.

List of abbreviations

D	Deliverable
WP	Work package
NA	Non Applicable
EIPonAHA	European Innovation Partnership on Active and Healthy Ageing
B3 AG	B3 Action Group on Integrated Care
B3-MM	B3 Maturity Model
MMD	Maturity Model Dimension
WHO	World Health Organisation

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1 Introduction

1.1 Purpose of the document

The purpose of this document is to provide the analysis of the maturity requirements of Good Practices viable for scaling up. It has been developed studying the Good Practices of five European regions: Scotland (UK), Basque Country (Spain), Puglia, (Italy), Olomouc (Czech Republic) and Norrbotten (Sweden). It focuses on the contextual adoption requirements of 15 Good Practices prioritised according to their viability for scaling up. The following tasks have been performed:

- Definition of the criteria for the selection of Good Practices.
- Data collection on Good Practices in five European regions.
- Viability assessment of Good Practices.
- Assessment of maturity requirements of prioritised Good Practices, using the B3-Maturity Model (B3-MM).

The outcomes of this deliverable will feed directly into the further refinement and development of SCIROCCO online self-assessment tool for integrated care by validating the B3-MM as a tool enabling the multi-dimensional assessment of the capacity of regions for adoption of a Good Practice in integrated care.

1.2 Structure of the document

This document is organised in the following chapters:

- Chapter 1 provides an introduction
- Chapter 2 describes the objectives of Work Package (WP) 4
- Chapter 3 details the methodology for the collection and assessment of Good Practices
- Chapter 4 provides a brief summary of collected Good Practices in integrated care
- Chapter 5 presents the outcomes of the viability assessment of Good Practices
- Chapter 6 presents the outcomes of maturity assessment of selected Good Practices
- Chapter 7 discusses the main findings of the WP4.
- Chapter 8 concludes with a guide on collection and assessment of maturity requirements of Good Practices.

2 Objectives

SCIROCCO aims to facilitate the implementation and scaling up of Good Practices in integrated care at local, regional or country level in Europe. As such, the maturity requirements of Good Practices and health care systems need to be recognised in order to achieve scaling up and knowledge transfer amongst European Member States.

Within the framework of SCIROCCO project, the objective of WP4 is to:

1. Identify at least 30 Good Practices with a potential for scaling up in five European regions by means of viability assessment.
2. Define the maturity requirements of a minimum of 15 selected Good Practices for their adoption in Europe.
3. Disseminate the Good Practices in integrated care in the wider European community, particularly within the European Innovation Partnership on Active and Healthy Ageing (EIPonAHA)
4. Test the B3-MM as the multi-dimensional assessment framework for scaling up Good Practices in Europe.

3 Methodology

The methodology for WP4 was designed in five steps:

Step 1: Definition of a Good Practice

Step 2: Criteria for the selection of a Good Practice

Step 3: Data collection

Step 4: Viability assessment of Good Practices for scaling up

Step 5: Maturity requirements of Good Practices.

3.1 Definition of Good Practice

The SCIROCCO project builds on the achievements and work of the EIPonAHA. As a result, the definition of a Good Practice provided by the EIPonAHA¹ was modified and applied.

The Good Practice is defined as an inspiring, real-life example of successfully applied innovations in integrated care.

3.2 Criteria for the selection of Good Practices

Operational criteria were needed in order to apply the agreed definition of a SCIROCCO Good Practice. For this purpose, the CORRECT criteria defined by WHO and ExpandNet² were used:

- Credible - the good practices are based on sound evidence or advocated by respected persons or Institutions;
- Observable - to ensure that potential users can see the results in practice;
- Relevant - for addressing persistent or sharply felt problems;
- Relative Advantage - over existing practices so that potential users are convinced that the costs of implementation are counteracted by the benefits;
- Easy to install and understand - rather than complex and complicated;
- Compatible - with the potential users' established values, norms and facilities; fits well into the practices of the national programme;
- Testable - without committing the potential user to complete adoption when results have not yet been seen.

The same criteria have also been used by the EIPonAHA and referred to in the European Scaling up Strategy in Active & Healthy Ageing³ which facilitates the alignment and dissemination of SCIROCCO Good Practices to the EIPonAHA community⁴. All five SCIROCCO regions applied these criteria to select their national, regional and local Good Practices.

¹https://ec.europa.eu/research/innovation-union/pdf/active-healthy-ageing/scaling_up_strategy.pdf

² Glaser EM, Abelson HH, Garrison KN. Putting knowledge to use. San Francisco: Jossey-Bass Publishers; 1983. Quoted in World Health Organisation and ExpandNet. Nine steps for developing a scaling-up strategy. Geneva: WHO; 2010.

Available from: www.who.int/reproductivehealth/publications/strategic_approach/9789241500319/en [accessed 10 May 2016]

³ European scaling-up strategy in Active & Healthy Ageing. https://ec.europa.eu/research/innovation-union/pdf/active-healthy-ageing/scaling_up_strategy.pdf [accessed 10 September 2016]

⁴ https://ec.europa.eu/eip/ageing/repository_en [accessed 15 October 2016]

3.3 Data collection

An online questionnaire was designed to collect data on the Good Practices in participating European regions (Appendix I). Different examples of templates for the data collection and description of Good Practices were reviewed, including the template used in the EIPonAHA and the “Practical Guidance for Scaling Up Health Service Innovations” document published by WHO in 2009⁵. The adapted questionnaire was tested in three sites to assess its usability and completeness before its distribution to experts.

The questionnaire has 43 questions and is structured in five sections:

- Section 1: General Information to identify the type of the practice.
- Section 2: Description of the practice to understand the background and collect baseline data on the Good Practice, including the challenges in implementing the Good Practice.
- Section 3: Transferability of the practice to collect information about the cost-effectiveness, use of resources, funding, barriers and sustainability of the Good Practice.
- Section 4: Viability assessment to collect information about the time needed for the deployment, the investment (in marginal costs), the evidence, the maturity, and the time of impact and the transferability of the Good Practices.
- Section 5: Your organisation to collect information about the owners of the Good Practices.

In total, 34 Good Practices were collected⁶ (Appendix IV). All Good Practices are also uploaded in the EIPonAHA Repository⁷.

3.4 Viability assessment of Good Practices

The objective of the viability assessment of the Good Practices was to assess the potential of Good Practices for deployment at scale across the health and care systems of the five European regions participating in SCIROCCO project.

⁵ http://www.who.int/reproductivehealth/publications/strategic_approach/9789241598521/en/ [accessed 10 May 2016]

⁶ The call for the submission of Good Practices was also opened to the B3 Action Group on Integrated Care of the EIPonAHA. As a result, 2 Good Practices were submitted. It was agreed by the Consortium that these Good Practices would not be included for the purposes of steps 4 and 5 of the designed methodology.

⁷ https://ec.europa.eu/eip/ageing/repository_en [accessed 15 October 2016]

A six-criterion assessment framework developed in the EIPonAHA was applied⁸:

1. Time needed for the Good Practice to be deployed;
2. Investment per citizen/service user/patient (referring to marginal cost over previous situation);
3. Evidence behind the Good Practice,
4. Maturity of the Good Practice;
5. Estimated time of impact of the Good Practice;
6. Level of transferability of the Good Practice.

For the purpose of WP4, a Viability Assessment Criteria and Scoring Form was developed (Appendix II). Each criterion has four possible options, each mutually exclusive. A score from 1 to 4 was applied to each criterion. The higher the score for a particular Good Practice, the more viable the good practice is for scaling-up. The viability assessment final score is the sum of the scores of each criterion.

A self-assessment scoring approach was adopted. As a result, the Good Practice leaders, supported by the wider team, were asked to assess their good practices interventions along the six-criterion viability assessment framework. Taking into consideration the final score, 15 Good Practices in five SCIROCCO regions were prioritised to assess the maturity requirements for their adoption and replication in Europe, using the B3-MM (Appendix III).

3.5 Maturity requirements of the Good Practices viable for scaling up

A refined online version of the B3-MM was used to assess the maturity requirements of 15 selected Good Practices viable for scaling up (Appendix III). The Model has been derived from interviews with 12 European regions⁹ participating in the EIPonAHA. The many activities that need to be managed in order to deliver integrated care were grouped into 12 'dimensions', each of which reveals areas of strengths and also gaps in capability. The B3-MM was further validated through a Delphi Study, the outcomes of which informed the development of the first online version of the Model¹⁰ (Figure 1).

⁸ https://ec.europa.eu/eip/ageing/repository_en [accessed 15 October 2016]

⁹ Attica (Greece), Basque Country (Spain), Catalonia (Spain), Delta (Netherlands), Olomouc region (Czech republic), Galicia (Spain), Northern Ireland (UK), Puglia (Italy), Saxony (Germany), Scotland (UK), Skane (Sweden), South Denmark (Denmark).

¹⁰ <http://SCIROCCO-project-msa.inf.ac.uk> [accessed 6 December 2016]

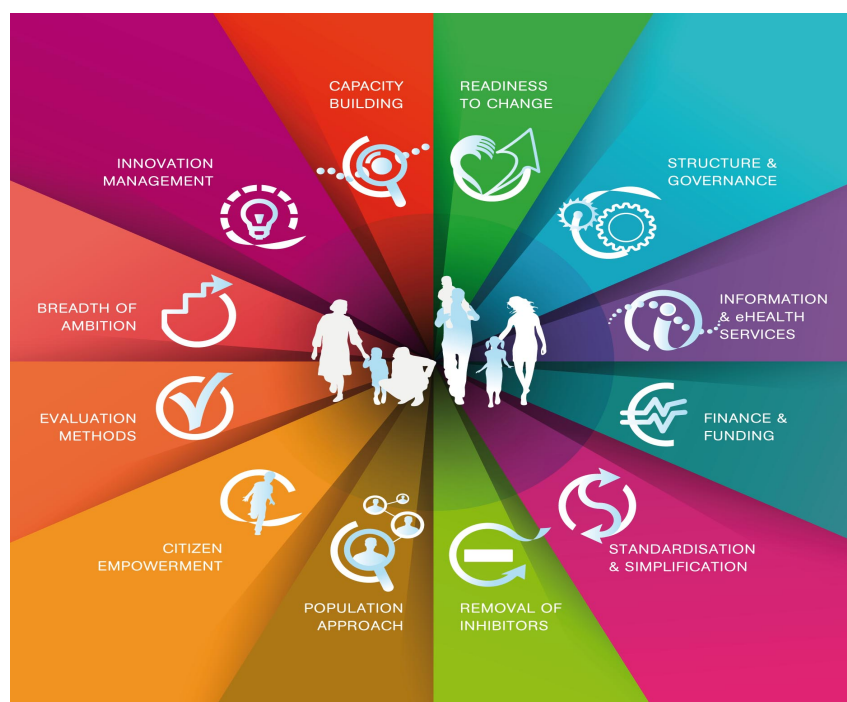


Figure 1: Maturity Model for Integrated Care

The main objective was to test the B3-MM as a tool to provide a multi-dimensional benchmark of the maturity of a context in which a Good Practice operates or is proposed to be transferred.

The self-assessment approach for the application of the B3-MM was agreed. The Good Practices leaders received the link along the online tutorial on how to use the Model to perform the self-assessment of their respective Good Practices. A spider diagram was developed for each of the Good Practice illustrating the outcomes of the self-assessment process.

4 Good Practices in integrated care

Thirty-two Good Practices in integrated were collected from five SCIROCCO regions (Appendix IV).

4.1 Good Practices in Scotland

Name	Scope	Brief Summary
Building Healthier & Happier Communities	Local	Building Healthier and Happier Communities (BHHC) is a fresh approach to improving the health and quality of life of people and communities across Scotland. A national programme is delivered locally. BHHC evidences the proposition that greater investment in the third sector's capacity can significantly enhance the quality of life for people living in their own communities. Charities, community groups, social enterprises and voluntary organisations of all shapes and sizes already make significant impacts in areas like early intervention, prevention and care, and support for people with complex and multiple conditions.
Home & Mobile Health Monitoring	Regional	Under the auspices of the Technology Enabled Care Programme, the Scottish Government and the Scottish Centre for Telehealth & Telecare are aiming to expand the use of Home & Mobile Health Monitoring (HMHM). It is part of integrated care plans to move beyond the medium scale initiatives that have been introduced in Scotland. Specific funding was made available to commence creation of a national service model for HMHM that is efficient from both a clinical and financial perspective. This includes improved patient targeting, triaging and monitoring arrangements and the introduction of more cost effective technologies.
Collaborative Commissioning of Care at Home Services	Local	Since integration, NHS Highland has been implementing a strategic commissioning approach towards the development and delivery of services. Key to this activity has been the perception that the concept of "integration" being pursued reflects a belief that true integration takes place across sectors, and allows the full contribution of the community to the design and delivery of services. The objective is to establish a sustainable; accessible; high quality Care@ Home service within a fixed financial envelope.
Technology Enabled Care Programme	National	The Technology Enabled Care Programme was set up to mainstream adoption of technological solutions within service redesign. Its principle focus is on primary, community and home-based care rather than acute specialties, with the general objective of ensuring that outcomes for individuals, in home or community settings, are improved through the application of technology as an integral part of quality cost-effective care and support. A number of specific objectives relate to the further embedding of telecare, the expansion of home & mobile health monitoring, greater use of video consultations and creation of a national digital platform framework.
Reshaping Care Programme	Regional	From 2011- 2015 a national improvement programme and £300 million Change Fund has enabled more older people to live well at home or in the community through preventative, anticipatory and coordinated care and support, intermediate care at times of transition, and technology to empower greater choice and control. Each local partnership's Change Plan described how health, social care, housing, Third sector and independent sector partners would

Name	Scope	Brief Summary
		work together to test and spread interventions across the four pillars of the RCOP pathway.
cCBT in Scotland	National	The practice covers mental health in particular the treatment of those individuals suffering from depression and anxiety. The aim of the practice is to offer evidence-based treatment on a large scale to all those patients deemed suitable for a computerised treatment by a competent clinical member of staff. The cCBT services are integrated into the local psychology therapy and offered as a mainstreamed treatment option.
Living it Up	Regional / local	LiU is an award-winning online digital self-management service which empowers people, aged 50 and over, to use technology to manage their health and wellbeing, and be better connected to their communities. LiU has been co-designed and co-produced by a range of partners in the public, statutory, voluntary and private sectors.

4.2 Good Practices in the Basque Country

Name	Scope	Brief Summary
Transversal Approach of the Pain from a Pain Unit	Regional	The aim of the practice is to improve the care of patients with pain, coordinating the conventional personal assistance with various forms of non in-person care, which allows improving the delays of waiting lists, avoids impediments to the arrival of patients to the Pain Units and duplication of simultaneous treatments. To this end, it has designed a Functional Plan for pain treatment by transversal and continuous health-care agreements between primary care, specialized care and the Pain unit.
Malnutrition in the Elderly and Hospital Stay	Local	Malnutrition slows recovery, increases the average length of stay and increases the cost (up to 50%) of early readmission rates, increases susceptibility to infection and increases mortality. This practice aims to know the prevalence of malnutrition in elderly patients admitted to the network of public hospitals in the Basque Country and its clinical consequences. The objective is to address the nutritional status of the elderly patients through a multidisciplinary, comprehensive and efficient way.
Advance Care Planning (ACP) in an Integrated Organisation	Local	The goal of this program is to promote ACP, mainly for chronic patients. The program states two specific goals: adjusting end of life care to meet patients' preferences, and improving decision-making processes. The core intervention is two individual semi structured interviews with the patient and one or two carers. The main rationale is to recognise patient's right to make decisions regarding medical treatment despite adverse health conditions.

Name	Scope	Brief Summary
Telemonitoring COPD Patients with Frequent Hospitalisation	Regional	The aim of this good practice is to determine the rate of readmission for exacerbation in a cohort of patients with COPD with readmissions to the hospital, determine the frequency of this cohort of patients with COPD who are readmitted to hospital emergency departments, evaluate the quality of life related to health during follow-up and the degree of satisfaction of patients and establish medical costs arising from the implementation of this good practice.
Design & Implementation of Interventions aimed at Improving the Safety Prescription	Local	The practice includes management of polypharmacy in multimorbid elderly or frail people. The main objective is to improve the appropriateness and safety prescriptions in Donostialdea, an Integrated Care Organisation of Osakidetza. Specifically the objective is to understand the prevalence of inappropriate prescribing and to design interventions aimed at improving safety in prescribing.
Care Plan for Elderly	Regional	This good practice, aimed at people over 70 years, intends to prevent or delay the loss of function through preventive interventions and health promotion activities along with control of geriatric syndromes and associated comorbidity. The main objective is to have a homogeneous system of multidimensional assessment and actions, based on the current recommendations, oriented to prevention, functionality and adapted to the reality of primary care, allowing classification in typologies of elder people.
Integrated Care Process for Children with Special Needs	Local	The overall aim of this practice is to implement an integrated model of care for children with special healthcare needs, using a quality improvement method to enhance the overall care and satisfaction of the children and families affected. This model promotes quality care towards children and their families in a way that is efficient and sustainable, with the goal of early detection and intervention in situations of risk, ultimately aiming to help these children reach their maximum potential and improve their overall quality of life.

4.3 Good Practices in Puglia region, Italy

Name	Scope	Brief Summary
MARIO (Managing active and healthy aging with use of caring service robots)	European	MARIO addresses the difficult challenges of loneliness, isolation and dementia in older persons through innovative and multi-faceted inventions delivered by service robots. The effects of these conditions are severe and life limiting. Human intervention is costly but the severity can be prevented and/or mitigated by simple changes in self-perception and brain stimulation mediated by robots. From this unique combination, clear advances are made in the use of semantic data analytics, personal interaction, and unique applications tailored to better connect older persons to

Name	Scope	Brief Summary
		their care providers, community, own social circle and also to their personal interests.
CKD - Integrated telemedicine platform for patients affected by Chronic Kidney Diseases	National	CKD aims to create a new technological system, involving cooperation among different territorial care entities. It aims to increase de-hospitalization of patients with CKD starting dialysis, to improve quality of life and to reduce the healthcare costs. CKD integrated-care is a platform with an e-learning environment for the empowerment of general population (Help-Large) and patients affected by CKD and their caregivers and a business intelligence tool on board (ULYSSES) for the early identification of CKD patients.
DiiAMONDS (DIgital Assisted MONitoring for DiabeteS)	Regional	DIAMONDS aims to validate the clinical efficacy of a telemedicine- and web-based system platform for self-monitoring of blood glucose (SMBG) data transmission and analysis of metabolic control, assessed by measuring changes in HbA1c, in insulin-treated diabetic patients. The system platform involves systematic (real-time and anywhere) transmission of SMBG data to a decision supported software (DSS)-assisted server, web-based analysis of data, and feedback on patients and medical staff to implement metabolic control.
SMARTAGING Mindbrain	National	SMARTAGING develops ICT solutions for the prevention and early diagnosis of dementing disorders. The aim is to show in patients with Dementia and Alzheimer that lifestyle has an impact on cognitive decline and neurodegenerative process is triggered by chronic comorbidities. SMARTAGING and MINDBRAIN offer services for clinical research on the telemonitoring and conditioning of healthy lifestyle for active aging and the early diagnosis of several dementing disorders.
TeleHomeCare Project	Local	The main objective of the good practice is to affect favourably the reduction of re-hospitalization rate and improve the quality of care for patients with heart failure, COPD and diabetes at their home. The aim is to validate new telemedicine models applied for diagnostic and therapeutic pathways for the management of chronicity.
Telescopio	Local	Telescopico aims to create a telemonitoring system, teleconsultation and remote assistance for patients with chronic conditions, in particular with chronic heart failure and COPD, at risk of clinical instability. The system ensures a continuous link between specialist (in hospital) and general practitioners, allowing for monitoring of clinical and instrumental parameters of the patients.
Remote monitoring in heart failure outpatient	Regional	The aim of the good practice is to evaluate the possible usefulness of the information provided by implantable cardiac defibrillator (ICD) through RM in a population of heart failure outpatient at high risk of events. This system is based on primary nursing: technician or nurse expert checks the website and makes a first filter on the transmission of patients.

Name	Scope	Brief Summary
RITA (Radiofrequency-induced thermal ablation of liver tumours)	National	Radiofrequency-induced thermoablation/thermotherapy involves introducing a needle electrode into the cancer liver metastasis. Placing the probe is monitored through ultrasound. The procedure involves a radiologist, a nurse, a specialist and an anaesthesiologist. The treatment is generally well tolerated; replacement of surgical procedures with minimally invasive percutaneous techniques. increasing life expectancy, reducing the rate of hospitalization, cost savings; minimally invasive treatment of liver tumours (including metastasis) to improve the quality of life and survival.

4.4 Good Practices in Olomouc region, Czech Republic

Name	Scope	Brief Summary
Integrated health and social care/services in the Pardubice region	Regional	The good practice aims to provide holistic set of support/care/services tailored to the needs of people with reduced self-sufficiency due to illness, disability or frailty and to support their carers so that they can stay at home or in their community as long as possible. It includes close interdisciplinary cooperation within Association of all local/regional municipalities (AZASS) facilities and services (post-acute and long-term care hospital, primary care physicians/specialists, social rehabilitation and occupational therapy as well as home care, respite and residential services for elderly and housing) to assure person centred and continuous support to those in need in the region. New methods, processes and organisation were designed.
Improved management of visits in home care	Local	The practice includes Home Care services for patients within the region of Prague. Home care is focused on nursing care, i.e. treatment of wounds, application of infusion, injections, wound dressing, treatment of pain and others. The nurses are visiting the patients according to the indication of medical doctor and in cooperation with him. Management of visits in Home Care is improved by ICT solution called IMACHECK. The ultimate objective is to improve services in homecare by digital processing of routine operations in homecare.
Telehealth for advanced heart failure patients	Regional	The good practice introduces specific remote monitoring of patients with Congestive heart failure, structural damage of myocardium and left chamber dysfunction through the deployment of telehealth services and enhances relevant medical protocols. The objective is to detect as many patients with the given diagnoses as possible, deploy telehealth services for monitoring and improved treatment of these patients. Appropriate care protocols are enhanced and standardized based on evaluation of results of telemonitoring in practice.

Telemonitoring of patients with AMI & in Anticoagulation regime	Regional	The good practice introduces remote monitoring of elderly patients who are hospitalized for acute infarct of myocardium (AMI) in cases of newly diagnosed diabetes using telehealth services and patients on anticoagulation treatment. The patients are telemonitored for AMI relapse, unstable angina pectoris and need for further interventional or chirurgic revascularization. The purpose of the good practice is to support patients at home, early detect frequent comorbidity (diabetes) and respond to unwanted development of INR of patients in anticoagulation regime.
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4.5 Good Practices in Norbotten County Council, Sweden

Name	Scope	Brief Summary
My Plan	Regional	The objective of the good practice is to empower the patient in both the discharge planning process and the planning process at home by increasing their influence on their own health care process and enhance their access to their plan. A coordinated plan is conducted in collaboration with the patient and the professional where the goals are based on the patient's perceived need of support. The practice includes hospitals, primary health care centres and social service.
Care process schizophrenia & schizophrenia-like state	Local	The objective of the good practice is to create structure and collaboration between welfare, health- and medical care providers. The practice has contributed to better collaboration between health care providers such as: health care "neighbours", inpatient care providers, local authorities and the primary health care provider, where the patient's needs are in focus. Patients with mental illness are provided with early interventions and professional treatment by a structured health care program. A clear and documented care plan is drawn up in collaboration with the patient.
Distance Spanning Healthcare	Regional	The objective of the good practice is to create new ways of working and new methods of providing health care for both planned visits and acute assessments. Patients do not have to travel long distances for planned visits and an on-call doctor can easily be reached for assessments that are more acute. The technology is stable and reliable and everything is conducted through the county council's internal video solution ensuring all patient data kept confidential. The practice contributes to the possibility to conduct more stable health status assessments, since the doctor both can see and listen to the patient's history.
The patient journey through emergency medical care (IVAK)	Local	The objective of the good practice is to reduce the transportations and provide better accessibility for patients to local hospitals. The patients are provided a well-coordinated health care chain where the transitions between the different institutions are covered. Keywords are process thinking and collaboration. Patients who call the ambulance are now secured in their homes and are assessed according to standardized methods. Depending on the results from

Name	Scope	Brief Summary
		the assessment, the patient will receive care directly, be referred to another health-care provider, get support for self-care or brought to the emergency medical care.
An effective palliative care	Local	The objective of the good practice is to improve the palliative care process in the primary care and when it is provided at home, according to the patients' desires. New routines and documents need to be updated or established for primary health care, community and hospital care. Educational efforts need to be done particularly for health care providers working in the area of home care.
Shoulder rehabilitation via distance technology	Regional	The aim of the good practice is to improve the rehabilitation process in home following a shoulder surgery. The technological developments have contributed to shorter stay in hospital and more rehabilitation can take place outside the hospital and in the patient's home. Distance-spanning technology allows that rehabilitation can take place at home, with the same or better quality of care. The practice benefits to patients in the form of access to frequent support and feedback, reinforced communication with the physiotherapist and being able to stay at home and receive rehabilitation provided by experts.

5 Viability assessment of Good Practices in integrated care

5.1 Viability assessment of Good Practices

As described in Chapter 3, the six-criterion assessment framework developed in the EIPonAHA was applied to assess the viability of SCIROCCO good practices for scaling up.

The outcomes of the assessment process highlight that SCIROCCO Good Practices scored relatively very high in terms of viability for adoption and replication in Europe. Seven Good Practices scored over 20 or more (out of total score of 24) across the 6 six criteria of time, investment, evidence, maturity, time of impact and transferability of the Good Practices. The majority of SCIROCCO Good Practices scored between 15 and 19 (Figure 2).

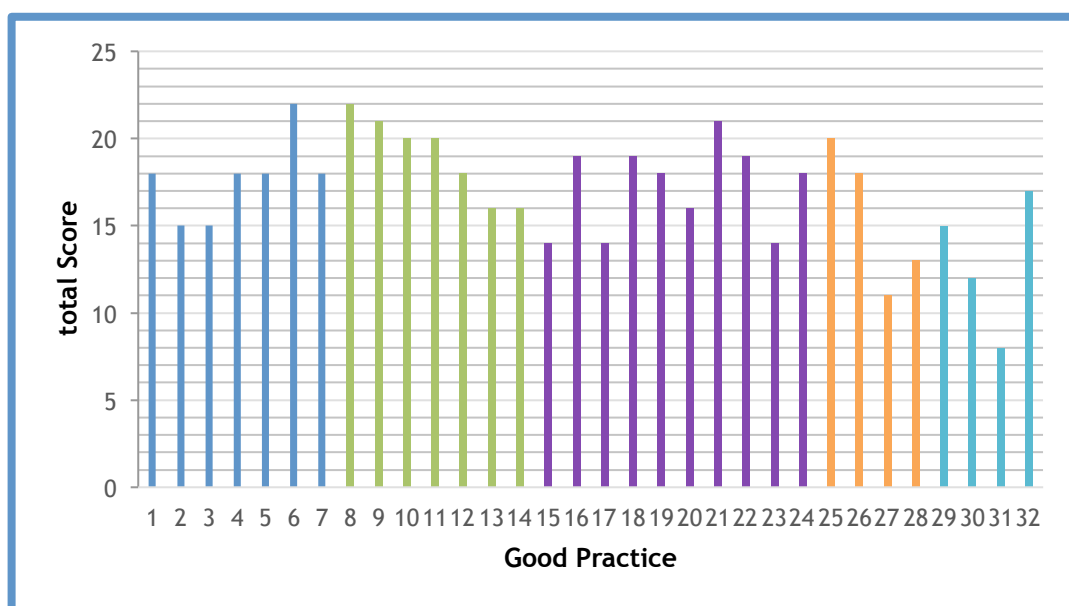


Figure 2: The total scores of SCIROCCO Good Practices

Interestingly, not all viability criteria scored equally. The criteria with higher score in most Good Practices are “time needed for deployment” and “estimated time of impact”. The lowest ones are “investment” and “level of transferability”. The rank variability of the criteria (standard deviation) is between 0.7 and 1.4 (Figure 3).

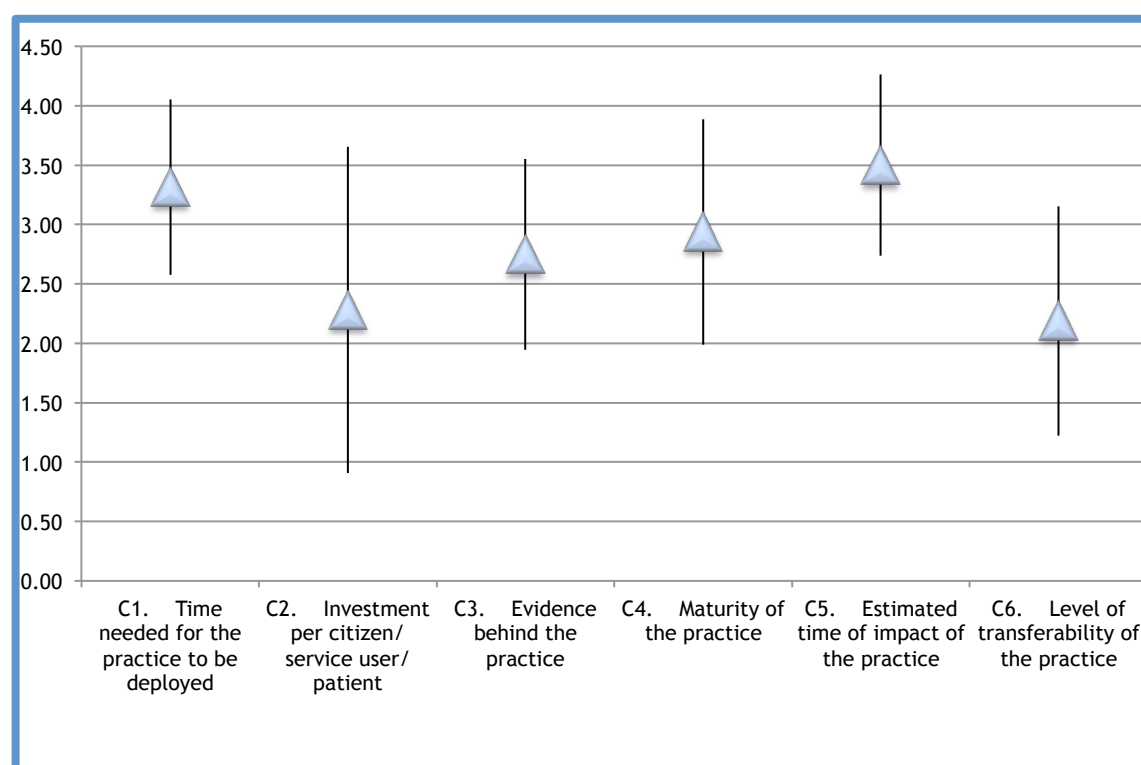


Figure 3: Assessment criteria average score and variability (+/- one standard deviation)

5.2 Prioritisation of Good Practices with a potential for scaling-up

The outcomes of the viability assessment per region and Good Practice is provided in Table 1 below. The detailed outcomes of the viability assessment per Good Practice is included in Appendix V. As a result of the assessment process, three Good Practices with highest scores from each region were prioritised (highlighted in green) for the application of the B3-MM to assess the maturity requirements for adoption and replication of these Good Practices in Europe. In cases where the Good Practices scored the same, the representatives of regions decided which Good Practices should be prioritised.

Table 1: Outcomes of viability assessment of SCIROCCO Good Practices

Region	Good Practice	Score
Scotland	Building Healthier and Happier Communities	18
Scotland	Home & Mobile Health Monitoring	15
Scotland	Collaborative Commissioning of Care at Home Services	15
Scotland	Technology Enabled Care Programme	18
Scotland	Reshaping Care for Older People	18
Scotland	cCBT in Scotland	22
Scotland	Living it Up	18
Basque Country	Integrated approach in pain management	22
Basque Country	Malnutrition in the elderly and hospital stay	21
Basque Country	Advance Care Planning in an Integrated Care Organisation	20
Basque Country	Telemonitoring COPD patients with frequent hospital admissions	20
Basque Country	Design and implementation of interventions aimed at improving the safety of prescription	18
Basque Country	Care plan for the elderly	16
Basque Country	Integrated care process for children with special needs	16
Puglia, Italy	MARIO: Managing AHA with use of caring service robots	14
Puglia, Italy	DIAMONDS (Digital Assisted MONitoring for Diabetes)	19
Puglia, Italy	Smartaging mindbrain	14
Puglia, Italy	Remote monitoring in heart failure outpatient	19
Puglia, Italy	RITA: Radiofrequency-induced thermal ablation of liver tumours	18
Puglia, Italy	Telemonitoring, Teleassistance and Teleconsultation Project for patients with Heart Failure and Chronic Pulmonary disease	16
Puglia, Italy	“Telehomecare”. Telemonitoring, teleconsultation and telecare project aimed to patients with Heart Failure, COPD & diabetes	21
Puglia, Italy	CKD integrated-care	19
Olomouc, CR	Integrated health and social care/services in the Pardubice region	14
Olomouc, CR	Improved management of visits in Home Care	18
Olomouc, CR	Telehealth service for patients with advanced heart failure	20
Olomouc, CR	Tele-monitoring of patients with AMI and in anticoagulation regime	18
Norrbottn, Sweden	My plan	11
Norrbottn, Sweden	Care Process schizophrenia and schizophrenia-like state	13
Norrbottn, Sweden	Distance spanning healthcare	15
Norrbottn, Sweden	The patient journey through emergency medical care	12
Norrbottn, Sweden	An effective palliative care process	8
Norrbottn, Sweden	Shoulder rehabilitation via distance technology	17

6 Maturity requirements of Good Practices viable for scaling up

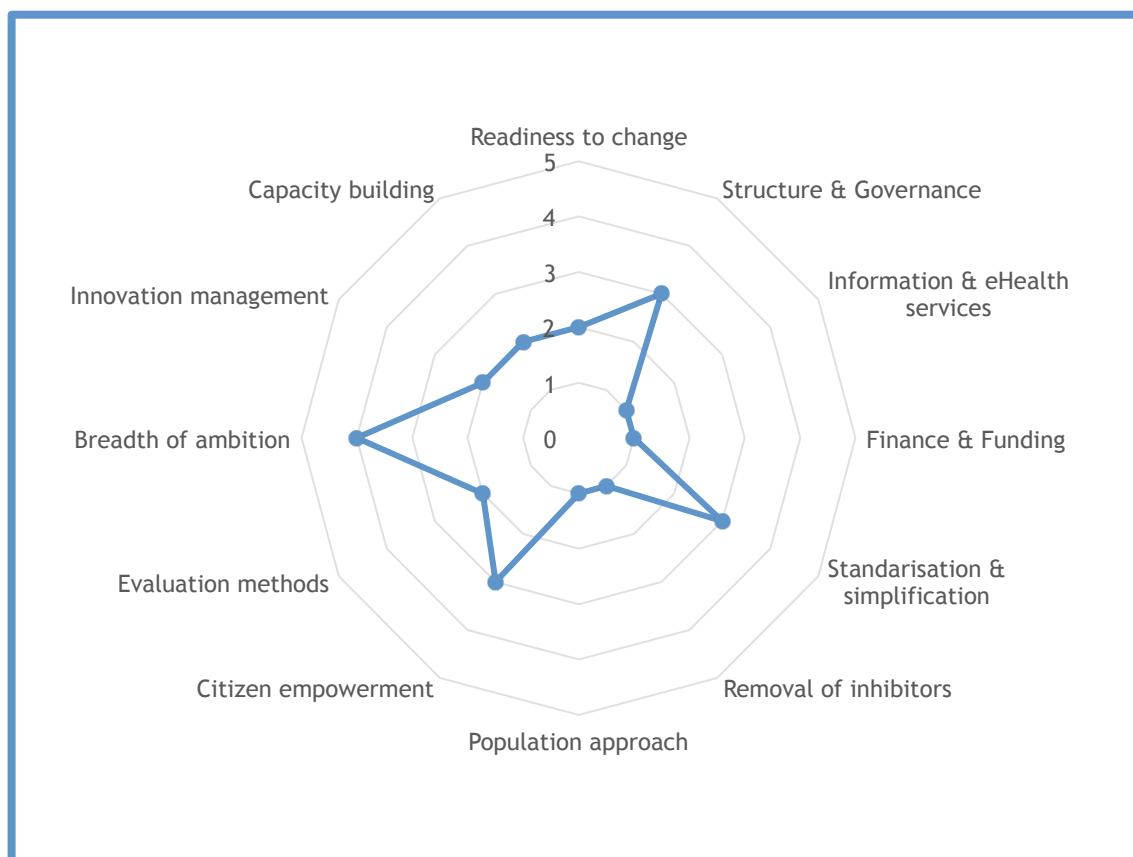
The B3-MM was applied to 15 selected Good Practices to assess the maturity requirements of these Good Practices. The objective was to test the B3-MM as a multi-dimensional assessment framework to identify the contextual requirements of Good Practices viable for scaling up. Outcomes of the self-assessment processes were analysed, including the analysis of the context where the Good Practice is implemented and its scoring against the B3-MM.

6.1 Maturity requirements of Good Practices in Scotland, UK

Three Good Practices were selected for the application of the B3-MM in Scotland:

- Building Healthier and Happier Communities
- Technology Enabled Care Programme
- cCBT

Maturity requirements for “Building Healthier and Happier Communities”



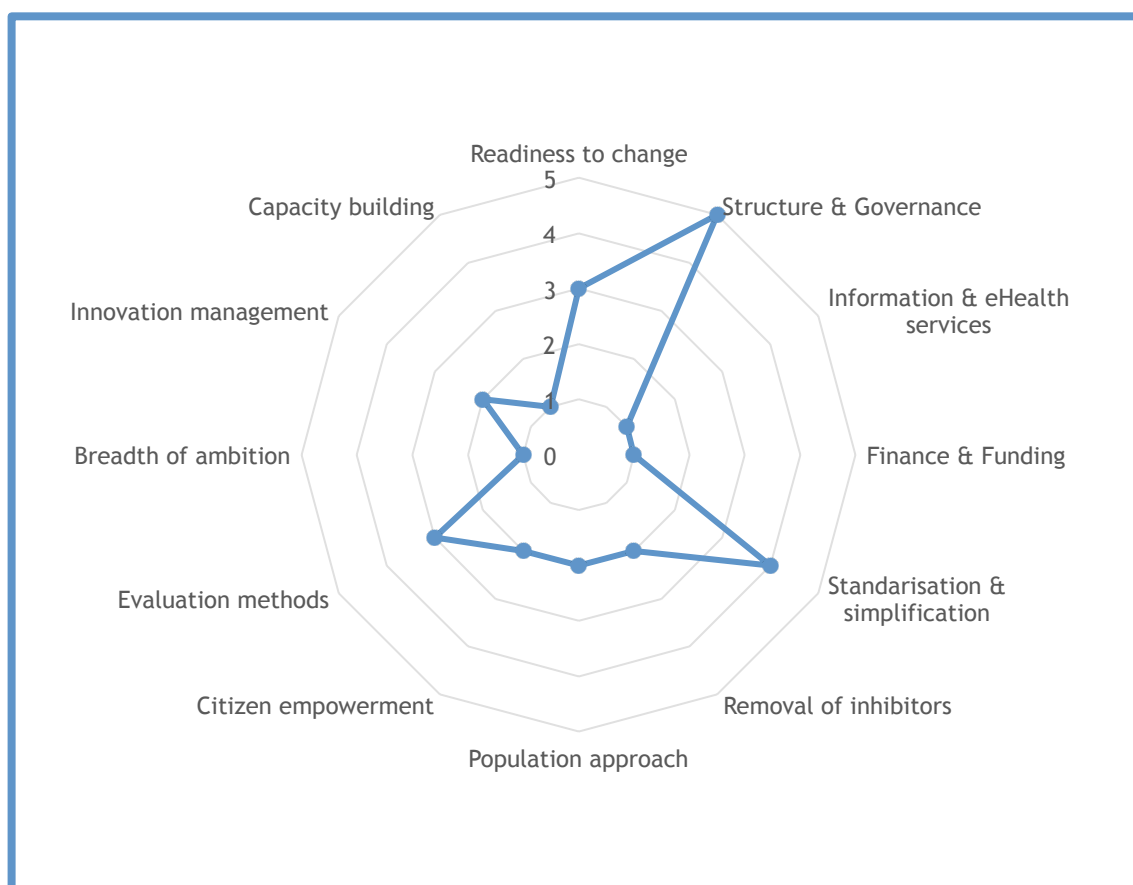
The “Building Healthier and Happier Communities” practice is being implemented in East Dunbartonshire, local authority area in NHS Greater Glasgow and Clyde. The objective of this good practice is to improve capacity of third sector in managing the demand for statutory services and improving the quality of life for people in their own communities.

The outcomes of the self-assessment process shows an average maturity score of 2.08, with a maximum score of 4 for the dimension Breadth of ambition followed by the dimensions of Structure & Governance, Standardisation & Simplification and Citizen empowerment. In contrast, a minimum score of 1 was assessed for the dimensions of Information & eHealth services, Finance & Funding, Removal of inhibitors and Population approach.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Structure & Governance, Standardization & Simplification, Citizen Empowerment and Breadth of ambition. Specifically, these are the formation of new ways for collaboration, existence of

ICT infrastructure to support integrated care and incentives to support citizens to co-create health and participate in the decision-making processes.

Maturity Requirements for “Technology Enabled Programme”

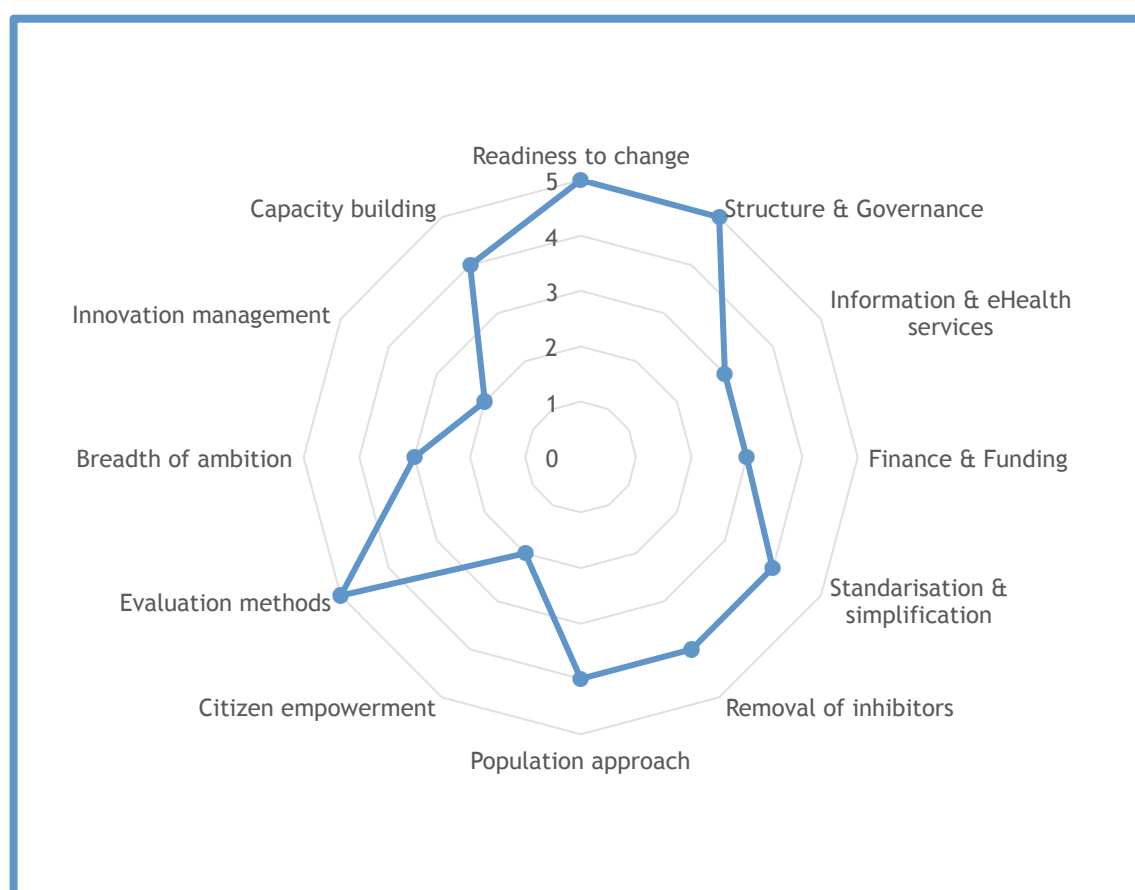


The “Technology Enabled Care Programme” practice is being implemented in Scotland at a national level. The objective of the Programme is to mainstream adoption of technological solutions within service redesign.

The outcomes of the self-assessment process shows an average maturity score of 2.25, with a maximum score of 5 for the dimension Structure & Governance followed by the most mature scoring for Standardisation & Simplification, Evaluation methods and Readiness to change. In contrast, a minimum score of 1 was assessed for the dimensions of Information & eHealth services, Finance & Funding, Breadth of ambition and Innovation management.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Structure & Governance, Standardisation & Simplification, Evaluation methods and Readiness to change. Specifically, these are the establishment of fully integrated programme, with funding and a clear mandate, a unified set of agreed standards to be used for system implementations specified in procurement documents, systematic approach to evaluation and existence of vision for integrated care embedded in policy and supported by emerging leaders and champions.

Maturity Requirements for “cCBT in Scotland”



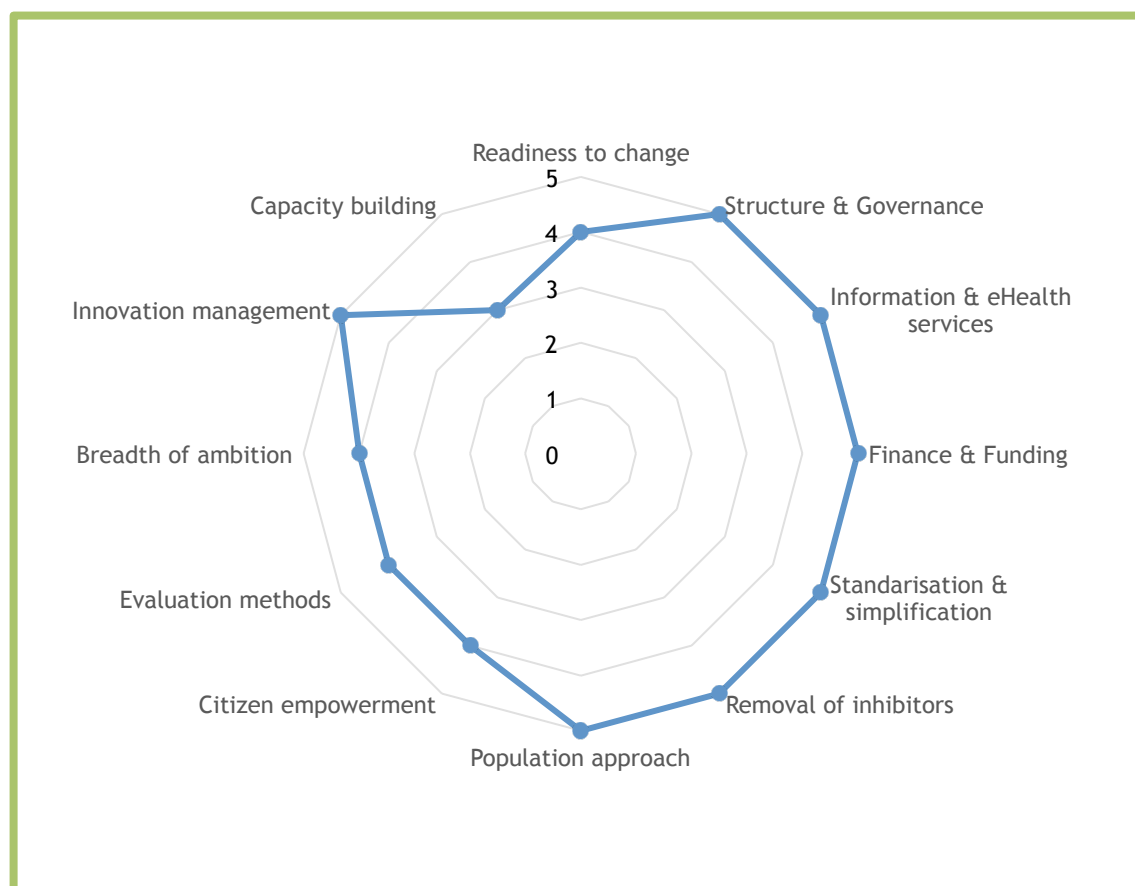
The “cCBT in Scotland” practice is being implemented in Scotland at a national level. The objective of this Good Practice is to offer evidence based treatment on a large scale to all those patients suitable for a computerised treatment by a competent clinical member or staff.

The outcomes of the self-assessment process shows an average maturity score of 3.67, with a maximum score of 5 for the dimension Structure & Governance, Readiness to change and Evaluation methods. Other mature dimensions include Standardisation & Simplification, Removal of inhibitors, Population approach and Capacity building. In contrast, a minimum score of 2 was assessed for the dimensions of Innovation management and Citizen empowerment.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Structure & Governance, Readiness to change and Evaluation methods. Specifically, these are the establishment of fully integrated programme, with funding and a clear mandate supported by visible stakeholder engagement and public support and a systematic approach to evaluation, responsiveness to the evaluation outcomes and evaluation of the desired impact on service redesign.

6.2 Basque Country, Spain

Maturity Requirements for “Integrated approach in pain management”



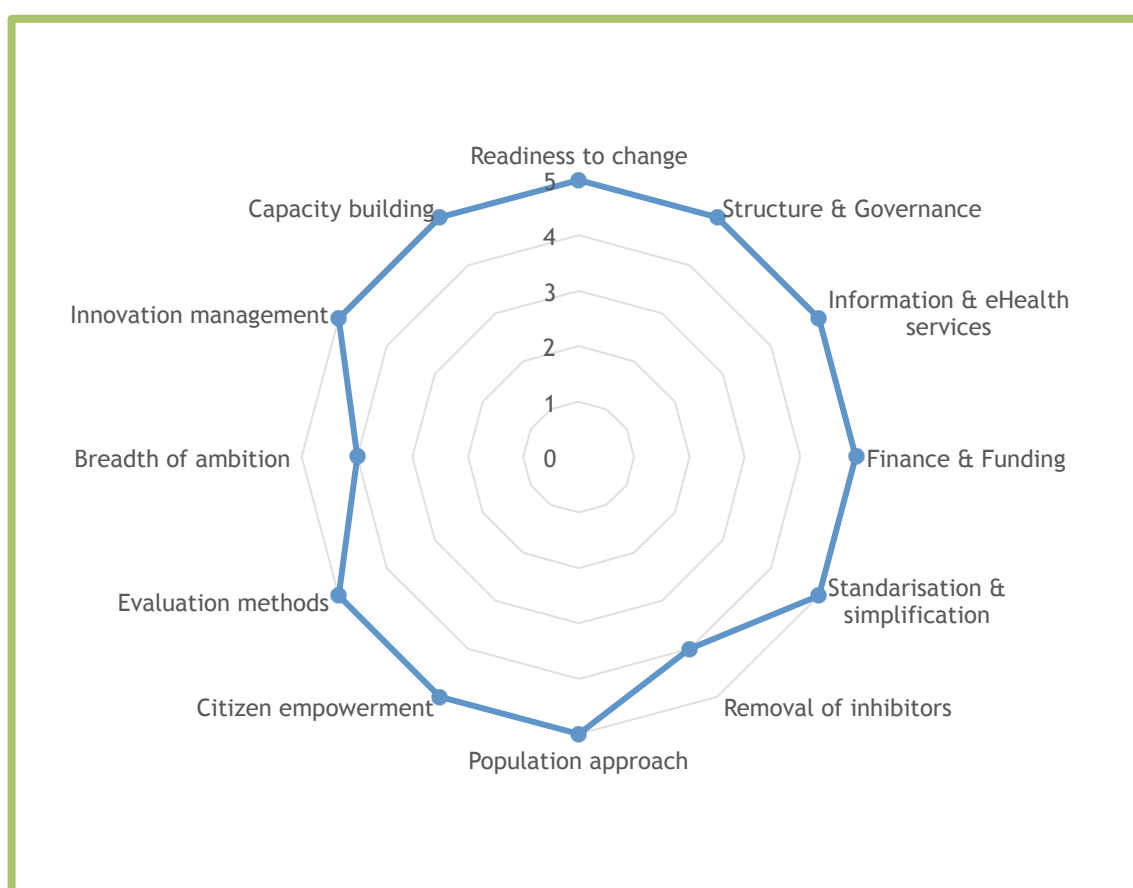
The “Integrated approach in pain management” practice is being implemented in the Integrated Care Organisation (ICO) Araba that is one of the 13 ICOs in Osakidetza. The objective of this Good Practice is to improve the care for patients with a pain by introducing a Functional Coordinated Plan for a pain treatment.

The outcomes of the self-assessment process shows an average maturity score of 4.5, with a maximum score of 5 for the dimensions Structure & Governance, Information & eHealth services, Finance & Funding, Standardisation & Simplification, Removal of inhibitors, Population approach and Innovation management. In contrast, a minimum score of 3 was assessed for the Capacity building.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Structure & Governance, Information & eHealth services, Finance & Funding, Standardisation &

Simplification, Removal of inhibitors, Population approach and Innovation management. Specifically, these are the establishment of fully integrated programme, with a secure multi-year funding accessible to all stakeholders and supported by existence of universal at scale national eHealth services used by all stakeholders involved. The transferability of this Good Practice further requires whole population stratification, removal of all inhibitors (legal, organisational, financial and other), extensive open innovation combined with a clear strategy for procurement of new systems.

Maturity Requirements for “Malnutrition in the elderly and hospital stay”

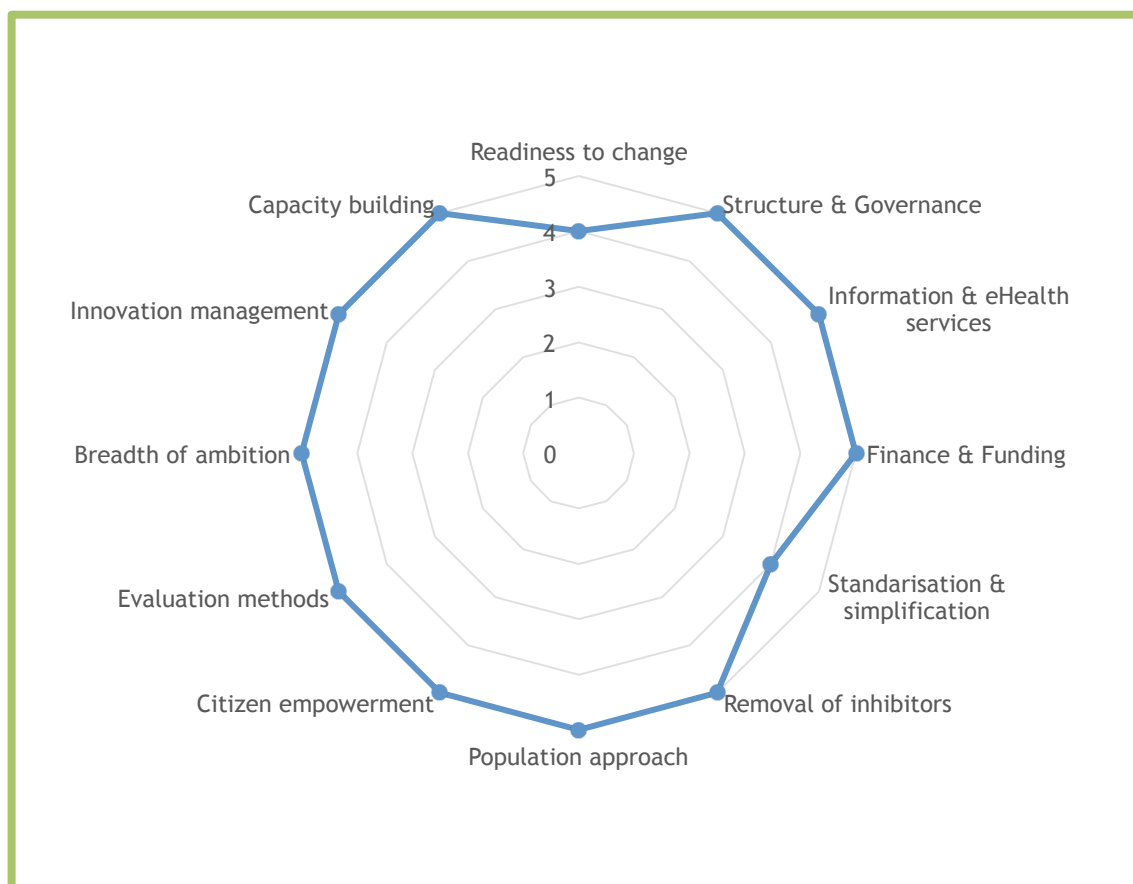


The “Malnutrition in the elderly and hospital stay” practice is being implemented in the Santa Marina Hospital, one of the two sub-acute Hospitals of Osakidetza. The objective of this Good Practice is to introduce a systematic nutritional assessment of elderly patients at hospital admission.

The outcomes of the self-assessment process shows an average maturity score of 4.83, with a maximum score of 5 for the dimensions Structure & Governance, Information & eHealth services, Finance & Funding, Standardisation & Simplification, Population approach, Citizen empowerment, Evaluation methods, Innovation management, Capacity building and Readiness to change. In contrast, a minimum score of 4 was assessed for the Removal of inhibitors and Breadth of ambition.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Structure & Governance, Information & eHealth services, Finance & Funding, Standardisation & Simplification, Population approach, Citizen empowerment, Evaluation methods, Innovation management, Capacity building and Readiness to change. Specifically, these are the establishment of fully integrated programme, with a secure multi-year funding accessible to all stakeholders and supported by existence of universal at scale national eHealth services used by all stakeholders involved. The transferability of this Good Practice further requires whole population stratification, involvement of citizens in decision-making processes and reflection of their needs in policy-making, extensive open innovation combined with a clear strategy for procurement of new systems and systematic approach to evaluation.

Maturity requirements for “Advance Care Planning in an Integrated Care Organisation”



The “Advance Care Planning in an Integrated Care Organisation” practice is being implemented in the ICO Araba. The objective of this good practice is to promote advance care planning for chronic patients.

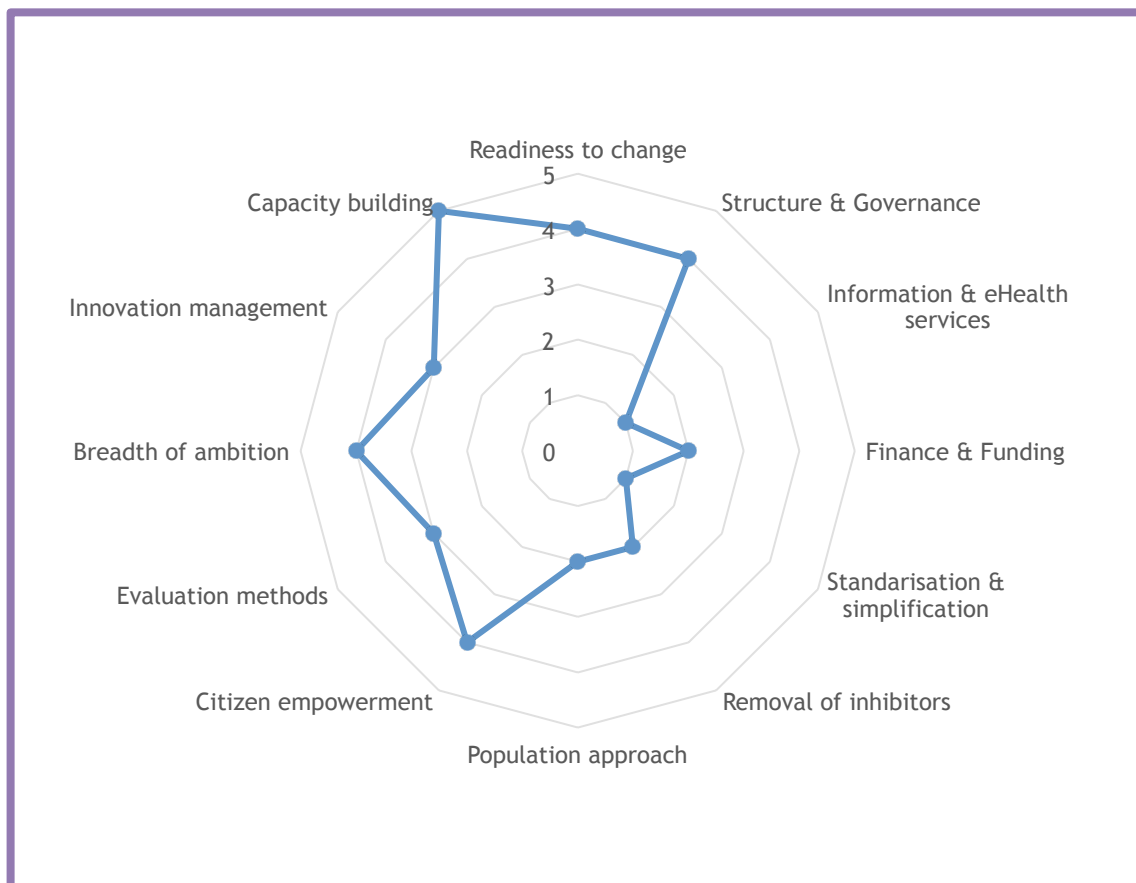
The outcomes of the self-assessment process shows an average maturity score of 4.83, with a maximum score of 5 for the dimensions Structure & Governance, Information & eHealth services, Finance & Funding, Removal of inhibitors, Population approach, Citizen empowerment, Evaluation methods, Breadth of ambition, Innovation management and Capacity building. In contrast, a minimum score of 4 was assessed for the Standardisation & Simplification and Readiness to change.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Structure & Governance, Information & eHealth services, Finance & Funding, Removal of inhibitors, Population approach, Citizen empowerment, Evaluation methods, Breadth of ambition,

Innovation management and Capacity building. Specifically, these are the establishment of fully integrated programme, with a secure multi-year funding accessible to all stakeholders and supported by existence of universal at scale national eHealth services used by all stakeholders involved. The transferability of this Good Practice further requires whole population stratification, removal of all inhibitors (legal, organisational, financial and other), extensive open innovation combined with a clear strategy for procurement of new systems. Involvement of citizens in decision-making process and establishment of a “learning healthcare system” enabling sharing of knowledge and retainment of skills are also required for the transferability of this Practice.

6.3 Puglia, Italy

Maturity requirements for “Telehomecare project”

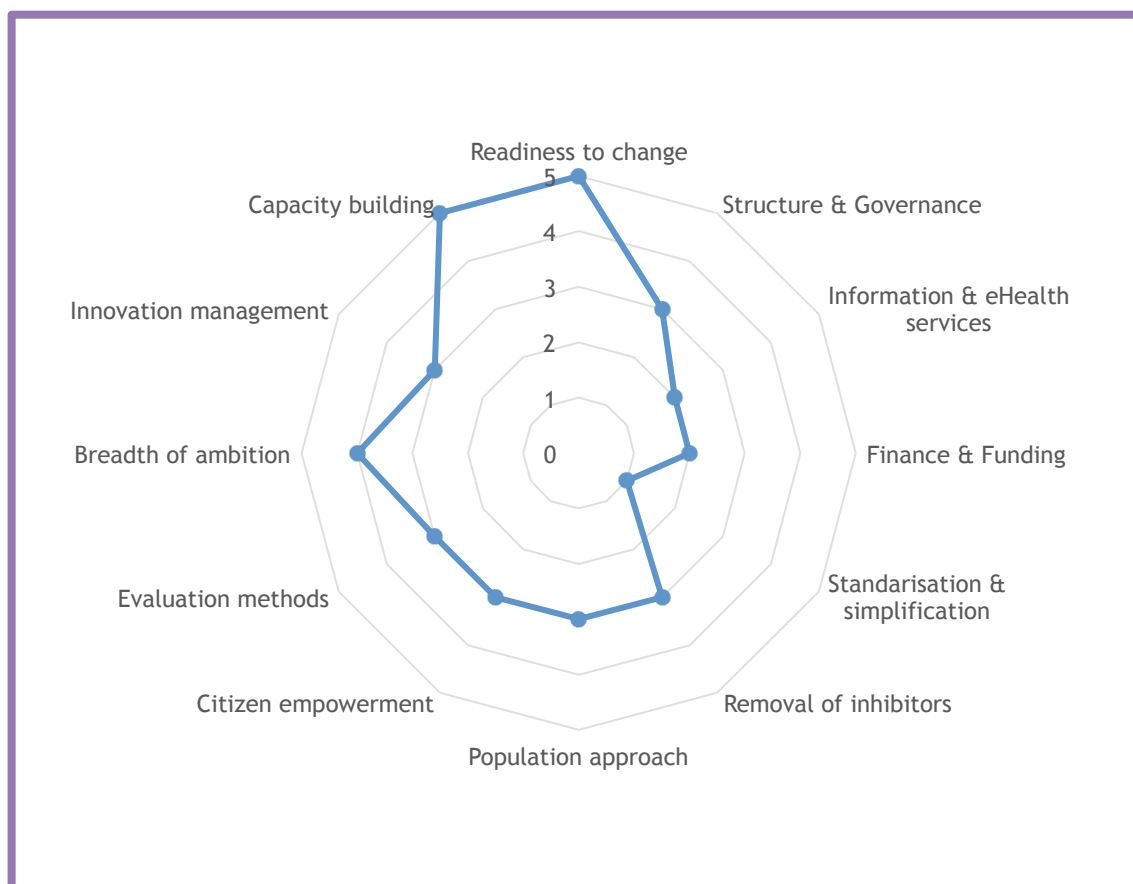


The “TeleHomeCare” Good Practice is being implemented in Puglia, Campania, Calabria, Sicilia, Piemonte, Emilia-Romagna and Lombardia regions in Italy. The objective of this Practice is to reduce re-hospitalisation rate and to improve the quality of care at patients’ home by introducing the ICT solutions.

The outcomes of the self-assessment process shows an average maturity score of 2.92, with a maximum score of 5 for the dimension Capacity building followed by the dimensions of Structure & Governance, Citizen empowerment, Breadth of ambition and Readiness to change. In contrast, a minimum score of 1 was assessed for Information & eHealth service and Standardisation & Simplification.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Capacity building, Structure & Governance, Citizen empowerment, Breadth of ambition and Readiness to change. Specifically, these are the establishment of a “learning healthcare system” enabling sharing of knowledge and retainment of skills, roadmap for change management, access of citizens to health information and health data and clear leadership and vision for the integration of health and social care services.

Maturity requirements for “Chronic Kidney Diseases (CKD) integrated-care”



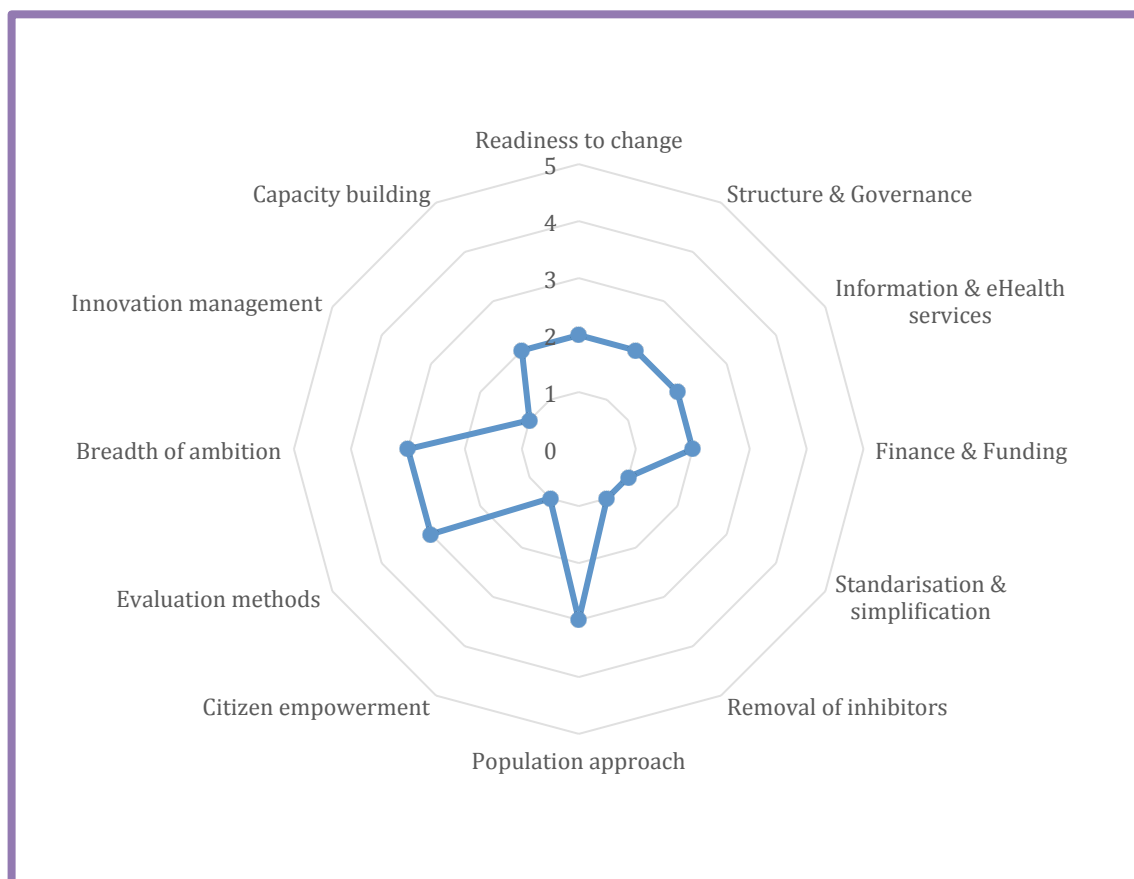
The “CKD integrated-care” Practice is being implemented in Ceglie Messapica (Brindisi) in Italy. The objective of this Good Practice is to create a new technological system - platform with an e-learning environment - to increase de-hospitalisation of patients with CKD, improve quality of life and to reduce healthcare sectors.

The outcomes of the self-assessment process shows an average maturity score of 3.08, with a maximum score of 5 for the dimension Capacity building and Readiness to change. In contrast, a minimum score of 1 was assessed for the dimension of Standardisation & Simplification.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Capacity building and Readiness to change. Specifically, these are the establishment of a “learning healthcare system” enabling sharing of knowledge and retainment of skills supported by

political consensus, public support and visible stakeholder engagement in implementing integrated care.

Maturity requirements for “Remote monitoring in heart failure (RMHF) outpatient”



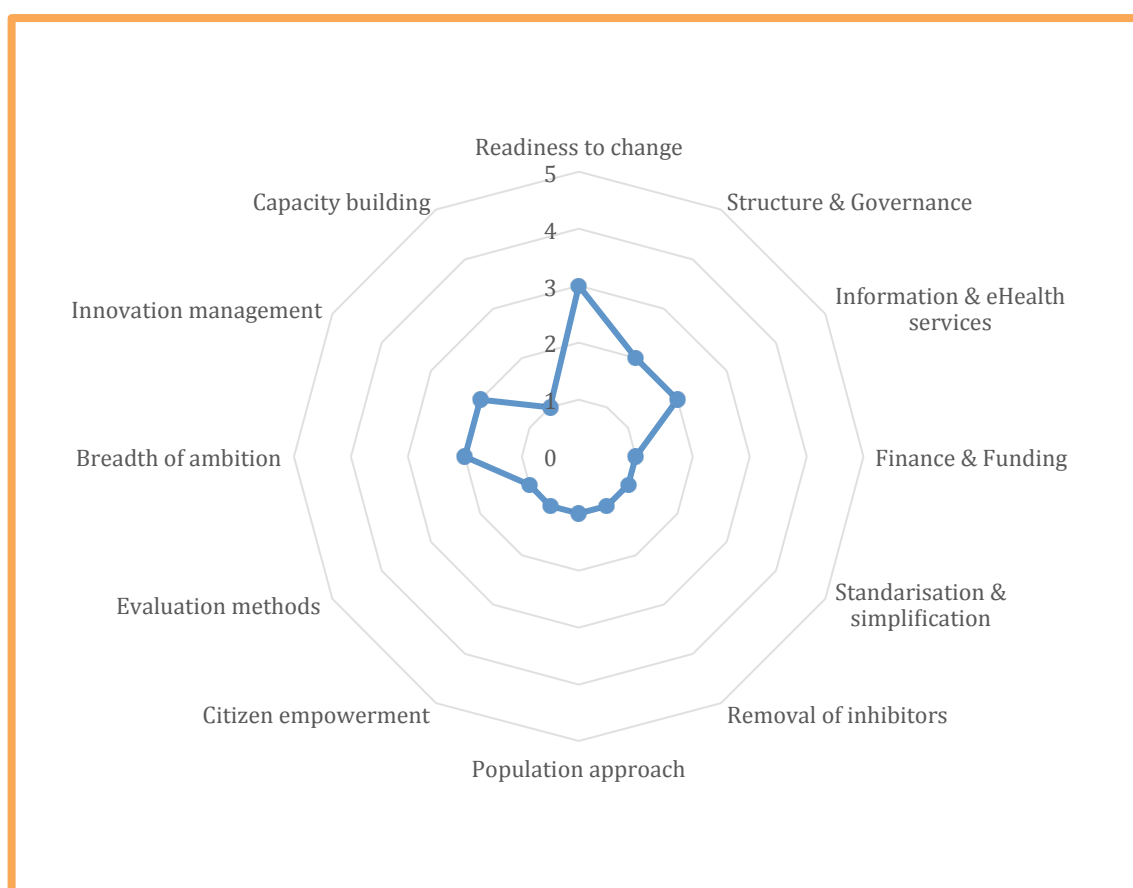
The “Remote monitoring in heart failure outpatient” practice is being implemented in Puglia region in Italy. The objective of this Good Practice is to detect as many patients with the heart failure as possible and deploy telehealth services for monitoring and improved treatment of these patients.

The outcomes of the self-assessment process shows an average maturity score of 1.92, with a maximum score of 3 for the dimensions Population approach, Evaluation methods and Breadth of ambition. In contrast, a minimum score of 1 was assessed for the dimensions of Standardisation & Simplification, Removal of inhibitors, Citizen empowerment and Innovation management.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Population approach, Evaluation methods and Breadth of ambition. Specifically, these are the systematic use of risk stratification tools, evaluation of some integrated care services and integration of services within the same level of care.

6.4 Olomouc, Czech Republic

Maturity requirements for “Improved management of visits in home care”



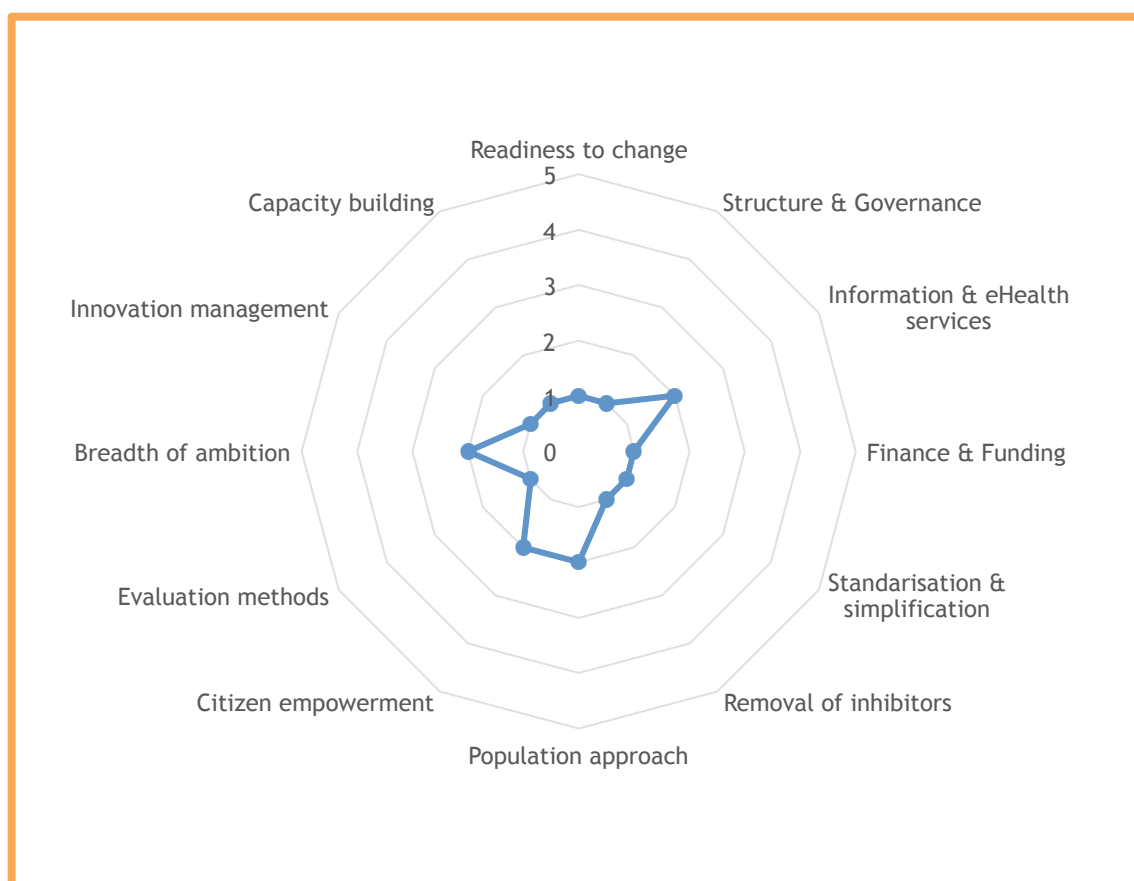
The “Improved management of visits in Home Care” Practice is being implemented in Prague, the capital of Czech republic. The objective of this Good Practice is to improve home care services by digital processing of routine operations in homecare.

The outcomes of the self-assessment process show an average maturity score of 1.5, with a maximum score of 3 for the dimension of Readiness to change. In contrast, a minimum

score of 1 was assessed for the dimensions of Finance & Funding, Standardisation & Simplification, Removal of inhibitors, Population approach, Citizen empowerment, Evaluation methods and Capacity building.

The outcomes of the self-assessment process thus highlight that the most critical requirement for the transferability and scaling up of this Good Practice is Readiness to change. Specifically, this means existence of clear vision and plan for integrated care embedded in policy and supported by emerging leaders and champions.

Maturity requirements for “Telehealth service for patients with advanced heart failure”



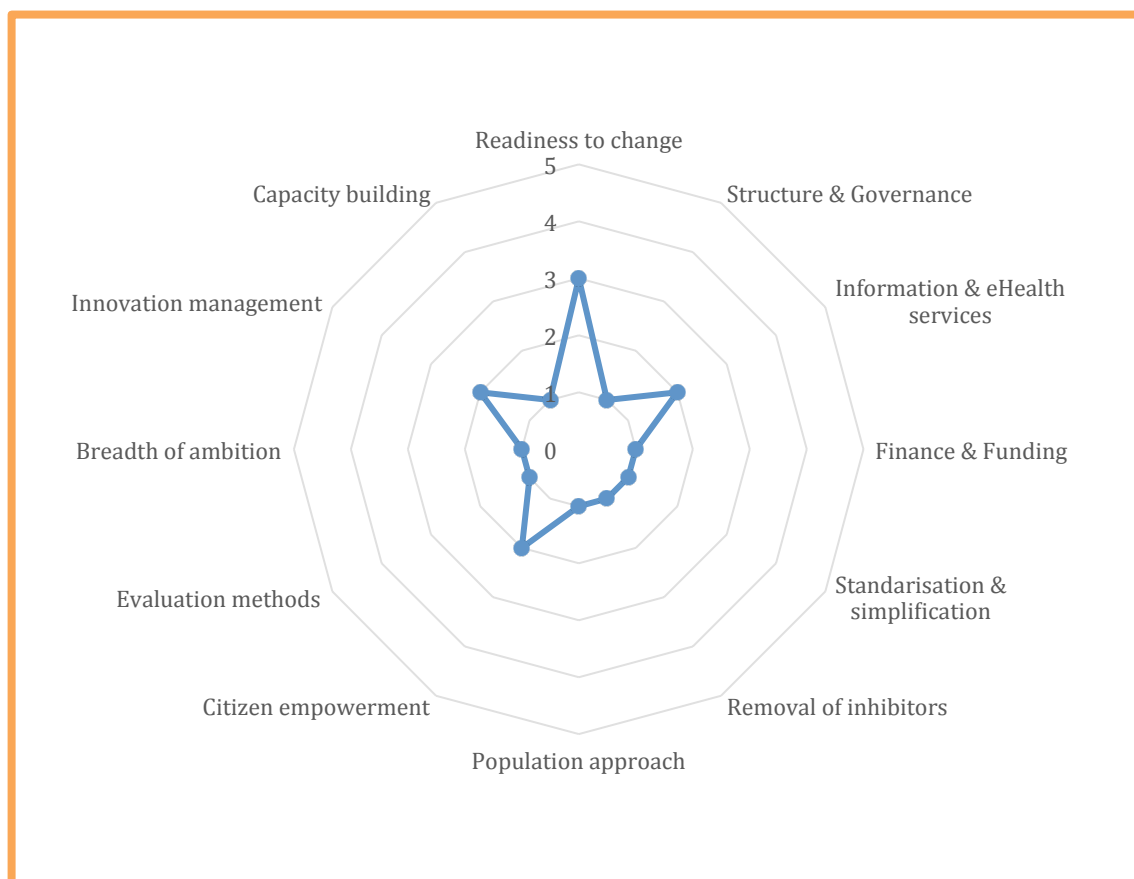
The “Telehealth service for patients with advanced heart failure” practice is being implemented in Olomouc in Czech Republic. The objective of this Good Practice is to introduce specific remote monitoring of patients with Congestive heart failure, structural

damage of myocardium and left chamber dysfunction through the deployment of telehealth services and enhances relevant medical protocols.

The outcomes of the self-assessment process shows an average maturity score of 1.33, with a maximum score of 2 for the dimensions of Information & eHealth services, Population approach, Citizen empowerment and Breadth of ambition. In contrast, a minimum score of 1 was assessed for the dimensions of Structure & Governance, Finance & Funding, Standardisation & Simplification, Removal of inhibitors, Evaluation methods, Innovation management, Capacity building and Readiness to change.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Information & eHealth services, Population approach, Citizen empowerment and Breadth of ambition. Specifically, this means piloting of information and eHealth services to support integrated care within the same level of care, application of risk population approach to integrated care services and recognition of the need for effective policies to support citizen empowerment.

Maturity requirements for “Telemonitoring of patients with AMI and in anticoagulation regime”



The “Tele-monitoring of patients with AMI and in anticoagulation regime” Practice is being implemented in Olomouc region in Czech Republic. The objective of this Good Practice is to introduce remote monitoring of elderly patients who are hospitalised for acute infarct of myocardium (AMI) in cases of newly diagnosed diabetes using telehealth services.

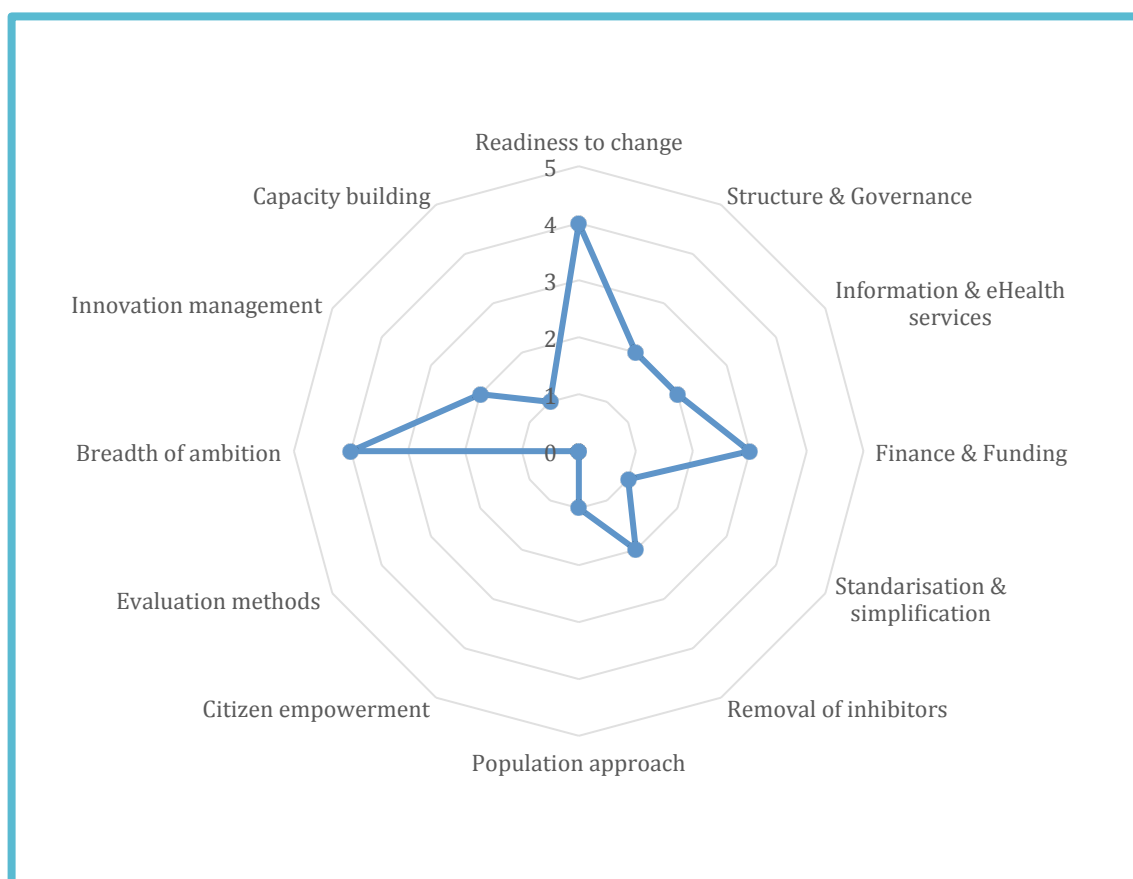
The outcomes of the self-assessment process show an average maturity score of 1.42, with a maximum score of 3 for the dimension of Readiness for change. In contrast, a minimum score of 1 was assessed for the dimensions of Finance & Funding, Standardisation & Simplification, Removal of inhibitors, Population approach, Evaluation methods, Breadth of ambition and Capacity building.

The outcomes of the self-assessment process thus highlight that the most critical requirement for the transferability and scaling up of this Good Practice is Readiness for

change. Specifically, this means this means existence of clear vision and plan for integrated care embedded in policy and supported by emerging leaders and champions.

6.5 Norrbotten, Sweden

Maturity requirements for “Care Process schizophrenia and schizophrenia-like state”

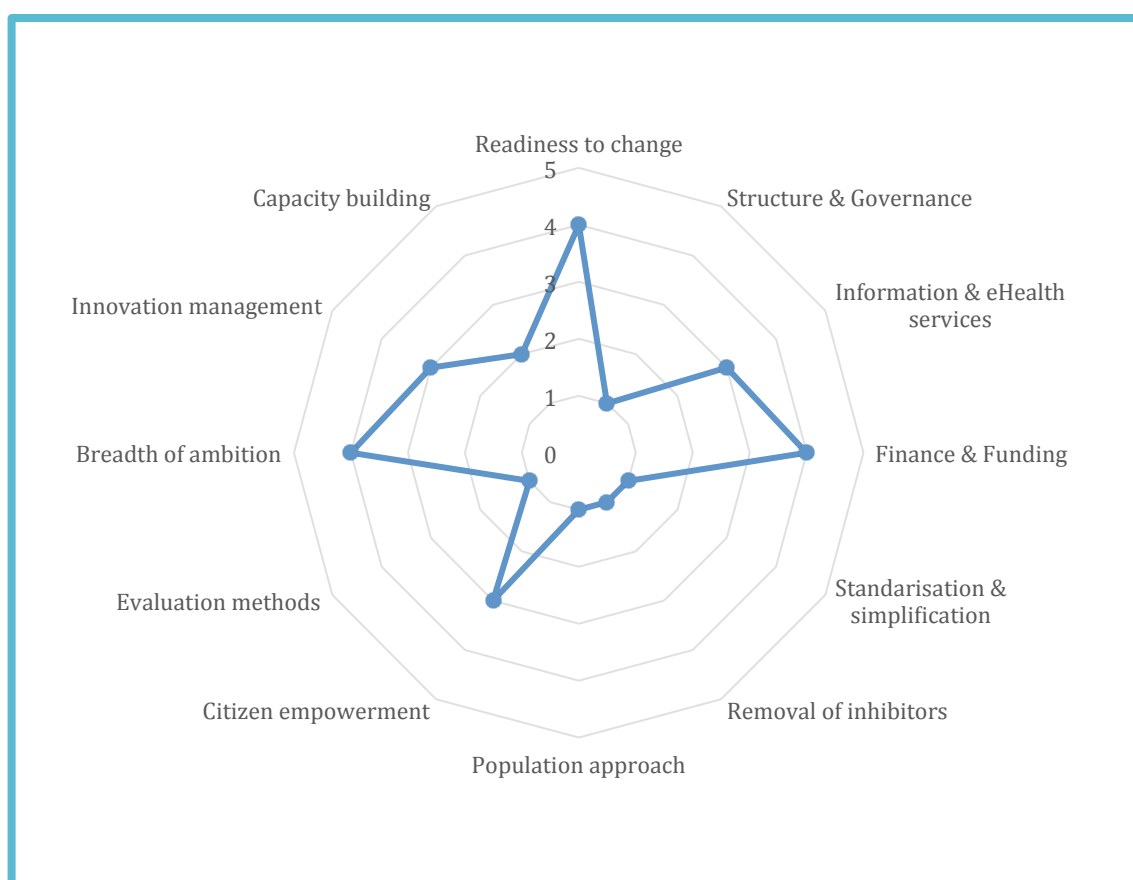


The “Care Process schizophrenia and schizophrenia-like state” Practice is being implemented in a local level in Gällivare. The objective of this Good Practice is to create structure and collaboration between welfare, health and medical care providers.

The outcomes of the self-assessment process shows an average maturity score of 1.83, with a maximum score of 4 for the dimensions Breadth of ambition and Readiness to change. In contrast, a minimum score of 0 was assessed for the dimension Evaluation methods.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Breadth of ambition and Readiness to change. Specifically, these are the existence of leadership, vision and plan for integration of health and social care services clearly communicated with the public.

Maturity requirements for “Distance spanning healthcare”



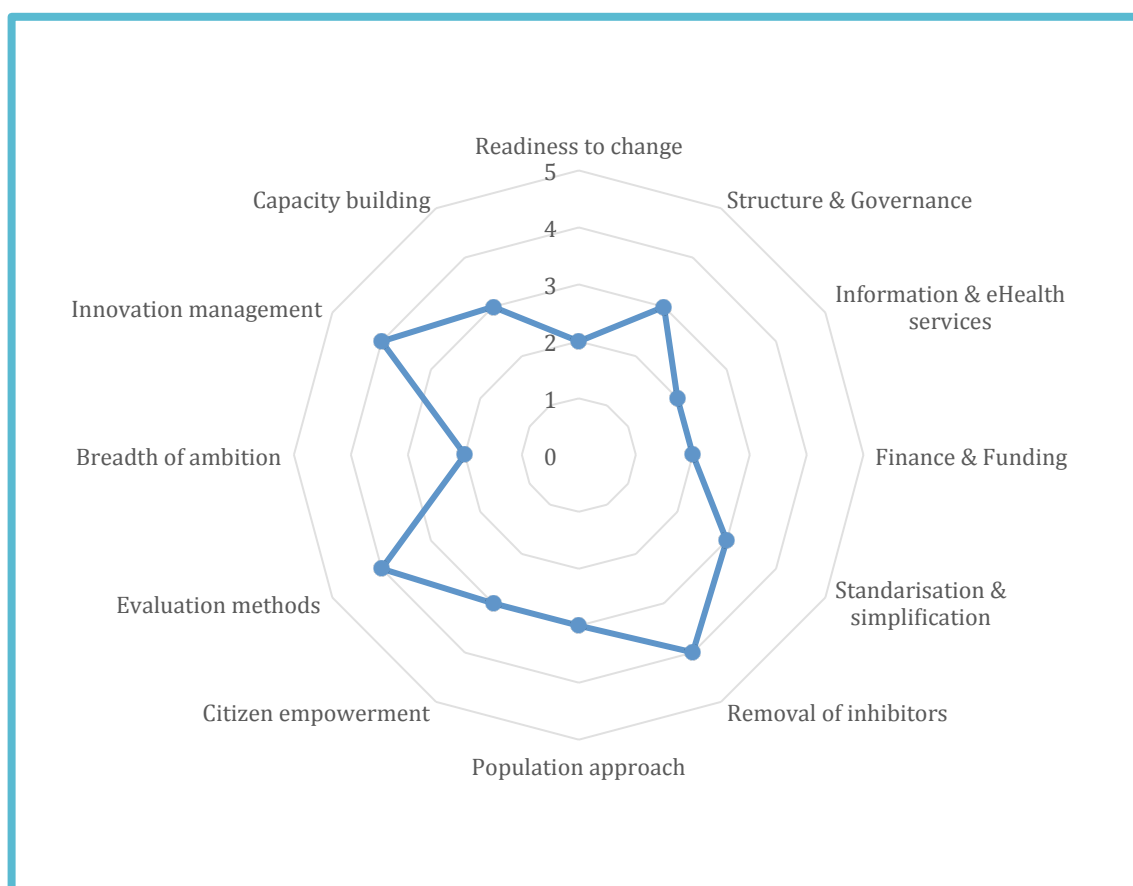
The “Distance spanning healthcare” Practice is being implemented at a regional level in Norrbotten in Sweden. The objective of this Good Practice is to create new ways of working and new methods of providing health care for both planned visits and acute assessments.

The outcomes of the self-assessment process shows an average maturity score of 2.33, with a maximum score of 4 for the dimensions of Finance & Funding, Breadth of ambition and Readiness to change. In contrast, a minimum score of 1 was assessed for the

dimensions of Structure & Governance, Standardisation & Simplification, Removal of inhibitors, Population approach and Evaluation methods.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Finance & Funding, Breadth of ambition and Readiness to change. Specifically, these are the existence of leadership, vision and plan for integration of health and social care services, supported by dedicated budget accessible by all stakeholders involved.

Maturity requirements for “Shoulder rehabilitation via distance technology”



The “Shoulder rehabilitation via distance technology” Practice is being implemented at a regional level in Norrbotten in Sweden. The objective of this Good Practice is to improve the rehabilitation process in home following a shoulder surgery.

The outcomes of the self-assessment process show an average maturity score of 2.92, with a maximum score of 4 for the dimensions of Removal of inhibitors, Evaluation methods and

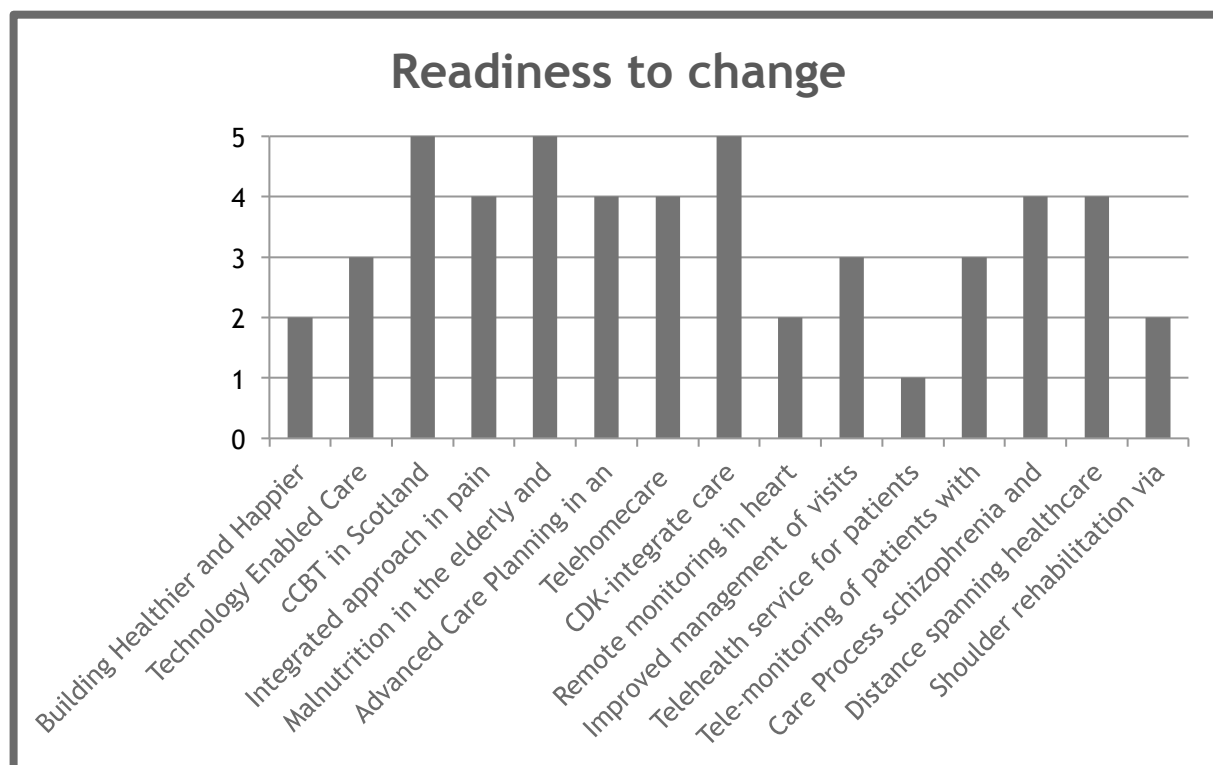
Innovation management. In contrast, a minimum score of 2 was assessed for the dimensions of Information & eHealth services, Finance & Funding, Breadth of ambition and Readiness to change.

The outcomes of the self-assessment process thus highlight that the most critical requirements for the transferability and scaling up of this Good Practice are Removal of inhibitors, Evaluation methods and Innovation management. Specifically, these are the existence of solutions to remove inhibitors (financial, legal, organisation and other), systematic approach to evaluation for some integrated care initiatives and formalised innovation management processes in place.

6.6 Dimensions of Maturity Model for integrated care

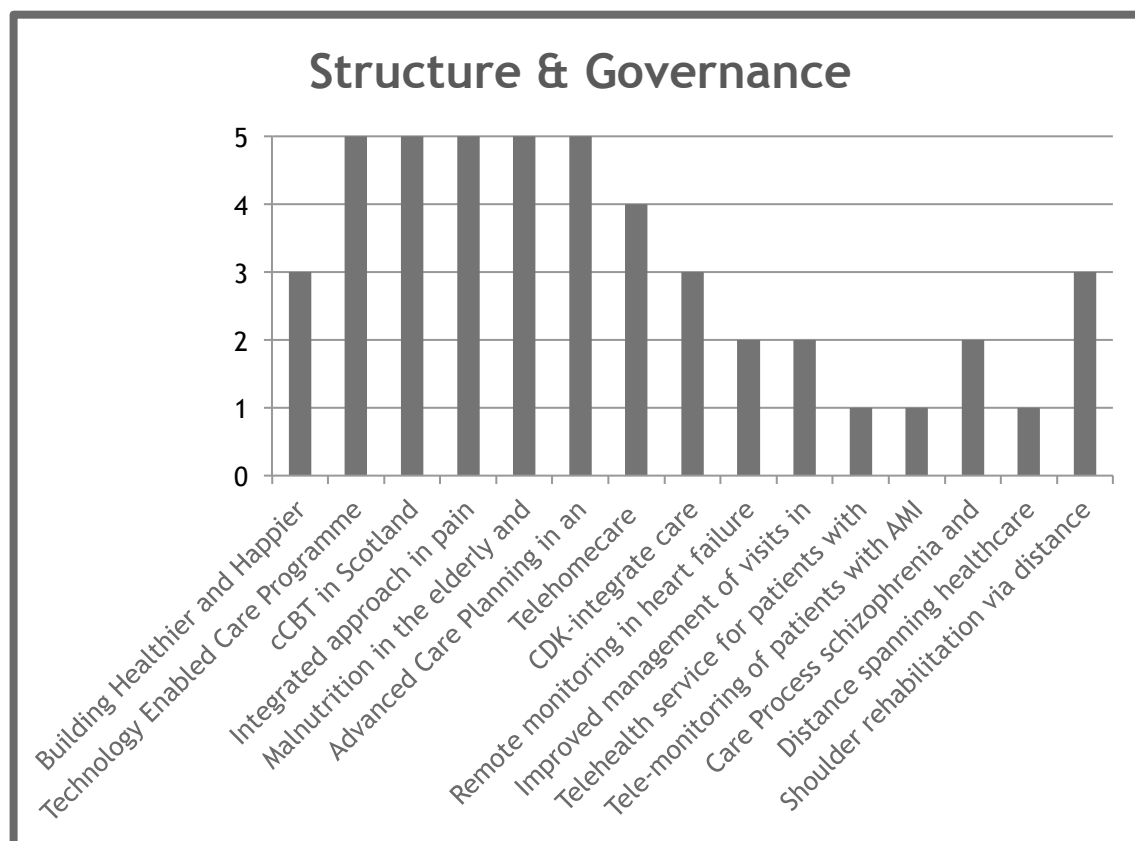
Other way of analysing the provided data is to focus on the individual dimensions of the refined Maturity Model for integrated care. This allows assessing the variability of the maturity scores for each of the selected Good Practices and indicating the differences across the individual dimensions. The median is used as a measure of the 'typical' value.

6.6.1 MMD1. Readiness to change



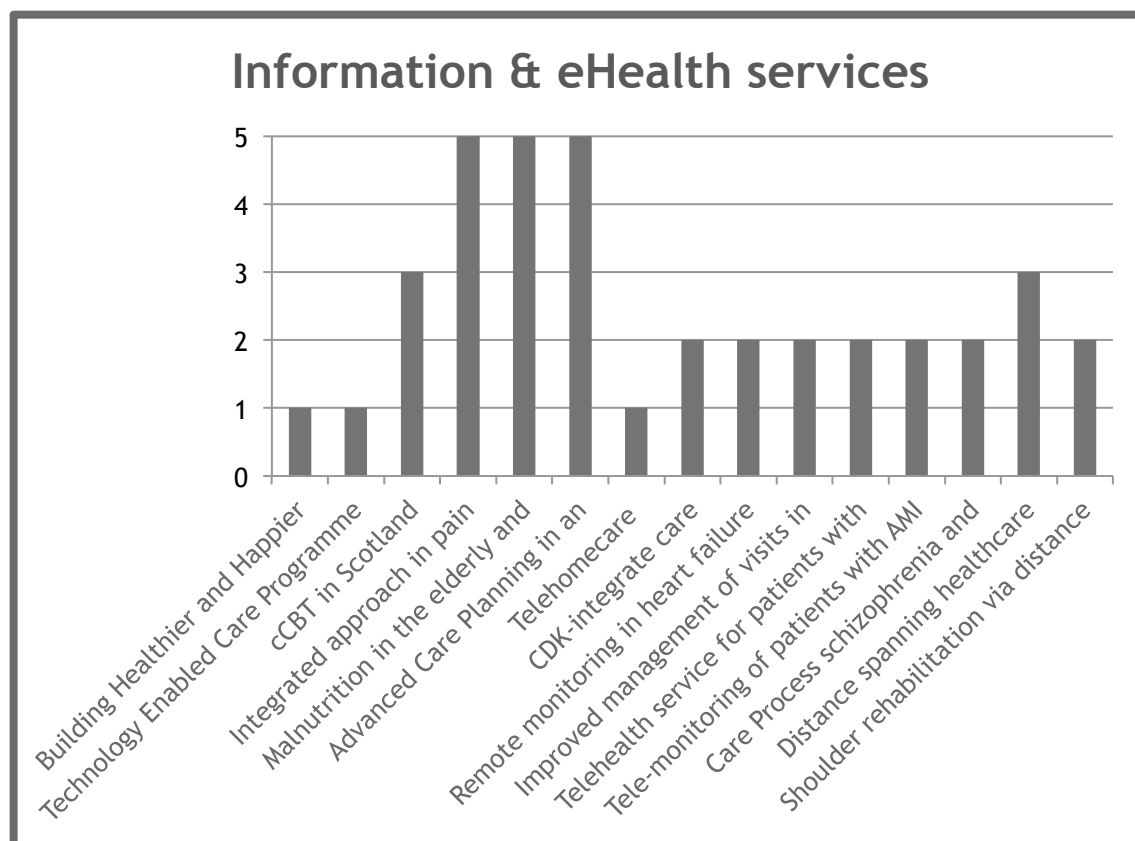
The median of maturity score of selected Good Practices for the dimension “Readiness to change” is 4. The standard deviation is 1.2. These values indicate a high level of maturity for most of the selected Good Practice.

6.6.2 MMD2. Structure & Governance



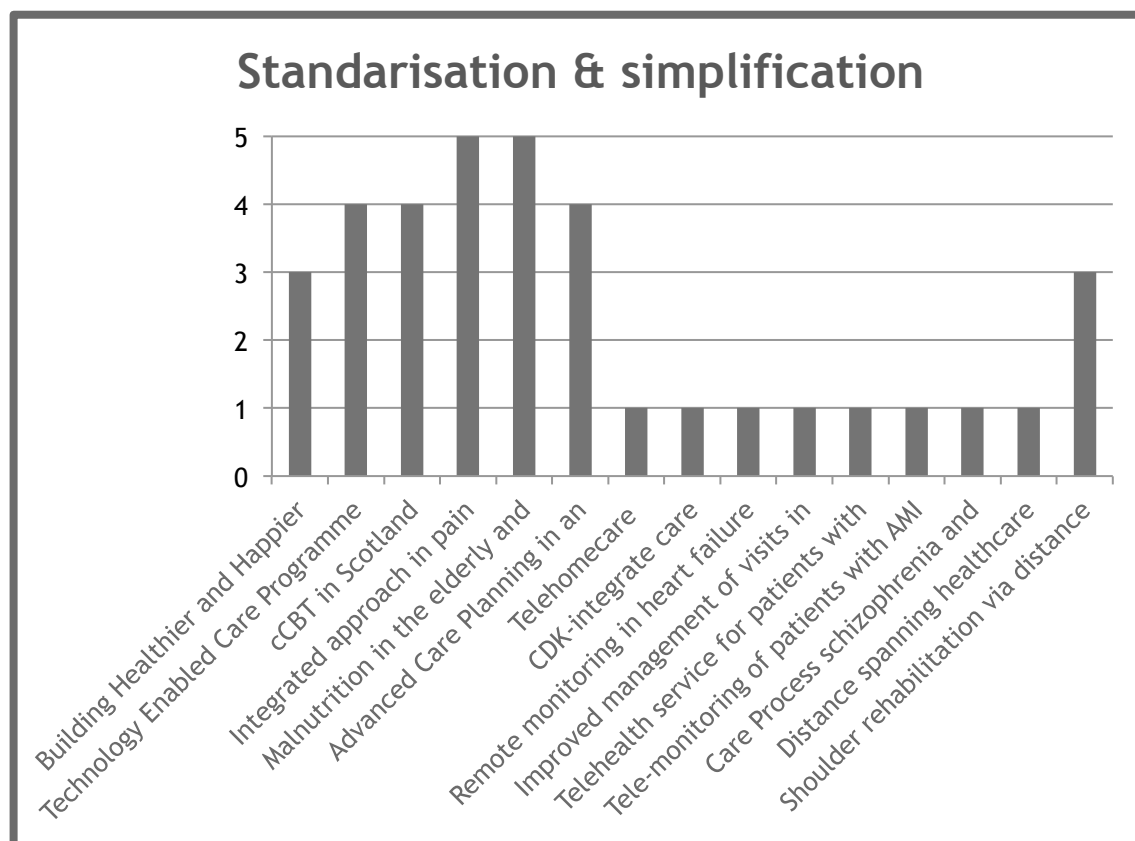
The median of maturity score of selected Good Practices for the dimension “Structure & Governance” is 3. The standard deviation is 1.6. These values indicate a quite moderate level of maturity for most of the selected Good Practices but with a significant variability.

6.6.3 MMD3. Information & eHealth services



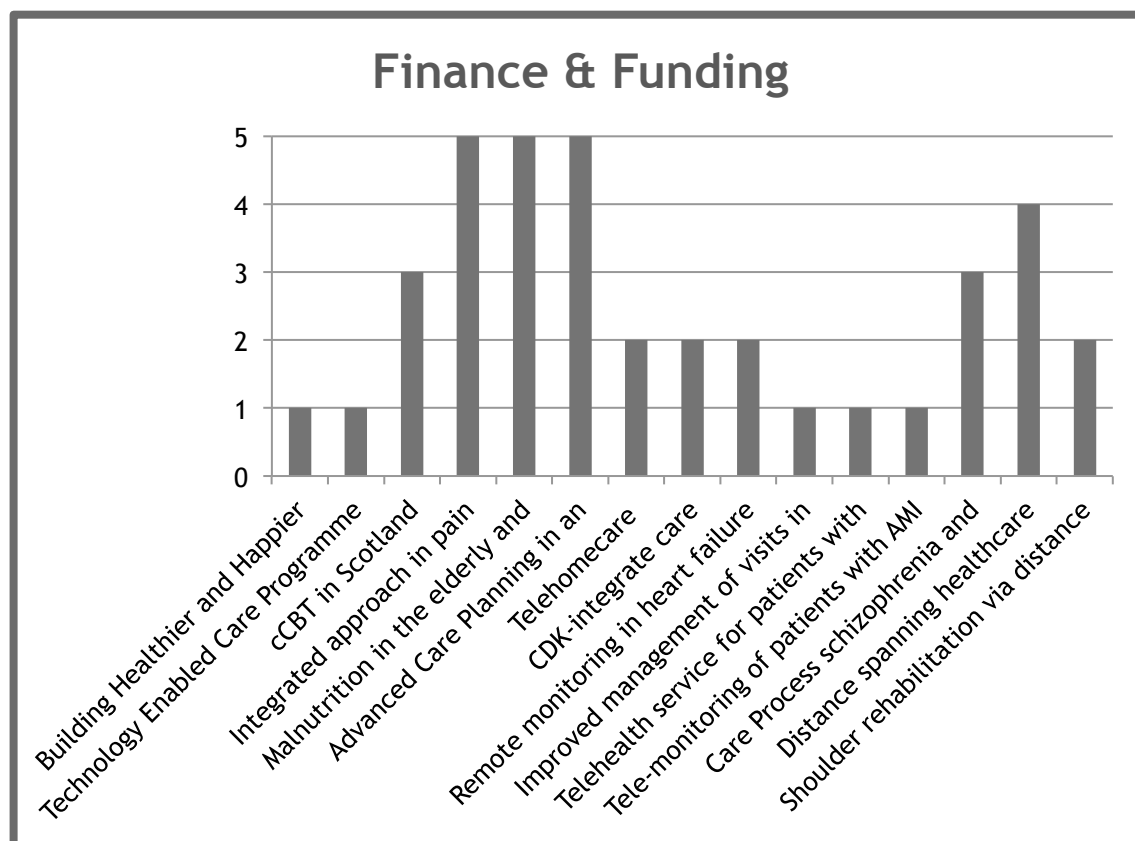
The median of maturity score of selected Good Practices for the dimension “Information & eHealth services” is 2. The standard deviation is 1.4. These values indicate a moderate low level of maturity for the selected Good Practices but non consistent across all.

6.6.4 MMD4. Standardisation & Simplification



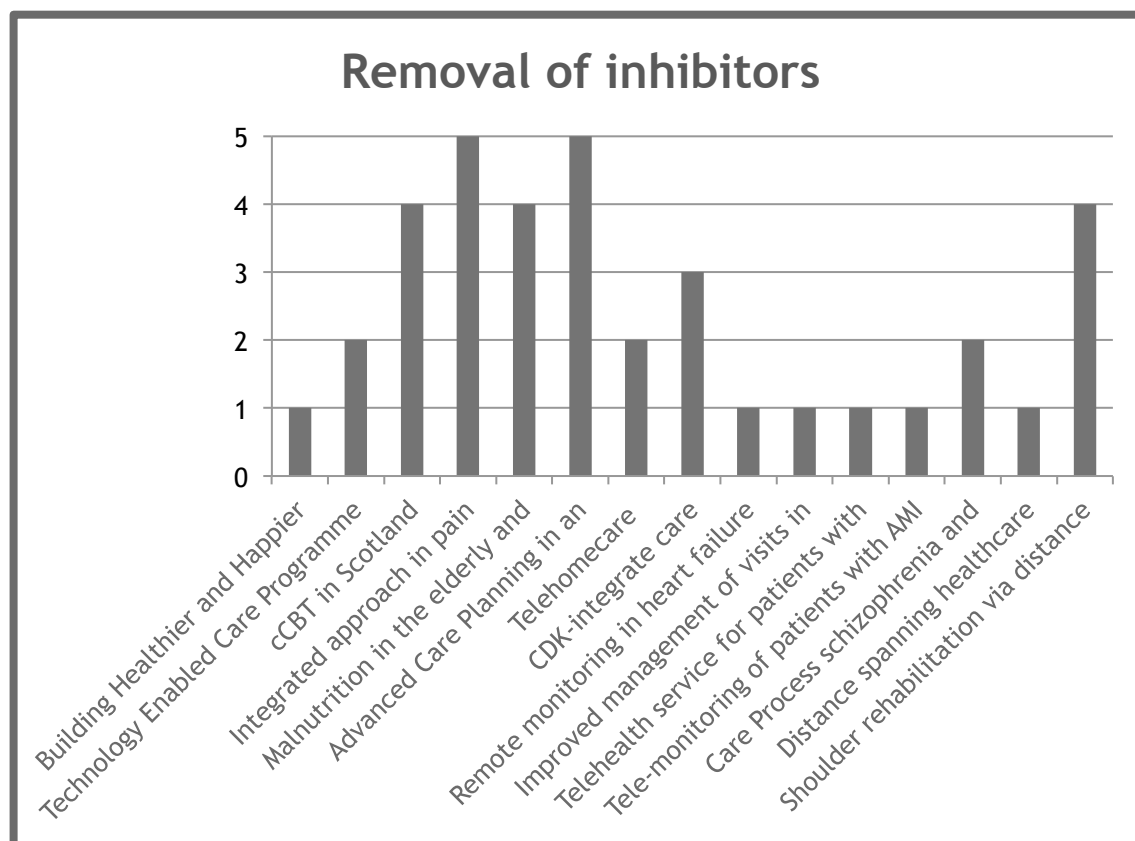
The median of maturity score of selected Good Practices for the dimension the “Standardisation & simplification” dimension is 1. The standard deviation is 1.6. These values indicate a low level of maturity. However, there is a significant variability amongst the Good Practices.

6.6.5 MMD5. Finance & Funding



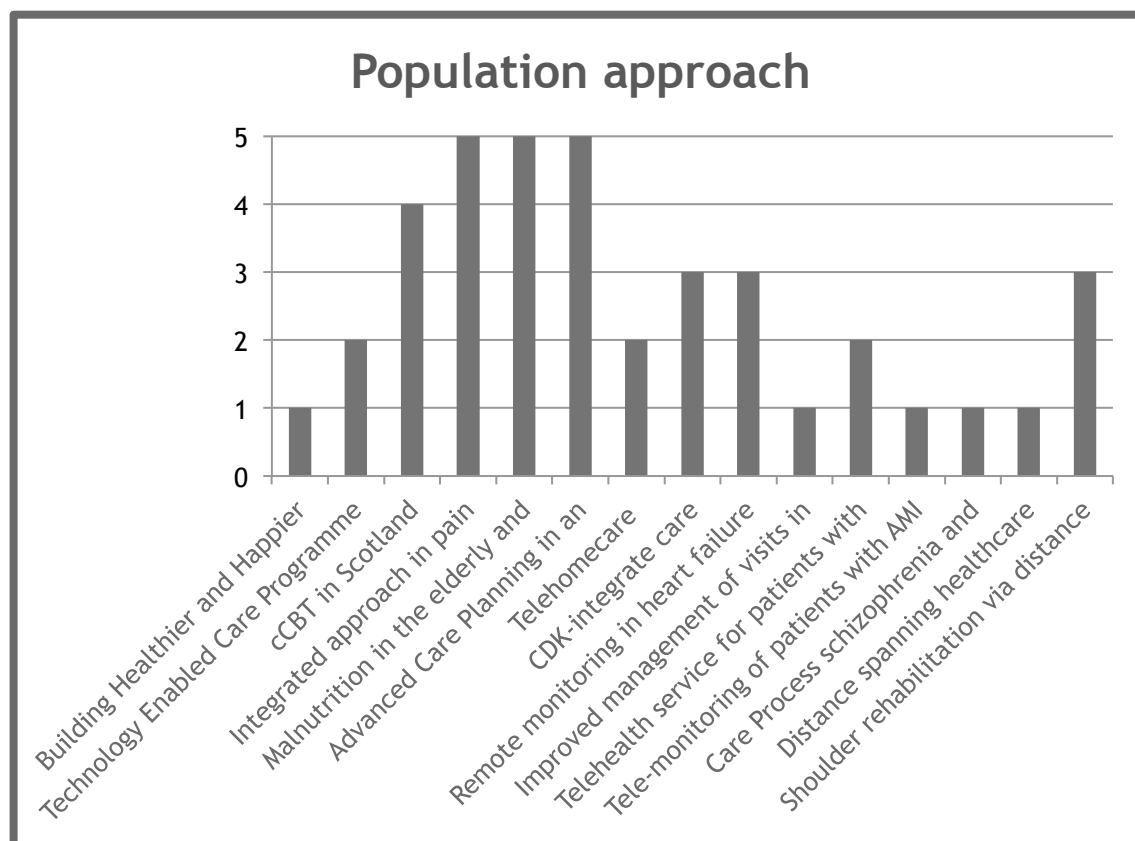
The median of maturity score of selected Good Practices for the dimension “Finance & Funding” is 2. The standard deviation is 1.5. These values indicate a moderate low level of maturity for the selected Good Practices but with a significant variability amongst the Good Practices.

6.6.6 MMD6. Removal of inhibitors



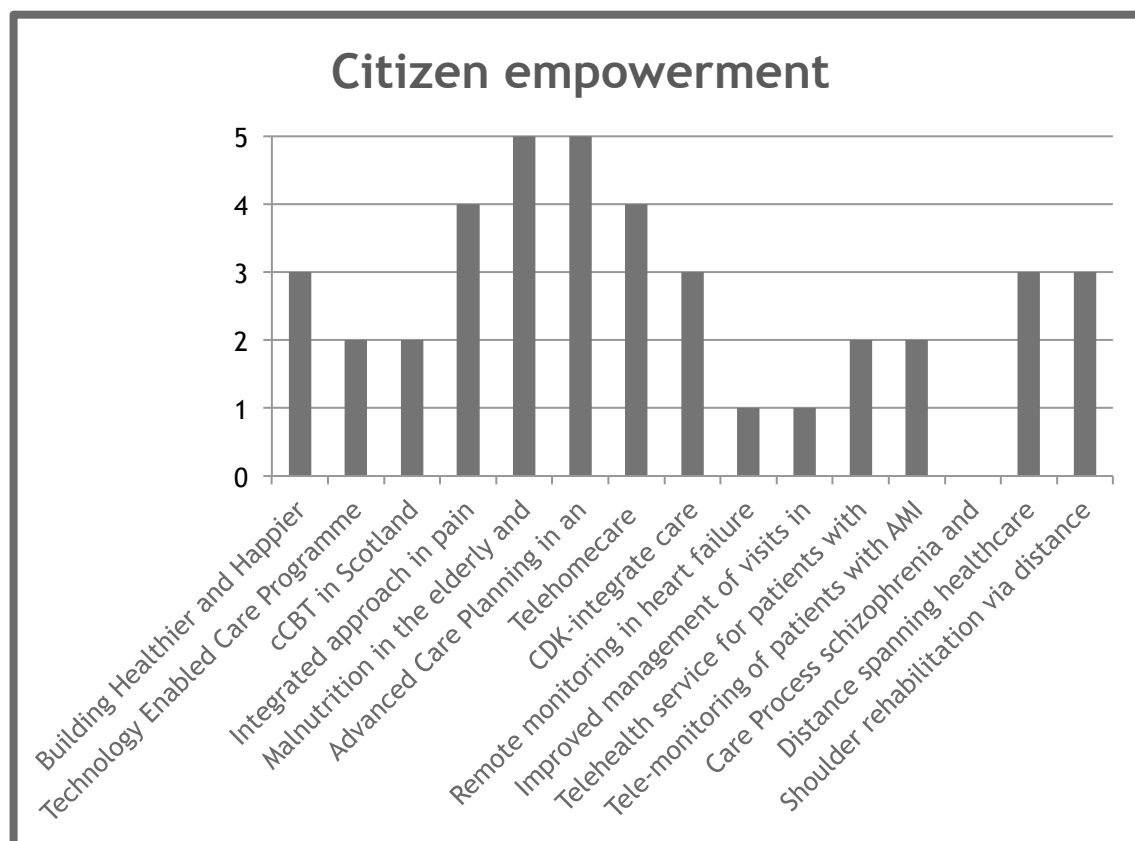
The median of maturity score of selected Good Practices for the dimension “Removal of inhibitors” is 2. The standard deviation is 1.6. These values indicate a moderate low level of maturity for this dimension but with a significant variability amongst the Good Practices.

6.6.7 MMD7. Population approach



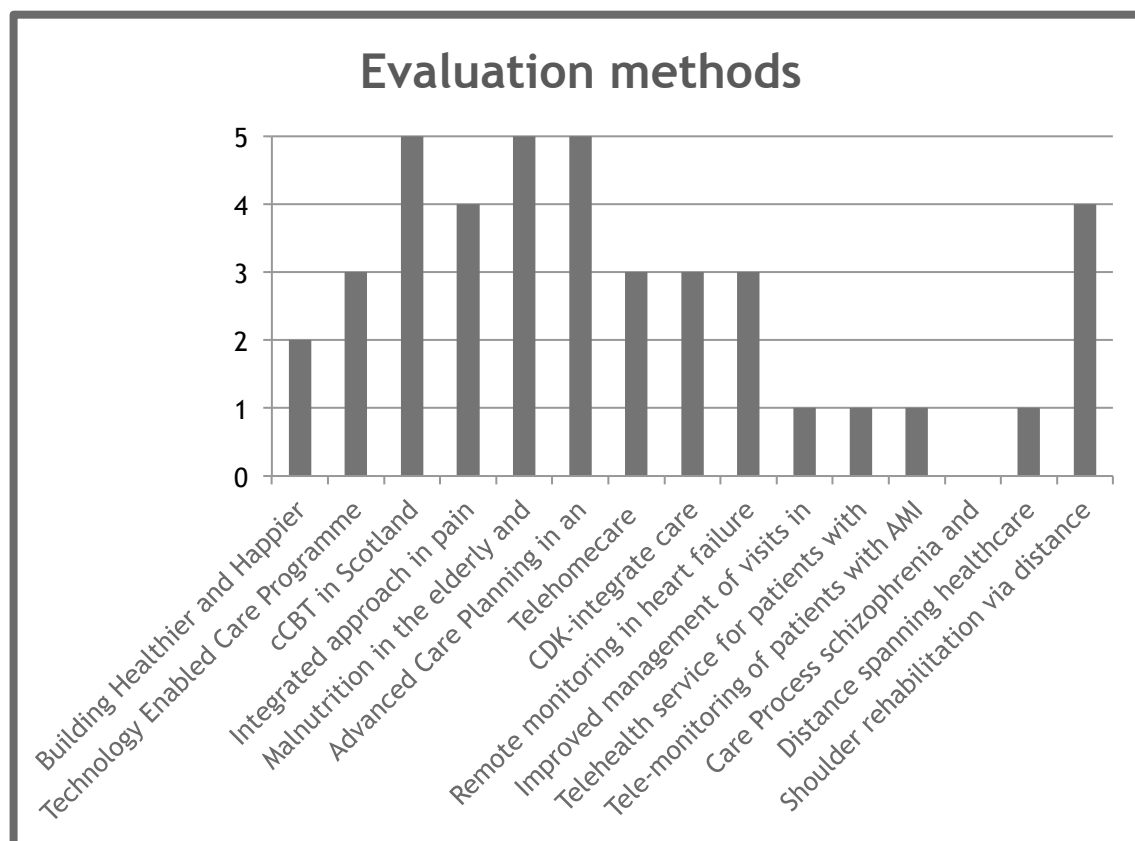
The median of maturity score of selected Good Practices for the dimension “Population approach” is 2. The standard deviation is 1.5. These values indicate a moderate low level of maturity for the selected Good Practices but with a significant variability amongst the Good Practices.

6.6.8 MMD8. Citizen empowerment



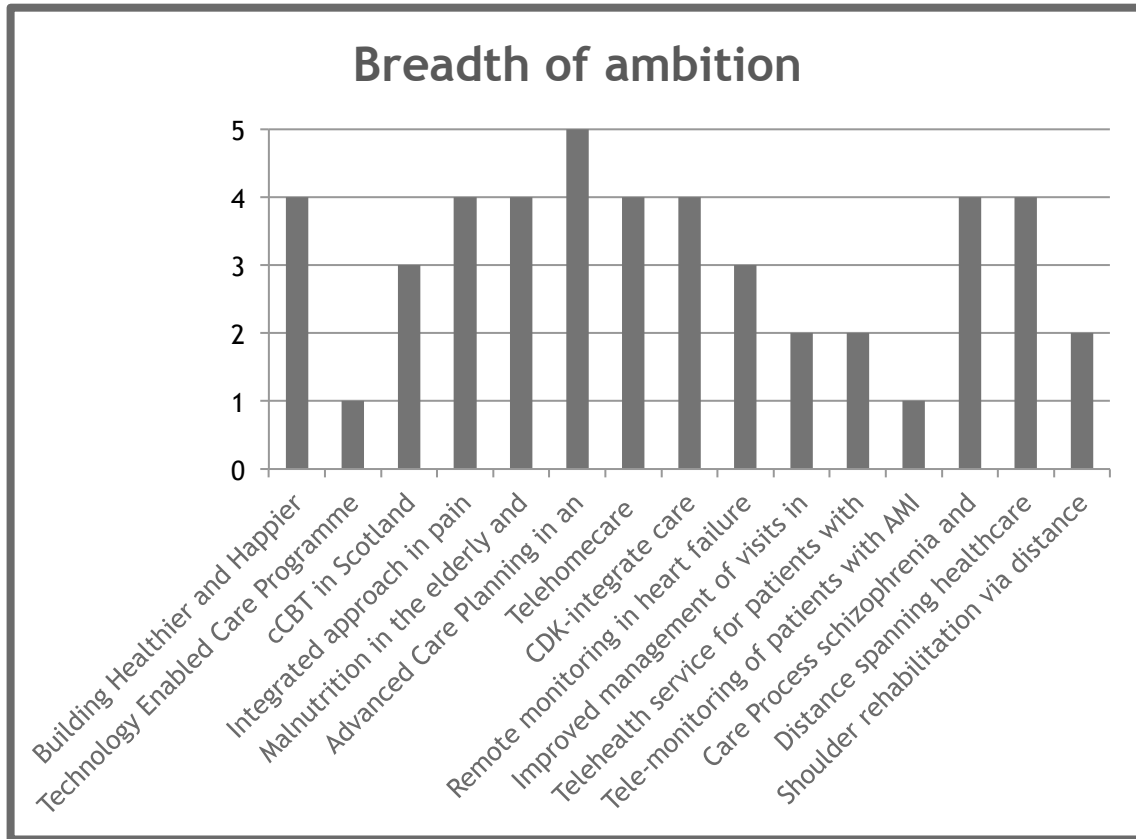
The median of maturity score of selected Good Practices for the dimension “Citizen empowerment” is 3. The standard deviation is 1.4. These values indicate a moderate low level of maturity required for this dimension. However, there is a variability amongst the Good Practices.

6.6.9 MMD9. Evaluation methods



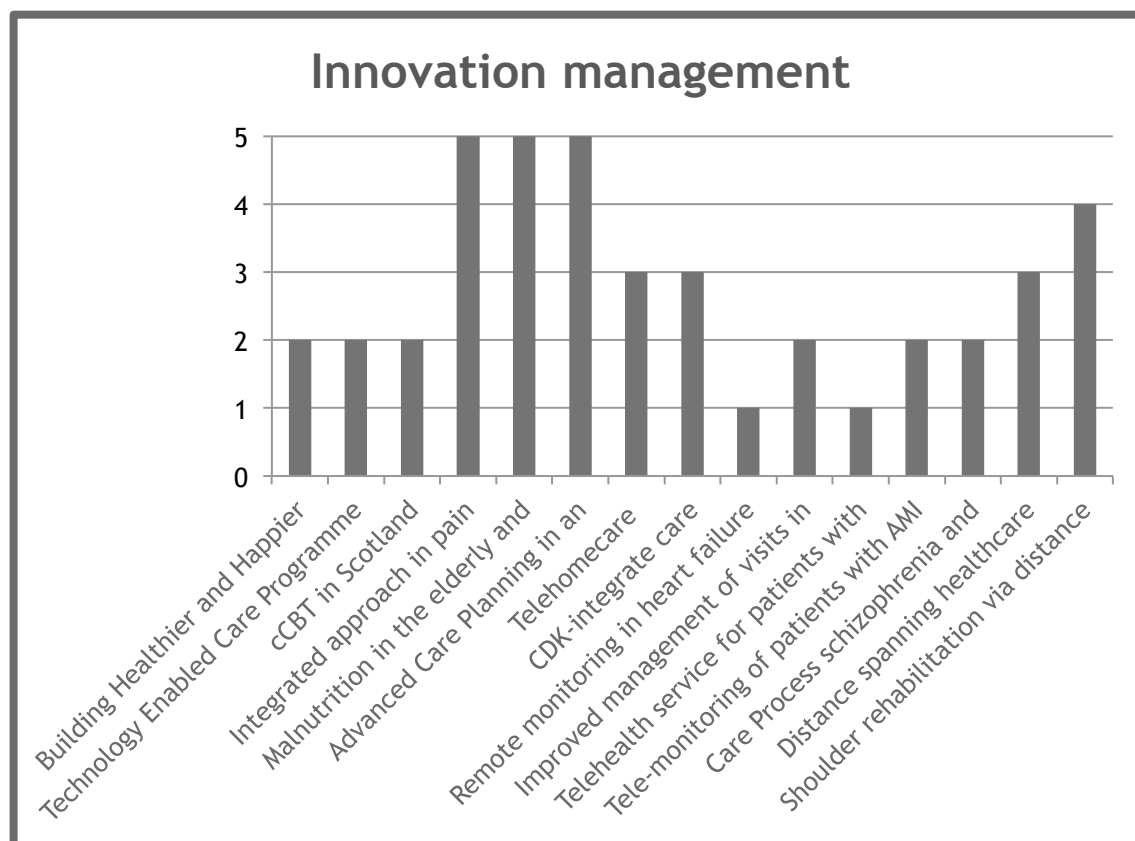
The median of maturity score of selected Good Practices for the dimension “Evaluation methods” is 3. The standard deviation is 1.7. These values indicate a moderate low level of maturity required for this dimension. However, there is a variability amongst the Good Practices.

6.6.10 MMD10. Breadth of ambition



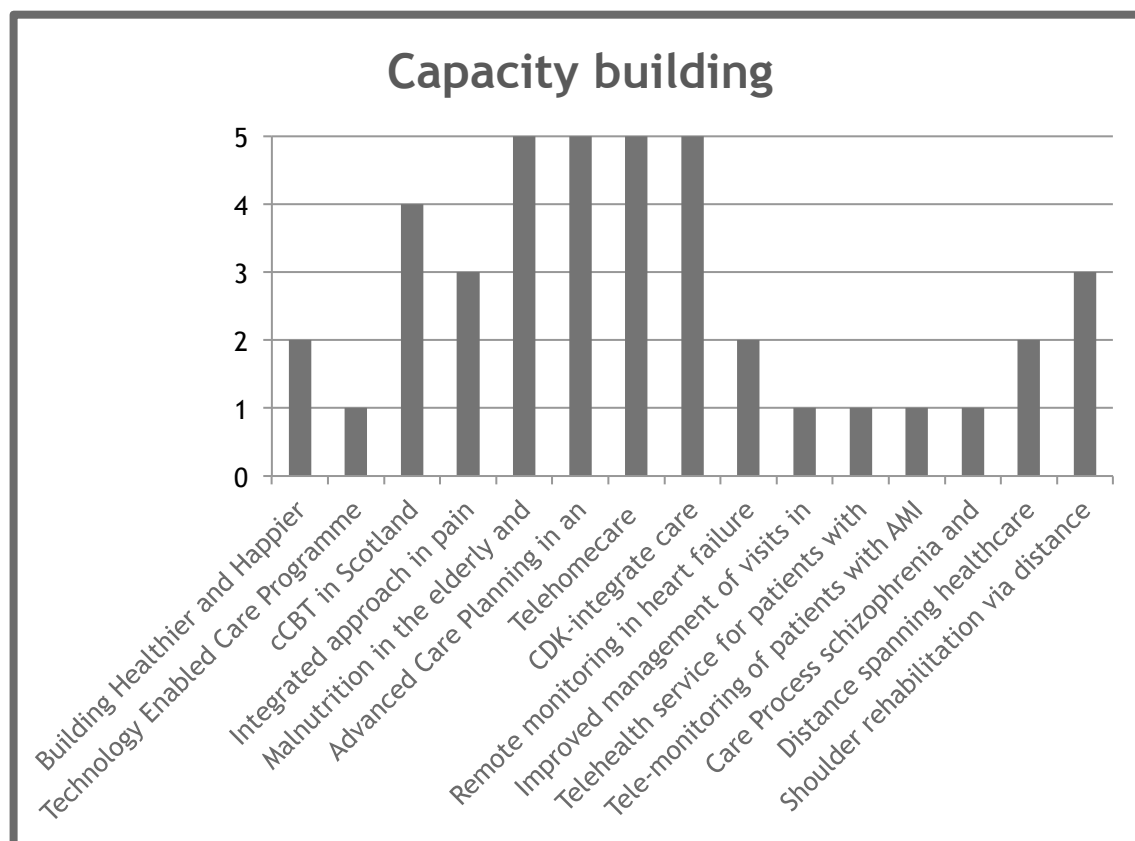
The median of maturity score of selected Good Practices for the dimension “Breadth of ambition” is 4. These values indicate a high level of maturity required for this dimension, consistent for most of the selected Good Practices.

6.6.11 MMD11. Innovation management



The median of maturity score of selected Good Practices for the dimension “Innovation management” is 2. The standard deviation is 1.4. These values indicate a low level of maturity required for this dimension. However, there is variability amongst the selected Good Practices.

6.6.12 MMD12. Capacity building



The median of maturity score of selected Good Practices for the dimension “Capacity-building” is 2. The standard deviation is 1.7. These values indicate a low level of maturity required for this dimension. However, there is a variability amongst the Good Practices.

To sum up, the dimensions with higher score of maturity are the dimensions “Readiness to change” and “Breadth of ambition”. The lowest one is “Finance & Funding”. The rank variability of the dimension measured by the standard deviation of data is between 1.2 and 1.7 (Figure 4).

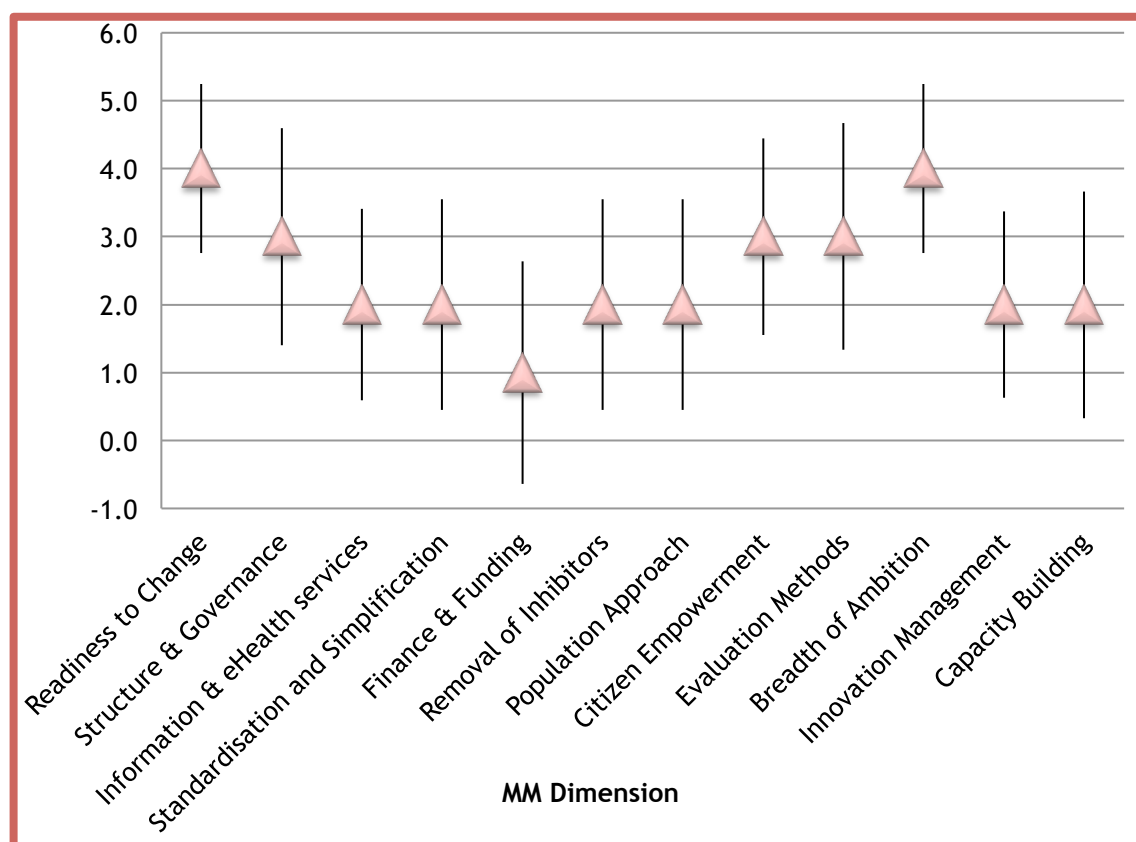


Figure 4: Maturity Model dimension Median scores and variability (+/- one standard deviation)

Finally, the potential overlap between the viability assessment criteria (potential of Good Practices for scaling up) and the Maturity Model dimensions scores was analysed. No relevant correlation was found. The Pearson R coefficient is 0.56 (Figure 5).

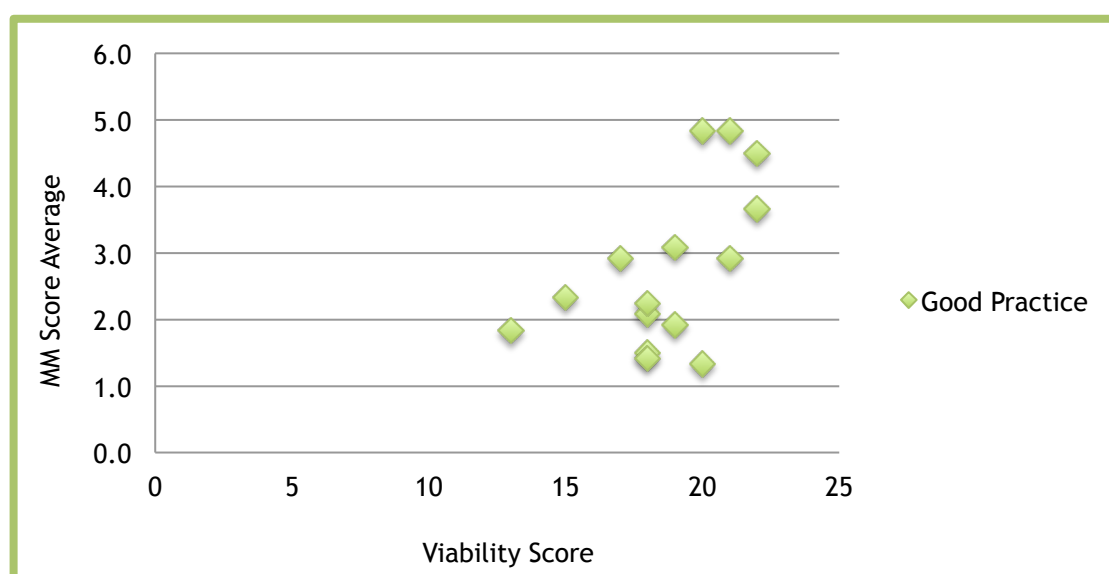


Figure 5: Correlation between the Maturity and Viability Assessment scores

7 Discussion

SCIROCCO Good Practices are inspiring real-life examples of successfully applied innovations in integrated care. The definition of Good Practice used has proved to be feasible and easy to apply. However, the operational criteria (CORRECT criteria) were necessary for the selection of Good Practices. These criteria have also been used in the European Strategy for Scaling-up which demonstrates the alignment of SCIROCCO project with the EIPonAHA.

Thirty-two Good Practices were collected and analysed in SCIROCCO Work Package 4. They cover a great variety of topics, including home care, accident & emergency units, pain management, social and healthcare integration, children with special needs, telemonitoring or involvement of third sector in the delivery of integrated care. The Good Practices deal with very relevant issues in integrated care, such as early intervention, prevention, care and support for people with complex and multiple conditions. Other examples include anticipatory and coordinated care, palliative care, improved early diagnosis of patients, appropriateness and safety in prescribing, patient empowerment or application of ICT solutions and remote monitoring.

The methodology used for the selection and collection of Good Practices was proved to be feasible and effective in very different healthcare settings of five SCIROCCO regions, including the regions from Western, Southern, Central and Northern Europe. The study was

based on a qualitative approach. The goal of qualitative research is the development of concepts which help us to understand social phenomena in natural (rather than experimental) settings, giving due emphasis to the meanings, experiences, and views of all the participants¹¹. This is in line with the aims of the WP 4. The purpose is to focus on the implementation construct on real-life contextual understandings, multi-level perspectives and cultural influences¹².

Data were collected from key informants, the local leaders of the Good Practices, who were responsible in each site for the design and implementation of these integrated care interventions. These local leaders were selected as representatives of experiential types¹³. A key informant is an expert source of information. Their formal role should expose them to the kind of knowledge being sought by the researcher. In addition to having access to the information desired, the informant should have absorbed the information meaningfully¹⁴.

Concerns about standards and the need for particular types of evidence have led to the use of quality research procedures such as multiple coding, purposive sampling, and software packages for text analysis. Imposing these measures, however, may constrain the direction and content of qualitative studies and legitimise substandard research, as the procedures recommended can be incorporated without enhancing the quality of the empirical work or the analysis¹⁵. It was considered, though, that the type and granularity of the information required was better provided by key informants. This does not preclude that more relevant information on effectiveness, costs or impact may need to be collected in the later stages of the project during the knowledge transfer process.

The data collection was organised using an ad-hoc template. An emphasis on information efficiency was made. Data collection should be pragmatic; the minimum data to understand the Good Practice and assess its viability was gathered. The six viability assessment criteria defined in the EIPonAHA Repository were applied to assess the viability of SCIROCCO Good Practices for scaling-up. Some changes were made To operationalise these criteria. The EIPonAHA viability criteria score the reliability of the information

¹¹ Pope C, Mays N. Reaching the parts other methods cannot reach: an introduction to qualitative methods in health and health services research. *BMJ*. 1995;311:42-45.

¹² Creswell JW, Klassen AC, Plano Clark VL, Cregg Smith KC (2011). Best Practices for Mixed Methods Research in the Health Sciences. Office of Behavioural and Social Sciences Research (OBSSR) in https://www2.jabsom.hawaii.edu/native/docs/tsudocs/Best_Practices_for_Mixed_Methods_Research_Aug2011.pdf (accessed 2/12/2012)

¹³ Luborsky MR, Rubinstein RL. Sampling in Qualitative Research: Rationale, Issues, and Methods. *Research on aging*. 1995;17(1):89-113. doi:10.1177/0164027595171005.

¹⁴ Marshall MN The key informant technique *Fam Pract*. 1996 Feb;13(1):92-7.

¹⁵ Lambert H, McKeivitt C. Anthropology in health research: from qualitative methods to multidisciplinary. *BMJ : British Medical Journal*. 2002;325(7357):210-213.

obtained for each of them. In SCIROCCO, the content of each criterion was scored. The scoring of Good Practices against the viability assessment criteria facilitated the prioritisation of 15 Good Practices viable for scaling-up.

The transferability of the Good Practice requires understanding of the context in which the good practice has emerged. Not all Good Practices require the same level of maturity. As such, it is critical to understand the maturity requirements of Good Practices for scaling-up.

The Maturity Model (MM) was used to facilitate the maturity assessment process for 15 Good Practices selected as a result of the viability assessment. The analysis of the outcomes shows that the median values are very different for each of the MM dimensions. The variability amongst the Good Practices in scoring for each of the dimensions (the standard deviations) is also very significant. Further analysis is required to understand the findings. The variability can be explained by the differences between regions and Good Practices, but also by some methodological limitations. Respondents could address the maturity level of the system where the Good Practice is being implemented in general, or the specific system requirements of a particular Good Practice.

To improve the reliability of the self-assessment outcomes, some further clarifications are needed. A Good Practice developed in a very mature system may not require very high level of maturity in all MM dimensions to flourish. The current focus of the MM is on the system context in general. It would be interesting to consider if focusing specifically on the environment of a particular Good Practice would be more efficient. As discussed above the data collection relied on the local leader as a key informant. However, if a more specific approach is used, the assessment of some MM dimensions will require a more specialised knowledge that could benefit from involving other stakeholders in the process.

The transferability potential of a Good Practice depends on its viability but also on the maturity of the system in which it is implemented. In fact, the transferability potential would increase, the higher the viability score and the lower the system maturity level is needed.

$$\text{Transferability Potential} = \frac{\text{Viability assessment}}{\text{Maturity requirements}}$$

To conclude, the analysis of the maturity requirements for scaling up of Good Practices was done. The 15 Good practices analysed are available for the transferability and replication in Europe. However, not having done the maturity assessment for the remaining Good Practices does not mean that these Practices can't be considered for scaling-up as

well. The outcomes of this deliverable will feed directly into other stages of SCIROCCO project by providing inputs for the further refinement and improvement of the Maturity Model tool. This work contributes to the facilitation in exchanging and implementing the Good Practices at local, regional or country level and validation of the B3-MM, as a tool enabling multidimensional assessment of the capacity of regions to adopt a particular Good Practice.

8 Maturity requirements guide

The outcomes of the WP4 activities can be summarised in a number of recommendations to help to guide the regions in the process of maturity assessment of the Good Practices viable for scaling-up.

Namely, these are:

1. The transferability potential of a Good Practice depends on the quality of the Practice and its viability for scaling-up, but also on the level of maturity of the system in which the Good Practice is being implemented.
2. SCIROCCO Good Practices are inspiring real-life examples of successfully applied innovations in integrated care. Operational criteria need to be defined to inform the selection of the Good Practices.
3. A pragmatic and easy-to-apply approach to data collection should be applied ([Appendix I](#)). In addition, a more detailed or specific data can be collected in the later stages of the process, if required.
4. To assess the viability of the Good Practices, different assessment criteria can apply. The refined viability assessment criteria ([Appendix II](#)) based on the criteria used in EIPonAHA Repository can be one of the criteria informing the selection of the most viable Good Practices for scaling-up.
5. It is essential to consider the environment and health and care system in which a Good Practice has been developed.
6. The dimensions and scales of the online MM tool provide a very useful basis for the contextual assessment ([Appendix III](#)).
7. Good Practices require different levels of maturity in the MM dimensions. Understanding the specific needs and maturity requirements of a particular Good Practice facilitates the process of transferability and scaling-up this Practice.

APPENDIX I: SCIROCCO Template for Collection of Good Practices

SCIROCCO TEMPLATE FOR THE COLLECTION AND ASSESSMENT OF GOOD PRACTICES IN INTEGRATED CARE
General information
<p>*1. Do you agree that the information provided is correct and will be published on the EIP on AHA Portal?</p> <p> <input type="radio"/> Yes <input type="radio"/> No </p>
<p>*2. Do you own the copyright and other intellectual property rights of this practice?</p> <p> <input type="radio"/> Yes <input type="radio"/> No </p>
<p>3. If you do not own the copyright or other intellectual property rights, have you identified the owners of these rights and have you verified that they agree to the publication of these materials in the EIP on AHA repository of innovative practices?</p> <p> <input type="radio"/> Yes <input type="radio"/> No </p>
<p>*4. When you submit your practice, you can choose between two options: verification or evaluation. The verification process involves checking that the information received is of sufficient quality to be published. The evaluation process consists of a more detailed review of the practice submitted.</p> <p>Verification process: it consists of verifying that the information received is of sufficient quality to be published in the Repository. Some of the criteria of this verification process are:</p> <ul style="list-style-type: none"> - Formal review criteria - Completeness of information - Clarity of exposition - Availability of evidence - Availability of documentation - Contact information available

- Visual control of information display

Evaluation process: the evaluators / reviewers will take into account primarily the following aspects: time of impact, evidence, level of maturity and transferability.



I would like this practice to be ONLY verified



I would like this practice to be evaluated

***5. What kind of practice are you sharing?** Please, read the definition and choose the kind of practice that fits best with yours.



Promising practice: these are practices that are not yet fully mature but have shown interesting first results. These practices typically have some measurable impact that have been seen only while a pilot project was running, there is apparent evidence mainly based on qualitative "success stories". Regarding maturity of the practice, there is at least a proof of concept available; it works in a test setting; and the potential end-users are positive about the concept. While the innovative practice has been developed on a local/regional/national level, its transferability has not been considered in a systematic way.



Notable practice: these practices show contrasted impact, for example shortly beyond the pilot project period. There is documented evidence based on systematic qualitative and quantitative studies. Regarding maturity of the practice, there is evidence that the practice is economically viable and brings benefits to the target group, but further research and development is needed in order to achieve market impact and for the practice to become routine use. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.



Good practice: these practices show long term and sustainable impact, for example, a long time after the end of a pilot project ended and routine day-to-day operation began. Evidence is based on an agreed established monitoring system/process before and after implementation of the good practice. Regarding maturity of the practice, the practice is "on the market" and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth. Moreover, the innovative practice has been transferred to other locations or regions or is operating on a national scale.

Description of the practice

***6. What is the name of your practice?**

<input type="text"/>
<p>*7. Short name (Acronym)</p> <input type="text"/>
<p>8. URL of your practice</p> <input type="text"/>
<p>*9. What is the geographical scope of your practice?</p> <p><input type="radio"/> Local level</p> <p><input type="radio"/> Regional level</p> <p><input type="radio"/> National level</p> <p><input type="radio"/> European level (Involving two or more European Union countries)</p> <p><input type="radio"/> International level (Involving other non EU countries or International Organisations)</p>
<p>*10. What are the country / countries where it takes place?</p> <div> <input type="text"/> <div> <div></div> <div></div> <div></div> </div> <div> <div></div> <div></div> <div></div> </div> </div>
<p>*11. Which region(s) is (are) involved?</p> <div> <input type="text"/> <div> <div></div> <div></div> <div></div> </div> <div> <div></div> <div></div> <div></div> </div> </div>
<p>*12. What is the status of your practice?</p> <p><input type="radio"/> Planned</p> <p><input type="radio"/> On-going</p> <p><input type="radio"/> Completed</p>
<p>*13. Please indicate the type(s) of stakeholders concerned with your practice (more</p>

than one answer is possible).

- ☐ Hospitals
- ☐ Primary care centres
- ☐ Specialised physicians
- ☐ General practitioners
- ☐ Pharmacists
- ☐ Nurses
- ☐ Day care centres
- ☐ Home care centres
- ☐ Nursing homes
- ☐ Informal caregivers
- ☐ Housing organisations (Involves any kind of organisations related to social housing)
- ☐ Private companies
- ☐ Micro-sized industry
- ☐ Small-sized industry
- ☐ Medium-sized industry
- ☐ Large-sized industry
- ☐ Research centres
- ☐ Academia
- ☐ NGOs
- ☐ OECD
- ☐ International/European public authorities
- ☐ National public authorities, WHO
- ☐ Regional public authorities
- ☐ Local public authorities
- ☐ Advocacy organisations of patients/users
- ☐ Advocacy organisations of physicians
- ☐ Advocacy organisations of nurses
- ☐ Advocacy organisations of others

<input type="checkbox"/> Other (please specify) <input type="text"/>
<p>*14. How many people do you expect to reach with your practice?</p> <p><input type="radio"/> N/A</p> <p><input type="radio"/> 0 - 24</p> <p><input type="radio"/> 25 - 99</p> <p><input type="radio"/> 100 - 249</p> <p><input type="radio"/> 250 - 999</p> <p><input type="radio"/> 1,000 - 9,999</p> <p><input type="radio"/> 10,000 - 99,999</p> <p><input type="radio"/> >100,000</p>
<p>*15. Does your practice target a specific age group?</p> <p><input type="radio"/> Irrelevant</p> <p><input type="radio"/> < 18</p> <p><input type="radio"/> 18 - 49</p> <p><input type="radio"/> 50 - 64</p> <p><input type="radio"/> 65 - 79</p> <p><input type="radio"/> 80+</p>
<p>*16. Please, provide a brief summary of your practice (max. 250 words). Please include:</p> <ul style="list-style-type: none"> - Aspects of health and social care your practice covers. - General and specific objectives. - Main methods, processes and organisation. - Key aspects that can be transferable. <div> <input type="text"/> </div>

*17. Please specify some keywords that describe the content of your practice (max. 5 keywords).

*18. Is your practice part of a larger programme?

☐

Yes

☐

No

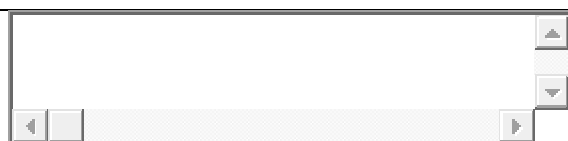
If Yes, please provide the name and brief description of the programme. (max. 50 words).

*19. Which challenges/problems is the practice supposed to solve?

Please identify a maximum of five challenges / problems (max. 100 words).

*20. How important were the challenges / problems before starting to implement the practice? (max. 100 words)

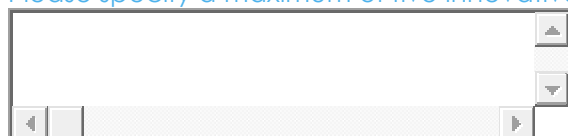
*21. What was in place before the practice was implemented? (max. 150 words)



*22. Describe how the practice improved the situation compared to previous practice.

Please outline the key innovative elements of the practice.

Please specify a maximum of five innovative elements (max. 150 words).

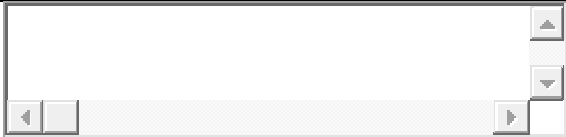


*23. Is the practice cost-effective in comparison to previous practices, existing practices, other models or in comparison with doing nothing? (note that cost-effectiveness includes all kind of costs and outcomes such as better health, quality of life or use of resources)

- ☐ Equal costs, equal outcomes
- ☐ Equal costs, improved outcomes
- ☐ Equal costs, deteriorated outcomes
- ☐ Lower costs, equal outcomes
- ☐ Lower costs, improved outcomes
- ☐ Lower costs, deteriorated outcomes
- ☐ Higher costs, equal outcomes
- ☐ Higher costs, improved outcomes
- ☐ Higher costs, deteriorated outcomes

*24. What resources does the practice require in order to be deployed?

(Please describe personnel, equipment, facilities, ICT and other resources required) (max 250 words)


<p>*25. What is the total budget for this practice? (from baseline till full deployment)</p> <ul style="list-style-type: none"> <input type="radio"/> N/A <input type="radio"/> 0 - €9,999 <input type="radio"/> €10.000 –€ 99,999 <input type="radio"/> €100.00 - €499,999 <input type="radio"/> €1M - €5M <input type="radio"/> More than €5M
<p>*26. What is the most important source of funding for your practice?</p> <ul style="list-style-type: none"> <input type="radio"/> European funding <input type="radio"/> National funding <input type="radio"/> Regional funding <input type="radio"/> Local funding <input type="radio"/> Private funding <input type="radio"/> For profit organisation <input type="radio"/> Not-for-profit organisation <input type="radio"/> Crowd funding <input type="radio"/> Venture capital <input type="radio"/> Other (please specify) <div style="border: 1px solid black; height: 20px; width: 580px; margin-top: 5px;"></div>
<p>*27. What had to be done to deploy the practice? Please explain the main actions done to implement the practice (such as recognizing, professional roles, training, staffing, equipment, new services and others) (max. 250 words).</p>

<div style="border: 1px solid #ccc; height: 50px; width: 100%;"></div>
<p>*28. What issues did you find difficult when you implemented the practice? Please identify a maximum of five issues (max 150 words).</p> <div style="border: 1px solid #ccc; height: 50px; width: 100%;"></div>
<p>*29. Are there major additional resource requirements in scaling up the practice?</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p> <p>If Yes, please provide further details (max 150 words)</p> <div style="border: 1px solid #ccc; height: 50px; width: 100%;"></div>
<p>*30. What is your basis to support the sustainability of the practice? (max. 150 words)</p> <div style="border: 1px solid #ccc; height: 50px; width: 100%;"></div>
<p>*31. Is it possible to observe the practice and its results via: (more than one answer is possible).</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p> <p>If Yes, please specify how.</p> <p><input type="radio"/> A practice report?</p> <p><input type="radio"/> Video or other digital media (web page, audio, ...)?</p>

☐ A visit to an implementation site?

☐ Any other means (e.g. scientific papers)?

 Please add URL links if appropriate).

Viability Assessment

***32. What is the time needed for the practice to be deployed?**

☐ No evidence or no record kept of prior preparation
☐ Less than a year
☐ Between one year and three years
☐ More than three years

Please explain what you did to prepare the implementation of the practice, (max. 250 words). Insert relevant web-based links if possible

***33. What is the investment per citizen / client / patient in terms of financial resources (from baseline to now)?**

☐ No available calculation.
☐ Between €100 – €1.000 per targeted citizen / patient
☐ Between €1.000 – €5.000 EUR per targeted citizen / patient
☐ More than €5.000 EUR per targeted citizen / patient

Please explain your calculation of cost, (max. 250 words).

Please add URL links if appropriate).

<p>*34. What is the evidence behind your practice?</p> <p><input type="radio"/> No knowledge about evidence. No evaluation or documentation of effect has been carried out</p> <p><input type="radio"/> Apparent evidence. Evidence is based on qualitative success stories</p> <p><input type="radio"/> Documented evidence. Evidence is based on systematic qualitative and quantitative studies</p> <p><input type="radio"/> Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the practice</p> <p>Please explain what you did to create the evidence for your practice, (max. 250 words).</p> <div style="border: 1px solid black; height: 50px; width: 100%; position: relative;"> <div style="position: absolute; top: 5px; right: 5px;"> <input type="button" value="↑"/> <input type="button" value="↓"/> </div> <div style="position: absolute; bottom: 5px; left: 5px;"> <input type="button" value="←"/> <input type="button" value="→"/> </div> </div> <p>Please add URL links if appropriate).</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>
<p>*35. What is the level of maturity of your practice?</p> <p><input type="radio"/> The idea has been formulated and/or research and experiments are underway to test a 'proof of concept'.</p> <p><input type="radio"/> Proof of concept is available: it works in a test setting and the potential end-users are positive about the concept.</p> <p><input type="radio"/> There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.</p> <p><input type="radio"/> The practice is "on the market" and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth.</p> <p>Please explain the maturity level of the practice, (max. 250 words).</p> <div style="border: 1px solid black; height: 70px; width: 100%; position: relative;"> <div style="position: absolute; top: 5px; right: 5px;"> <input type="button" value="↑"/> <input type="button" value="↓"/> </div> <div style="position: absolute; bottom: 5px; left: 5px;"> <input type="button" value="←"/> <input type="button" value="→"/> </div> </div> <p>Please add URL links if appropriate).</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>
<p>*36. What is the estimated time to impact of your practice?</p> <p><input type="radio"/> No evidence or no demonstrated impact</p>

- ☐ Low impact – e.g. impact has been seen only while a pilot project was running
☐ Medium impact – e.g. shortly beyond the pilot project period
☐ Long term and sustainable impact – e.g. a long time after the pilot project ended and routine day-to-day operation began

***37. What kind of impacts did you observe? (more than one answer is possible).**

- ☐ N/A
☐ Better health (societal)
☐ Better quality of life (societal)
☐ Less isolated people (societal)
☐ increased sense of security (societal)
☐ Better care integration (economic and societal)
☐ Fewer hospital re-admissions (economic)
☐ Shorter stay in hospital (economic)
☐ Creation of jobs or SMES, or growth of local companies

Please explain the aspects of the time of impact that you have identified and how you have identified it, (max. 250 words).



Please add URL links if appropriate).

***38. What is the level of transferability of your practice?**

- ☐ Transferability has not been considered. The innovative practice has been developed on local/regional/national level and transferability has not been considered in a systematic way
☐ Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.
☐ The innovative practice has been transferred within the same Region.
☐ The innovative practice has been transferred in other locations or regions or national scale in the same country

Please explain the transferability that you have identified and how you have identified it, (max. 250 words).

Please add URL links if appropriate).

Your Organisation

*39. What is the name of your organisation?

*40. What is the address of your organisation?

*41. What kind of organisation are you? (more than one answer is possible).

- ☐ Hospitals
- ☐ Primary care centres
- ☐ Specialised physicians
- ☐ General practitioners
- ☐ Pharmacists
- ☐ Nurses
- ☐ Day care centres
- ☐ Home care centres
- ☐ Nursing homes
- ☐ Informal caregivers
- ☐ Housing organisations (Involves any kind of organisations related to social housing)
- ☐ Private companies
- ☐ Micro-sized industry
- ☐ Small-sized industry
- ☐ Medium-sized industry

<input type="checkbox"/> Large-sized industry <input type="checkbox"/> Research centres <input type="checkbox"/> Academia <input type="checkbox"/> NGOs <input type="checkbox"/> OECD <input type="checkbox"/> International/European public authorities <input type="checkbox"/> National public authorities, WHO <input type="checkbox"/> Regional public authorities <input type="checkbox"/> Local public authorities <input type="checkbox"/> Advocacy organisation of patients/users <input type="checkbox"/> Advocacy organisation of physicians <input type="checkbox"/> Advocacy organisation of nurses <input type="checkbox"/> Advocacy organisation of others <input type="checkbox"/> Other (please specify) <input type="text"/>
<p>*42. Please enter the name of the contact person for this practice.</p> <input type="text"/>
<p>*43. Please enter the email of the contact person for this practice.</p> <input type="text"/>

APPENDIX II: Viability Assessment Criteria

Criteria1. Time needed for the practice to be deployed	Score
No evidence or no record kept of prior preparation	1
Less than a year	4
Between one year and three years	3
More than three years	2

Criteria 2. Investment per citizen/service user/patient (referring to marginal cost over previous situation)	Score
No available calculation	1
Between 100 - 1.000 EUR per targeted citizen / patient	4
Between 1.000 - 5.000 EUR per targeted citizen / patient	3
More than 5.000 EUR per targeted citizen / patient"	2

Criteria 3. Evidence behind the practice	Score
No knowledge about evidence. No evaluation or documentation of effect has been carried out	1
Apparent evidence. Evidence is based on qualitative success stories	2
Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the Good Practice	4

Criteria 4. Maturity of the practice	Score
The idea has been formulated and/or research and experiments are underway to test a 'proof of concept'	1
Proof of concept is available: it works in a test setting and the potential end-users are positive about the concept	2

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth	4

Criteria 5. Estimated time of impact of the practice	Score
No evidence or no demonstrated impact	1
Low impact - e.g. impact has been seen only while a pilot project was running	2
Medium impact - e.g. shortly beyond the pilot project period	3
Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4

Criteria 6. Level of transferability of the practice	Score
Transferability has not been considered	1
Ready for transfer, but the innovative practice has not been transferred yet	2
The innovative practice has been transferred within the same region.	3
The innovative practice has been transferred in other locations or regions or national scale in the same country	4

APPENDIX III: Refined Maturity Model

1. Readiness to Change

Objectives:

If the existing systems of care need to be re-designed to provide a more integrated set of services, this will require change across many levels, the creation of new roles, processes and working practices, and new systems to support information sharing and collaboration across care teams. This will be disruptive and may be viewed negatively by workers, press and public, so a clear case needs to be made for those changes, including a justification, a strategic plan, and a vision of better care.

- Creating a compelling vision, with a real sense of urgency, and enlisting stakeholder support including political leadership, management, care professionals, public and press.
- Accepting the reality that care systems are unsustainable and need to change.
- Publishing a clear description of the issues, the choices that need to be made, and the desired future state of the care systems, stating what will be the future experience of care.
- Creating a sense of urgency to ensure sustained focus, and building a 'guiding coalition' for change.

Assessment scale:

- 0 - No acknowledgement of compelling need to change
- 1 - Compelling need is recognised, but no clear vision or strategic plan
- 2 - Dialogue and consensus building underway; plan being developed
- 3 - Vision or plan embedded in policy; leaders and champions emerging
- 4 - Leadership, vision and plan clear to the general public; pressure for change
- 5 - Political consensus; public support; visible stakeholder engagement.

2. Structure & Governance

Objectives:

The broad set of changes needed to deliver integrated care at a regional or national level presents a significant challenge. It needs multi-year programmes with excellent change

management, funding and communications, and the power to influence and (sometimes) mandate new working practices. This means alignment of purpose across diverse organisations and professions, and the willingness to collaborate and put the interest of the overall care system above individual incentives. It also means managing the introduction of eHealth services to enable integrated care in a way that makes them easy to use, reliable, secure, and acceptable to care professionals and citizens alike.

- Enabling properly funded programmes, including a strong programme, project management and change management; establishing ICT or eHealth competence centres to support roll-out; distributed leadership, to reduce dependency on a single heroic leader; excellent communication of goals, progress and successes.
- Managing successful eHealth innovation within a properly funded, multi-year transformation programme.
- Establishing organisations with the mandate to select, develop and deliver eHealth services.

Assessment scale:

- 0 - Fragmented structure and governance in place
- 1 - Recognition of the need for structural and governance change
- 2 - Formation of task forces, alliances and other informal ways of collaborating
- 3 - Governance established at a regional or national level
- 4 - Roadmap for a change programme defined and broadly accepted
- 5 - Full, integrated programme established, with funding and a clear mandate.

3. Information & eHealth Services

Objectives:

Integrated care requires, as a foundational capability, sharing of health information and care plans across diverse care teams that lead progressively to systems for enabling continuous collaboration, measuring and managing outcomes, and enabling citizens to take a more active role in their care. This means building on existing eHealth services, connecting them in new ways to support integration, and augmenting them with new capabilities, such as enhanced security and mobility.

- Essential components to enable information sharing, based on secure and trusted services.

- ‘Digital first’ policy (where possible, move phone and face-to-face services to digital services to reduce dependence on staff and promote self-service).
- Availability of fundamental building blocks to enable eHealth and eServices (‘infostructure’).
- Confidentiality and security designed into patient records, registries, online services etc.
- Enabling of new channels for healthcare delivery to replace face-to-face and telephone contact.

Assessment scale:

0 - Information systems are not designed to support integrated care

1 - Information and eHealth services to support integrated care are being piloted

2 - Information and eHealth services to support integrated care are deployed but there is not yet region wide coverage

3 - Information and eHealth services to support integrated care are available via a region-wide service but use of these services is not mandated

4 - Mandated or funded use of regional/national eHealth infrastructure across the healthcare system

5 - Universal, at-scale regional/national eHealth services used by all integrated care stakeholders.

4. Standardisation & Simplification

Objectives:

When considering eHealth services and how they can support the information sharing and collaboration needs of integrated care, the task can be made easier if the number of different systems in use, and the formats in which they store data, can be simplified. Practically, this means trying to consolidate data centres, standardising on fewer systems, and agreeing on what informatics standards will be used across a region or country.

- Simplification of infrastructure; fewer integration points to manage; easier interoperability.
- Consolidation of applications and data centres into fewer sites.
- Regional standardisation on fewer (or single) solutions.

- Ability to view and exchange medical data from different systems across diverse care settings.

Assessment scale:

0 - No standards in place or planned that support integrated care services

1 - Discussion of the necessity of ICT to support integrated care and of any standards associated with that ICT

2 - An ICT infrastructure to support integrated care has been agreed together with a recommended set of information standards - there may still be local variations

3 - A recommended set of agreed information standards at regional/national level; some shared procurements of new systems at regional/national level; some large-scale consolidations of ICT underway

4 - A unified set of agreed standards to be used for system implementations specified in procurement documents; many shared procurements of new systems; consolidated data centres and shared services widely deployed

5 - A unified and mandated set of agreed standards to be used for system implementations fully incorporated into procurement processes; clear strategy for regional/national procurement of new systems; consolidated datacentres and shared services (including the cloud) is normal practice.

5. Finance & Funding

Objectives:

Changing systems of care so that they can offer better integration requires initial investment and funding; a degree of operational funding during transition to the new models of care; and on-going financial support until the new services are fully operational and the older ones are de-commissioned. Ensuring that initial and on-going costs can be financed is an essential activity that uses the full range of mechanisms from regional/national budgets to ‘stimulus’ funds, European Union investment funds, public-private partnerships (PPP) and risk-sharing mechanisms.

Assessment scale:

0 - No additional funding is available to support the move towards integrated care

1 - Funding is available but mainly for the pilot projects and small-scale implementation

- 2 - Consolidated innovation funding available through competitions/grants for individual care providers
- 3 - Regional/national (or European) funding or PPP for testing and for scaling-up
- 4 - Regional/national funding for scaling-up and on-going operations
- 5 - Secure multi-year budget, accessible to all stakeholders, to enable further service development.

6. Removal of Inhibitors

Objectives:

Even with political support, funded programmes and good eHealth infrastructure, many factors can still make integrated care difficult to deliver, by delaying change or limiting how far change can go. These include legal issues with data governance, resistance to change from individuals or professional bodies, cultural barriers to the use of technology, perverse financial incentives, and lack of skills. These factors need to be recognised early, and a plan developed to deal with them, so as to minimise their impact.

- Actions to remove barriers: legal, organisational, financial, skills.
- Changes to the law concerning e.g., medical acts, information governance, data sharing -factors which may hold up innovation.
- Creation of new organisations or collaborations to encourage cross-boundary working ('normative integration').
- Changes to reimbursement to support behavioural change and process change.
- Education and training to increase understanding of ICT and speed up solution delivery.

Assessment scale:

- 0 - No awareness of the effects of inhibitors on integrated care
- 1 - Awareness of inhibitors but no systematic approach to their management is in place
- 2 - Strategy for tackling inhibitors is agreed at a high level
- 3 - Strategy for removing inhibitors agreed at a high level
- 4 - Solutions for removal of inhibitors developed and commonly used

5 - High completion rate of projects & programmes; inhibitors no longer an issue for service development

7. Population Approach

Objectives:

Integrated care can be developed to benefit those citizens who are not thriving under existing systems of care, in order to help them manage their health and care needs in a better way, and to avoid emergency calls and hospital admissions and reduce hospital stays. This is a practical response to meeting today's demands. Population health goes beyond this, and uses methods to understand where future health risk (and so, demand) will come from. It offers ways to act ahead of time, to predict and anticipate, so that citizens can maintain their health for longer and be less dependent on care services as they age.

- Understanding and anticipating demand; meeting needs better.
- Improving the resilience of care systems by using existing data on public health, health risks, and service utilisation.
- Taking steps to divert citizens into more appropriate and convenient care pathways based on user preferences.
- Predicting future demand and taking steps to reduce health risks through technology-enabled public health interventions.

Assessment scale:

0 - Population health approach is not applied to the provision of integrated care services

1 - A population risk approach is applied to integrated care services but not yet systematically or to the full population

2 - Risk stratification is used systematically for certain parts of the population (e.g. high-use categories)

3 - Group risk stratification for those who are at risk of becoming frequent service users

4 - Population-wide risk stratification started but not fully acted on

5 - Whole population stratification deployed and fully implemented.

8. Citizen Empowerment

Objectives:

Health and social care systems are under increasing pressure to respond to demands, which could otherwise be handled by citizens and carers themselves. The evidence suggests that many individuals would be willing to do more to participate in their own care if easy-to-use services, such as appointment booking, self-monitoring of health status, and alternatives to medical appointments, were available to them. This means providing services and tools, which enable convenience, offer choice, and encourage self-service and engagement in health management.

Assessment scale:

- 0 - Citizen empowerment is not considered as part of integrated care provision
- 1 - Some citizen consultation on integrated care but not as part of a systematic approach to citizen empowerment for integrated care
- 2 - Citizen empowerment is recognised as important but effective policies to support citizen empowerment are still in development
- 3 - Incentives and tools to motivate and support citizens to co-create health and participate in decision-making processes
- 4 - Citizens are supported and involved in decision-making processes, and have access to information and health data
- 5 - Citizens are involved in decision-making processes, and their needs are frequently monitored and reflected in service delivery and policy-making.

9. Evaluation Methods

Objectives:

As new care pathways and services are introduced to support integrated care, there is a clear need to ensure that the changes are having the desired effect on quality of care, cost of care, access and citizen experience. This supports the concept of evidence-based investment, where the impact of each change is evaluated, ideally by health economists working in universities or in special agencies. Health technology assessment (HTA) is an important method here, and can be used to justify the cost of scaling up Good Practices to regional or national level.

- Establishing baselines (on cost, quality, access etc.) in advance of new service introduction.

- Systematically measuring the impact of new services and pathways using appropriate methods (e.g., observational studies, incremental improvement, and clinical trials).
- Generating evidence that leads to faster adoption of Good Practice.

Assessment scale:

0 - No evaluation of integrated care services is in place or in development.

1 - Recognition and development of evaluation designed to evaluate integrated care services

2 - Evaluation established as part of a systematic approach

3 - Some initiatives and services are evaluated as part of a systematic approach

4 - Most initiatives are subject to a systematic approach to evaluation; published results

5 - A systematic approach to evaluation, responsiveness to the evaluation outcomes, and evaluation of the desired impact on service redesign (i.e., a closed loop process).

10. Breadth of Ambition

Objectives:

Integrated care includes many levels of integration, such as integration between primary and secondary care, of all stakeholders involved in the care process, or across many organisations. It may be developed simply for healthcare needs (i.e., vertical integration) or it may include social workers, the voluntary sector, and informal care (i.e., horizontal integration). The broader the ambition, the more numerous and diverse the stakeholders who have to be engaged. Similarly, integration may include all levels of the system or may be limited to clinical information sharing. The long-term goal should be fully integrated care services, which provide a complete set of seamless interactions for the citizen, leading to better care and improved outcomes.

- Integration supported at all levels within the healthcare system - at the macro (policy, structure), meso (organisational, professional) and micro (clinical) levels.
- Integration between the healthcare system and other care services (including social, voluntary, informal, family services).
- Seamless transition for the patient between and within care services.

Assessment scale:

0 - Integrated services arise but not as a result of planning or the implementation of a strategy

1 - The citizen or their family may need to act as the integrator of service in an unpredictable way

2 - Integration within the same level of care (e.g., primary care)

3 - Integration between care levels (e.g., between primary and secondary care)

4 - Integration includes both social care service and health care service needs

5 - Fully integrated health & social care services.

11. Innovation Management

Objectives:

Many of the best ideas are likely to come from clinicians, nurses and social workers who understand where improvements can be made to existing processes. These innovations need to be recognised, assessed and, where possible, scaled up to provide benefit across the system. At the same time, universities and private sector companies are increasingly willing to engage in open innovation, and innovative procurement, in order to develop new technologies, test process improvements and deliver new services that meet the needs of citizens. There is also value in looking outside the system to other regions and countries that are dealing with the same set of challenges, to learn from their experiences. Overall, this means managing the innovation process to get the best results for the systems of care, and ensuring that good ideas are encouraged and rewarded.

- Adopting proven ideas faster.
- Enabling an atmosphere of innovation from top to bottom, with collection and diffusion of best practice.
- Learning from inside the system, as well as from other regions, to expand thinking and speed up change.
- Involving universities and private sector companies in the innovation process (i.e., 'open innovation').
- Using innovative procurement approaches (Pre-Commercial Procurement, IPP, PPP, Shared Risk, Outcome-Based Payment)
- Using European projects (e.g., Horizon 2020, EIPonAHA, CEF).

Assessment scale:

0 - No innovation management in place

1 - Innovation is encouraged but there is no overall plan

2 - Innovations are captured and there are some mechanisms in place to encourage knowledge transfer

3 - Innovation is governed and encouraged at a region/country level

4 - Formalised innovation management process in place

5 - Extensive open innovation combined with supporting procurement & the diffusion of Good Practice.

12. Capacity Building

Objectives:

As the systems of care are transformed, many new roles will need to be created and new skills developed. These will range from technological expertise and project management, to successful change management. The systems of care need to become ‘learning systems’ that are constantly striving to improve quality, cost and access. They must build their capacity so as to become more adaptable and resilient. As demands continue to change, skills, talent and experience must be retained. This means ensuring that knowledge is captured and used to improve the next set of projects, leading to greater productivity and increasing success.

- Increasing technology skills; continuous improvement.
- Building a skill base that can bridge the clinician-technologist gap and ensure that needs are understood and addressed by ICT.
- Providing tools, processes and platforms to allow organisations to assess themselves and build their own capacity to deliver successful change.
- Creating an environment where service improvements are continuously evaluated and delivered for the benefit of the entire care system.

Assessment scale:

0 - Integrated care services are not included in capacity building

1 - Some systematic approaches to capacity building for integrated care services are in place

- 2 - Cooperation on capacity building for integrated care is growing across the region
- 3 - Systematic learning about IT; integrated care and change management
- 4 - Knowledge shared, skills retained and lower turnover of experienced staff
- 5 - A 'learning healthcare system' involving reflection and continuous improvement.

APPENDIX IV: SCIROCCO Good Practices

Scotland: Building Healthier and Happier Communities

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Promising practice

Part 2: Description of the Good Practice

Name of the Good Practice	Building Healthier and Happier Communities
Short name (Acronym)	BHCC
URL of the Good Practice	http://www.scvo.org.uk/building-healthier-and-happier-communities/
Geographical scope	Local level
Country	Scotland
Region(s) involved	East Dunbartonshire
Status of the Good Practice	Completed
Stakeholders involved	<ul style="list-style-type: none"> • Day care centres • Informal caregivers • Housing organisations • Private companies • NGOs • Regional public authorities • Local public authorities • Advocacy organisations of patients/users • NGO umbrella organisations
Size of population covered	1,000-9,999
Targeted audience	18-49; 50-64; 65-79; 80+

Summary of the Good Practice

Building Healthier and Happier Communities (BHHC) is a fresh approach to improving the health and quality of life of people and communities across Scotland. It is a national programme that is delivered locally. BHHC evidences the proposition that greater investment in the third sector's capacity can significantly enhance the quality of life for people living in their own communities.

Charities, community groups, social enterprises and voluntary organisations of all shapes and sizes already make significant impacts in areas like early intervention, prevention and care, and support for people with complex and multiple conditions. With the right support, there is scope for them to make even more of a difference.

BHHC sought to improve understanding of how a strategic investment in the capacity of the third sector can manage demand for statutory services and improve the quality of life for people in their own communities.

A pathfinder (pilot) for the national programme took place in East Dunbartonshire between October 2013 and March 2015. Its aim was to understand how a change in community capacity can enable prevention at the locality and primary care levels.

The learning and experience of the pathfinder is documented in reports, all of which present compelling evidence to demonstrate that the objective was achieved, and as such will now inform future developments.

Key words: Co-production, collaboration, prevention, community

Good practice being part of the larger programme	No
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Challenges / problems addressed by the good practice

Mental health, disability, fitness, creative approaches to therapy and recovery - are some of the areas where third sector health groups are providing specialist support and pioneering ideas.

Our challenge was to highlight where collaboration within the third sector, between the third sector and statutory agencies (particularly the NHS) could work better, and to explore how health care could be better integrated with social care to help address social isolation in East Dunbartonshire. Joining up the dots will help provide a holistic approach to our health and our happiness, especially as the Scottish health and social care

integration agenda gets underway.

Importance of the challenges / problems before starting to implement good practice

The project was launched as the statutory infrastructure for health and social care was evolving. The immediate pressure on the project was to identify the key role that the third sector could play in the delivery of integrated public health and social care services, and ensure credible representation was secured to enable genuine partnership.

Environment before the good practice was implemented

The relationships between the third sector and the statutory service providers were, in the main, enabled through short-term contracts and service level agreements. These relationships were often maintained without a more strategic overview of the opportunities for more equitable cooperation and co-production build on trust, partnership building embracing a genuine understanding of the benefits to both service delivery and community wellbeing. To a great extent, any review of the relationships between the third sector and statutory service providers was limited to discretionary (and arguably, underfunded) involvement of the TSI (the local third sector umbrella organisation) through its nominated members on committees of the local health and social care partnership.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

BHHC has:

- enabled greater awareness and understanding of the role of the third sector in public service provision;
- secured greater connectivity and collaboration around the delivery of community based care; and
- promoted wider knowledge of how community assets can be better used to co-produce the national health and wellbeing outcomes

The process of jointly exploring collaborative work has left a legacy of measures and partnerships that has built a movement of people from all sectors committed to ongoing development of services aimed at measurable improvement in the health and happiness of individuals and the wider community.

Learning from the BHHC approach can provide a partnership option to integration authorities as they consider how best to deliver community based approaches to care and to third sector organisation as to how they might contribute to national health and

wellbeing outcomes.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required) <p>The project was jointly facilitated by staff from SCVO (2.5FTE - Programme Manager, Development Officer and part time Evaluation Officer) and EDVA (1FTE), along with active participation and support from statutory service providers, notably East Dunbartonshire council, ED Community Health Partnership and NHS Greater Glasgow and Clyde. The pilot was funded by the Scottish Government (£510,000) that covered staffing and development work, delivery (including events) and evaluation. Having undertaken this pilot project rollout costs in other localities would be significantly less.</p>	
Total budget of the Good Practice	€100.00 - €499,999
Source of funding	Regional funding
The main actions that have to be done to deploy the Good Practice <p>Preliminary consultation was facilitated between the third and statutory sectors. One of the criteria for selecting East Dunbartonshire was the established relationships between the key players so this introductory stage was relatively straight forward. The detailed project was delivered through a series of overlapping and inter-related actions, including logic Model workshops, networking events, a meet the funder event, evaluation surgeries and shared learning events. We also provided direct funding to nine local organisations to act as case studies on practice and opportunities for enhanced community care.</p>	
Issues during the implementation of the Good Practice <p>A number of issues were identified as part of the initial scoping exercise, many of which centred mainly on the perceived cultural differences between the third and statutory sector.</p> <p>In particular issues for the third sector were:</p> <ul style="list-style-type: none"> • Lack of awareness of the range of activities and services provided by the sector (and by other organisations across the sector) 	

<ul style="list-style-type: none"> Limited communication and networking between service sector service providers (and between communities across the locality) Difficulty in securing funding and subsequently meeting reporting requirements The need to develop and strengthen key skills Other practical difficulties such as accessibility, travel costs and differential venue availability. 	
Additional resources required to scale up Good Practice	No
Basis to support sustainability of the Good Practice	
The published evaluation report on the pilot project has clearly evidenced the short and long term benefit of the BHHC approach.	
Evidence to observe the Good Practice	
The good practice is observed via the report - http://www.scvo.org.uk/wp-content/uploads/2015/10/BHHC-Outcomes-screen.pdf	

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice
Less than a year;
<p>The importance of quality engagement was a key principle of the development team at SCVO. The pilot was built on the established relationships between the third sector and the statutory service providers and so implementation was relatively straightforward once resources were in place. Similar infrastructure is in place across Scotland through the network of third Sector interfaces' participation in the process of health and social care integration. As part of the delivery of the project 4 local, open-to-all, introductory events were held across the pilot. These were promoted through a variety of media and coordinated by the local third sector Interface. This ensured an interest and understanding from a cohort of local groups and community organisations from the outset. Our evaluation report identifies 7 magic ingredients: 1. Engagement with key partners 2. Mutual understanding and agreement of a co-production approach 3. Mapping of assets and widespread third sector engagement 4. Identification of barriers and a shared approach to overcoming them 5. Opportunities for cross sector learning through networking 6. Capacity building within the third sector 7. Developing structures to embed sustain and develop change.</p>

Investment per citizens / patient / client in terms of financial resources
No available calculation.
Evidence behind the Good Practice
<p>Documented evidence. Evidence is based on systematic qualitative and quantitative studies.</p> <p>Part of the funding for the pilot was devoted to action research and a post-delivery evaluation report. A key element of the initial work with both the third sector and statutory services was the development of a robust logic model which identified, by consensus, a key set of outputs and a targeted new paradigm. This logic model is included in the evaluation report.</p> <p>http://www.scvo.org.uk/wp-content/uploads/2015/10/BHHC-Outcomes-screen.pdf</p>
Maturity of the Good Practice
<p>The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth.</p> <p>The pilot was a stand-alone initiative that has now been adopted by participating partners. SCVO are working with partners in other localities to deliver similar and related projects building on community asset mapping and third sector networking.</p>
Estimated time of impact of the Good Practice
Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began
Impact observed
Better quality of life
Transferability of the Good Practice
<p>Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.</p> <p>Please explain the transferability that you have identified and how you have identified it, (max. 250 words). Insert relevant web-based links if possible. As noted above (Q35) SCVO</p>

are working with a number of partners on initial community asset mapping and intra-sectoral networking. SCVO are also in discussion with the Scottish Government and a number of the regional health bodies about funding further development work on an area-by-area basis using the pilot as a model.

Part 5: Your organisation

Name of the organisation	The Scottish Council for Voluntary Organisations (SCVO)
Address of the organisation	Mansfield Traquair Centre, 15 Mansfield Place, Edinburgh, EH3 6BB
Type of organisation	NGOs
Name of the contact person	Ian Mathieson
Email address of the contact person	ian.mathieson@scvo.org.uk

Scotland: Home & Mobile Health Monitoring

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Home & Mobile Health Monitoring
Short name (Acronym)	HMHM
URL of the Good Practice	Not available
Geographical scope	Regional level
Country	Scotland
Region(s) involved	Scotland
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> Hospitals Primary care centres Specialised physicians General practitioners

	<ul style="list-style-type: none"> • Nurses • Small-sized • Industry • Research centres • Academia
Size of population covered	1,000-9,9999
Targeted audience	Irrelevant
<p>Summary of the Good Practice</p> <p>Under the auspices of the Technology Enabled Care (TEC) Programme (see separate Good Practice), the Scottish Government and the Scottish Centre for Telehealth & Telecare (SCTT) are aiming to expand the use of Home & Mobile Health Monitoring (HMHM) as part of integrated care plans to move beyond the same/medium scale initiatives that have been introduced in a small number of areas to substantial programme across Scotland, building on the EC-funded United4Health programme.</p> <p>Specific funding was made available during 2015/16 to commence creation of a national service model for HMHM that is efficient from both a clinical and financial perspective. This includes improved patient targeting, triaging and monitoring arrangements and the introduction of more cost effective technologies.</p> <p>A National Service Model is a tool that plays a supportive role in the management of service design and development. It can fulfil this role in a number of ways:</p> <ul style="list-style-type: none"> • Articulate the desired approach to HMHM in Scotland. • • Provide a national reference point for service development and improvement. • • Support the development and implementation of efficient services at scale. • The framework seeks to: <ul style="list-style-type: none"> • • Consolidate the best of the good work and learning that has already been attained by early adopters and service pioneers in Scotland • • Bring in applicable learning from other parts of the world, especially Europe and North America • • Establish a foundational service template designed to be scalable and efficient when applied in the context of services in Scotland • • Provide a starting point from which new experiences based on common principles can be used to drive improvement in this field of practice. 	
<p>Key words: Telehealth, clinical pathways, remote monitoring</p>	

Good practice being part of the larger programme

Yes.

Part of the Technology Enabled Care (TEC) Programme. The TEC Programme is subject to a separate Good Practice submission, but can be summed up as national government providing support to local delivery organisations to ensure that outcomes for individuals, in home or community settings, are improved through the application of technology as an integral part of quality cost- effective care and support.

Challenges / problems addressed by the good practice

The use of, and evidence for, HMHM solutions and approaches continues to grow, both within Scotland and further afield. Much of this has been driven by either individual clinical leaders or as part of trials, pilots or other comparatively small-scale activity. As the activity grows, so does the disparity in approaches and technological solutions utilised.

As HMHM services in Scotland begin to move into the early stages of scaling-up, this initial 'Release 1.0' Model forms a starting point for evolutionary development. Release 1.0 aims to establish a national direction of travel and support wider participation from health and care organisations across Scotland.

Importance of the challenges / problems before starting to implement good practice

Reducing variation and unnecessary cost are key drivers, as are the recognised need to drive up standards. This is applicable to any at-scale approach, so is not unique to this Good Practice.

Environment before the good practice was implemented

The model itself is based on several years of experience gained through a combination of small local initiatives and Scotland's involvement in the large-scale United4Health project. All of the evidence garnered from those experiences led to the conclusion that a national model was required to facilitate at scale mainstream adoption. In other words, what was in place before was local approaches, and through the model we are moving to a national approach for HMHM.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

As per the answer to 21, the practice represents a culmination of our collective knowledge and experience to date. The framework is constructed from the following

components:

- A conceptual model which describes the environment in which HMHM services operate, the citizens that these interventions best serve and the ways in which citizens and pathways are supported
- A set of service principles to inform service and pathway design. These describe the purposes of interventions and underpin the attainment of cost and clinically effective interventions
- A core service pathway and components to inform a consistent approach to pathway development and implementation across Scotland.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required) Creating the national model has been primarily driven by personnel requirements rather than equipment, ICT etc. Implementation of the model, which is the next phase, will require further resourcing and is the main focus for 2016/17 and 2017/18.	
Total budget of the Good Practice	€1M - €5M
Source of funding	National funding
The main actions that have to be done to deploy the Good Practice The National team has established a National HMHM Network to support local delivery partners to scale up HMHM services. The network, now named HMHM Action Group primary aim is to provide implementation support to partners as well as maximise opportunities for knowledge transfer and shared learning between the partners and national team. The national team have provided additional coaching to TEC funded partners to help establish local infrastructures to implement and spread of HMHM enabled services. This included sharing best practice to promote better engagement, recruitment strategies and learning from at other national scale national programme in particular United4Health and other international at scale programmes. The National Team and a series HMHM task and finish groups have successfully collaborated to produce a number of keys elements of the National Model for HMHM including- o Development of core components of the National HMHM service Model; o Development of logic model for	

HMHM; o Series of SOP & HMHM pathways/services across Scotland, early work commenced on Heart Failure. The group will run throughout the life of the programme to continue to provide a peer support network for all partnerships and support the growing of expertise in building HMHM service models, service redesign & benefit realisation activities.

Issues during the implementation of the Good Practice

More lessons learned in implementing HMHM, rather than difficulties in developing the national model (which related more to time required in negotiations etc.). Our lessons learned on implementation include:

- • Important not to underestimate how much time it takes to " start up " HMHM services, redesign care pathways , identify and train up staff in their new roles.
- • Champions are important to initiate a project. A sustainable project needs a team as well a senior strategic leadership
- • A critical element in implementing HMHM enabled services is to have key stakeholders and staff members fully onboard and engaged as early as possible.
- • Dedicated Staff - recruit early as possible
- • HMHM needs to be viewed as an inherent part of the service not additional.

Additional resources required to scale up Good Practice

No

This first release of the Model is intended as a starting point for the encouragement, development and support of service redesign and expansion rather than a definitive guide. There is still a lot of innovation in this arena and new opportunities for HMHM to be utilised to the benefit of citizens, clinicians and services alike are being uncovered. This guidance needs to reflect the rate of discovery and new learning and as such will remain a 'living' document for the foreseeable future. Two companion documents to this National Service Model are in development. The first is an Implementation Guide. It seeks to package and share the best of the current learning about the operational aspects of HMHM service start-up and implementation. It is anticipated that this will become available late in 2016. The second document is Procurement Guidance. This is being developed in response to demand from TEC Programme Partners and is being designed for use locally in the first instance and also to inform national procurement activity as opportunities arise. It is anticipated that this will become available early in 2017.

Basis to support sustainability of the Good Practice

Primarily demand - there is a recognised need. The number of patients in Scotland with

long-term conditions is growing fast and this trend is set to continue for at least the next 15 years.

These growth rates suggest significant and sustained increases in demand in the short and long term and in an environment where there is limited scope to increase the size of workforce to address this.

This means that working practices must change or in future citizens will have to wait significantly longer to receive treatment. This may in turn further increase pressure on services in the event that citizens need more resource intensive care because of increasing delays.

Home and mobile health monitoring can help to alleviate some of the pressure by supporting ways of working that reduce pressure on scarce clinical resources while improving citizen outcomes and experience.

Evidence to observe the Good Practice

The good practice is observed via the report -

[http://sctt.org.uk/programmes/community/technology-enabled-care-programme/tec-programme-reports-publications- 2/](http://sctt.org.uk/programmes/community/technology-enabled-care-programme/tec-programme-reports-publications-2/)

Study visit can also be accommodated.

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Less than a year;

Developing the model itself has taken less than a year. However, it is based on close to a decade of engagement, experience and lessons learned. We are anticipating the next stage (i.e. its implementation) as taking 1-3 years, with the model itself being continuously updated and improved.

Investment per citizens / patient / client in terms of financial resources

No available calculation.

As the model has the potential to cover a whole host of clinical pathways, and is not prescriptive in what technologies should be used, it does not attempt to provide costs. It does, however, recognise the importance of considering Return on Investment. Adopting

home and mobile health monitoring as a service enhancement involves incurring additional costs. These typically take the form of one-off costs; which are incurred through the start-up or expansion of an HMHM service, and the underlying service delivery costs i.e. those costs incurred exclusively in the continuing delivery of the monitoring service. For HMHM services to become established, embedded and optimised they need to be able to deliver sufficient benefits to justify the initial investment of resources and the continued support from core budgets. It is important to include discussions about RoI as early as practical in the planning of an HMHM initiative. This helps to focus and manage expectations about what will be achieved by the introduction or expansion of HMHM services. These discussions should be multi-disciplinary and include representatives with Clinical, Financial, Technology and Service Management responsibilities.

Evidence behind the Good Practice

Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

As this was about creating a model for implementation as a general concept, rather than a push to deliver a specific intervention for a specific condition using a specific type of technology, the exploration of the evidence was relatively broad. There is growing and compelling body of UK and international research that evaluates the clinical and cost effectiveness benefits of home health monitoring. Included in this body of work are a number of systematic reviews that evaluate the effectiveness of services using home monitoring as a component of care for patients with specific chronic conditions. These studies are complemented by a body of evidence provided from an increasing number of large Scale UK & EU funded projects.

Maturity of the Good Practice

The idea has been formulated and/or research and experiments are underway to test a 'proof of concept'.

Although the model itself is based on existing work, it has not yet been implemented. That is now our current focus.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began

Impact observed

Not available

Transferability of the Good Practice

Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.

Part 5: Your organisation

Name of the organisation	Scottish Government
Address of the organisation	St. Andrews House, Regent Road, Edinburgh, EH1 3DG, Scotland, UK.
Type of organisation	National public authorities
Name of the contact person	Alistair Hodgson
Email address of the contact person	Alistair.hodgson@gov.scot

Scotland: Collaborative Commissioning of Care at Home Services

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Collaborative Commissioning of Care at Home Services
Short name (Acronym)	Collaborative Commissioning of Care at Home Services
URL of the Good Practice	https://www.youtube.com/watch?v=LEi6A0xfMXk
Geographical scope	Local level
Country	Scotland

Region(s) involved	Highland
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Primary care centres • Home care centres • Private companies • Micro-sized industry • Regional public authorities
Size of population covered	1,000-9,999
Targeted audience	65-79 Years
Summary of the Good Practice <p>Since integration, NHS Highland has been implementing a strategic commissioning approach towards the development and delivery of services. Key to this activity has been the perception that whilst the formal partnership agreement instituting the lead agency arrangements for delivery of adult care are between the NHS and The Highland Council, the concept of “integration” being pursued reflects a belief that true integration takes place across sectors, and allows the full contribution of the community to the design and delivery of services.</p> <p>The objectives were to establish a sustainable; accessible; high quality Care@ Home service within a fixed financial envelope.</p> <p>It was out of this work, that Highland engaged in a Programme Budgeting Marginal Analysis (PBMA) pilot to better understand a structured approach to priority setting. (paper submitted for publication with Glasgow Caledonian University)</p> <p>The outcomes have been the achievement of the objectives, plus the unforeseen development of a new community driven model of care@home.</p> <p>The route for achievement were new collaborative commissioning approaches and mechanisms (currently receiving considerable national interest/acclaim)</p> <p>The transferrable aspects are:</p> <ul style="list-style-type: none"> • Principles of engagement • Commissioning methodology • Care delivery models 	
Key words: Care at Home, Commissioning, Cross-sector, Community	
Good practice being part of the larger programme	

Yes.

Integration of Health and Social Care. The Highland integration pre dates national integration via the Public Bodies Act by 4 years.

Challenges / problems addressed by the good practice

The challenge of improving Care@ Home provision is critical to future provision for an ageing population. Unavailability of Care @ Home:

- Increases dependency by delaying hospital discharge
- Increases Care Home utilisation in terms of lower age on admission and increased length of stay
- Deprives people of a choice, and a chance for continued independence • Confines choice to expensive residential and institutional options
- Reduces the quality of experience, whilst driving up system costs.

Importance of the challenges / problems before starting to implement good practice

The challenge of improving Care@ Home provision is critical to future provision for an ageing population. Unavailability of Care @ Home:

- Increases dependency by delaying hospital discharge
- Increases Care Home utilisation in terms of lower age on admission and increased length of stay
- Deprives people of a choice, and a chance for continued independence • Confines choice to expensive residential and institutional options
- Reduces the quality of experience, whilst driving up system costs.

Environment before the good practice was implemented

Initially, the behaviour of the statutory sector in this setting was procurement, rather than commissioning and very traditional in setting terms and driving down price. It is also important to note that, as a purchaser /provider, the statutory sector protected and prioritised use of the “in house” service, at the expense of the stability of the Sectors.

Market facilitation (or lack of) requires to be seen in this context. Due to a position as a 60% provider of care@home, the statutory sector made available those hours that they did not have capacity/logistics to provide themselves. Provision was not jointly planned and forward planning to allow sector expansion was minimal.

The fee structure was set by establishing the level of increase that could be borne by the

budget, based on existing configurations of activity.

This “hand to mouth” approach was further exacerbated by the ability of the in house service to offer better terms and conditions to staff. The result was that the independent and voluntary providers trained up new staff, only to see them attracted away to the in house service due to better terms and conditions, resulting in staff shortages which destabilised independent provision, resulting in the return of packages to the in house service, “proving” that the sector could not be relied upon to deliver sustainability.

This vicious cycle was further amplified because the lack of a consistent or sustained flow of hours/work meant that the Sector could not recruit in advance, as there was no assurance that the trained up staff would be deployed despite a shortage of care@home.

The resulting context was poor and distrustful relationships; a dysfunctional market and an adversarial and acrimonious liaison meeting. However this approach did help to foster a cooperative approach from all non-statutory providers under the coordination of Scottish Care, which became a crucial aspect of the subsequent changes.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

There was an upward shift in quality;

- More people are able to live independently at home
- Delays in receiving care @ home were reduced or eliminated in the project area and Hospital bed days lost awaiting Care@ Home were reduced
- Remote areas previously described as impossible to provide care now have thriving provision
- A sustainable “fair rate” is paid for care@home hours and a collaborative commissioning environment has been achieved.
- A joint recruitment strategy for the Sector was implemented and was successful and the living wage was paid to Care@ Home workers across sectors from 2014 (two years ahead of the national initiative)

Reference to Self-Directed Support is also important. Through the process of collaboration, it became apparent that there were localities where no provider was able to operate successfully, but where the community wished to support provision. In these (principally rural) areas, a partnership approach between the community and the independent sector was taken forward to establish “pop up” care@home which knitted together existing provision with community capacity to create reliable care at home where there had previously been none. This model may be particularly applicable to the very rural North and West of Highland as we move to this approach in 2016/17.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required) Resources required were limited to the extent that £0.5m was made available to cover fixed at one year double running costs. All other resources were existing management time being directed to supporting the project.	
Total budget of the Good Practice	€100.00 - €499,999
Source of funding	Local funding
The main actions that have to be done to deploy the Good Practice In reflecting on the path that has been followed by the Care at Home Sectors within Highland, it is important to recognise that whilst there have been practice, process and system changes, the real underlying changes have occurred within behaviours and culture. Key to these are: <ul style="list-style-type: none"> • Building trusting relationships Firstly this refers to the relationship between the NHS and the non-statutory providers: evidencing that we mean what we say about working together, and that we are intent on doing this at scale, rather than making change at the margins to demonstrate Good Practice, whilst continuing to protect the 60% of inward commissioning to the in-house service. Secondly, this refers to the development of a (possibly unique) local arrangement whereby the Provider base adopts a collaborative approach towards coordination of recruitment and allocation of work. The importance of this cooperative culture cannot be understated, not least as entrants to the Highland “market” require understanding the behaviours expected of the members of that market. The upshot of the above is that there is an unusual level of trust between the commissioner and providers; and between providers. • Alongside the development of trust has been a relinquishing of power to allow the sector, as a whole, to develop the new arrangements, rather than the NHS imposing conditions on them. This has resulted in the attached conditions to the Tariff, which are the statements developed by the providers, of “what they think the NHS should be expecting” to achieve the outcomes we have agreed to pursue. It is probably fair to say that the resultant conditions are probably both better 	

<p>owned and more robust than the NHS might have otherwise hoped for. • Changing expectations. The above changes have raised expectations of both behaviour and levels of provision. We have moved from a traditional approach to monitoring and compliance to a point where the Development Group considers challenges and jointly promotes improvement, rather than the Commissioner challenging a provider in isolation. The expectation within the Highland environment is that the Sector (including the in-house provider) will suggest and implement solutions to maintain a “self-healing” provider base.</p> <ul style="list-style-type: none"> • Acting with integrity. This expectation cuts both ways. At the start, there was much that had been negative about the way that the Purchaser/Provider split operated; and we needed to be honest about that and to try and fix it. We can now say that both the NHS and the Sector are prepared to critically appraise our own approaches and to openly seek solutions. This has been as much about being honest about what we can’t do, as it has about what we can.
<p>Issues during the implementation of the Good Practice</p> <ul style="list-style-type: none"> • Shifting activity and developing a market is difficult in a period of escalating, unmet need. • All parties are looking for assurances on big financial and operational risks that cannot be provided in such a developmental context. • A major system change which is predicated on cultural change takes time that we did not have. The result was a brinksmanship that the project would “come good” in the end. Which it did. • Being prepared to take the bold step and holding our nerve that we were doing the right thing, is harder than accepting a “safe” but deteriorating status quo.
<p>Additional resources required to scale up Good Practice</p> <p>No</p>
<p>Basis to support sustainability of the Good Practice</p> <p>As described above. The key resource transfer is from high cost, in house provision to lower cost (but still the highest rate paid in Scotland) better quality provision. This enables the in-house service to be redeployed to provide an intense rehabilitation service, which has been seen to reduce dependency, creating a virtuous cycle which reduces demand.</p>
<p>Evidence to observe the Good Practice</p> <p>The good practice is observed via the report -</p>

<https://www.youtube.com/watch?v=LEi6A0xfMXk>

Study visit can also be accommodated.

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Between one year and three years.

Investment per citizens / patient / client in terms of financial resources

No available calculation.

The project does not require an additional investment per person, the investment is the care cost that varies dependent on need @ £18.99 per hour of delivered care.

Evidence behind the Good Practice

Apparent evidence. Evidence is based on qualitative success stories.

Principle evidence is the reduction of bed days delayed in hospital attributable to Care@Home delays (these can be costed) and the emergence of provision in previously unreachable rural areas.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

The practice is now firmly established in the Inner Moray Firth area of Highland (previously named South and East) and is being migrated to the North and West, where it is at an early stage of a likely slower rate of development.

Estimated time of impact of the Good Practice

Medium impact - e.g. shortly beyond the pilot project period

Impact observed

Better quality of life (societal).

Transferability of the Good Practice

The innovative practice has been transferred within the same region.

Part 5: Your organisation

Name of the organisation	NHS Highland
Address of the organisation	Assynt House Beechwood Park Inverness IV2 3BW
Type of organisation	Local public authorities
Name of the contact person	Simon Steer
Email address of the contact person	Simon.steer@nhs.net

Scotland: Technology Enabled Care Programme
Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Good practice

Part 2: Description of the Good Practice

Name of the Good Practice	Technology Enabled Care Programme
Short name (Acronym)	TEC Programme
URL of the Good Practice	http://www.jitscotland.org.uk/news/technology-enabled-care-guidance-for-2016-18/
Geographical scope	National level
Country	Scotland
Region(s) involved	Scotland
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> Hospitals Primary care centres Specialised physicians General practitioners

	<ul style="list-style-type: none"> • Nurses • Local public authorities • National public authorities • WHO • Informal caregivers • Nursing homes • Home care centres
Size of population covered	10,00-99,999
Targeted audience	Irrelevant
Summary of the Good Practice <p>The Scottish Government's TEC Programme was set up to mainstream adoption of technological solutions within service redesign. Its principle focus is on primary, community and home-based care rather than acute specialities, with the general objective of ensuring that outcomes for individuals, in home or community settings, are improved through the application of technology as an integral part of quality cost-effective care and support. A number of specific objectives relate to the further embedding of telecare (including future proofing in the digital age), the expansion of home & mobile health monitoring (this is subject to a separate submission), greater use of video consultations and creation of a national digital platform framework.</p> <p>The Programme consists of a combination national funding and support being made available for local implementation (to the tune of around €35 million over three years), and is governed by its own Programme Board. A dedicated Programme Office oversees the distribution of funding (the availability of which was determined by a competitive bidding process) and the distribution of expert support. Support at a nation a level consists of technical support, strategic planning support and service redesign support, with other expertise drawn when required.</p> <p>The principles underpinning the programme, and the approach to large-scale mainstream adoption, are entirely transferable.</p>	
Key words: Telehealthcare, digital health, technology, service change	
Good practice being part of the larger programme <p>Yes.</p> <p>Part of the wider Integrated Care Fund, which is a Scottish Government initiative designed to support the formal integration of health & social care (which is now a legal requirement in Scotland).</p>	

Challenges / problems addressed by the good practice

The overall challenge being addressed is one of mainstream adoption of technology enabled care within routine service delivery. Within the specific focus areas, the principle challenges are:

- Telecare - although routinely used, is done so with significant variation in approach and application (from referral pathways, to the way the service is run), and is run using analogue systems in a digital age
- Home & mobile health monitoring - there is a need to move from small-scale, and fragmented, pilots and trials to a national approach
- Video consultations - there currently exists a complete network across the NHS, but is mainly used for staff-staff meetings. Other than in a few isolated examples, where video consultations are routinely used for clinical consultations (primarily island-mainland), there is a pressing need to 'normalise' the use of video for health & care consultations with patients and service users
- Digital platforms - a core component of this is be considering the business case proposal for the implementation of a National Digital Platform to support self-management information, products and services for Scottish citizens, recognizing the fragmented approach to date and the lack of common standards/APIs.

Importance of the challenges / problems before starting to implement good practice

A detailed analysis of the current picture in Scotland was carried out before commencing the programme (as a precursor to securing funding), and whilst it demonstrated that Scotland was in a strong position in many aspects, there were other areas which required detailed focus and effort. For example:

- Services are insufficiently mainstreamed, with a lack of high level strategic focus at Board/Partnership level with a perpetuation of project/initiative approaches supported by short term funding;
- Sustainability is too often dependent on external funding with savings and efficiencies not resulting in enhanced core budgets.
- Telehealth is not sufficiently embedded or embraced by clinicians and NHS services across primary and secondary care, and there is limited interoperability with the core eHealth electronic systems;
- Telehealth and Telecare are not integrated in ways that would support better person centred care;

Environment before the good practice was implemented

Telecare had previously benefited from a large-scale centrally supported drive to mainstream. Over the period 2006-2011, the Telecare Development Programme ran, and now over 80% of all those in receipt of some form of statutory commissioned/provided care at home are utilising telecare. Within telehealth, a national video conferencing infrastructure is already in place across the NHS, with all sites connected. Remote monitoring was in use across all areas of Scotland, albeit at a relatively small-scale and fragmented way. Various uses of digital platform were evident, but without the necessary linkages.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

Although the programme is on-going, to date it is beginning to show that sustained national support can provide the necessary impetus to introduce core budgets into mainstreaming previous small-scale approaches. By providing national focus, the profile and visibility of technology enabled care has been significantly increased, leading to a greater cohort of individuals championing the use of TEC, above and beyond the usual enthusiasts. A significant part of this has been driven by the communications strategy, with specific events targeted to raise awareness, and a strong emphasis on embedding TEC into existing service redesign initiatives, rather than seeing TEC as a separate approach.

Taking the broader holistic view allows for access to additional resources and expertise

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required) <p>This varies significantly across the country, depending on what service change is required, what disease group or need is being targeted, what technology is being utilised and what scale the service will be. Taken as a whole, the programme has made available €10.5 million per annum in cash resources, as well as a pool of national experts (covering service redesign, technical implementation and strategic business planning, as well as</p>	

project and programme management). It has also utilised the Critical Success Factors at a national level to identify what areas require a particular focus.

(<http://www.jitscotland.org.uk/resource/assessment-of-the-csf-for-mainstream-adoption-of-tec/>)

Total budget of the Good Practice	More than €5M
Source of funding	Primarily national government, but recipients of funding are expected to contribute - either through additional cash resources or through in-kind contributions (e.g. staff time).

The main actions that have to be done to deploy the Good Practice

National funding guidance was issued 6 months prior to commencing the issuing of funding (see <http://www.jitscotland.org.uk/news/technology-enabled-care-tec-guidance-oct-2014/>). This required applicants to set out their ambitions and plans, with those successful at the first stage being asked to complete a second, more detailed, business planning template for further assessment. This allowed us to prioritise the targeting of resources appropriately, as well as ensure that the recipients of funding had the necessary infrastructure in place to commence delivery. At a national level, we also recognised the value in knowledge exchange, so established a specific focus on improvement support. This has included hosting a variety of networking events, online seminars, sharing of best practice, as well as accelerated 30-60-90 day improvement cycles.

Issues during the implementation of the Good Practice

1. How to allocate appropriate support to individual recipients of funding. We initially set out to ensure that every recipient of funding (23 separate organisations) had a named individual at a national level who could provide strategic support and act as a conduit to bringing in additional expertise and technical knowledge. However, due to the limited number of personnel at national level this provided particularly challenging to implement. Whilst hands-on national support for each local area has continued, we have had to change how we offer that as well as the frequency with which we engage.
2. Procurement. Challenges with procurement vary from area to area and service to service. Generally, procurement within telecare has not been an issue as there is a national Framework in place covering the majority of telecare. For telehealth equipment, however, the scale of use is not yet sufficient to warrant a national framework nor is their general consensus at a local level as to what 'solution' is the best option - this has resulted in a fragmented approach to procuring solutions

<p>locally, often at sub-optimal prices. Other challenges with procurement were more generic, and related more to the timescales involved.</p> <p>3. Information governance. As new procedures are set up, inevitably new protocols need to be put in place. Whilst not an insurmountable challenge, in quite a few areas it took much longer than expected to progress.</p>
<p>Additional resources required to scale up Good Practice</p> <p>No</p>
<p>Basis to support sustainability of the Good Practice</p> <p>Within Scotland, decisions around what services to commission and decisions on what planning for future service delivery is required is largely governed by local Integration Authorities, who oversee all primary & community health & social care needs within the 32 localities. The statutory strategic planning process that they go through dictates local spending decisions, and is the key focus of long-term sustainability. In other words, it is only by embedding the practice into local planning that it will become a sustainable 'business as usual' approach. Evidence of intention to do this was a key requirement of receiving funding.</p>
<p>Evidence to observe the Good Practice</p> <p>An overview of the first year's activity is available at http://www.jitscotland.org.uk/resource/tec-programme-overview-of-year-one-activity/ and a report into progress as at the end of the first year is due to be published soon. This can be made available. We are also able to accommodate study visits, and will be hosting the annual Digital Health & Care Conference in Edinburgh on 30 November when several aspects of the practice will be presented.</p>

Part 4: Viability assessment of the Good Practice

<p>Time needed to deploy the Good Practice</p> <p>Between one year and three years.</p>
<p>Investment per citizens / patient / client in terms of financial resources</p> <p>Between €1.000 - €5.000 EUR per targeted citizen / patient.</p>
<p>Evidence behind the Good Practice</p>

Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

There is sufficient evidence available to demonstrate varying degrees of impact on quality of life (and other personal outcomes), affordability (and other system outcomes) and effectiveness (and other clinical and/or care outcomes) - although it all depends on the individual service. No funding was issued if the proposal could not evidence a positive impact.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

Better quality of life (societal).

Transferability of the Good Practice

The innovative practice has been transferred in other locations or regions or national scale in the same country.

Part 5: Your organisation

Name of the organisation	Scottish Government
Address of the organisation	St. Andrews House, Regent Road, Edinburgh, EH1 3DG
Type of organisation	Government
Name of the contact person	Alistair Hodgson
Email address of the contact person	alistair.hodgson@gov.scot

Scotland: Reshaping Care for Older People

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	Yes
Evaluation of the Good Practice	NO
Type of the Good Practice	Good practice

Part 2: Description of the Good Practice

Name of the Good Practice	Reshaping Care for Older People
Short name (Acronym)	RCOP
URL of the Good Practice	http://www.jitscotland.org.uk/resource/reshaping-care-for-older-people-change-fund-building-on-progress-june-2015/
Geographical scope	Regional level
Country	Scotland
Region(s) involved	Scotland
Status of the Good Practice	Completed
Stakeholders involved	<ul style="list-style-type: none"> • Advocacy organisations of nurses • Advocacy organisations of physicians • Advocacy organisations of patients / users • NGOs • Medium-sized industry • Small-sized industry • Micro-sized industry • Private companies • Housing organisations • Informal caregivers • Nursing homes • Home care centres • Day care centres • Nurses • Pharmacists • General practitioners • Specialised physicians

	<ul style="list-style-type: none"> • Primary care centres • Hospitals
Size of population covered	>100,000
Targeted audience	65 - 79, 80+
<p>Summary of the Good Practice</p> <p>From 2011- 2015 a national improvement programme and £300 million Change Fund has enabled more older people to live well at home or in the community through preventative, anticipatory and coordinated care and support, intermediate care at times of transition, and technology to empower greater choice and control. A cross sector improvement network supported testing new approaches, spreading Good Practice, understanding variation and joint commissioning and resourcing to improve outcomes. Each local partnership's Change Plan described how health, social care, housing, Third sector and independent sector partners would work together to test and spread interventions across the four pillars of the RCOP pathway.</p> <p>Examples of the interventions and approaches include:</p> <ul style="list-style-type: none"> • empowering older people and their carers to remain active, independent and connected with families, friends and social networks • building community capacity for preventative supports • applying a national risk prediction tool to target high resource users • scaling up anticipatory care planning • polypharmacy reviews • community rehabilitation and reablement • proactive, coordinated and integrated care management • frailty pathways for community CGA • Hospital at Home and intermediate care <p>Success factors offer transferable learning for other systems:</p> <ul style="list-style-type: none"> • adaptive and collaborative leadership; • coproduction and social innovation with citizens; • innovative use of ICT; • use of funding and contracts as a catalyst for change; • use of data and quality improvement approaches to support spread; • joint commissioning and resourcing for sustainable change; • joint governance and outcomes framework; 	

Key words: Ageing, Integrated Care, Improvement, Complexity

Good practice being part of the larger programme

Yes.

Now evolved to integration of health and social care. From April 2015, 31 new Sintegration authorities are using their collective resources to scale up new models of integrated care and support for all adults, particularly the growing numbers of people who have multiple physical and mental health conditions.
<http://www.gov.scot/Topics/Health/Policy/Adult-Health-SocialCare-Integration>

Challenges / problems addressed by the good practice

- The increasing demand on health and social care associated with ageing and multimorbidity.
- The need for a stronger focus on personal outcomes as well as system outcomes
- The desire to shift the balance of care to care and support at home
- The need to empower and enable greater choice and control for people who use services and their carers
- The need to deliver value through sustainable integrated care.

Importance of the challenges / problems before starting to implement good practice

There was widespread engagement and a national consensus from all sectors that the current model of care was not sustainable given the demographic challenges and the diminishing public funding. Analysis of the potential impact of no change made a compelling case for change and resulted in innovation funding to be used to lever transformational change at scale

Environment before the good practice was implemented

Collaboration between healthcare and social care partners in Scotland had been actively promoted since the report of the Joint Future Group (Scottish Executive 2000). Although the Community Care and Health (Scotland) Act 2002 conferred powers to create pooled budgets between healthcare and social care, this earlier legislation resulted in few examples of effective joint planning and shared resources (Audit Scotland 2011). However conventional care was still generally designed and delivered by health and social care partners within separate organisational frameworks and with variable involvement of older people and carer groups. Housing, Third and independent sector partners were not generally viewed as full partners.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

- Development of a local Change Plan for older people with strategic commissioning of health and social care budgets in each local partnership
- Local change and improvement support and a series of national learning events
- Systematic spread of anticipatory care interventions and intermediate care
- Use of funding to lever growth in community and Third sector capacity to help people stay well and connected
- Use of matched local and innovation and European funding to increase adoption of telecare.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)	
<ul style="list-style-type: none"> • Cross sector policy development - regional • Professional and political leadership - regional and local • Improvement support - regional and local • Third sector advocacy - regional and local • Innovation funding 	
Total budget of the Good Practice	More than €5M
Source of funding	Regional and local funding
The main actions that have to be done to deploy the Good Practice	
<ul style="list-style-type: none"> • Cross sector policy development - regional • Professional and political leadership - regional and local • Improvement support - regional and local • Third sector advocacy - regional and local • Innovation funding • Time and space to test and adapt new models of care • Support for joint commissioning • Tracking of indicators • Learning to track personal outcomes 	

<ul style="list-style-type: none"> • Workforce development in new models of care
Issues during the implementation of the Good Practice <ul style="list-style-type: none"> • Building effective relationships across disciplines and across sectors • Supporting statutory services to shift from procurement to a commissioning approach • Inadequate ICT to enable shared information • Restrictive data sharing agreements • Workforce development in assets based person centred practice
Additional resources required to scale up Good Practice <p>Yes</p> <p>The Change Fund represented just 1% of the overall budget. Maximum impact is achieved when the total budget is used in this way - thus the development of legislation for fully integrated health and social care.</p>
Basis to support sustainability of the Good Practice <p>The practice has now evolved to integration of health and social care for all adults and is supported by an Integrated Care Fund from 2015. Local communities are the engine room of integrated care and the space to best engage and empower those who deliver and receive healthcare and social care support. Therefore, each Integration Authority will establish locality planning arrangements as a forum for strong local professional leadership and engagement of local, voluntary and independent sectors in service planning. A strategic plan and integrated budget, developed with involvement of providers, non-statutory partners, patients, carers and service-user representatives, will commission the required range of integrated services and community support to improve local population health.</p>
Evidence to observe the Good Practice <p>http://www.jitscotland.org.uk/resource/reshaping-care-for-older-people-change-fund-building-on-progress-june-2015/</p>

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice <p>Between one year and three years.</p>

Lead in phases was over 1 year. Maximum impact came at around year three.

- Extensive engagement, political and professional consensus building on the case for change
- Development of a national action plan supported by local and national improvement infrastructure
- Securing agreement to ring-fenced funding to pump prime the local implementation
- Develop a set of outcomes to track improvement

Investment per citizens / patient / client in terms of financial resources

Between €100 - €1.000 per targeted citizen / patient.

The £300 million over 4 years represents around just 1% of the overall health and social care budget for older people - the £300 million was funding that the providers expected. The innovation was that this was ring-fenced and used by all partners together to drive a shift in practice and lever a shift in the model of care

Evidence behind the Good Practice

Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the Good Practice.

This practice builds on improvement and innovation in care for adults with long-term conditions in Scotland - Improving the Health and Wellbeing of People with Long-Term Conditions in Scotland: A National Action Plan (Scottish Government 2009). A national improvement collaborative from 2008-2011 supported adoption of high-impact changes across three work streams: self-management, condition management and complex care for people with long-term conditions. Between 2006/2007 and 2010/2011, the rate of inpatient bed days for coronary heart disease, diabetes, asthma and chronic obstructive pulmonary disease reduced by 14%. These chronic care model approaches were adapted for the older population.

Scottish Government. 2009. Improving the Health and Wellbeing of People with Long Term Conditions in Scotland: A National Action Plan. Edinburgh: Scottish Government. Retrieved on June 15, 2016.

<[www.gov.scot resource="" doc="" 294270="" 0090939.pdf=""](http://www.gov.scot/resource/0000/0294/270/0090939.pdf)> Scottish Government. 2010a.

“Reshaping Care: A Programme for Change 2011- 2021.” Edinburgh: Scottish Government. Retrieved on June 15, 2016. [www.gov.scot resource="" doc="" 924="" 0114884.pdf=""](http://www.gov.scot/resource/0000/0924/924/0114884.pdf)

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

Fully implemented at scale and now evolving to integrated care and a Change Fund for all adults After four years of the programme, outcomes delivered include:

39% of the Change Fund provided support for carers including carer's assessments, opportunities for short breaks, information and advice, training, income maximisation and advocacy.

- Around 16% of the Change Fund was invested in the Third Sector.
 - 85% of older people receiving support at home now benefit from telecare.
 - 17% reduction in rate of conveyance by Ambulance to the Emergency Department for older people who have fallen and are not injured.
 - The hospital bed day rate for people aged 75+ following an emergency admission reduced by 10.3% from 2009/2010 to 2014/2015.
 - In absolute terms this equates with a reduction of around 2% in the number of beds used, despite the increasing number of older people.
- In 2014, there were at least 5500 fewer older people in care homes than projected based on the 2009 rate and demographic trends. • Older people spent around 2.5 million more days at home in 2014/2015 than would have been expected based on previous balance of care and population ageing analyses.

Healthcare Quarterly, 19(2) July 2016: 73- 79.doi:10.12927/hcq.2016.24703 Scottish Government. 2014b. Integrated Care Fund. Guidance for Local Partnerships. Retrieved on June15, 2016. [www.gov.scot resource="" 0046="" 00460952.pdf=""](http://www.gov.scot/resource/0046/00460952.pdf)

Estimated time of impact of the Good Practice

Medium impact - e.g. shortly beyond the pilot project period

Impact observed

- Better health (societal).
- Better quality of life (societal)
- Less isolated people (societal)
- Increased sense of security (societal)
- Better care integration (economic and societal) Shorter stay in hospital (economic).

Local evidence of improved health and wellbeing outcomes using Talking Points approaches National evidence - after four years of the programme, outcomes delivered include:

- 39% of the Change Fund provided support for carers including carer's assessments, opportunities for short breaks, information and advice, training, income maximisation and advocacy.
- Around 16% of the Change Fund was invested in the Third Sector.
- 85% of older people receiving support at home now benefit from telecare.
- 17% reduction in rate of conveyance by Ambulance to the Emergency Department for older people who have fallen and are not injured.
- The hospital bed day rate for people aged 75+ following an emergency admission reduced by 10.3% from 2009/2010 to 2014/2015. In absolute terms this equates with a reduction of around 2% in the number of beds used, despite the increasing number of older people.
- In 2014, there were at least 5500 fewer older people in care homes than projected based on the 2009 rate and demographic trends.
- Older people spent around 2.5 million more days at home in 2014/2015 than would have been expected based on previous balance of care and population ageing analyses.

Transferability of the Good Practice

The innovative practice has been transferred within the same region.

Designed as a regional programme but delivered locally - and fully implemented across Scotland from the outset. Over the last year there has been extensive knowledge exchange on transferable lessons for other systems in Europe and beyond.

Success factors offer transferable learning for other systems:

- adaptive and collaborative leadership;
- coproduction and social innovation with citizens;
- innovative use of ICT;
- use of funding and contracts as a catalyst for change;
- use of data and quality improvement approaches to support spread;
- joint commissioning and resourcing for sustainable change;
- joint governance and outcomes framework.

Part 5: Your organisation

Name of the organisation	Scottish Government
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Address of the organisation	St. Andrews House, Regent Road, Edinburgh, EH1 3DG
Type of organisation	Government
Name of the contact person	Prof Anne Hendry, Clinical Lead for Integrated Care
Email address of the contact person	Anne.hendry@lanarkshire.scot.nhs.uk

Scotland: cCBT in Scotand

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Good practice

Part 2: Description of the Good Practice

Name of the Good Practice	cCBT in Scotland
Short name (Acronym)	Not applicable
URL of the Good Practice	Not applicable
Geographical scope	National level
Country	Scotland
Region(s) involved	14 Health Boards in Scotland: NHS Greater Glasgow and Clyde NHS Borders NHS Dumfries & Galloway NHS Highland NHS Orkney NHS Western Isles NHS Ayrshire & Arran NHS Grampian NHS Fife NHS Shetland

	NHS Lanarkshire NHS Forth Valley NHS Tayside
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Specialised physicians • General practitioners • Private companies • Nurses • Academia • National public authority • WHO • Regional public authorities Local public authorities
Size of population covered	10,000 - 99,999
Targeted audience	<18, 18-49, 50-64, 65-79, 80+
Summary of the Good Practice The practice covers mental health in particular the treatment of those individuals suffering from depression and anxiety. The aim of the practice is to offer evidence-based treatment on a large scale to all those patients deemed suitable for a computerised treatment by a competent clinical member of staff. The treatment is delivered in the individual's home and who are directly responsible for the management of their treatment. The computerised therapy (cCBT) is co-ordinated and monitored locally by cCBT Services based in each of the specific territorial Health Boards. The method of implementation and the service model are key to the successful establishment of the cCBT services and are adapted locally from a standardised model of implementation development and tested over many years. The cCBT services are integrated into the local psychology therapy stepped or matched care clinical service models and offered as a mainstreamed treatment option. The implementation, service development, clinical governance and service usage is overseen by a national team who take responsibility for the overall success of the cCBT practice in Scotland. Within this national team there is expertise	
Key words: Mental health, efficient, effective, innovative, service	
Good practice being part of the larger programme	

Yes.

MasterMind: MasterMind is a European project that will define the key barriers and facilitators when implementing cCBT. The project in Scotland was the starting point for a wider implementation now called cCBT TEC which encompasses the implementation of sustained cCBT services in all territorial Health Boards in Scotland.

Challenges / problems addressed by the good practice

The practice will primarily be used to provide patients greater access to psychological therapies. There is an ever-increasing demand for mental health treatment across a wide spectrum of severity and range of conditions. The provision of computerised CBT provides a cost effective, large-scale solution in the treatment of the most prevalent mental health conditions such as depression. The solution can be used by a range of clinicians across a number of specialities with over 22 different services now referring to cCBT in Scotland, this including GPs, psychologists and psychiatrists.

Importance of the challenges / problems before starting to implement good practice

The problem is considerable. Depression is the leading cause of disability worldwide and the demand for treatment is on the rise due largely to increasing life expectancy. Depression is highly prevalent and has a severely negative impact on mental wellbeing of the individuals, their quality of life and their social and work-related functioning both on the short and long-term. Depression is one of the most expensive diseases, with the economic cost of depression doubling over the last ten years in many EU countries. Costs across the EU in 2010 were estimated at €136.3 billion and only a third of this cost is directly related to the treatment of the condition. The remaining two thirds related to indirect costs such as lost productivity or absenteeism from work. With the increase in demand more traditional styles of treatment such as face-to-face therapy are unable to keep up with the demand for treatment leading to long waiting times.

Environment before the good practice was implemented

There was limited options for GPs at the point of diagnosis as the majority of patients that will use cCBT will not be suitable for face-to-face psychology services as they will be suffering from moderate symptoms. The options available to GPs would be medication namely anti-depressants or recommendations to self-help materials online or in local libraries. The practice has already indicated that it can and is used as a first treatment for depression with 23% of patients having had no previous treatment before commencing with cCBT.

Key innovative elements of the good practice and how the good practice improved

situation compared to previous practice

cCBT in Scotland is still in development and is currently available in 6 of its 14 Health Boards, 44% of the population, the remaining population will be provided access in 2017. At this point in the implementation process the cCBT services provides access to evidence based psychological treatment to over 7,100 patients per year at a cost that would be equal to employing approximate 4 clinical psychologists with a maximum potential caseload of 400 patients per year. cCBT is completed in patients home and delivered online via their web browser. The patient manages their treatment but is monitored centrally and patients when required can access support.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, equal outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)	
<p>The treatment is completed either in the patient's home or at community locations such as libraries using existing equipment and technological infrastructure. The key cost is for a licence for the cCBT software, this is a nationally procured licence so the costs are reduced due to the economies of scale. The other resource requirements relate to the administration of the cCBT services in each of the 14 Health Boards and are determined by the size and expected activity of the local cCBT service. It is expected that approximately 19 administrators will be needed in total across all services in Scotland. In addition to the running costs there are implementations costs that relate to staffing a national implementation team. This team is made up of two full time members of staff who work with each of the territorial boards during the implementation process.</p>	
Total budget of the Good Practice	€100.00 - €499,999
Source of funding	National funding
The main actions that have to be done to deploy the Good Practice	
<p>There are many steps taken during the deployment process. The first of these is to engage with territorial Health Boards to; set-up local clinical governance and management structures, recruit service administrator, train local staff in cCBT program and service administration, set-up all administration procedures and adapt service model</p>	

to local needs, set-up referral routes and integrate service into local psychology stepped/matched care models. After this stage, the next step in the process is the engagement with referrer groups and market services within local areas. This will account for the majority of time taken to implement the service, approximately two thirds of the allocated time and will ultimately dictate the success and scale of the service in each of the areas. The final stage is to ensure that mainstreamed, sustained funding is found within the territorial boards for the running costs of the service.

Issues during the implementation of the Good Practice

There have been 2 significant difficulties. The first relates to technical issues caused by the age of the cCBT product that is currently the program of choice in Scotland. The second and more significant issue relates to the engagement of clinical staff and the generation of referrals. When using technology in a treatment setting there is a need to overcome negative attitudes and distrust that may be present within clinical settings. This was overcome through an appropriate marketing strategy and the presentation of the evidence of the successful clinical outcomes of treatment and the benefit of cCBT services.

Additional resources required to scale up Good Practice

No.

Basis to support sustainability of the Good Practice

This practice fulfils a need within the health care system in Scotland. The scale of deployment and usage combined with the demand of the services for depression, the cost and clinical effectiveness of the services and the longer- term potential impact supports the argument for sustained services.

Evidence to observe the Good Practice

A practice report, video or digital media, a visit to implementation site.

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Between one year and three years.

To prepare for the implementation an understanding is developed that focuses on the structures of the psychology service in each of the individual Health Board areas. In

addition evidence of the effectiveness of this type of treatment is identified. Those employed at the national levels are identified from a pool of individuals with genuine expertise in the areas of mental health, technology and service implementation. During the implementation process training materials and marketing materials must be developed. Finally some form of central monitoring of the service must be set-up.

Investment per citizens / patient / client in terms of financial resources

Between €100 - €1.000 per targeted citizen / patient.

The cost per patients has been calculated by dividing the total running costs of the service including staffing and the cost of the national cCBT software licence by the number of patients accessing the service, within a 12-month period. This method of calculating the costs per patient is used by other mental health and clinical psychology services such as face-to-face, therefore making it directly comparable between the more traditional services and cCBT.

Evidence behind the Good Practice

Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the Good Practice.

The evidence for the clinical intervention i.e. cCBT has been identified from within key clinical publications. Clinical publications have also been written based on the results of the cCBT practice in Scotland through the MasterMind project. Evidence of the success of the service model and implementation process is gathered during deployment and from routine practice. This evidence includes referral rates and patterns, engagement in treatment and completion rates, clinical outcome data and patient satisfaction data. Evidence from the services is collated nationally and analysed by those in the national implementation team with the clinical and implementation expertise. All results are shared between the national team and the territorial boards and are used to shape service improvement and marketing activities.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

The first cCBT services were established in Scotland between 2005 and 2007. In 2014 an additional 4 services were developed. All services have been running at capacity and are fully integrated into the mainstream service models. The rollout of cCBT will be completed in 2017 with the establishment of services in the 8 remaining territorial Health

Boards.
Estimated time of impact of the Good Practice Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.
Impact observed Better health (societal) and better quality of life. The impact of the services is focused on two areas, the impact on the individual and the wider impact on society and the health care systems. The impact on the individual occurs during and after treatment, these are identified through clinical outcome measures embedded in the cCBT programme which are monitored and reported on a month basis. The wider impact will take longer to realise and is dependent on the final scale and usage of cCBT in Scotland. The wider impact on society can be monitored nationally through analysis of prescribing rates, employment status and absenteeism rates.
Transferability of the Good Practice The innovative practice has been transferred in other locations or regions or national scale in the same country. The process of cCBT implementation is well formed, evidenced and documented. The service model would be the same regardless of the environment in which it is deployed with only minor changes to enable local objectives are met. The fundamental aspects of the implementation such as the marketing, clinical needs and treatment can be readily transferred from one location/region to another. The expertise developed at a regional and national level is made available during the implementation process and lesson learnt are integrated into service procedures and processes prior or during the point of implementation.

Part 5: Your organisation

Name of the organisation	NHS 24
Address of the organisation	Caledonia House 140 Fifty Pitches Road Cardonald Park Glasgow G51 4EB

Type of organisation	Special Health Board
Name of the contact person	Chris Wright
Email address of the contact person	chris.wright@nhs24.scot.nhs.uk

Scotland: Living it Up

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Living it Up
Short name (Acronym)	liU
URL of the Good Practice	https://www.livingitup.scot/
Geographical scope	Regional level
Country	Scotland
Region(s) involved	Lothian, Forth Valley, Argyll and Bute, Highlands, Ayrshire (South, North and East), Renfrewshire, East Renfrewshire, Western Isles, Moray.
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Large-sized industry • Medium-sized industry • Informal caregivers • Nursing homes • Home care centres • Day care centres • Nurses • General Practitioners • Primary care centres

Size of population covered	10,000 - 99,999
Targeted audience	50-64, 65-79, 80+
Summary of the Good Practice <p>LiU is an award-winning online digital self-management service which empowers people, aged 50 and over, to use technology to manage their health and wellbeing, and be better connected to their communities.</p> <p>LiU has been co-designed and co-produced by a range of partners in the public, statutory, voluntary and private sectors.</p> <p>LiU's person-centred platform supports the management of the high-costs of caring for an ageing demographic and a growing population living with long-term conditions, through a series of prevention and early intervention initiatives.</p>	
Key words: self-management, digital platform, citizen empowerment	
Good practice being part of the larger programme <p>Yes.</p> <p>LiU supports and underpins that National Digital Platform workstream under the Technology Enabled Care (TEC) Programme which was launched in 2014, with formal guidance issued in October 2014. Technology-Enabled Care is defined as: where the quality of cost-effective care and support to improve outcomes for individuals in home or community settings is enhanced through the application of technology as an integral part of the care and support process. This includes, but is not limited to, the use of telecare, telehealth, VC and mobile health & wellbeing (mHealth and Digital Platforms.</p>	
Challenges / problems addressed by the good practice <p>Main focus is around supporting people with LTC's, as well as carers of citizens whom are diagnosed with LTC's via a digital on line service.</p> <p>Encompassing that wellbeing and social care aspect, promoting local community services</p> <p>Accessibility of services, ensuring equality and diversity is embedded.</p> <p>Provide preventative solutions, services and tools to avoid the need of GP appointments</p> <p>Support and provide a basis of an overarching national platform that can be integrated with other digital services and products.</p>	

Importance of the challenges / problems before starting to implement good practice

Huge problems around meeting the health and social care agenda, and how it could be delivered.

Looking at solutions and tools in supporting that preventative self-management of care was difficult due to the diverse complex real live situations that citizens encounter.

The use of technology to certain people is also a challenge in itself, over how secure the system is ensuring data governance is adhered to around data being collated and shared.

Environment before the good practice was implemented

There was nothing in place that brought together both health and social care services in one place along with surfacing local interest and activities. There are services in isolation but to bring and implement a service that supports both aspects and how that is presented was never really in existence.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

Not applicable.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, deteriorated outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required) Managed Service Team circa 10 X FTE Programme Management Team 4 x FTE Development Tem 6 x FTE Local Partnership Teams 16 x FTE Hosting and Supporting Arrangements, including Cloud services, Azure, Microsoft, Umbraco, CM2000, Office accommodation	

Industry Partners - ATOS, Sitekit, Maverick TV, Intrelate, SMG, Tactuum, StormID Scottish Alliance	
Total budget of the Good Practice	€1M - €5M
Source of funding	National funding
The main actions that have to be done to deploy the Good Practice	
<p>Living It Up began as a co-design venture working with its target audience to create a purpose built system. Everything from the tools and platform and overall look of LiU was designed with and by the users. LiU has recently underwent an evaluation and consolidation exercise which has overhauled the site content.</p>	
Issues during the implementation of the Good Practice	
<ul style="list-style-type: none"> • Recruitment of service users; • Involvement of all stakeholders required; • Design and implementation of co-design methodologies 	
Additional resources required to scale up Good Practice	
<p>Yes.</p> <p>Current services are limited to selected local partnership areas. To enable the services to be mainstream or national it would need to have resources and support within each local NHS partnership, as we are reliant on the local community engagement to surface the wellbeing and social elements.</p>	
Basis to support sustainability of the Good Practice	
<p>Following an independent evaluation it found that LiU is generated preventive behaviour/s in its users, including a three-times lower self-reported instance of using care services, six times higher self-reported instance of community volunteering plus a greater capacity to care for others and a willingness to trial new self-management techniques to look after their own health and wellbeing. Evidence also indicated that LiU active users have greater levels of adherence to preventative care and health routines; more appropriate food selection and diet choices; more resilient coping management strategies for the care of their LTC when symptoms, environmental or social changes occur. Best public value: A case for providing current and long-term public value, given via an independent social return on investment (SROI) calculation that shows a 37% return on the 2015/2016 investment made;</p>	
Evidence to observe the Good Practice	

A practice report, a visit to implementation site.

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

More than three years.

Investment per citizens / patient / client in terms of financial resources

Between €100 - €1.000 per targeted citizen / patient.

Following LiU Evaluation the costs were estimated at between £1 and £2.80 (NB this is sterling) per user.

Evidence behind the Good Practice

Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

LiU underwent extensive evaluation by a third party (Impact generation) who produced a subsequent report.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

Better health (societal). Other include better quality of life; less isolated people; increased sense of security; better care integration.

Transferability of the Good Practice

Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic

recommendations have been presented. However, the innovative practice has not been transferred yet.

Part 5: Your organisation

Name of the organisation	NHS 24
Address of the organisation	Caledonia House 140 Fifty Pitches Road Cardonald Park Glasgow G51 4EB
Type of organisation	Special Health Board
Name of the contact person	Russell Scott
Email address of the contact person	Russell.scott@nhs24.scot.nhs.uk

Basque Country: Integrated approach in pain management

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Good practice

Part 2: Description of the Good Practice

Name of the Good Practice	Integrated approach in pain management
Short name (Acronym)	Not applicable
URL of the Good Practice	Not applicable
Geographical scope	Regional level
Country	Spain
Region(s) involved	Basque Country
Status of the Good Practice	Completed
Stakeholders involved	<ul style="list-style-type: none"> Hospitals Primary care centres Specialised physicians

	<ul style="list-style-type: none"> • Nurses • Pharmacists • General Practitioners • Day care centres
Size of population covered	>100,000
Targeted audience	Irrelevant
Summary of the Good Practice <p>The aim of this practice is to solve problems in both the healthcare service (drug prescription is unified, the clinical course of patients is monitored) and social care settings (avoids the movement of patients with functional limitation, consultations with caregivers are provided, wider agenda to treat patients that do not have a specific appointment).</p> <p>The main goal of the practice is to improve the care of patients with pain, coordinating the conventional personal assistance with various forms of non in-person care, which allows to improve the delays of waiting lists, avoids impediments to the arrival of patients to the Pain Units and duplication of simultaneous treatments.</p> <p>To this end, it has designed a Functional Plan for pain treatment by transversal and continuous health-care agreements between primary care, specialized care and the Pain unit.</p> <p>The specific objectives of the practice include an average delay in first consultation lower than 30 days, more time for face-to-face consultations for infiltrations and reduce to zero the referrals documented in paper.</p> <p>In addition, the Unified Electronic Health Record (HER) is incorporated, along with the development of non-face-to-face care pathways, with very positive results measured through quantitative and qualitative methods. Thus, the time available for personal assistance has been increased, and training and the collaboration between professionals of different levels of care have been improved.</p> <p>Finally, it is necessary to emphasize that the EHR is a key facilitator. It allows sharing all patient information between all professional sand with the patient. It also allows instant electronic consultation and prescription, avoiding duplications and errors of treatment. Its use, along with the development of a non-face-to-face care pathways are transferable key aspects. Thanks tour practice the time available for personal assistance has been increased, and education and collaboration with clinicians in health centres and specialized consultations have been improved.</p>	

Key words: pain, non face-to-face care, unified electronic health records
Good practice being part of the larger programme Yes. According to the "Health Plan 2013-2020" of the Department of Health of the Basque Country and the strategic plan of Osakidetza, this is the solution proposed for the "Integrated Care Organisation Araba" in the care of patients with chronic pain.
Challenges / problems addressed by the good practice 1. Improve the satisfaction of users of the health system in relation to pain care. 2. Decrease the high delays to address first consultations in chronic pain patients in the Pain Unit. 3. Enhance training of healthcare professionals of the Primary Care in pain care. 4. Avoid unnecessary travel of patients to hospitals. 5. Improve the satisfaction of health professionals dedicated to the care of the pain.
Importance of the challenges / problems before starting to implement good practice 1. The delay to address first consultations in chronic pain patients in the Pain in the province of Álava was more than 90 days on average. 2. Referrals from Primary Care to the Pain Unit were not possible. 3. In many cases, patients treated by other specialists did not follow the conventional nor coordinated analgesics treatments. 4. The dissatisfaction of health professionals dedicated to pain care was growing due to the lack of solutions.
Environment before the good practice was implemented A traditional circuit was in place. Patients were referred to the Pain Unit from other departments through a consultation paper sheet. Patient assessment and the proposed treatments were recorded in a paper form of the Unit. The paper form was given to the patient who was asked to carry it with him/her, to be able to show it to other professionals The Treatment changes proposed by any of the professionals of the health system, or complications or side effects were only known in the Pain Unit in the following consultation with the patient if he/she brought the document. The appointments for check-up were about 30 days in preferential cases and about 120

days in conventional cases. It was not possible to know the evolution of patients without direct contact.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

1. The Unified Health Record allows real-time sharing of all patient information among all professionals and the patient, as well as consultation and electronic prescription, avoiding duplicities and errors of treatment.
2. Functional Plan for pain management with ongoing agreements and transversal care between primary care, specialized care and the Pain Unit allows homogenizing the care of these patients. Now the clinical discharge of the patients loses sense, given the ease of communication and coordinated care between different levels of care.
3. More time for in-person care according to patient needs, by avoiding many unhelpful face-to-face consultations. 4. Ecological perspective by saving paper costs.
5. An average delay in first consultations lower than 30 days.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)	
Health workforce capable to adapt to changes in all levels of care. Time to get agreements between levels. Time for non-face-to-face care. Patient-centred Unified electronic health record, not in professionals. Suitable deployment of information systems.	
Total budget of the Good Practice	Not available
Source of funding	Regional funding
The main actions that have to be done to deploy the Good Practice	
No special effort except training meetings and agreements between professionals.	

Issues during the implementation of the Good Practice

1. Some professional not made aware with the changes.
2. Clear information to professionals and patients about non-face-to-face care is needed.

Additional resources required to scale up Good Practice

No.

Basis to support sustainability of the Good Practice

1. The use of the electronic tool has completely displaced (in a 100%) the traditional care format.
2. The drug prescription is 100% in electronic.
3. In the past 3 years, the average delay for first consultations of patients with chronic pain has been less than 20 days in the Pain Unit, compared with over 90 days of the previous practice.
4. The 100% of primary care consultations are conducted virtually as non-face-to-face consultations.
5. The 96% of patient and family respondents are grateful of not having to go to the hospital if it is not essential.

Evidence to observe the Good Practice

A practice report, a visit to implementation site.

Part 4: Viability assessment of the Good Practice
Time needed to deploy the Good Practice

Less than a year.

The practice took place in 2011, once unified EHR was implemented. To do this, the Pain Unit developed a management plan that was agreed with the various Primary Care Centres. According to this agreement, primary care professionals have a non-face-to-face consultation, with the 100% of patients referred from the pain Unit..

Similarly, the Pain Unit committed to attend all referrals in a weekly basis. Based on all relevant data, the Unit Pain performs a treatment proposal and either recommends follow-up by Primary Care, or arranges an in-person appointment at the Pain unit. This in- person

appointment is scheduled within a week in preferential cases, within a month in ordinary cases and within three months in cases of reassessment of an already known case. In addition, any patient who has pain is considered a candidate to be assessed, if his/her physician considers that the patient requires a therapeutic advice, asking for a suggestion or a face-to-face consultation. Therefore, silos in care are avoided and the care is coordinated and transversal, rather than successive and pyramidal.

These agreements are supported by the Care Management of the Integrated Health Organisation Araba, and an implementation chronogram was scheduled starting from 1st of January of 2013, with annual reviews. From January 1st of 2016 onwards referrals from specialized care are also included.

Investment per citizens / patient / client in terms of financial resources

Between €100 - €1.000 per targeted citizen / patient.

The cost of the project is 0€.

Evidence behind the Good Practice

Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

The information is in the following link of the Spanish National Health System:

http://www.msssi.gob.es/organizacion/sns/planCalidadSNS/pdf/excelencia/CISNS_DocumentoMarcoDol or.pdf

Maturity of the Good Practice

The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth.

The Plan is completely developed since January 2014, for the entire province of Alava. Results are very satisfactory from a quantitative point of view: 52% of the healthcare activity is performed in non- face-to-face manner supported by the integrated management systems of the organisation (unified EHR, ", the Personal Health Folder, etc.). The referral and response commitments are met and delay of the first in-person consultation is always less than 15 days.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

Better health (societal). Other include decreased delays, expedite care, avoid unnecessary movement, improving teaching with case studies in primary care.

Transferability of the Good Practice

The innovative practice has been transferred within the same region.

This model is applicable in any European region to a greater or lesser extent, depending on the degree of development and implementation of the electronic medical record. This change in the care model combines face-to-face consultation with care pathways that do not require the travel of patients, caregivers or professionals. While the unified electronic record is a very desirable tool, this management change can be applied without its full development, achieving much of its benefits: referrals are scheduled and arranged, appointments are speed up and care provision is coordinated, avoiding the unnecessary travel of patients and families, with a consequent increase of their comfort.

Part 5: Your organisation

Name of the organisation	Integrated Care Organisation Araba
Address of the organisation	C/ Jose Atxotegi, s/n - 01009 Vitoria-Gasteiz, Araba
Type of organisation	Integrated Care Organisation
Name of the contact person	Enrique Barez Hernandez
Email address of the contact person	enriquemanuel.barezhernandez@osakidetza.eus

Basque Country: Malnutrition in the elderly and hospital stay**Part 1: General Information**

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Good practice

Part 2: Description of the Good Practice

Name of the Good Practice	Malnutrition in the elderly and hospital stay
Short name (Acronym)	Not applicable
URL of the Good Practice	Not applicable
Geographical scope	Local level
Country	Spain
Region(s) involved	Basque Country
Status of the Good Practice	Completed
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Primary care centres • Specialised physicians • Nurses • Pharmacists • General Practitioners • Day care centres • Home care centres • Nursing homes • Informal caregivers • Housing organisations • Large-sized industry • Regional public authorities
Size of population covered	>100,000
Targeted audience	65 - 79, 80+
Summary of the Good Practice <p>According to the literature malnutrition affects 60% of the people admitted in nursing homes, 40% of hospitalized, and about 5% of the general population. Malnutrition slows recovery, increases the average length of stay and increases the cost (up to 50%) of early readmission rates, increases susceptibility to infection and increases mortality.</p> <p>We note that in our clinical practice, there is no systematic nutritional assessment of elderly patients, being an entity unrecognized and untreated, that can be prevented and limited.</p> <p>It is a preventable public health problem cost.</p> <p>Likewise, the systematic introduction of the nutritional assessment at hospital admission</p>	

and adequate dietary prescription are related to the evolution of the disease, taking into account occurrence of complications (bedsores, infections and bone fractures), mortality, days of stay and readmissions.

We want to know the prevalence of malnutrition in elderly patients admitted to the network of public hospitals in the Basque Country and its clinical consequences, in order to promote a strategic line that affects all levels of care (primary care and geriatric residences). This strategy aims to address the nutritional status of our elderly patients through a multidisciplinary, comprehensive and efficient way.

Key words: malnutrition, elderly, hospital stay, multidisciplinary approach

Good practice being part of the larger programme

Yes.

Shared objectives and actions with the general lines of Department of Health of the Basque Country 2013-2016 - Line 1: People, backbone of the health system - Line 2: Integrated response to chronicity, old age and dependency - Line 3: Ensure sustainability of the system - Line 4: Prominence and professional involvement - Line 5: Strengthening research and innovation

Challenges / problems addressed by the good practice

During the intervention:

- Primary and secondary prevention of malnutrition in the elderly people and hospital complications (infections, fractures, bedsores and mortality)
- To maximize multidisciplinary, comprehensive and integrated patient care
- Improving the quality of life and patient safety

After the intervention:

- To contribute to the sustainability of the health system: Reduce the average length of stay and readmissions of patients
- Promote the design of a strategy in the Basque Country in which nutritional assessment and the multidisciplinary intervention is part of the integrated care of elderly patients.

Importance of the challenges / problems before starting to implement good practice

The concept of hospital malnutrition evidences new multidisciplinary team practices aimed at the diagnosis and appropriate treatment of malnourished hospitalized patients.

Despite the availability of validated screening tools, this situation remains little recognized in many hospitals.

It has been reported that in a hospital setting, malnutrition has a prevalence of 20-50% at the time of admission. If untreated, two thirds of the malnourished patients experience a decrease in their nutritional status during his/her stay in the hospital. Among patients who were not malnourished at hospital admission, one-third actually can become malnourished during their hospital stay.

Furthermore, it has been shown that poor nutritional status is negatively associated with functional, clinical and economic outcomes (increased risk of attendant complications such as hip fractures, a longer stay, more frequent re-admissions and increased mortality compared to properly fed patients). All this worsens the quality of life of patients and families.

In addition, poor nutritional status has been associated with increased health care costs by more than 300% associated with longer hospitalizations, comorbidities and readmissions.

Along with SENPE, the Ministry of Health Social Services and Equality is currently developing a transversal strategic line to address malnutrition in the National Health System.

We note that in clinical practice the Basque health system, there is still no systematic nutritional assessment of the elderly patient.

Environment before the good practice was implemented

There was no intervention of this type before the deployment of this practice.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

- Introduction of a screening tool and a suitable nutritional assessment of elderly patients at hospital admission (included in the Emergency Department) in the overall assessment of the routine clinical practice,
- Diagnosis of malnourished patients and patients at risk of malnutrition in the report of Emergency Department - Adequate nutritional contribution according to the needs of each patient
- Multidisciplinary monitoring of the nutritional status of patients during their hospital stay
- Diagnosis of malnourished patients and patients at risk and a series of recommendations included in the hospital discharge report to guide the follow-up

by primary care and geriatric centres.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required) <ul style="list-style-type: none"> • Training on nutritional assessment • A database • Usual medical and nursing staff of the emergency department and hospitalization • Form for detection of the nutritional status (MNA SF) in the electronic health record. • Lab tests with nutritional parameters 	
Total budget of the Good Practice	€10.000 -€ 99,999
Source of funding	Local funding
The main actions that have to be done to deploy the Good Practice <ul style="list-style-type: none"> • Design of the training plan design by the research team in April 2015 • Training of all the clinicians and nurses of the hospital - May 2015 • Database Design June 2015 • Implementation and Patient Recruitment: July to August 2015 by the medical team of the Emergency Department • Target population patients over 65 who go to the Emergency Department of the Hospital, meet the inclusion criteria and none of exclusion • Nutritional status evaluation: nutritional screening (MNA SF) by the multidisciplinary team in the ER and registration of the results in patient's EHR. • Additional assessment based on lab results (albumin, prealbumin, total cholesterol and leukocyte) of all the three groups of patients according to the screening (nourished, at risk of malnutrition and malnourished) valuation by a number of analytical parameters is completed • Prescription of an appropriate diet according to patients' needs to the three groups of patients differentiated • Filling of the intake control sheet by nursing assistants 	

- Functional and comorbidity assessment through scales by the nurse responsible for the service
- At discharge, the physician performs a reassessment of the patient and registers his/her nutritional status and corresponding recommendations in the discharge letter to ensure continuity of care.
- Data registration September 2015
- Exploitation and dissemination of results October- November 2015

Issues during the implementation of the Good Practice

Being a multidisciplinary study that involves different professionals from various hospital services, not all patients are approached, mainly due to lack of time and lack of sensitivity on the impact of malnutrition.

Additional resources required to scale up Good Practice

Yes.

For the implementation of the practice, we consider the possibility of hiring a nutritionist for 6 months, whose function would be giving advice to doctors and nursing professionals in relation to the nutritional assessment of patients, assessment of adequate dietary contribution, reminders to monitor patients and re-evaluation at discharge. The nutritionist role could gradually create culture and awareness regarding the importance of malnutrition in the elderly and could help to incorporate this practice into daily comprehensive assessment of our patients.

Basis to support sustainability of the Good Practice

Analysis of our results with a sample of 71 patients:

- The 40% of elderly patients admitted to our hospital suffers from malnutrition 20% are at risk, and 20% well-nourished from which one third have suffered malnutrition during their hospitalization.
- The 64% of malnourished patients or at risk of malnutrition have suffered hospital complications vs the 0% of well-nourished ones.
- The difference in the average stay among the group of well nourished and malnourished or at risk is 2.8 days
- Hospital mortality is 36% in the group of malnourished or at risk of malnutrition

These data confirms to what extent the patient's nutritional status impacts how patient deal with the hospital admission. Hence, the enormous importance of designing strategies

for primary care and nursing homes to address nutrition in the elderly patients.

Evidence to observe the Good Practice

A practice report, a visit to implementation site.

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Less than a year.

During 2 months two sessions of awareness of the problem of malnutrition in the elderly and training on the action plan aimed at all the hospital staff were prepared and conducted. Teachers were practitioners of the research team, who in turn, previously were sensitized and trained through the literature review and the assistance to expert forums, where they became a reference in the hospital. The patient recruitment was implemented in a period of two months, and the data were recorded in the previously designed database. After this, data mining and the analysis of the results were performed in one month. After the pilot (it took 8 months), the practice has been gradually incorporated into the routine clinical practice.

Investment per citizens / patient / client in terms of financial resources

Between €1.000 - €5.000 EUR per targeted citizen / patient

Evidence behind the Good Practice

Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the Good Practice

Data resulting from our practice are consistent with those found in the literature and in expert forums, so its implementation and extension is justified.

<http://www.nutricionhospitalaria.com/pdf/3317.pdf>

<http://scielo.isciii.es/pdf/nh/v25n6/original15.pdf>

www.fightmalnutrition.eu

Maturity of the Good Practice

The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth.

The practice is incorporated in the overall assessment of the patients by the professionals of the different services of the Hospital. Its cost is 0€, and has demonstrated a positive impact on the patient's health and quality of life.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

Better health (societal).

The results achieved during the pilot project support the assumptions made by the team:

Principal hypothesis: In the elderly, a good nutritional status before the hospital admission decreases the average stay.

Secondary hypothesis:

1. Malnourished patients have a higher risk of complications during their hospital stay.
2. Malnourished patients have a higher mortality rate.
3. The number of malnourished patients with readmissions is higher than those with good nutritional status.

Transferability of the Good Practice

Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.

After piloting, the practice has been implemented in the hospital even with the difficulties mentioned above (lack of involvement of certain professionals in the hospital, attributable to the lack of awareness and time) to be incorporated into routine clinical practice. As a facilitator, we will incorporate a dietician and a nutritionist in the hospital for over a period of 6 months to perform an advisory role to the doctors and nursing professionals in relation to nutritional assessment and prescription of patients. This figure could gradually be creating culture and awareness regarding the importance of malnutrition in the elderly. The results and conclusions have been disseminated in various seminars and national congresses. Other hospitals in the Basque public network and

geriatricians of our catchment area have shown interest in incorporating such activity.

Part 5: Your organisation

Name of the organisation	Santa Marina Hospital
Address of the organisation	Carretera de Santa Marina no 41, 48004 Bilbao, Bizkaia, Spain
Type of organisation	Hospitals
Name of the contact person	Alejandra Gil Molet
Email address of the contact person	a.gil.molet@osakidetza.eus

Basque Country: Care Planning in Integrated Care Organisation

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Advance Care Planning in Integrated Care Organisation
Short name (Acronym)	Not applicable
URL of the Good Practice	Not applicable
Geographical scope	Local level
Country	Spain
Region(s) involved	Basque Country
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> Hospitals Primary care centres Specialised physicians Nurses Pharmacists

	<ul style="list-style-type: none"> • General Practitioners • Day care centres • Home care centres • Nursing homes • Informal caregivers • Housing organisations • Advocacy organisations • Regional public authorities • Local public authorities
Size of population covered	>100,000
Targeted audience	18-49, 50-64, 65 - 79, 80+
<p>Summary of the Good Practice</p> <p>Every human being is recognized with his or her right to make decisions regarding medical treatment, even when his/her level of competence is compromised by adverse health conditions. Advanced Care Planning (ACP) guarantees patients' right both to make decisions as well as to have those decisions respected when time comes. The general goal of this program is to promote ACP, mainly for chronic patients.</p> <p>The programme states two specific goals:</p> <ol style="list-style-type: none"> 1) adjusting end of life care to meet patients' preferences, and 2) improving decision making processes. <p>The program defines three stages:</p> <ol style="list-style-type: none"> 1. Diagnostic stage, aiming at identifying the population that could benefit from the program, 2. Therapeutic stage, aiming at developing the intervention (after providing training opportunities for involved health professionals), 3. Evaluative stage, aiming at assessing both the impact of the program and the program itself. <p>The core intervention at the heart of the program consists of two individual semi structured interviews with the patient and one or two significant others. Previous to these meetings patients invited to participate receive a document that intends to elicit reflections about health, care, quality of life and end of life. The interviews are initially conducted by the programme coordinator along with patient's GP and Community Nurse. The program is intended to help clinicians become capable of conducting the interviews</p>	

<p>themselves.</p> <p>The first meeting aims mainly at introducing the subject (Advanced Directives) and inviting the patient to reflect on his/her preferences regarding care. The second interview focuses on discussing the specific issues related to the patient him/herself and according to his/her clinical characteristics and situation.</p> <p>Transferring the program to other contexts would require adjustments mainly related to cultural issues.</p>
<p>Key words: advanced care planning, shared decisions, chronic care, end of life care, autonomy</p>
<p>Good practice being part of the larger programme</p> <p>No.</p>
<p>Challenges / problems addressed by the good practice</p> <ul style="list-style-type: none"> • End of life/critical care-related decisions compromised by patients' lack of competence • Patients' preferences not being respected • Paternalistic attitudes regarding health-related decision making processes • Not enough training in communication by physicians and nurses about Advance Care Planning Talking with patients and relatives about end of life issues is not included in ordinary clinical meetings
<p>Importance of the challenges / problems before starting to implement good practice</p> <p>Healthcare professionals as well as family members were often finding themselves in situations where they were to make decisions while not actually holding enough information/knowledge about patient's preferences. Often decisions were being taken by healthcare professionals, this sometimes exceeding what they thought to be their level of competence and responsibility. On the other side, family members felt overwhelmed by the burden of making difficult decisions, especially when dealing with critical and/or end of life care. Decisions to limit treatment initiatives were somehow rare, this leading to dilemmatic situations as well as to high economical costs but low- quality end of life care.</p>
<p>Environment before the good practice was implemented</p> <p>A formal/legal process of "Living Will" Registration was available for any citizen in the Basque Country. Nevertheless, this process was somehow limited to the formal/legal process of registering patient's wills and did not include any sort of previous reflection process nor was it in any way individualized or adjusted to the specific clinical condition</p>

of the patient him/herself.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

The program has not yet been formally evaluated. Nonetheless, listening to participating patients, families, GPs and Community Nurses has helped us understand how invitations to reflect and discuss values and preferences regarding treatment and care have been of much use both for all of them who now seem to share a common view of what kind of options the patient would choose for him/her when time comes.

Interviews inviting to reflect and discuss have been somehow systematically introduced into some Community Care Teams' (GP and Community Nurse) agendas, and approaches to chronic care.

Healthcare professionals working at secondary/tertiary levels (mainly hospitals) now start to be familiar with the program and benefit from accessing the information regarding preferences accessible through the electronic health record.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Higher costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required) <ul style="list-style-type: none"> • 1 MD part time working as program coordinator, initial interview conductor and other colleagues' trainer and facilitator • 4h training for interested healthcare professionals 	
Total budget of the Good Practice	€100.00 - €499,999
Source of funding	Regional funding
The main actions that have to be done to deploy the Good Practice <ul style="list-style-type: none"> • Identify target population: elderly people, chronic patients and individuals that have an experience about illness or care. • Teaching health professionals (mainly physician and nurses) about Advance Care 	

<p>Planning: specific courses and training in how to perform interviews. Community plans of communication about the relevance of shared decision making and advanced care planning</p> <ul style="list-style-type: none"> • Having conversations with patients and their relatives to elicit their values, fears and preferences. • Write down and register documents (Advanced Directives) that help doctors and nurses to choose the best option for each patient. • Prepare documents and videos that help people involved in the program in order to improve their intervention. • Evaluating the results: end of life care, shared decision making, satisfaction of patients, relatives and health professionals.
<p>Issues during the implementation of the Good Practice</p> <ul style="list-style-type: none"> • Time needed to include “the conversation” in the clinical meeting • Coordination of different levels of care: Primary care and Hospitals
<p>Additional resources required to scale up Good Practice</p> <p>No.</p>
<p>Basis to support sustainability of the Good Practice</p> <p>It is a program that will certainly make life easier both for healthcare professionals as well as for significant others needing to make difficult decisions. It will presumably reduce costs related to non-chosen treatments. It will only need from healthcare professionals’ willingness to open discussions with chronic patients. Not large volume of resources needed for quite a substantial quality of life (and end of) and care improvement.</p> <p>The program is mainly focused on promoting a cultural change within the healthcare context. Providing professionals with the opportunity to access training and feel supported on their initial steps is certainly an important asset of the program when looking at the long-term sustainability of such cultural shift.</p>
<p>Evidence to observe the Good Practice</p> <p>A visit to implementation site.</p>

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Between one year and three years.

The coordinator of the program attended a course to get the qualification as facilitator in Advanced Care Planning in La Crosse (Wisconsin, USA), organized by Respecting Choices (<http://www.gundersenhealth.org/respecting-choices>). This foundation is the most important centre of education in ACP. Their model has been adapted by other countries and organisations. Moreover, the coordinator attended meetings organized by The international Society of Advance Care Planning (ACPEL) <http://www.acpel2015.org> in order to learn from other experiences in other countries: My Voice, Five wishes, Gold Standard Framework, etc. Based on these experiences a program and a course were designed taking into account the local culture and health system.

Investment per citizens / patient / client in terms of financial resources

Between €100 - €1.000 per targeted citizen / patient.

1 part-time MD + 4h training for every interested healthcare professional

Evidence behind the Good Practice

Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the Good Practice

Emanuel EJ, Emanuel LL. The promise of a good death. Lancet 1998; 351 Suppl 2:SII21-SII29. - Peter A.Singer MMF, Gerald Robertson LL, David J.Roy SPD. Bioethics for clinicians: 6. Advance care planning. Canadian Medical Association Journal 1996; 155:1689-1692. - Emanuel L. Appropriate end inappropriate use of advance directives. Journal of Medical Ethics 2001; 5(4):357-359. - Martin D.K, Emanuel LL, Singer P. Planning for the end of life. Lancet 2000; 356:1672-1676. - Emanuel LL, von Gunten CF, Ferris FD. Advance care planning. Arch Fam Med 2000; 9(10):1181-1187. - June Leland. Advance directives and establishing the goals of care. Primary care: clinics in office practice. 2001; 349-363. - Kolarik RC, Arnold RM, Fischer GS, Tulsy JA. Objectives for advance care planning. J Palliat Med 2002; 5(5):697-704. - Hahn ME. Advance Directives and Patient-Physician Communication. JAMA 2003;289:96. - Curtis JR. Communicating with patients and their families about advance care planning and end-of-life care. Respir Care 2000;45:1385-94.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

Advance care planning improves end of life care and patient and family satisfaction and reduces stress, anxiety, and depression in surviving relatives. There are no published cost-effectiveness studies. Included studies focused on healthcare savings, usually associated with reduced demand for hospital care. Advanced care planning appears to be associated with healthcare savings for some people in some circumstances, such as people living with dementia in the community, people in nursing homes or in areas with high end-of-life care spending. There is no evidence that advanced care planning is likely to be more expensive. A randomized controlled trial on the efficacy of advance care planning on the quality of end-of-life care and communication in patients with COPD: the research protocol. Couben H. BMJ 2014. The effects of advance care planning on end-of-life care: A systematic review Arianne Brinkman-Stoppelenburg, Judith AC Rietjens and Agnes van der Heide Palliat Med published online 20 March 2014 The economic evidence for advance care planning: Systematic review of evidence. Dixon J. Palliat Med

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

Better care integration (economic and social).

The program has not yet been formally evaluated. Nonetheless, listening to participating patients, families, GPs and Community Nurses has helped us understand how invitations to reflect and discuss values and preferences regarding treatment and care have been of much use both for all of them who now seem to share a common view of what kind of options the patient would choose for him/her when time comes. Interviews inviting to reflect and discuss have been somehow systematically introduced into some Community Care Teams' (GP and Community Nurse) agendas, and approaches to chronic care. Healthcare professionals working at secondary/tertiary levels (mainly hospitals) now start to be familiar with the program and benefit from accessing the information regarding preferences accessible through the electronic health record.

Transferability of the Good Practice

Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.

Part 5: Your organisation

Name of the organisation	Integrated Care Organisation Araba
Address of the organisation	C/ Jose Atxotegi, s/n - 01009 Vitoria-Gasteiz, Araba
Type of organisation	Integrated Care Organisations
Name of the contact person	Iñaki Saralegui Reta
Email address of the contact person	inaki.saraleguijeta@osakidetza.eus , isaralegui@ya.com

Basque Country: Telemonitoring COPD patients with frequent admissions

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Telemonitoring COPD patients with frequent admissions
Short name (Acronym)	“telPOC” Program
URL of the Good Practice	Not applicable
Geographical scope	Regional level
Country	Spain
Region(s) involved	Basque Country

Status of the Good Practice	Completed
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Primary care centres • Specialised physicians • Nurses • General Practitioners • Nursing homes • Informal caregivers • Housing organisations
Size of population covered	250 - 999
Targeted audience	18-49, 50-64, 65 - 79, 80+
Summary of the Good Practice <p>COPD is a leading cause of morbidity and mortality worldwide with two important impact points; one is the use of healthcare resources that the disease implies; and the other, the effect of the disease in the patient. Hospitalization has been identified from years as the main factor of cost in this disease. At the same time exacerbation, especially hospitalization, has potential severe consequences in the COPD patient as loss of pulmonary function and quality of life and increase in mortality risk.</p> <p>The project has the following objectives:</p> <ol style="list-style-type: none"> 1. Determine the rate of readmission for exacerbation in a cohort of patients with COPD with readmissions to the hospital, comparing with themselves in the previous 2 years and during the same period of intervention, with respect to an external control group. 2. Determine the frequency of this cohort of patients with COPD who are readmitted to hospital emergency departments compared to a control group. 3. Evaluate the quality of life related to health during follow-up period compared to a control group. 4. Evaluate the degree of satisfaction of patients in both cohorts. 5. Establish medical costs arising from the implementation of this program about a group treated by conventional care and respect to the costs prior to the inclusion of this program. <p>The inclusion criteria were being hospital admitted at least twice in the previous year or at least three times in the 2 previous years. The cohorts were follow-up for 2 years. Several clinical measurements like pulmonary function, exercise capacity, health related quality of life, limitation in daily life activities and anxiety and depression were recorded</p>	

in both cohorts. Telemonitoring and an organized education program were only and applied in the intervention cohort.

Finally, the key aspects that can be transferable are the education programme and the programme of telemonitoring and control of the patients.

Key words: COPD, telemonitoring, several exacerbations

Good practice being part of the larger programme

No.

Challenges / problems addressed by the good practice

- Economic problems. We had to stop including some patients to the program due to budgetary problems. Currently, this problem does not exist.
- Coordination problems. Not all actors understood the program (some doctors of primary care and the eHealth centre among others).
- Problems with adapting the software tool. The care team (nurses and doctors) had to work with the computer technicians to obtain a suitable tool.
- Problems in the development of the program. The program has to evolve and this requires resources.

Importance of the challenges / problems before starting to implement good practice

COPD is a leading cause of morbidity and mortality worldwide with two important impact points; one is the use of healthcare resources that the disease implies; and the other, the effect of the disease in the patient. Hospitalization has been identified from years as the main factor of cost in this disease. At the same time exacerbation, especially hospitalization, has potential severe consequences in the COPD patient as loss of pulmonary function and quality of life and increase in mortality risk.

Environment before the good practice was implemented

COPD patients with this profile, often hospitalized, were attended "on demand" based on the criterion of the patient, which caused delays in care and caused new hospitalizations.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

1. Reduction in the rate of hospitalizations.
2. Decreased rate of readmissions.
3. Reduction in the rate of visits to the emergency department.

4. Reduction of hospital stays.
5. Improvement in clinical parameters (quality of life, exercise capacity)

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)	
1. - A motivated team 2. - A full-time nurse 3. - A neurologist at part-time 4. - Smartphones 5 - Support to the management team (health department, hospital management, etc.)	
Total budget of the Good Practice	€100.00 - €499,999
Source of funding	Regional funding
The main actions that have to be done to deploy the Good Practice	
<p>It is necessary to have an expert nurse in respiratory patients (COPD) and a pulmonologist at the hospital, coordinated with the primary care team and the call- centre. To achieve such coordination and enable communication between different actors is necessary to develop a computer application and provide smartphones to the team. It is therefore necessary to coordinate with the software and technology resources provider. With respect to the patient, it is necessary a training to make him/her able to understand their disease even better, to distinguish the symptoms of an exacerbation and to act according to the program guidelines. Finally, it is reasonable the necessity to be in constant communication with the health managers (health administration and hospital) to maintain and develop the program.</p>	
Issues during the implementation of the Good Practice	
<p>It has been very difficult to get economic resources to maintain the program.</p>	

Additional resources required to scale up Good Practice
No.
Basis to support sustainability of the Good Practice
<ul style="list-style-type: none"> • Maintain constant contact with the health administration on the status of the program. If possible, include health administration as members of the program steering committee. • Integrate the program aimed at the more fragile COPD group, in a global practice to control the disease (COPD). - Insist on coordination tasks (primary care, call-centres). • Develop steadily the program (continuous improvement program). • Maintain motivation in the team.
Evidence to observe the Good Practice
A visit to implementation site.

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice
Less than a year.
Using our inclusion criteria, the steps are: <ul style="list-style-type: none"> • Select potential patients from the hospital database. • Select an experienced nurse or respiratory disease COPD should be involved from the beginning of the project. • Workstation (computer) nurse. • Develop and adapt the software application according to the area where it will be used. • Information about the software operation to doctors and nurses in primary care.
Investment per citizens / patient / client in terms of financial resources
No available calculation.
Evidence behind the Good Practice
Documented evidence. Evidence is based on systematic qualitative and quantitative

studies.

The evidence regarding the effectiveness of telemedicine in COPD is controversial. The main reason is that in general, telemedicine is included in a package that includes other interventions besides telemonitoring. Therefore, establishing which is the intervention that matters is complicated. There are jobs in the literature for and against. Make meta-analysis is complicated because jobs are very heterogeneous (inclusion criteria, study population, intervention, monitoring). Our intervention is different since it does not focus on COPD in general but in a subgroup of patients with COPD, with continuous readmissions.

Maturity of the Good Practice

The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

- Better quality of life (societal)
- Results in the use of health resources
- Lower rate of hospitalizations
- Reduced use of hospital emergencies
- Lower average stay if hospitalized
- Lower rate of readmissions
- Health results in the patient with respect to the control group
- Stability, therefore lower drop of the quality of life, exercise capacity and limitations in daily life

Transferability of the Good Practice

The innovative practice has been transferred in other locations or regions or national scale in the same country.

Part 5: Your organisation

Name of the organisation	Integrated Care Organisation Barrualde-Galdakao
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Address of the organisation	Barrio Labeaga, s/n 48960 Usansolo
Type of organisation	Integrated Care Organisations
Name of the contact person	Cristobal Esteban Gonzalez
Email address of the contact person	Cristobal.estebangonzalez@osakidetza.eus , Cristobal.est@gmail.com

Basque Country: Design and implementation of interventions aimed at improving the safety prescription

Part 1: General Information

Publication on EIP on AHA Portal	No
Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Design and implementation of interventions aimed at improving the safety of prescription
Short name (Acronym)	Not applicable
URL of the Good Practice	https://donostialdea.osakidetza.eus/es/Salud/FMS/PP/P/Paginas/default.aspx
Geographical scope	Local level
Country	Spain
Region(s) involved	Basque Country
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Primary care centres • Specialised physicians • Nurses • Pharmacists • General Practitioners • Nursing homes • Research centres • Regional public authorities

Size of population covered	10,000 - 99,999
Targeted audience	18-49, 50-64, 65 - 79, 80+
<p>Summary of the Good Practice</p> <p>The practice includes management of polypharmacy in multimorbid elderly or frail people. The main objective is to improve the appropriateness and safety in prescribing the Integrated Care Organisation Donostialdea. The specific objectives are: to know the prevalence of inappropriate prescribing (IP) and security issues of medicines, designing interventions aimed at improving safety in prescribing and assess their impact.</p> <p>It is a planned strategy of progressive implementation.</p> <p>The components are:</p> <ul style="list-style-type: none"> • Training aimed at medical and nursing professionals with the following modules: general training in polypharmacy and conservative prescribing, medication reconciliation, review of medication (tools and case studies); Medication review in specific areas related to each project to be implemented (excessive polypharmacy, renal failure, STOPP- START criteria, osteoporosis, medicine safety signals, etc.). • Methodology: training "cascade" interactive. The promoter group, led from Primary Care Pharmacy and of multidisciplinary composition, prepares materials and provides "training of trainers" (a reference-forming in each primary care unit). • Consensus between primary care and specialist-care • Identification of multimorbid patients through the tool "Osakidetza Business Intelligence (OBI)" • Medication Review by the primary care physician • Evaluation and feedback to professionals <p>Transferable key aspects: training methodology, automation of consults, local consensus process, medication review methodology, evaluation.</p>	
<p>Key words: drug-related side effects, adverse reactions, inappropriate prescription, implementation, medication reconciliation.</p>	
<p>Good practice being part of the larger programme</p> <p>Yes.</p> <p>It is part of the strategy for the Rational Use of Medicines aligned with the strategy of</p>	

patient safety and chronicity of our health organisation.
Challenges / problems addressed by the good practice <ul style="list-style-type: none"> • High prevalence of polypharmacy in our environment and exponential upward trend. • High prevalence of inappropriate prescribing and safety problems associated with drugs in our environment. • Coordination problems between primary care and specialized in managing medication in complex patient care. • Difficulty to implement changes related to improving the appropriateness of prescribing. It is necessary to design, pilot, evaluate and implement effective interventions tailored to the context.
Importance of the challenges / problems before starting to implement good practice <ul style="list-style-type: none"> • Prevalence of polypharmacy in the Integrated care organisation: > 5 drugs, 52,757 patients > 10 drugs, 11,281 (47% and 12% of people over 65). • Approximately one in five prescriptions are inappropriate. 70% of our polymedicated has at least one general STOPP criteria. Security alerts of the Spanish Agency for Medicines and Health Products (AEMPS) affect about 1,000 patients each year. • Discrepancies are responsible for more than half of medication errors that occur in care transitions. Using Presbide (integrated electronic prescription tool) was residual in 2014 specializing in care.
Environment before the good practice was implemented <p>Within the lines of work "Patient safety", the review of medication in a punctual manner was promoted. However, no specific training was provided, or target populations were identified, and then was no tool as OBI (Oracle business intelligence) to design consultations to identify inappropriate prescribing. Neither was assessed their impact.</p>
Key innovative elements of the good practice and how the good practice improved situation compared to previous practice <ul style="list-style-type: none"> • The practice systematizes the process of reviewing medication, by promoting the use of tools with implicit and explicit criteria. • The cascade training through the training of trainers allows in a reduced time, the deployment to all primary care units (UAP) of the Integrated care organisation (20, 250 family physicians). The involvement of trainers is high and the methodology is participatory. Its reception has been very good (above average scores 8.5 out of 10)

in all educational activities), attended > 70% of recipients.

- The electronic identification of populations at risk and inappropriate prescriptions allows acting on large patient populations, and to automatize and monitor the consults.
- Promotes consensus between primary care and specialized care, through meetings with heads and service leaders, focused on issues of specific, measurable and assessable security, promoting mutual understanding and agreement.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
<p>Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)</p> <p>The practice has been implemented with the resources available in the integrated health organisation Donostialdea. The training is integrated into the continuous training plan of the organisation and teachers have not received any additional resources, pharmaceutical practice are regular staff, as well as all the promoters and trainers. Medical professionals who perform medication review their patients use their time for consultation, considered a care activity. The tools we use (OBI; Presbide, etc.) are owned by Osakidetza.</p> <p>However, the resources required by the practice are as follows:</p> <ul style="list-style-type: none"> • Staff <p>It requires at least a pharmacist (preferably within the team), whose functions are to identify areas of inappropriate prescribing, prioritize and plan activities and tasks, conduct literature reviews and writing drafts of teaching materials, participate in training, get patient identifiers through OBI and assess impact. A promoter group: multidisciplinary team (care physicians, nursing, internal medicine, geriatrics) to prioritize and plan activities and tasks, review the contents of the training and teaching assignments. A trainer for each primary care unit and a leader of the hospital service.</p> <p>It is desirable to have methodological support (in our case, the Research Unit Primary Care).</p> <ul style="list-style-type: none"> • ICTs <p>A Web page on which all the contents of the training and projects are available. In our case, we use the Intranet of the Integrated care organisation Donostialdea</p>	

(<https://donostialdea.osakidetza.eus/es/Salud/FMS/PPP/Paginas/default.aspx>).

Electronic prescription system implemented. In Osakidetza, Presbide is a common system for primary and specialty care: in primary care, virtually all prescriptions are electronic (the use of prescription paper is residual).

A data mining tool electronic prescriptions. In our case, Oracle Business Intelligence (OBI)

Total budget of the Good Practice	€10.000 –€ 99,999
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Source of funding	Regional funding
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The main actions that have to be done to deploy the Good Practice

The main actions have been the following:

- Recognition: The Integrated care organisation managers has promoted and facilitated the project. The work of professionals involved has been recognized. The time for medication review counts as care time and there is a specific act for registration. The time to prepare trainers sessions counts too as care time.
- Professional Roles: The Roles of the pharmacy unit, the promoters group and trainers have been defined. The professionals have voluntarily accepted these roles.
- Training: Training is one of the essential components of practice. It is integrated into the continuing education of the organisation, which has its accreditation system.
- Recruitment: At least requires a pharmacist to lead the process, a promoters group and a trainers group.

Issues during the implementation of the Good Practice

The five main difficulties are the following:

- Lack of time for the medication review, because the practice is done in routine clinical care.
- Difficulty to involve care professionals specialized in reviewing the established treatments.
- Resistance primary care physician to modify prescriptions initiated by other physicians, usually of specialized care. - Resistance of the patient to discontinuation of treatment due to perception of benefits or fear of relapse.
- The inertia of professionals, facilitated by the prescription system to automatically renew prescriptions.

Additional resources required to scale up Good Practice

No.
<p>Basis to support sustainability of the Good Practice</p> <ul style="list-style-type: none"> • The excellent reception and evaluation of successive training activities (2013-2016). Average ratings above 8.5 out of 10 in all educational activities, with an assistance > 70% of receivers. • In the case of osteoporosis and the prescription of bisphosphonate treatments of more than 5-year duration, after the reduction obtained in 2014 (44.6%), prescription remains in 2016, without having evidenced a progressive return to the initial situation. • The prevalence of certain potentially inappropriate prescriptions (such as nonsteroidal anti-inflammatory drugs in heart failure or co-prescription of NSAIDs with anticoagulants or antiplatelet) keeps reduced after the intervention in 2014.
<p>Evidence to observe the Good Practice</p> <p>A visit to implementation site.</p> <p>Memory of the practice:</p> <p>https://donostialdea.osakidetza.eus/es/Salud/FMS/Paginas/default.aspx</p> <p>Video:</p> <p>https://donostialdea.osakidetza.eus/es/Docencia%20e%20investiga/BP/Paginas/default.aspx</p> <p>Article: Newspaper (Gaceta Sanitaria, 2016): "Deprescribing long-term treatments for osteoporosis with bisphosphonates in primary care in the Basque Country"</p>

Part 4: Viability assessment of the Good Practice

<p>Time needed to deploy the Good Practice</p> <p>Between one year and three years.</p> <ul style="list-style-type: none"> • 2013: - Presentation of the Proposal to the managers. - Creation of the promoter and trainer groups. - Training process on polypharmacy general concepts and conservative prescribing - Seminar of the promoter group with all the trainers for training evaluation, barriers identification and facilitators to medication review, and the establishment of priorities and lines of work. • 2014: - Practical implementation of the general concepts in the area of osteoporosis, "Bisphosphonate deprescription in long-term treatment" by a multifactorial intervention that included training, patient identifiers and consensus
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with specialized services referral hospital. - Specific training workshops for nurses on "Monitoring and Medication Reconciliation". - "Prudent Prescription" workshops and a practical workshop in online drug information sources. - Design and deployment of the intervention: "Review of medication in people over 80 years with 10 or more drugs" cascade training, patient identification and potentially inappropriate prescriptions, review by the primary care physician. - Design and deployment of the intervention: "Adequacy of drugs in patients with renal failure and diabetes."

- 2015 - Impact assessment of projects 2014: "Deprescription of bisphosphonate in long-term treatment", "Medication review in people over 80 years with 10 or more drugs", "Adequacy of drugs in patients with renal failure and diabetes ". - Design of intervention: "Collaboration primary care - specialized care in patients with polypharmacy".
- 2016 - Deployment and implementation of the intervention: "Collaboration primary care- specialized care in polypharmacy".

Investment per citizens / patient / client in terms of financial resources

Between €100 - €1.000 per targeted citizen / patient.

It is really less than 100€, specifically are 30€ per patient. The cost calculation is shown below:

- Training: - 1 training of trainers workshop: 300 € (6 hour workshop taught by two people (total 12 hours), cost / shared time: 25 €. - 40 sessions in Primary Care Units: 1800 € (two per unit), 1.5 h each, cost / time one teacher = 30 €. - Meetings of the promoter group: 1920 €. 3 annual meetings of 2 hours, 8 persons, 40 € / hour. - Total training: 4020 € / year. - Training for three years: 12060 €. - Expenditure per patient: 12.060 (53.0000 polypharmacy): 0.2 € / patient Pharmacist: half day / year, € 50,000 / year, 25000 € / year. - Pharmaceutical three years part- time: 75000 €. - Expenditure per patient (polypharmacy 53.0000): 1.4 €. Time primary care physician for review: 27 € / patient. 1 hour (40 €.) For a full review of medication and 20 minutes (13 €) for review of specific criteria is estimated inappropriate prescribing. It is estimated that half of patients will require a full review and half a partial, average of 40 minutes per patient. In three years could be revised 53,000 polypharmacy patients (70 patients / physician and year).

Evidence behind the Good Practice

Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

Security Alerts: in 2014-2015 have reported five security alerts involving 2,000 patients. - Deprescription of bisphosphonate: 44.6% (1212/2717) of the active treatments were discontinued. shifts to another group of drugs for osteoporosis only in 5.9% of cases were

observed discontinued. The estimated drug saving was € 251,232 compared initial cost of 697,019 €. - Polymedicated over 80 years with 10 or more drugs: A reduction was observed in the number of drugs of -0.88 (95% CI. 0.72 to -1.04, $p < 0.0001$, representing a reduction of 7.4% of all prescriptions are he observed a reduction of 27.1% of potential security problems. - Renal failure and diabetes: A decrease was observed in the prevalence of inappropriate prescriptions of 56% (64/114) in the unit in which was implemented (Zumaia-Zestoa-Getaria). - Collaboration primary care-specialized care in polypharmacy. On going: 7 hospital services have been implicated. Inappropriate prescriptions affect to the following number of patients per service: cardiology (3926), digestive (3384), rheumatology-traumatology (4817), gynaecology (429), mental health (530), respiratory (142).

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

Economic viability. As discussed in previous sections, in our organisation, the practice has been carried out without additional resources (except for 30,000 euros in three years corresponding to finance projects via the initiative "Botton up" of Osakidetza). However, in question 33, we have made an estimate of what it would if it were made extra resources. On the other hand, in patients with polypharmacy, the practice has been shown to reduce the number of total prescriptions (7% reduction) and the number of inappropriate prescriptions (27%). Given that the annual cost per patient polymedicated in our OSI is 490 €, in three years would be 1470 € / patient, a 7% reduction would save on drugs of 103 € above the cost of the intervention. The economic impact of reducing inappropriate prescribing on hospitalizations is unknown.

Estimated time of impact of the Good Practice

Medium impact - e.g. shortly beyond the pilot project period.

Impact observed

Better quality of life (societal)

Assessments that have been made are short-term. We have preliminary data indicating that the practice is sustainable (question 30). It has substantially improved the potentially inappropriate prescriptions but its impact on hospital admissions is unknown. However, throughout 2016 and also at work on osteoporosis have reached agreements with the 7 hospital services.

Transferability of the Good Practice

Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.

They have identified the following practice recommendations for transferability and sustainability:

- In order to the work line has continuity, it is essential to promote collaborative work between clinical professionals from various primary care units and hospital services of the organisation as well as other agents involved in the treatment of our patients (medical centres residential, mental health, etc.).
- The cascade training strategy has been very well received by clinicians, with a high assistance and high training activity scores. It generates group dynamics and encourages participation and involvement of clinicians. The presence of primary care pharmacists, now integrated into the integrated care organisation, is a factor that facilitates the transferability to other integrated care organisations of Osakidetza.
- The support of the management of the organisation to the line of work has been fundamental. The fact that polypharmacy and prudent prescription are priority areas in all health organisations of Osakidetza facilitates the transferability.
- The feedback of results to the health centres professionals is another important element that contributes to the permanence of the changes achieved.
- The exploitation of the OBI tool, although it requires an initial investment of time for handling, is a strategy that can cover large patient populations and evaluate results. This tool is available in all Osakidetza service organisations and pharmacists have been trained for its exploitation.
- It is needed to follow in the line of collaboration between primary care and specialized care, promoting mutual understanding and agreement to move towards a more collaborative model and gradually incorporating other services. The integrated care model facilitates this aspect, although still significant barriers remain.

Part 5: Your organisation

Name of the organisation	Integrated Care Organisation Donostialdea
Address of the organisation	Begiristain Doktorea Pasealekua, 117, 20080 Donostia, Gipuzkoa
Type of organisation	Integrated Care Organisations

Name of the contact person	Carritxu Etxeberria Agirre
Email address of the contact person	correo.farmaciahernani@osakidetza.eus

Basque Country: Care plan for elderly

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Care plan for elderly
Short name (Acronym)	PAM
URL of the Good Practice	Not available
Geographical scope	Regional level
Country	Spain
Region(s) involved	Basque Country
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Primary care centres • General Practitioners • Nurses
Size of population covered	>100,000
Targeted audience	65 - 79, 80+
Summary of the Good Practice <p>This project, aimed at people over 70 years, pretends to prevent or delay the loss of function through preventive interventions and health promotion activities along with control of geriatric syndromes and associated comorbidity. The main objective is to have a homogeneous system of multidimensional assessment and action, in people aged 70 or older, based on current recommendations, oriented to prevention, functionality and adapted to the reality of primary care, allowing classification in typologies of elder people.</p>	

This classification will provide us with a better understanding of the health situation of people of health quotas assigned in primary care and can thus establish appropriate interventions in each case and plan activities in an organized way for the different typologies of older people. Also through the Taxonomy NANDA-NOC-NIC will give us the possibility to individualize care plans which will allow better monitoring.

The transferable key issues are the following:

- Have a program for elderly evaluation.
- Have a classification model by typologies.
- Associate typologies based on functionality according to NANDA Diagnoses. Have a registration system for monitoring the elderly.
- Have information to get indicators on health and social situation of the elderly.

Key words: multidimensional assessment in elderly - fragility, integrated care in elderly, functionality, continuity of care in elderly

Good practice being part of the larger programme

No.

Challenges / problems addressed by the good practice

- Have a screening model and systematic assessment of health in people ≥ 70 years
- That every health professional knows the health status of persons ≥ 70 years assigned to its quota \ centre • Create synergies to schedule interventions for different types and health problems found.
- Provide data and indicators that guide new programs and health policies for this group.
- Sensitizing primary care professionals of the need to work in coordination with the social sphere and with a population approach.

Importance of the challenges / problems before starting to implement good practice

The aging population is an achievement and a challenge, in all developed countries. In 2014, the population of ≥ 65 years in Euskadi, was of 20.7% of the total, being of 18.1% in Spain [EUSTAT-2014].

Despite encounter the problem of population aging there are not systematic intervention in the elderly in Osakidetza.

Existing data along with the lack of prevention and promotion in aspects such as falls, polypharmacy, exercise push us to plan the realization of the PAM program.

Environment before the good practice was implemented

There was no structured intervention of this type before the deployment of this practice.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

The Care Plan for the elderly (PAM), born with characteristics that provide topicality, innovation and commitment to quality care and continuity of care for the elderly. Its approach has the following characteristics:

- It supports the activity and resources of primary care and is based on current recommendations, scientific evidence, and guidelines of Osakidetza, Health Department of the Basque Government, the Ministry of Health, Social Services and Equality, and WHO.
- It is aligned with the strategy of Euskadi socio-sanitary care.
- Includes a multidimensional assessment including assessment by NANDA domains.
- Includes a classification of typology of older people, according to their function: healthy, chronically ill, frail, dependent, at the end of life
- Poses indicators for evaluation and monitoring of the program will be drawn from OBI (Oracle Business Intelligence).

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required) <p>The deployment of this program involves a change in the routine clinical practice of professionals by incorporating a person-centred approach, extended to their environment (primary caregiver).</p> <p>To perform systematically the different assessments that incorporates, it requires a previous defined schedule:</p> <ul style="list-style-type: none"> • The centres of each phase of deployment. • Training: definition of content and professionals per centre that addresses 	

<ul style="list-style-type: none"> The use of information and analysis of indicators by centre / integrated care organisation/ Global - Monitoring, evaluation and program improvements detection 	
Total budget of the Good Practice	€0 - €9,999
Source of funding	Regional funding
The main actions that have to be done to deploy the Good Practice <ul style="list-style-type: none"> A working group made up of health professionals (doctors and nurses in primary care and a technique of the Division of Health Care) was formed. We have worked on a document that defines the content of the programme. The document has been reviewed by experts from other institutions and health services as well as socio-sanitary coordination. New utilities have been designed in the Health Record and support documents have been developed for registration of the professional assessment and care plan. It has designed a specific training for primary care professionals (medical and nursing). It has been piloted in seven primary care centres with a population of 16,155 people \geq 70 years, with a sample of 1340 people to value. They have been defined indicators for evaluating the results of the assessments made in the elderly. It has monitored piloting, evaluating results and established areas for improvement to the program for deployment. A schedule was made with concrete actions for piloting and subsequent deployment in the network of Osakidetza 	
Issues during the implementation of the Good Practice <p>In the pilot phase, we can highlight the following difficulties:</p> <ul style="list-style-type: none"> Unequal participation between professionals and between different quotas per care centre Lacking a systematic evaluation, some professionals have said that this assessment generated increased workload. Although they believe that program is good, benefits are appreciated and would recommend, it is still seen little integration in daily practice. As it is not yet included with compulsory in health organisations of Osakidetza, it is not exercised a leadership as in other programs. <p>All these difficulties are identified and formulated as areas for improvement.</p>	

Additional resources required to scale up Good Practice

Yes.

It is needed to invest resources in training, continuous monitoring and support persons who participated in the pilot to contribute its experience in deploying this initiative in other centres.

Basis to support sustainability of the Good Practice

The justification for the sustainability of the practice is based on the impact identified in different clinical indicators evaluated in the pilot (analysis before / after) with 1073 patients. These indicators are grouped into the following areas:

- Clinical preventive (general, specific and medication) rating
- Functional rating
- Mental rating
- Social and family and caregiver Rating

Evidence to observe the Good Practice

A visit to implementation site.

Part 4: Viability assessment of the Good Practice
Time needed to deploy the Good Practice

Between one year and three years.

At the moment, the practice has been piloted in 7 centres. It is expected to start implementation with deployment to other centres from October 2016.

Investment per citizens / patient / client in terms of financial resources

No available calculation.

Evidence behind the Good Practice

Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

To carry out the program, we have relied on scientific evidence on current recommendations of scientific societies and guidelines Osakidetza, Health Department of

the Basque Government and the Ministry of Health, Social Services and Equality and WHO. They have been exploited results from the piloting which in turn serve for the research project has been started on this practice; It has been designed and initiated a research project approved by the CEIC- E (Ethics Committee for Clinical Research Euskadi) No. PI2015167. We understand give consistency to the program. It have been presented some results in communication format to different national and international scientific conferences

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

During the pilot, between December 2015 and April 2016, there have been multidimensional assessments of older people in each centre by professionals . During this period, we have identified a number of improvements in the various health centres, they have been incorporated into the program contributing to its refinement. This learning together with the results obtained shows that we have a sufficient level of maturity for deployment across the organisation.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began

Impact observed

Better care coordination (economic and societal).

As explained above, we have obtained very favourable results in indicators of the following areas:

- Clinical preventive (general, specific and medication) rating
- Functional rating
- Mental rating
- Social and family and caregiver Rating

Transferability of the Good Practice

Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been

transferred yet.

Part 5: Your organisation

Name of the organisation	Primary and secondary healthcare sub directorate
Address of the organisation	C/ Alava 45; 01006 Vitoria-Gasteiz, Araba
Type of organisation	Regional public authorities
Name of the contact person	Mari Luz Pena Gonzalez
Email address of the contact person	Marialuz.penagonzalez@osakidetza.eus

Basque Country: Integrated care process for children with special needs (PAINNE)

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Integrated care process for children with special needs
Short name (Acronym)	PAINNE
URL of the Good Practice	Not available
Geographical scope	Local level
Country	Spain
Region(s) involved	Basque Country
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Primary care centres • Specialised physicians • General Practitioners • Nurses

	<ul style="list-style-type: none"> • Regional public authorities • Local public authorities • Advocacy organisations • Third sector • Other (Family members)
Size of population covered	10, 000 - 99,999
Targeted audience	< 18
Summary of the Good Practice <p>The overall aim of this PAINNE (Proceso de Atención Integrada a Niños y Niñas con Necesidades Especiales) is to implement an integrated model of care for children with special healthcare needs (CSHCN), using a quality improvement method to enhance the overall care and satisfaction of the children and families affected. This model promotes quality care towards children and their families in a way that is efficient and sustainable, with the goal of early detection and intervention in situations of risk, ultimately aiming to help these children reach their maximum potential and improve their overall quality of life.</p> <p>Multidisciplinary groups comprised of nearly 90 professionals from the healthcare, social services and education sectors in Bilbao worked together to create appropriate structures for care coordination, reach consensus regarding procedures to offer integrated care and tools to enhance early detection of situations of risk, define key indicators for quality improvement, and create a comprehensive directory of resources in these three sectors. These ideas were published in the Guía PAINNE 2013, and the screening tools agreed upon for the early detection of developmental delays and psychosocial risk factors were incorporated into the electronic medical record (EMR) for routine use in well child visits in the paediatric primary care centres in Bilbao. Currently, more than 200 professionals in the healthcare, social services, education and third sectors are revising the guide in order to publish an updated version in 2016 and are implementing the model throughout Vizcaya.</p>	
Key words: children with special healthcare needs, care coordination, early intervention, prevention of childhood deficits, health and social care	
Good practice being part of the larger programme No.	
Challenges / problems addressed by the good practice <ul style="list-style-type: none"> • Detect early the biological, psychological and social family risk factors that may 	

<p>affect the normal development of children.</p> <ul style="list-style-type: none"> • Detect early warning signs or any other alterations in the development of a child. • Establish personalized therapeutic measures which allow children to reach their maximum personal and developmental potential, and achieve educational and social integration. • Improve the communication amongst the people and organisations involved to enhance the coordination of each case. • Improve the children and their families' quality of life.
<p>Importance of the challenges / problems before starting to implement good practice</p> <ul style="list-style-type: none"> • Early detection of risk factors and early warning signs- although this is a cornerstone of primary care paediatrics, there were no specific screening tools or algorithms in place that would systematically allow for early detection of difficulties during the well child visits. • Individualized care plans were not always coordinated between the various providers in the different sectors, nor were they centred in the needs of the children and their families at this time either. • Communication between the three sectors, as well as within each sector, was not optimal.
<p>Environment before the good practice was implemented</p> <p>In 2011, the Basque government passed an early intervention model that was based on coordination of services between the healthcare, social services, and education sectors and expanded services from 0-3 years to 0-6 years. This facilitated the coordination amongst the three sectors, allowed for the formation of an early intervention structure and provided the pathway for PAINNE to be initiated the following year.</p> <p>In primary care, paediatricians and nurses did generally screen for developmental problems, and provided known resources. However, the developmental screens were not standardized, and the initiative to implement these screens and offer needed resources depended on the professional that the family encountered. The EMR offered visibility between primary care and specialists, with enhanced the coordination of care, but referral pathways were not always clearly defined or understood. Coordination amongst professionals in some local communities was well-established, while in others, scarce, with little knowledge of local resources.</p>
<p>Key innovative elements of the good practice and how the good practice improved situation compared to previous practice</p> <p>1. Definition of activities and indicators for evaluation and continuous quality</p>

improvement

2. Consensus regarding tools for the early detection of risk factors and deficiencies
3. Development of protocols and referral pathways to offer an integrated response to CSHCN
4. Implementation of screening tools and alerts in the EMRs, both in primary care and in the hospital
5. Creation of a Directory of Resources including social, healthcare, and educational resources

PAINNE is a quality-driven model that has offered enhanced coordinated care for CSHCN, based on the needs of families. The implementation of screening tools to detect early developmental and psychosocial risk factors and standardized referral pathways not only have been well-received by primary care teams, but have shown to decrease referral times for children suspected of having autism spectrum disorders. The early intervention teams accepted the vast majority of children referred by healthcare professionals, allowing for early, individualized care. Communication and referrals between professionals has also been enhanced.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
<p>Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)</p> <p>This model does not require additional resources, but rather is based on the redistribution of current resources.</p> <p>This holds true in each of the three sectors. Each of the three sectors has allocated time and resources within their current structures and budgets for the participation of professionals in multidisciplinary work groups, quality improvement and on-going continuing education in order to implement this model.</p> <p>In the healthcare sector, grant and regional funding did allow for a few professionals to have protected time to initiate and oversee the process. Other professionals that participated in the work groups were allocated time from their organisations. Primary care teams incorporated the screening tools into their daily practices, without additional time</p>	

or resources needed.

An early intervention team was formed under the umbrella of social services in conjunction with the deployment of this model, which facilitated the assessment and preparation of individualized intervention plans. Professionals from the three sectors also participate in assessment and quality control groups, which is part of their professional duties and time.

In education, professionals formed a department for early intervention amongst experienced current employees, in order to better address the needs of young children and implement screening tools in the preschools. Representatives from the third sector were also allocated time to participate in work groups.

The early structural changes in each sector are now in place in Bilbao and professionals can dedicate their time and efforts to quality improvement and enhancing implementation.

Total budget of the Good Practice	€100.00 - €499,999
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Source of funding	Regional funding
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The main actions that have to be done to deploy the Good Practice

Certain actions taken by the Basque government, such as the approval of an early intervention model for CSHCN ages 0-6 years and the formation of an early intervention structure, facilitated the implementation of this model. Nearly 90 professionals from the three sectors formed five multidisciplinary work groups in order to define activities, indicators for quality improvement and evaluation of the process. These work groups also reached agreement on appropriate screening tools, protocols, and referral pathways. The coordinated care guide (Guía PAINNE 2013), the directory of resources, and the changes in the EMR in primary care and the hospital were products of the work group. Professionals in each of the three sectors were trained and educated about the process and early intervention. As the initial results were positive and professionals were engaged in Bilbao, the model was expanded to all of Vizcaya. More than 200 professionals from the healthcare, social services, education and third sectors participated in work groups to revise, validate and adapt the current care guide and prepare the publication of an updated guide in 2016. The directory of resources was expanded to include resources from the entire territory. Healthcare organisations in each region in Vizcaya have begun implementing the process. Additionally, the third sector formed its own work group and families have participated more actively in this second phase. Families have participated in focus groups and form part of multidisciplinary work groups created to offer an integrated care response to children with specific healthcare needs, such as Downs Syndrome, Cerebral Palsy, and Autism.

Issues during the implementation of the Good Practice

Some of the barriers that we have encountered include

1. The complexity of the process and resistance to change
2. Managing the intra- and inter-relationships in the healthcare, social services and education sectors
3. Differences in cultures, language, and procedures in the distinct sectors
4. Lack of new health technologies within and between sectors
5. Lack of time and additional personnel in each sector to more efficiently disseminate and implement the model.

Additional resources required to scale up Good Practice

No.

Basis to support sustainability of the Good Practice

PAINNE is a bottom-up process that includes practicing professionals from healthcare, social services, and education sectors as well as advocate groups and families, which has ensured acceptance and quality improvement in daily activities with children and families. This model has re-organized existing resources in creative ways to implement structural changes, establish referral pathways between professionals, and enhance communication, which help to ensure long-term, sustainable changes. The model has also been well accepted in the rest of Vizcaya, has shown to be replicable, and its implementation is currently in progress.

Surveys done in Bilbao of primary care paediatricians and nurses have shown that the implementation of the EMR changes is well accepted and perceived as useful. Use of developmental screens routinely in well child visits in Bilbao increased from 25% of primary care teams in 2013 to 60% in 2015. Additionally, the Foundation New Health, an outside evaluator of best practices in Spain, gave this model a score of 4/4 in sustainability.

Evidence to observe the Good Practice

The Guía PAINNE 2013 can be found at:

http://www.osakidetza.euskadi.eus/contenidos/informacion/osk_publicaciones/es_publi/adjuntos/PAINNE2013es.pdf

Publications:

1. Saitua G, Díez C, Aparicio E, Gutiérrez A, Paz C, Floyd M, et al. Proceso de Atención Integrada para Niños con Necesidades Especiales (PAINNE). Rev Pediatr Aten Primaria [Internet]. 2015;17:e251-e260.

http://www.pap.es/FrontOffice/PAP/front/Articulos/Articulo/_IXus5l_LjPq4RQcxodpCfTWUxvkFleaU

2. Aparicio E. Experiencias de atención integrada Pediatría Atención Primaria-Hospital. El pediatra como referente. Bol S Vasco-Nav Pediatr. 2014;46:27-32. http://www.svnp.es/sites/default/files/experiencias_en_ap.pdf

Additional publications will be available in late 2016, early 2017

External evaluations:

New Health Foundation/ Observatorio de Modelos Integrados en Salud. Available at <http://omis.newhealthfoundation.org/proceso-de-atencion-integrada-a-ninos-y-ninas-con-necesidades-especiales-painne-2/>

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Between one year and three years.

During the first 12-18 months, nearly 90 healthcare, social services and education professionals formed five different work groups. These work groups met various times and using the process management methodology, agreed upon 11 groups of activities, 7 referral pathways and several clinical decision-making tools, a directory of resources, and indicators for continuous quality improvement, which were included and published in the clinical guide. Educational sessions were held in each of the sectors and implementation began in Bilbao after the initial planning phase. The electronic medical system was changed to incorporate these decision-making tools, both in primary care and in the hospital, and providers were trained in their use. Approximately two years after this initial phase in Bilbao began, nearly 200 professionals from these three sectors and the third sector, within the larger territory of Vizcaya, formed four work groups in order to revise and validate the clinical guide. The directory of resources was expanded to include resources from the entire territory. About 18 months' year later, this revised guide will be completed, and implementation of the changes in the medical record and educational sessions are beginning in different regions of this territory. Simultaneously with this model's expansion, families in conjunction with professionals from the healthcare, social services, educational fields and the third sector have formed work groups in order to identify and determine best practices in coordinated care for children with specific healthcare needs or risks. These sub processes include children with Downs Syndrome, Paralysis Cerebral, Autism, Extreme prematurity, and Childhood deafness. The focus is

family-centred, with determination of the family's needs and inclusion of families in all aspects of this process.

Investment per citizens / patient / client in terms of financial resources

No available calculation.

It is difficult to calculate the exact cost of this model. Initial funding through a social healthcare grant and on-going small grants from the healthcare system have covered the cost of a few part-time healthcare professionals to organize the project, write and publish the clinical guide, oversee the project's implementation and promote its expansion. However, though initial funding did provide the impetus to start the project, its success is based on the restructuring of existing resources, not just in the healthcare field, but in the social services and educational areas as well. Multiple healthcare professionals have played a role in the first and second phases of this project, and the changes implemented are now routine parts of primary care. In social services, the onset of this project coincided with the formation of an early intervention team and centre, which now has its own budget to provide early intervention services. Education created an early intervention department from existing personnel, and various professionals in early childhood education are involved in this work. Though we cannot calculate the exact cost of this restructuring, we are certain that there is cost-savings in each of the areas. Economists, such as Heckman, have shown that early intervention has a notable return on investment throughout the life of the child. Coordinated care also decreases duplications of services, makes more efficient use of the services provided, and minimizes the time spent by the family doing unnecessary transactions and visits.
<http://heckmanequation.org/heckman-equation>

Evidence behind the Good Practice

Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

From the onset of this project, continuous quality improvement has been a key part of the process. The initial work groups developed a set of indicators that have been measured annually since the implementation of the model in 2013 in Bilbao. These indicators were reviewed and revised during the expansion to Vizcaya. Qualitative and quantitative data has been collected from electronic medical records, satisfaction surveys completed by professionals, and databases from the healthcare, social services, and educational systems. Additionally, family satisfaction was of the initial quality indicators. Focus groups were formed to determine the needs of families, the input of families was analysed, and we are currently creating an evaluation based on the input from families,

which will be piloted and applied to the affected population in Vizcaya. Lastly, we were evaluated positively by two external sources. One was the social healthcare organisation that initially funded this project, Etorbizi. The other was New Health Foundation, in an observatory for best practices in integrated health in Spain, which can be found at:

<http://omis.newhealthfoundation.org/proceso-de-atencion-integrada-a-ninos-y-ninas-con-necesidades-especiales-painne/>

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

As mentioned previously, this model has allowed for restructuring not only in the healthcare field, but also in social services and education. Initial start-up costs have been covered and the changes made are long-lasting. Recent legislature for early intervention promotes integrated care amongst the three sectors in the entire Basque region. The coordinated care model in Bilbao and Vizcaya has helped demonstrate effectiveness, to the point that the legislature deemed it important to expand this model to the entire region. In healthcare, both paediatricians and nurses in primary care evaluated the utility in practice and the perception of improvement positively, and more than half of the providers in different urban areas in the territory attended trainings related to this topic. Data shows that primary care providers are using the new tools more consistently to detect developmental delays and psychosocial problems, and this has had a positive impact on the age of referral for children with suspected autism. The perception of providers is that communication is improved and referral pathways are clearer. In the expansion of this model to Vizcaya, professionals find the model to be comprehensive and valuable, and have begun implementing the necessary changes in the electronic medical record, even on a personal level when systematic changes have not yet been put in place. The updated clinical guide will be published in early 2017, with revisions that make it applicable to the larger territory of Vizcaya. This guide is an important tool for the promotion and expansion of this model. Families and patient associations have expressed interest and enthusiasm for this model and have been involved at different levels in its preparation and expansion. Family satisfaction questionnaires will provide further insight to the family perception of the impact of this model, and can be validated in different regions.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and

routine day-to-day operation began

Impact observed

Better care coordination (economic and societal).

As mentioned previously, qualitative and quantitative data has been collected to determine the impact of this model. Care coordination/ integration has been enhanced quantitatively between paediatrics and social services, with 93-95% of referrals being accepted for early intervention services. Additionally, the age of referral for autism from paediatrics to mental health has decreased from 3.8 years to 3 years with the incorporation of systematic use of assessment tools for development in primary care. Primary care teams are better identifying families with psychosocial risk factors, during prenatal, newborn and well-child visits, which allows greater coordination between primary care and social services and/ or mental health, and the earlier provision of services. Much data supports the effects of early intervention, with an increase of return of investment, better quality of life for children and families, better integration into all aspects of society, and decreased need for specialty and additional services in the healthcare, social services and educational sectors. Qualitative data from surveys and informal interviews with professionals from the three sectors and third sector shows that this model has had a positive impact, is well accepted, is viewed as useful, and all providers note enhanced communication and coordination amongst the sectors. Focus groups with families have also shown positive perceptions of care with enhanced coordination, and family survey questionnaires that are currently being developed will provide greater insight into the direct impact on families.

Transferability of the Good Practice

Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.

This model has been implemented in Bilbao, and is currently in the implementation phase in the rest of the territory of Vizcaya. The clinical guide published in 2013 compiles best practices from the scientific literature with tools and referral pathways agreed upon by local professionals from the three sectors. With the expansion of this model to the territorial level, the guide has been adapted and enhanced. This guide could be replicated in other regions in the Basque region fairly easily, as the tools and pathways are have been validated and translated to the regional language. On a larger scale, the guide could serve as a model for other regions in both Spain and elsewhere: each region

could adapt the tools, referral pathways, and indicators to their needs. The changes implemented in the electronic medical record can also be achieved with buy-in from healthcare organisations and primary care providers. Currently, 2/4 healthcare organisations in Vizcaya have incorporated the recommended tools, and the other two organisations are awaiting structural informatics changes to include these tools. In the education sector, this model has already been adapted at the regional level, throughout all of the Basque region, as their structure is regional. In the social services sector, in conjunction with a recent regulation in early intervention for the Basque region, changes are also being made throughout the region to ensure a social-healthcare-educational model of care.

Part 5: Your organisation

Name of the organisation	OSI Bilbao-Basurto
Address of the organisation	Avenida de Montevideo, 18 - 48013 Bilbao
Type of organisation	Integrated Care Organisation
Name of the contact person	Michelle Floyd Rebollo
Email address of the contact person	painne@osakidetza.eus

Puglia, Italy: MARIO - Managing active and healthy ageing with use of caring service robots

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Promising practice

Part 2: Description of the Good Practice

Name of the Good Practice	Managing active and healthy ageing with use of caring service robots
Short name (Acronym)	MARIO
URL of the Good Practice	www.mario-project.eu

Geographical scope	European level
Country	Ireland, France, UK, Italy, Greece, Germany
Region(s) involved	The pilot sites of the project are located in Connacht (Galway), Greater Manchester (Stockport), Puglia (San Giovanni Rotondo).
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Research centres • Academia • Specialised physicians • Nurses • Nursing homes • Informal caregivers • Local public authorities • Small-sized industry
Size of population covered	25-99
Targeted audience	<65-79; 80+
Summary of the Good Practice MARIO addresses the difficult challenges of loneliness, isolation and dementia in older persons through innovative and multi-faceted inventions delivered by service robots. The effects of these conditions are severe and life-limiting. They burden individuals and societal support systems. Human intervention is costly but the severity can be prevented and/or mitigated by simple changes in self-perception and brain stimulation mediated by robots. From this unique combination, clear advances are made in the use of semantic data analytics, personal interaction, and unique applications tailored to better connect older persons to their care providers, community, own social circle and also to their personal interests. Each objective is developed with a focus on loneliness, isolation and dementia. The impact centres on deep progress toward EU scientific and market leadership in service robots and a user driven solution for this major societal challenge. The competitive advantage is the ability to treat tough challenges appropriately. In addition, a clear path has been developed on how to bring MARIO solutions to the end users through market deployment.	
Key words: assistive robots, comprehensive geriatric assessment, people with dementia, reduction of isolation and loneliness, healthy ageing	
Good practice being part of the larger programme	

Yes.

Our practice results from our participation to the PHC-19-H2020 EU funded MARIO project. We have a role in all project activities and specifically we lead WP4 (Advanced Robotic Solutions for CGA) and have the peculiar commitment of piloting the robot for people with dementia hospitalized in our Geriatrics department.

Challenges / problems addressed by the good practice

1. Addressing the multi-factorial problems linked to loneliness, isolation and dementia in the elderly through interventions delivered by service robots
2. To assist caregivers and physicians in the Comprehensive Geriatric Assessment (CGA) of subjects with a high risk of loneliness, in our specific pilot site they are hospitalized patients affected by dementia at its first stage
3. To use near state of the art robotic platforms that are flexible, modular, accepted by the users and sustainable from a cost point of view
4. To bring service robotics out of the lab and into healthcare practice

Importance of the challenges / problems before starting to implement good practice

The challenges addressed by our practice are affecting a large part of the European population. Globally, it is estimated that 44.35 million people have dementia and this is expected to reach 135.46 million by 2050. Western Europe has the highest prevalence of dementia in the world estimated at 7 million in 2013 and a projected increase to 13.4 million by 2050.

Environment before the good practice was implemented

From a clinical point of view the main achievement of the project will be the support service robots can give to healthcare professionals in delivering Comprehensive Geriatric Assessment (CGA). This is a multidimensional, usually interdisciplinary, diagnostic process intended to determine an older person's medical, psychosocial, and functional capacity and problems with the objective of developing an overall plan for treatment and long-term follow-up. The robot could ease to gather autonomously important information for CGA and give the possibility to record a larger number of health assessment measurements (also through connected sensors and natural language processing) leading to a more appropriate determination of patient's health condition. To our knowledge, the MARIO robot will be the first robot to assist healthcare professionals in performing CGA.

Key innovative elements of the good practice and how the good practice improved

situation compared to previous practice

Performing CGA is a time-consuming process that traditionally involves healthcare professionals who deliver it, in best case scenarios, at hospital admission and at discharge. The key innovative element from a clinical point of view is the possibility that the robot could perform non-obtrusive measurements of activities of daily living (like bathing, toileting, feeding, dressing, urine and bowel continence, and transferring). It will also ease to assess patient independence in eight activities that are more cognitively and physically demanding like managing finances, taking medications, using the telephone, shopping, using transportation, preparing meals, doing housework, and washing. It could also ease to assess the cognitive status.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
<p>Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)</p> <p>This model does not require additional resources, but rather is based on the redistribution of current resources. This holds true in each of the three sectors. Each of the three sectors has allocated time and resources within their current structures and budgets for the participation of professionals in multidisciplinary work groups, quality improvement and ongoing continuing education in order to implement this model.</p> <p>In the healthcare sector, grant and regional funding did allow for a few professionals to have protected time to initiate and oversee the process. Other professionals that participated in the work groups were allocated time from their organisations. Primary care teams incorporated the screening tools into their daily practices, without additional time or resources needed.</p> <p>An early intervention team was formed under the umbrella of social services in conjunction with the deployment of this model, which facilitated the assessment and preparation of individualized intervention plans. Professionals from the three sectors also participate in assessment and quality control groups, which is part of their professional duties and time.</p> <p>In education, professionals formed a department for early intervention amongst experienced current employees, in order to better address the needs of young children</p>	

and implement screening tools in the preschools. Representatives from the third sector were also allocated time to participate in work groups.

The early structural changes in each sector are now in place in Bilbao and professionals can dedicate their time and efforts to quality improvement and enhancing implementation.

Total budget of the Good Practice	€1M-€5M
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Source of funding	European funding
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The main actions that have to be done to deploy the Good Practice

The first trial will start in few days, on November, 2016. Before the beginning of the trial many actions are on going. The first of three robot was delivered on August, 2016 and now all technical preparatory activities are underway. Simultaneously healthcare professionals are going to start the first training period. The training session will illustrate the robot main functionalities and limitations, specifically how to train the robot to vocal commands and what are the expected interaction patterns to put in place. A particular attention will be devoted to the process of troubleshooting.

Issues during the implementation of the Good Practice

As soon as the practice starts, the main concerns are relative to the acceptability and usability of the robot by healthcare professionals and by the patients. Other issues involve the fact that, due to a technological limitation, the use of the robot is limited to rooms that host only one patient.

Other important issues are data security and the possibility of errors in the measurements of CGA by the robot. This risk will be mitigated with a yet defined methodological framework consisting of a sound pilot protocol.

Additional resources required to scale up Good Practice

Yes.

The main cost of the practice is linked to robot procurement. Possible additional resources in scaling up could be the establishment of a clinical monitoring service in charge of assessing the results of the clinically relevant measures recorded by MARIO robot.

Basis to support sustainability of the Good Practice

The sustainability of the practice will be a consequence of specific agreements between

the partners of the consortium after the end of the project.

Evidence to observe the Good Practice

A practice report

Video or other digital media (web page, audio)

A visit to an implementation site

Youtube channel: <https://www.youtube.com/channel/UCdxaxbf9BLZjl698HCuTyBQ>

Twitter feed: https://twitter.com/mario__project

Website: <http://www.mario-project.eu>

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Less than a year.

The implementation of the robot was prepared through an intense process aimed at identifying the needs of people with dementia, their careers and family members. Interviews and focus groups took place involving all stakeholders in all pilot sites. So far 88 persons with dementia and more than 200 careers were involved in these activities.

Investment per citizens / patient / client in terms of financial resources

More than €5.000 EUR per targeted citizen / patient.

The value is calculated considering the budget assigned to Casa Sollievo della Sofferenza in the MARIO project divided by the number of patients to involve in the trial period. Projecting costs beyond the end of the trial, given the cost of a single robot that can follow nearly one patient per week (typical average stay time in a geriatric ward), a cost of less than 1.000 Euro per patient could be assumed as realistic.

Evidence behind the Good Practice

No knowledge about evidence. No evaluation or documentation of effect has been carried out.

No evidence is available at the moment as the first trial period is going to start shortly. We expect to observe important impact in various health dimensions of patients with dementia. We could observe an improvement of quality of life, a delay in cognitive decline, an increase in physical activities, a more active participation in society,

increased patient satisfaction. We also expect positive impact on healthcare expenditures as healthcare professionals' time could be saved thanks to automatic detection of the variables involved in CGA.

Maturity of the Good Practice

Proof of concept is available: it works in a test setting and the potential end-users are positive about the concept.

End users were actively involved prior to the MARIO robot development and judge positively the introduction of the robot in their hospital stay. The robot works fine and is able to accept all the apps that will be implemented in it.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

Not available.

Transferability of the Good Practice

Transferability has not been considered. The innovative practice has been developed on local/regional/national level and transferability has not been considered in a systematic way.

Given the current state of the project the MARIO robot is not yet ready to be transferred although a detailed and ambitious exploitation plan is on-going.

Part 5: Your organisation

Name of the organisation	IRCCS Casa Sollievo della Sofferenza
Address of the organisation	Viale Cappuccini snc, 71013 San Giovanni Rotondo (FG)
Type of organisation	Hospitals
Name of the contact person	Francesco Giuliani
Email address of the contact person	f.giuliani@operapadrepio.it

Puglia, Italy: DIAMONDS - Digital Assisted MONitoring for Diabetes

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Digital Assisted MONitoring for DiabeteS
Short name (Acronym)	DIAMONDS
URL of the Good Practice	Not available
Geographical scope	Regional level
Country	Italy
Region(s) involved	Apulia (Puglia)
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Research centres • Academia • Specialised physicians • General practitioners • Nurses • Pharmacists • National public authorities • Regional public authorities • WHO • Large-sized industry • Primary care centres • Private companies • Advocacy organisations of physicians
Size of population covered	10,000-99,999
Targeted audience	18-49; 50-64; 65-79
Summary of the Good Practice The practice aims to validate the clinical efficacy of a telemedicine- and web-based system platform for self- monitoring of blood glucose (SMBG) data transmission and analysis of metabolic control, assessed by measuring changes inHbA1c, in insulin-treated	

diabetic patients. The system platform involves (i.) systematic (real-time and anywhere) transmission of SMBG data to a decision supported software (DSS)-assisted server, (ii.) web-based analysis of data, and (iii.) feedback on patients and medical staff to implement metabolic control. Additional aims include assessments of patients' adherence to perform SMBG, analysis of the specific and overall quality of glucose control, identification of situations predictive of hypoglycaemic and/or hyperglycaemic episodes, and detection of episodes of hypoglycaemia and sustained hyperglycaemia.

It is to be expected that use of the telemedicine- and web-based system platform will result in improved metabolic control as compared with standard of care, as shown by a greater decrease in HbA1c from baseline. In addition, it will potentially result in better quality of glucose monitoring and control (e.g., appropriateness of SMBG testing, glucose excursions, indexes of glucose variability) and frequency and severity of hypoglycaemic episodes. Also, quality of life should be improved in the telemedicine group. Thus, patients and physicians will be provided with a tool that allows to verifying the appropriateness of SMBG in relation to the diabetes status, and this will be also relevant to "payers" (false glucose reporting and data collection will be avoided, patient/physician interaction will be optimized while limiting the number of medical visits).

Key words: diabetes mellitus, self-monitoring of blood glucose, insulin therapy, digital transmission, decision supported software

Good practice being part of the larger programme

Yes.

Additional practices are ongoing or have been already validated in specific cohorts of patients with diabetes and nephropathy, and diabetes and cardiovascular diseases.

Challenges / problems addressed by the good practice

1. Provide patients and physicians with a tool that allows to verify the appropriateness of SMBG in relation to the diabetes status.
2. Analyze the quality of glucose control with new parameters (extent of hyper/hypoglycaemia episodes, risk of hyper/hypoglycaemia, glucose levels related to meals, hyper/hypoglycaemia episodes and emergencies).
3. Provide immediate feed-back to the patient to manage severe hypoglycaemia/hyperglycaemia.
4. Provide patient with detailed information on glucose data which may strengthen

perception of diabetes control.

5. Avoid false glucose reporting and data collection.

Importance of the challenges / problems before starting to implement good practice

1. Execution of SMBG often is carried out without being conform to current guidelines (e.g., less frequent or more frequent than recommended).

2. Patients with diabetes, especially insulin-treated, often show inadequate glucose control due to episodes of hyper/hypoglycaemia, and emergencies.

3. Patients are often alone while managing severe hypoglycaemia/ hyperglycaemia.

4. Patients need information on glucose data which may strengthen their perception of diabetes control and adherence to therapy - adherence to diabetes therapy is by far suboptimal.

5. Patients report false glucose data related to SMBG in 25-30% of cases.

Environment before the good practice was implemented

Patients with diabetes on insulin therapy rely on SMBG to identify states of inadequate glucose control and adjust therapy. They often test themselves too frequently or less than recommended, generating a significant waste of glucose strips or lack of accurate information on their glucose levels, respectively. Furthermore, such patients are at high risk of hypoglycaemia and are alone when such episodes occur with significant including life-threatening risks. Improvement of glucose control in type 1 and type 2 diabetic patients on insulin-therapy is largely needed (>50% show HbA1c levels >7%). Adherence to diabetes therapy is less than optimal and currently averages around 60% in patients taking insulin injections. Another problem is that patients may report false glucose data while performing SMBG due to fear or non-acceptance of the diseases (25-30% of cases according to recent reports). This is a further barrier to achieving an adequate glucose control.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

1. Allowed to verify the appropriateness of SMBG in relation to the diabetes status and to identify a significant proportion of patients not performing SMBG according to current guidelines.

2. Enabled timely (real-time) identification of patients with uncontrolled diabetes before the scheduled visit, as well as patients at risk of hyper/hypoglycaemia and specific

hypoglycaemia emergencies.

3. Provided immediate feedback to the patient to manage severe hypoglycaemia/hyperglycaemia.

4. Provided patients with detailed information on glucose data which may strengthen perception of diabetes control.

5. Avoided false glucose reporting and generated data collection suitable for scientific analyses.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, deteriorated outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)	
<p>Patients using the practice perform SMBG using a smartphone-connected glucometer modified for USB cable connection to smartphone. The smartphone is implemented with a software for real-time collection and transmission of measured glucose values to the remote server. Thus, the glucometer is made «hot» for real-time and anywhere data transmission. In addition, at the time of blood glucose measuring, the patient enters information on whether the measurement is being performed in the pre-prandial, post-prandial or absorptive periods, and indicates which meals the measurement refers to (i.e., breakfast, lunch, dinner, snack). SMBG results are immediately transmitted to the remote server, which performs data collection and analysis, and provides feedback to the patient and the medical staff according to pre-defined specific algorithms (Decision Supported Software, DSS). Thus, states of inadequate glucose control can be identified, and the contacts between the patients and the diabetes medical team are intensified via SMS and/or phone calls. A specific algorithm, which has been incorporated into the DSS, allows the patients to self-calculate the dose of basal insulin to be administered according to the measured fasting blood glucose levels for consecutive periods of three days. Glucose data and analyses are made accessible to the patients and medical staff anytime and anywhere via the web. Patients are also assisted by the diabetes medical team located at or connected with a call centre (24-hours/day, 7 days/week), which is alerted by the DSS-supported server in case of emergencies (e.g., severe hypoglycaemia).</p>	
Total budget of the Good Practice	€100.00-€499,999

Source of funding	Private funding
<p>The main actions that have to be done to deploy the Good Practice</p> <p>Patients have to be followed through a web-based electronic CRF (Glucoonline™ eCRF), thus the medical staff has to be instructed to periodically check the Glucoonline™ eCRF and be also automatically alerted by the DSS-supported server when specific patients (i.) perform SMBG sub-optimally (e.g., too infrequent or temporally inadequate testing), (ii.) show poor glucose control, (iii.) go beyond thresholds set for hypoglycaemia/hyperglycaemia (e.g., too many glucose values off target within a specific time frame), (iii.) experience severe hypoglycaemia or sustained hyperglycaemia. Under these conditions, irrespective of the planned study visits, the medical staff can make appropriate interventions, including patient counselling via phone/SMS or arrange a medical visit if needed. If a patient has SMBG value <40 mg/dl, he/she receives an SMS on the smartphone with instructions on how to correct hypoglycaemia; the medical team potentially phones the patient or have an emergency car go to the patient's site (free public health service available in Italy) if needed and depending on the severity and evolution of the hypoglycaemic episode. All patients undergo an educational session to ascertain that they adequately perform SMBG. They need to learn how to (i.) use the glucometer/smartphone platform, (ii.) access their personal Glucoonline™ eCRF on the web and visualize selected information on their glucose control, (iii.) interpret specific glucose abnormalities, and (iv.) refer themselves to the medical staff irrespective of the planned study visits if needed, (iv.) use of the DSS-delivered algorithm to self-titrate the dose of basal insulin on the basis of fasting blood glucose levels.</p>	
<p>Issues during the implementation of the Good Practice</p> <ol style="list-style-type: none"> 1. Finding adequate financial support. 2. Motivating patients to use the new practice before enrolment. 3. Performing long-term follow-up of the patients, since they tend to be less motivated over time. 	
<p>Additional resources required to scale up Good Practice</p> <p>Yes.</p> <p>The practice can be scaled up provided that there is adequate financial support to purchase new devices and to recruit medical personnel and nurses to educate and follow-up the patients. There is no need to acquire different instrumentation or higher-level systems of work organisation, since the practice allows scaling up in a modular fashion.</p>	

Basis to support sustainability of the Good Practice

The practice was already shown to be feasible on a cohort of 200 insulin-treated patients with type 1 or type 2 diabetes where the expected outcomes have been largely achieved. Even though the practice has higher costs due to purchasing of the devices, software setting-up/customisation and personnel recruitment (€750 per patient/year), it may translate into significantly lower costs due to savings from improved outcomes (better glucose control translates into fewer diabetes complications), appropriateness of SMBG performance and fewer hospitalisations (e.g., due to hypoglycaemia). This is particularly relevant considering that the practice is intended at the moment to be offered to insulin-treated patients with diabetes who are at high risk of hypoglycaemia. In the Apulian region during the period 2002-2010 - 385,527 subjects, 92% with type 2 diabetes, underwent 10,362 hospitalisations due to severe hypoglycaemia, with a total cost of € 31,256,985 (average cost per patient: € 3,016).

Evidence to observe the Good Practice

A practice report

A webpage

A visit to an implementation site

<http://www.diamonds-trial.net/diamonds/>

Part 4: Viability assessment of the Good Practice
Time needed to deploy the Good Practice

Less than a year.

1. Meetings with local health authorities to assess interest in the new practice.
2. Involvement of industries producing glucometers.
3. Meetings with specialized physicians and nurses.
4. Meetings with patients' organisations.

Investment per citizens / patient / client in terms of financial resources

Between €100 - €1.000 per targeted citizen / patient.

The practice was already shown to be feasible on a cohort of 200 insulin-treated patients with type 1 or type 2 diabetes where the expected outcomes have been largely achieved.

Even though the practice has higher costs due to purchasing of the devices, software setting-up / customization and personnel recruitment (€750 per patient/year), it may translate into significantly lower costs due to savings from improved outcomes (better glucose control translates into fewer diabetes complications), appropriateness of SMBG performance and fewer hospitalizations (e.g., due to hypoglycaemia). This is particularly relevant considering that the practice is intended at the moment to be offered to insulin-treated patients with diabetes who are at high risk of hypoglycaemia. In the Apulian region during the period 2002-2010 - 385,527 subjects, 92% with type 2 diabetes, underwent 10,362 hospitalizations due to severe hypoglycaemia, with a total cost of € 31,256,985 (average cost per patient: € 3,016).

Evidence behind the Good Practice

Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

We have recently developed a telemedicine system [Glucoonline®, 2011], which consists of a smartphone-connected glucometer, a software- implemented smartphone for real-time and anywhere blood glucose data collection and transmission to a remote server, and a Decision Supported Software (DSS)-assisted server capable of performing data collection and analysis, and providing feed-back to the patient and the medical staff according to pre-defined specific algorithms. A pilot study showing the feasibility of using this system in 10 individuals with type 1 diabetes treated with a multiple daily injection (MDI) regimen over a 3-month period has been already carried out [Giorgino F, data on file]. A clinical trial using this system is running (Clinicaltrials #NCT01804803) to assess its efficacy in insulin-treated individuals with type 1 or type 2 diabetes mellitus. Interim analyses have been carried out, which show satisfactory outcomes in terms of improved metabolic control, assessed by measuring changes inHbA1c, improved patients' adherence to perform SMBG according to current guidelines, improved specific and overall quality of glucose control, and detection of episodes of hypoglycaemia and states of sustained hyperglycaemia.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

Estimated time of impact of the Good Practice

Medium impact - e.g. shortly beyond the pilot project period

Impact observed

Better quality of life (societal).

The practice was already shown to be feasible on a cohort of 200 insulin-treated patients with type 1 or type 2 diabetes, in which the expected outcomes have been largely achieved. Even though the practice has higher costs due to purchasing of the devices, software setting-up/customization and personnel recruitment (€750 per patient / year), it may translate into significantly lower costs due to savings from improved outcomes (better glucose control translates into fewer diabetes complications), appropriateness of SMBG performance and fewer hospitalizations (e.g., due to hypoglycaemia). This is particularly relevant considering that the practice is intended at the moment to be offered to insulin-treated patients with diabetes who are at high risk of hypoglycaemia. In the Apulian region during the period 2002-2010 - 385,527 subjects, 92% with type 2 diabetes, underwent 10,362 hospitalizations due to severe hypoglycaemia, with a total cost of € 31,256,985 (average cost per patient: € 3,016).

Transferability of the Good Practice

Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.

Meetings with local health authorities to assess interest in the new practice have been carried out, and industries producing glucometers have been involved. The results of the new practice have been presented in local, national and international meetings with specialized physicians and nurses. Meetings with patients' organisations are on-going.

Part 5: Your organisation

Name of the organisation	Azienda Ospedaliero-Universitaria Policlinico Consortiale di Bari Università degli Studi di Bari Aldo Moro
Address of the organisation	Piazza Giulio Cesare, 11 Bari 70124 Italy
Type of organisation	Hospitals, Research centres, academia
Name of the contact person	Francesco Giorgino, M.D., Ph.D. Professor of

	Endocrinology Chairman, Department of Emergency and Organ Transplantation Head, Section of Internal Medicine, Endocrinology, Andrology and Metabolic Diseases Director, Postgraduate School in Endocrinology and Metabolic Diseases University of Bari Aldo Moro Chief, Division of Endocrinology University Hospital Policlinico Consorziale Piazza Giulio Cesare, n. 11 - Bari 70124, Italy Phone +39 080.5593522 080.5478689 080.5478152 - Fax + 39 080.5478151
Email address of the contact person	francesco.giorgino@uniba.it

Puglia, Italy: Smartaging mindbrain

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Promising practice

Part 2: Description of the Good Practice

Name of the Good Practice	Smartaging mindbrain
Short name (Acronym)	Not applicable
URL of the Good Practice	www.smarthealth2.com/eng/ www.oplon.eu
Geographical scope	National level
Country	Italy
Region(s) involved	Puglia, Piemonte, Lombardia, Emilia Romagna
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> Hospitals Primary care centres Home care centres Day care centres Research centres Academia

	<ul style="list-style-type: none"> • Specialised physicians • General practitioners • Pharmacists • Nurses • Nursing homes • Informal caregivers • Local public authorities • Small-sized industry • Medium-sized industry • Large-sized industry • Advocacy organisations of nurses • Advocacy organisations of physicians • Advocacy organisations of patients / users • Private companies
Size of population covered	1,000-9,999
Targeted audience	50-64
Summary of the Good Practice <p>Increase in life expectancy brought to a raise of the pathological aging and dementia (especially Alzheimer's disease, AD), leading to a low life quality, limited autonomy, and higher costs for assistance. A scientific question is: can lifestyle modify the risk of cognitive decline in elderly? Although some risk factors cannot be changed (aging, genetic predisposition, chronic kidney disease and chemotherapy due to blood cancer), they interact with other environmental factors modifiable by lifestyle. We have developed ICT solutions for the prevention and early diagnosis of dementing disorders in two national projects called "SMART HEALTH 2.0" and "OPLON", granted by the Italian Government (MIUR). The first, SMARTAGING (developed in the SMART HEALTH 2.0, enriched in OPLON) grounded upon the Italian Telecom platform ("Nuvola Italian Home Doctor") and some Telbios servers, exploits the concepts of preventive medicine providing: 1) instructions for healthy lifestyle; 2) telemonitoring of daily activities, training of cognitive functions; 3) telemonitoring of physiological parameters; 4) automatic feedback about subject's response. A successful "proof of concept" of feasibility, usability, and satisfaction was reached in clinical experiments performed in 20 Apulian elderly subjects (ten survived to a blood cancer) over 3-6 months.</p> <p>The second, MINDBRAIN (grounded upon the "DECIDE" platform; www.eu-decide.eu) exploits the use of MRI and EEG biomarkers for an early diagnosis of AD. A successful</p>	

<p>“proof of concept” of its diagnostic validity was reached in clinical experiments performed in about 100 Apulian elderly subjects with cognitive impairment.</p> <p>New confirmatory experiments of are in progress in chronic kidney disease subjects.</p>
<p>Key words: cognitive decline, ICT, healthy ageing, prevention, chronic diseases</p>
<p>Good practice being part of the larger programme</p> <p>Yes.</p> <p>The mentioned ICT solutions (Smart Health 2.0 and OPON) are building blocks of general programme aimed at testing the beneficial impact of (1) the instructions, telemonitoring, and feedback of healthy lifestyle for active aging in chronic diseases and (2) early diagnosis of dementing disorders thanks to MRI and EEG biomarkers.</p>
<p>Challenges / problems addressed by the good practice</p> <p>a) Unhealthy lifestyle, an environmental factor boosting several diseases triggering neurodegenerative processes, especially in patients with chronic comorbidities such as renal diseases.</p> <p>b) Misleading sources of this information about a healthy nutrition and physical activity as a function of age and general healthy status.</p> <p>c) The need for periodic control of physiological parameters and behaviour to verify the adherence to activities in elderly and patients with chronic diseases.</p> <p>d) Lack of quantitative and repeatable measurements of cognitive functions in elderly during periodical visits to family doctor.</p> <p>e) Most of the diagnosis of dementia occur too late and interventions are less effective.</p>
<p>Importance of the challenges / problems before starting to implement good practice</p> <p>Pathological aging and dementing disorders in elderly subjects with chronic diseases represent one of the most important burden for western societies, with a dramatic impact on families and public health. We have 7 million of patients with dementing disorders in Europe, most with AD. The promotion of healthy lifestyle and early diagnosis of AD would have a tremendous beneficial impact on this situation.</p>
<p>Environment before the good practice was implemented</p> <p>Before SMARTAGING and OPLON, In Apulia there was no ICT solution for the telemonitoring and conditioning of healthy lifestyle for active aging in a medical</p>

environment and (2) no Apulian neurological centre qualified for the use of ICT solutions for the early diagnosis of several dementing disorders thanks to MRI and EEG biomarkers.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

Nowadays, UNIBA can offer SMARTAGING and MINDBRAIN services for clinical research on the telemonitoring and conditioning of healthy lifestyle for active aging and (2) the early diagnosis of several dementing disorders thanks to advanced MRI and EEG biomarkers. The innovative elements are the following: 1) An innovative ICT- based tablet battery of 8 cognitive tasks for daily assessment of cognitive functions and brain training; 2) automatic composition of a report on the subjects' lifestyle and vital and physiological parameters as a feedback for the patient without the involvement of medical doctors in person; 3) Apulian neurological centres are aligned with the most advanced procedures for the extraction of MRI and EEG biomarkers for early diagnosis of AD.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required) <ul style="list-style-type: none"> • Adequately equipped control room (PCs, monitors, network, etc.); • Specialized physicians (Case manager); • Specialized Nurses (Care manager); • ICT specialist (software maintenance and improvement) • Devices and kits for the analysis of physiological and biochemical blood markers; • Home telemedicine kits (medical devices + HD camera); • Smart devices (tablet, PC, smartphone, wearable sensors, etc.); • ICT regional structure, with privacy and security systems; • Training facility. 	
Total budget of the Good Practice	€100.000-€499,999
Source of funding	National funding
The main actions that have to be done to deploy the Good Practice <ul style="list-style-type: none"> • As part of the SH 2.0 project, we have formed new specialists - Care (nurses) and 	

<p>Case (physicians) Managers, with specific expertise in telemedicine.</p> <ul style="list-style-type: none"> From a planning policy point of view, we have presented the results of our Good Practice to the regional government, in order to promote the implementation of these new telemonitoring systems in daily clinical practice.
<p>Issues during the implementation of the Good Practice</p> <ul style="list-style-type: none"> Technical interfacing problem with the existing ICT structure; Difficulties in the use of devices by older patients; System scalability related to the increase in the number of patients; Privacy Policies.
<p>Additional resources required to scale up Good Practice</p> <p>No.</p>
<p>Basis to support sustainability of the Good Practice</p> <p>The monitoring of physiological parameters, cognitive parameters, and lifestyle, and the study of their relationship with cognitive decline are clearly based upon existent literature about risk factor for cognitive and functional decline. SMARTAGING showed that the service is feasible, usable, and induce satisfaction and improvement of healthy lifestyle in the users.</p> <p>The new international guidelines for the early diagnosis and monitoring of AD promote the use of neuroimaging biomarkers in addition to neurological and neuropsychological exams (Dubois et al., 2014; Lancet Neurology). MINDBRAIN qualified 3 Apulian centres (Tricase Neurological Service, Casarano Neurological Service, S. Venera Hospital of Bari) for the ICT-based production of advanced MRI and EEG biomarkers.</p>
<p>Evidence to observe the Good Practice</p> <p>A practice report (SMARTAGING and MINDBRAIN deliverables); Video or other digital media (web page, audio, ...),</p> <p>A visit to an implementation site (UNIBA, IRCCS San Giovanni Paolo II; Tricase Neurological Service, Casarano Neurological Service, S. Venera Hospital of Bari);</p> <p>Any other means (e.g. scientific papers)</p> <p>Scientific papers of the Operative Units.</p>

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Between one year and three years.

SMARTAGING and MINDBRAIN were modules of the projects SMART HEALTH 2.0 AND OPLON, granted from MIUR. The documentation of these projects (deliverables) is available for any inspection and more details. Furthermore, they were based on previous ICT platforms of the European FP7 ICT Infrastructure project called “DECIDE” and the “Nuvola IT Home Doctor” of Italian Telecom (see WEB pages such as www.smarthealth2.com, www.oplon.eu, www.eu-decide-eu, <https://tmed.telecomitalia.it/>).

Investment per citizens / patient / client in terms of financial resources

No available calculation.

Evidence behind the Good Practice

Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the Good Practice

As mentioned before, SMARTAGING and MINDBRAIN were modules of the projects SMART HEALTH 2.0 AND OPLON, granted from MIUR. The documentation of these projects (deliverables) is available for any inspection and more details. Furthermore, they were based on previous ICT platforms of the European FP7 ICT Infrastructure project called “DECIDE” and the “Nuvola IT Home Doctor” of Italian Telecom (see WEB pages such as www.smarthealth2.com, www.oplon.eu, www.eu-decide-eu, <https://tmed.telecomitalia.it/>).

Maturity of the Good Practice

Proof of concept is available: it works in a test setting and the potential end-users are positive about the concept.

The SMARTAGING ICT solution was developed in the SMART HEALTH 2.0, and was enriched in OPLON. It mainly grounds upon the ICT platforms by Italian Telecom (“Nuvola Italian Home Doctor”), with some services grounding upon Telbios servers. A successful “proof of concept” of feasibility, usability, and satisfaction was reached in clinical experiments performed in 20 Apulian elderly subjects (ten who survived to a blood cancer SMARTAGING) over 3-6 months. The tests included: 1) instructions to follow healthy lifestyle and reduce the risk of cognitive decline and dementia across aging; 2) daily telemonitoring of subjects’ diet, physical and social activity, training of cognitive functions and smoking; 3) periodic telemonitoring of blood pressure, heart rate,

electrocardiographic activity, body weight, and blood glycaemia, oxygen, and cholesterol; 4) weekly automatic feedback about subject's behaviour and physiological parameters. The MINDBRAIN ICT solution was developed using the ICT platform "DECIDE" by GARR (www.eu-decide.eu). A successful "proof of concept" of diagnostic validity of MINDBRAIN was reached in clinical experiments performed in about 100 Apulian elderly subjects with mild cognitive impairment (MCI) and dementia mainly due to AD, exploiting the use of MRI and EEG biomarkers for an early diagnosis of AD. Actually, new confirmatory experiments of SMARTAGING and MINDBRAIN are in progress in subjects with chronic kidney disease in OPLON.

Estimated time of impact of the Good Practice

Medium impact - e.g. shortly beyond the pilot project period

Impact observed

Better quality of life (societal).

As mentioned before, SMARTAGING and MINDBRAIN were modules of the projects SMART HEALTH 2.0 AND OPLON, granted from MIUR. These modules included "proof of concept" experiments in the clinical practice involving Operative Units in Apulia. The experiments were completed in SMART HEALTH 2.0 while they are in progress in OPLON. The results of SMARTAGING were successful and are reported in the formal documentation of these projects (deliverables). They were also disseminated in several national and international Conferences and events, in line with the project dissemination plan.

Transferability of the Good Practice

Transferability has not been considered. The innovative practice has been developed on local/regional/national level and transferability has not been considered in a systematic way.

More research is needed to test the transferability of SMARTAGING and MINDBRAIN services to a large amount of clinical users and patients.

Part 5: Your organisation

Name of the organisation	Azienda Ospedaliero-Universitaria Policlinico Consorziale di Bari Department of Emergency and Organ Transplantation - University of Bari
Address of the organisation	Giulio Cesare square, 11, 70124 Bari (Italy)

Type of organisation	Hospitals, Research centres, Academia
Name of the contact person	Prof. Loreto Gesualdo Prof. Claudio Babiloni
Email address of the contact person	loreto.gesualdo@uniba.it claudio.babiloni@uniroma1.it

Puglia, Italy: Remote monitoring in heart failure outpatient

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Remote monitoring in heart failure outpatient
Short name (Acronym)	RMHF
URL of the Good Practice	Not available
Geographical scope	Regional level
Country	Italy
Region(s) involved	Apulia (Puglia)
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> Hospitals
Size of population covered	250-999
Targeted audience	Irrelevant
Summary of the Good Practice <p>Apply the Information Communication Technology (ICT) in medicine means to respond promptly to the diagnostic needs of patients regardless of where they are. Many companies are investing in and developing markets that address remote management of chronic diseases, health and wellness. Remote monitoring (RM) is a new and different way of organizing the health care. The aim of our project is evaluate the possible usefulness of the information provided by implantable cardiac defibrillator (ICD) through RM in a population of HF outpatient at high risk of events. This System is based on primary nursing: Technician or Nurse expert checks the website and makes a first filter on the</p>	

transmission of patients. Transmissions that report abnormal data, arrhythmic episodes important, critical events are brought to the attention of the physician. In case of relevant event nurse or physician call patients to modify drug therapy or to schedule another follow-up. On basis of our findings, RM by ICD seems to be useful tool for a better management of technical failures and clinical complications occurring in HF outpatient, thus strengthening the hypothesis of a routinely use of RM in this clinical setting.

Second experience: we partnered with Puglia Region, CNR and Capurso City to “Progettolppocrate”, whose data are still in progress, which was intended to evaluate a potential correlation between climatic variations and the risk of disease cardiovascular onset in people with high cardiovascular risk through use of a wearable “Weheart”, device capable of monitoring the biometric data of patients.

Key words: remote monitoring, heart failure

Good practice being part of the larger programme

Yes.

According to our experience, we have participated in an international, prospective, multicentre, randomized controlled clinical trial “MORE-CARE”, recently (September 2016) published on European Journal of Heart Failure. The aim of this study was to evaluate the clinical efficacy and safety of RM in patients with HF and biventricular defibrillator.

Challenges / problems addressed by the good practice

Our challenge is to check a growing number of patients in less time maintaining consistently high standards of quality of care and reorganize in office follow-ups and in the future, extend this model to all patient with implantable devices.

Importance of the challenges / problems before starting to implement good practice

In last years we show European populations aging with increasing health needs, against European healthcare systems is under financial pressure. Hospitals struggling to deliver more effective and efficient care. Increasing use of implantable devices creates a significant growth in demand for resources to manage the subsequent follow-up. These are reasons that have prompted many companies to develop telemedicine system to strengthen efficiency and improve quality of care and of life of our patient against a potential saving of time and money.

Environment before the good practice was implemented

Before this practice, in our Hospital was scheduled only in office visit for patient with implantable devices.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

This practice provides us useful information for recall management, become more and more frequent in recent years. This situation has limited right functioning of our clinics by increasing the workload of health workers.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, equal outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)	
The basis of this practice in a model composed by 2 Physicians, 2 Nurses with specific competence able to manage routine, transmissions issue and triggered by alerts. Moreover 2 personal computers with laser printer and Internet connected, a telephone and fax line dedicated and a control room equipped with 1 clinical archive.	
Total budget of the Good Practice	€10.000- €99,999
Source of funding	Local funding
The main actions that have to be done to deploy the Good Practice	
Clinical training and continuous update of dedicated staff involved in this practice.	
Issues during the implementation of the Good Practice	
1. High workload during start-up phase due to tiling this practice to in office visits. 2. Training of dedicated staff. 3. Explain to patients and families that this alternative practice is safety and ensure a better and efficacy management of issue.	
Additional resources required to scale up Good Practice	
Yes.	

Have more resources available for technical staff dedicated to work for this practice and new and comfortable location.
Basis to support sustainability of the Good Practice Data from literature enclosed in 2008-2012-2015 HRS/ESC Expert Consensus Statement on remote interrogation and monitoring for cardiovascular implantable electronic devices.
Evidence to observe the Good Practice Scientific partners http://spo.escardio.org/SessionDetails.aspx?eevtid=46&sessId=7804&subSessId=1022&searchQuery=&presId=54751&doc=Abstract#.V_FL_ThH7cs https://www.i-jmr.org/article/viewFile/ijmr_v2i2e27/2 http://www.sanita.puglia.it/archivio-news_det/-/journal_content/56/20182/progetto-ippocrate-internet-pathology-platform-for-characterizing-the-research-atmospheric-technology-in-health-environment V.E. Santobuono, S. Favale. The remote monitoring by implantable cardioverter defibrillator of chronic heart failure outpatients: single centre experience. European Heart Journal 2011, 32, Abstract Supplement,P5860;1112

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice Between one year and three years.
Investment per citizens / patient / client in terms of financial resources Between €100 - €1.000 per targeted citizen / patient. At the moment, for this practice it is not planned any reimbursement by the national and/or regional health system but we now propose to our regional health system a flat reimbursement of 25 € for any scheduled(every six month) remote transmission.
Evidence behind the Good Practice Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

In recent years many studies was published to support this practice. Principal paper to support our practice was published in 2015: HRS Expert Consensus Statement on remote interrogation and monitoring for cardiovascular implantable electronic devices. This document was developed from the foundations laid by the 2008 HRS Consensus statement and the 2012 expert consensus statement on remote monitoring of CIEDs by the International Society for Holter and Noninvasive Electrocardiography and the European Heart Rhythm Association. This paper focus on the organisational changes required to most effectively implement RM, from the occasional replacement of routine appointments (for patient and clinician convenience) to a system of nearly continuous monitoring, with most in person evaluations initiated in response to alert notifications communicated by RM, there by improving the quality and efficiency of patient care. http://resources.hrsonline.org/pdf/provider/2015_Remote_Interrogation_and_Monitoring_for_CEID- FINALPUBLISHED.pdf

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

Our experience began in April 2008 with first remote monitoring system that used GSM network to send daily data stored in device. Now, In our clinic we check, daily, through all Remote Monitoring (RM) systems over 700 patients with implantable devices.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

Better care coordination.

Remote monitoring (RM) is proposed as a tool for changing the management of HF patients with an implanted device, aiming to improve patient outcome. Our challenge is improve quality of care and of life of HF outpatient with a reduction of in- office visits without compromising patient safety. Moreover RM have a favourable profile in terms of costs, from the perspective of both the healthcare system and that of the patient, as already demonstrated in “MORE-CARE” trial. This may be a valid reason for implementing this model of health care organisation.

Transferability of the Good Practice

Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.

Part 5: Your organisation

Name of the organisation	U.O. Cardiologia Universitaria - Azienda Ospedaliero Universitaria Consorziale Policlinico Bari
Address of the organisation	Giulio Cesare Square, 11 - 70124 - Bari
Type of organisation	Hospitals
Name of the contact person	Prof. Favale Stefano - Dott. Santobuono Vincenzo Ezio
Email address of the contact person	stefano.favale@uniba.it vincenzoezio.santobuono@policlinico.ba.it

Puglia, Italy: Radiofrequency-induced thermal ablation of live tumours

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Good practice

Part 2: Description of the Good Practice

Name of the Good Practice	Radiofrequency-induced thermal ablation of live tumours
Short name (Acronym)	RITA
URL of the Good Practice	Not available

Geographical scope	Regional level
Country	Italy
Region(s) involved	Apulia (Puglia)
Status of the Good Practice	Completed
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Specialised physicians • Day care centres • Nurses • Large-sized industry • Research centres • National public authorities • WHO • Regional public authorities Advocacy organisations of patients / users
Size of population covered	100-249
Targeted audience	50-64; 65-79; 80+
Summary of the Good Practice <ul style="list-style-type: none"> • Increasing life expectancy, reducing the rate of hospitalization, cost savings; • Minimally invasive treatment of liver tumours (including metastasis) to improve the quality of life and survival; • Radiofrequency-induced thermoablation/thermotherapy involves introducing a needle electrode into the cancer liver metastasis. Placing the probe is monitored through ultrasound. The procedure involves a radiologist, a nurse, a specialist and an anaesthesiologist. One or two treatment sessions are usually needed and are performed under short-term anaesthesia. The treatment is generally well-tolerated; • Replacement of surgical procedures with minimally invasive percutaneous techniques. Increasing life expectancy, reducing the rate of hospitalization, cost savings; 	
Key words: liver tumour, treatment, radiofrequency, thermotherapy / thermoablation, cost saving health, life expectancy	
Good practice being part of the larger programme <p>Yes.</p> <p>Treatment of primary liver cancer and metastatic.</p>	

Challenges / problems addressed by the good practice <p>Increase in life expectancy of patients with primary tumours and secondary liver with repeatable minimally invasive methods over time.</p>
Importance of the challenges / problems before starting to implement good practice <p>The procedure has requested a period of training in technical, important experience with ultrasound methods, and high knowledge in bioengineering from the company for the construction of equipment.</p>
Environment before the good practice was implemented <p>Compared to previous treatments, the technique reduced the hospitalization of patients, he has lengthened the average life expectancy and improved quality of life. innovative element is the use of radio frequency as a treatment for liver tumours with sometimes healing. Other innovative elements concern the same technique that is minimally invasive, easily repeatable and the use of a single needle.</p>
Key innovative elements of the good practice and how the good practice improved situation compared to previous practice <p>Compared to previous treatments, the technique reduced the hospitalization of patients, he has lengthened the average life expectancy and improved quality of life. innovative element is the use of radio frequency as a treatment for liver tumors with sometimes healing. Other innovative elements concern the same technique that is minimally invasive, easily repeatable and the use of a single needle.</p>

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, Improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required) <p>Radiofrequency-induced thermoablation/thermotherapy involves introducing a needle electrode into the cancer liver metastasis. Placing the probe is monitored through ultrasound. The procedure involves a radiologist, a nurse, a specialist and an anaesthesiologist. One or two treatment sessions are usually needed and are performed</p>	

under short-term anaesthesia. The treatment is generally well-tolerated.	
Total budget of the Good Practice	€100.000-€499,999
Source of funding	Regional funding
The main actions that have to be done to deploy the Good Practice Radiofrequency-induced thermoablation/thermotherapy involves introducing a needle electrode into the cancer liver metastasis. Placing the probe is monitored through ultrasound. The procedure involves a radiologist, a nurse, a specialist and an anaesthesiologist. One or two treatment sessions are usually needed and are performed under short-term anaesthesia. The treatment is generally well-tolerated;	
Issues during the implementation of the Good Practice No issues were observed.	
Additional resources required to scale up Good Practice No.	
Basis to support sustainability of the Good Practice The practice is not for everyone and there are few institutions that have the organisational skills to put it into practice.	
Evidence to observe the Good Practice A practice report; A visit to an implementation site. www.irccsdebellis.it	

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice
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Less than a year.
Investment per citizens / patient / client in terms of financial resources
Between €1.000 - €5.000 EUR per targeted citizen / patient
Evidence behind the Good Practice
Documented evidence. Evidence is based on systematic qualitative and quantitative studies.
Maturity of the Good Practice
The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth.
Estimated time of impact of the Good Practice
Medium impact - e.g. shortly beyond the pilot project period
Impact observed
Less hospital re-admission (economic).
Transferability of the Good Practice
Transferability has not been considered. The innovative practice has been developed on local/regional/national level and transferability has not been considered in a systematic way.

Part 5: Your organisation

Name of the organisation	IRCCS “S. De Bellis” gastroenterological hospital
Address of the organisation	Via Turi, 27 70013 Castellana Grotte BARI (ITALY)
Type of organisation	Hospitals
Name of the contact person	Francesco Gabriele
Email address of the contact person	francesco.gabriele@irccsdebellis.it

Puglia, Italy: Telemonitoring, Teleassistance and Teleconsultation project for patients with heart failure and chronic pulmonary disease

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Telemonitoring, teleassistance and teleconsultation project for patients with heart failure and chronic pulmonary disease
Short name (Acronym)	Telescopico
URL of the Good Practice	Not available
Geographical scope	Local level
Country	Italy
Region(s) involved	ASL-Bari area
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Specialised physicians • General practitioners • Primary care centres • Nurses • Local public authorities
Size of population covered	250-999
Targeted audience	Irrelevant
Summary of the Good Practice Telescopico aims to create a telemonitoring system, teleconsultation and remote assistance for patients with chronic conditions, in particular with chronic heart failure and COPD, at risk of clinical instability. The system ensures a continuous link between specialist (in hospital) and general practitioners, allowing for monitoring of clinical and	

instrumental parameters of the patients.

The project, through the adoption of the system, aims to validate telemedicine models in the integrated management between territory and hospital about diagnosis and treatment for heart failure, COPD, improve territorial management of these patients, intercept phases of instability before reach criticality, reduce the rate re- hospitalization.

Through Telescopico Project we aim to:

- Reduce the steps of destabilization of Heart Failure patients with chronic Diseases
- Reduce the re-hospitalization
- Optimize the therapy
- To promote the integrated management of Hospital and Territory
- Train specialized nursing figures
- Evaluate the satisfaction Practitioners and patients of this type of management
- Evaluate costs and benefits

The primary end point is to verify the possible use of technological telemedicine devices within integrated management models between hospital and territory of cardio-pulmonary chronic diseases in order to improve its management and to facilitate the integration between specialists and practitioners.

Secondary end points are:

- Reduce the number of hospitalizations for Heart Failure and for COPD in area of interest
- Reduce days of hospitalization for SC and COPD

Key words: telemedicine, de-hospitalisation, management of chronicity, innovative technological instruments, integration

Good practice being part of the larger programme

Yes.

Final program of the project is to monitoring all patients with Chronic diseases, like heart failure and COPD, with clinical instability managed by Local Health Board of Apulia Region. To improve patient monitoring with chronic diseases, to reduce re-hospitalization and to improve the adherence to drug treatment and not.

Challenges / problems addressed by the good practice

Telescopico wants to implement a new kind of monitoring of the patients with chronic diseases, based on continuous collaboration and patient monitoring.

<p>The five challenges that the Project intends to pursue are:</p> <ul style="list-style-type: none"> • Reduce the steps of destabilization of Heart Failure or COPD patients • Reduce the re-hospitalization • Optimize the therapy • Evaluate the costs and benefits • Promote the empowerment of patients affected by chronic diseases
<p>Importance of the challenges / problems before starting to implement good practice</p> <p>The main problems encountered during the first period of activities have been mainly due to the activity of collaboration between general practitioners, specialists and all health personnel involved in the activity. Technical difficulties have occurred during the training activities.</p>
<p>Environment before the good practice was implemented</p> <p>Before Telehomecare Project was not active in territory any project of telemonitoring, teleconsult or teleassistance.</p>
<p>Key innovative elements of the good practice and how the good practice improved situation compared to previous practice</p> <p>The patients have a more direct with their practitioners; it is not necessary that the patients go to the hospital or in specialist ambulatory. The patients are subjected to a clinical planned follow up. Physiological parameters as ECG, SpO2, Respiratory frequency, Heart frequency, Temperature, etc are monitored. Easy collaboration between practitioners and Specialist. Reduced of waiting time for the monitoring.</p>

Part 3: Transferability of the Good Practice

<p>Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)</p>	<p>Lower costs, improved outcomes</p>
<p>Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)</p> <p>Telescopico project includes:</p> <ul style="list-style-type: none"> • The involvement of general practitioners; • The involvement of specialists; • The involvement of nurses; 	

- Innovative technologies.

For the activities is used a new technology called H@H Hospital at Home; that system is allocated at the clinical ambulatory, connected with hospital, by pc, telephone, tablet, etc.

All clinical parameters of patients are stored on a dedicated server, respecting all the rules for the respect of privacy. The system permits to the doctor (pulmonologist and cardiologists) remotely, to see patient.

Infact, in addition to real-time monitoring of physiological parameters, the doctor can monitor the physical and technical characteristics of the home device.

It is possible to deliver therapy to the patient, remotely. In particular, it is possible to deliver oxygen therapy and endocavitary aspiration. Doctor or health care professional determines the limit of the range of physiological parameter values and when the parameter is out of range, the system draws the operator's attention through the alert. Practitioner or specialist can talk to the patient because the system has a video communications system. All the data are saved on the server at any time.

Total budget of the Good Practice	€100.000-€499,999
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Source of funding	European funding
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The main actions that have to be done to deploy the Good Practice

Before start of the project were carried out research on any preliminary experience of similar projects in international literature. Were made meetings between practitioners and specialists; has been called a protocol clinical care, it was carried out training of personnel authorized to use the correct new technologies, were made of design verification meetings. Periodically, updated newsletters were produced.

Issues during the implementation of the Good Practice

No issues were observed.

Additional resources required to scale up Good Practice

Yes.

Technological integration with equipment that provide an enrichment of the monitoring activities. It is expected the presence of a figure of Care Manager who is necessary to ensure compliance with the time and the activities foreseen in the planning stages. It also envisages the development of a website dedicated to Telescopico Project.

Basis to support sustainability of the Good Practice
No information provided.
Evidence to observe the Good Practice
A practice report; Video or other digital media (web page, audio).

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice
Less than a year.
Investment per citizens / patient / client in terms of financial resources
No available calculation.
Evidence behind the Good Practice
Documented evidence. Evidence is based on systematic qualitative and quantitative studies.
Maturity of the Good Practice
There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.
Estimated time of impact of the Good Practice
Medium impact - e.g. shortly beyond the pilot project period.
Impact observed
Better care integration (economic and social). We have also noticed a reduction in hospital admissions, a higher patient monitoring, a reduction of the waiting lists. Stronger relationship between practitioners and patients.
Transferability of the Good Practice
Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and

transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.

Part 5: Your organisation

Name of the organisation	ASL Bari
Address of the organisation	ASL Bari, Lungomare Starita 6, 70123 Bari (BA)
Type of organisation	Hospitals
Name of the contact person	Doctor Pasquale Caldarola
Email address of the contact person	PASCALD@LIBERO.IT

Puglia, Italy: Telehomecare, Telemonitoring, Teleconsultation and telecare project aimed at patients with Heart Failure, Chronic obstructive pulmonary diseases and diabetes

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Telehomecare, Telemonitoring, Teleconsultation and telecare project aimed at patients with heart failure and chronic obstructive pulmonary diseases and diabetes
Short name (Acronym)	Telehomecare project
URL of the Good Practice	Not available
Geographical scope	Local level
Country	Italy

Region(s) involved	Apulia (Puglia)
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Specialised physicians • General practitioners • Primary care centres • Home care centres • Nurses • Local public authorities • Informal caregivers • Private companies • Small-sized industry
Size of population covered	1,000-9,999
Targeted audience	50-64; 65-79; 80+
Summary of the Good Practice <p>TeleHomeCare Project is proposed as a technological support already structured the activities of home care with the main objective to affect favourably on the reduction of re-hospitalization rate and improving the quality of care at the patient's home, also validating new telemedicine models applied for diagnostic and therapeutic pathways for the management of chronicity.</p> <p>Patients, opportunely selected, are followed by their family doctors with by telemonitoring using the innovative technological instruments H@H Hospital at Home, able to detect the main clinical and instrumental parameters in addition to the therapeutic administration, based on oxygen and bronco-aspiration.</p> <p>The telemedicine project is to implement a new type of monitoring of the patients who suffering of chronic diseases, based on continuous collaboration and patient monitoring, by different professionals and different users. TeleHomeCare includes the following main objectives:</p> <ul style="list-style-type: none"> • Reduce the number of patients with heart disease, Chronic Diseases and Diabetes in the process of instability; • Reduce hospitalization and re-hospitalization; • Activate protected de-hospitalization; • Optimize the therapy and diagnosis according to international guidelines; • To promote the integrated management of Hospital and Territory; 	

<ul style="list-style-type: none"> Evaluate the satisfaction of the doctor, caregiver and patient;
Key words: telemonitoring, teletherapy, de-hospitalisation, management of chronicity, innovative technological instruments.
Good practice being part of the larger programme Yes. Final programme of the project is to monitor all patients with chronic diseases managed by the local Health Board of Apulia Region. The ultimate objective is to create a single for all territory of Area and provide a great savings of economic resources and improving care for Italian Country.
Challenges / problems addressed by the good practice TeleHomeCare project wants to implement a new type of monitoring of the patients suffering from chronic diseases, based on continuous collaboration and patient monitoring, by different professionals and different users. The five challenges that the Project intends to pursue are: <ul style="list-style-type: none"> Reduce the number of patients with heart disease, Chronic Diseases and Diabetes in the process of instability; Reduce hospitalization and re-hospitalization; Activate protected resignation; Optimize the therapy and diagnosis according to international guidelines; To promote the integrated management of Hospital and Territory.
Importance of the challenges / problems before starting to implement good practice The main problems encountered during the first period of activities have been mainly due to the activity of collaboration between general practitioners, specialists and all health personnel involved in the activity. Technical difficulties have occurred in areas where there was poor coverage or absence of the Internet network coverage, and where there were technical problems with the patient's home unit.
Environment before the good practice was implemented Before the Telehomecare Project, there were no projects for telemonitoring, teleconsult or teleassistance in the territory.
Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

The examination of the data of the activity with the monitoring of about 100 patients, allows appreciating the effectiveness of the remote monitoring system as well as detect a favourable judgment on the part of the patients with reference to a better quality of care. patients are directly supervised by their General Practitioners, in a much faster and performance. We notice a very facilitated dialogue between General Practitioner and Specialist. Finally, the general practitioner feels more supported by the Specialist when he needs a quick consultation. 60% of patients are over 65. 30% of them suffering of heart disease, 40% of COPD, the remaining diabetes. In all patients who presented outside threshold values of blood oxygen saturation, oxygen administration by concentrator has allowed to re-establish the normal clinical condition. In approximately 30% of patients is the drug therapy was improved thanks to telemonitoring.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, deteriorated outcomes
<p>Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)</p> <p>TeleHomeCare provides:</p> <ul style="list-style-type: none"> • The involvement of general practitioners; • The involvement of local specialists; • The involvement of nurses working in the area; • the involvement of caregivers of patients; • The patients. <p>For the activities is used a new technology called H@H Hospital at Home; CE Certificate, that system is allocated at the patient's home, permanently interconnected with the doctor, by pc, telephone, tablet, etc. Also, present at the hospital in Ceglie Messapica (Brindisi) a central monitoring of all patients and all devices located at the patient's home. All clinical parameters of patients are stored on a dedicated server, respecting all the rules for the respect of privacy. The system permits to the doctor (neurologists, pulmonologist, cardiologists, diabetologists, etc) remotely, to see the patient and talk to your health care professional on a visit to the domiciles of patients, through the activation of a video special device.</p> <p>In fact, in addition to real-time monitoring of physiological parameters, the doctor can monitor the physical and technical characteristics of the home device.</p> <p>It is possible to deliver therapy to the patient, remotely. In particular, it is possible to</p>	

<p>deliver oxygen therapy and endocavitary aspiration. Doctor or health care professional determines the limit of the range of physiological parameter values and when the parameter is out of range, the system draws the operator's attention through the alert. Practitioner or specialist can talk to the patient because the system has a video communications system. All the data are saved on the server at any time.</p>	
Total budget of the Good Practice	€100.000-€499,999
Source of funding	European funding
<p>The main actions that have to be done to deploy the Good Practice</p> <p>To start the project, our healthcare business has presented a project at the regional level in which they stated objectives to want to reach and how many resources. A follow-up confirmation at the regional level, our company has a contact person in charge of the project, by appointing scientific head and giving him the coordinator of all activities. We then invited the general practitioners to take part in the activities and to each nurse, specialist, etc have been assigned specific roles. Different training courses, both for the correct use of the new technology both as regards the precise rules to be followed throughout the project. They were organized also a several days of testing equipment.</p>	
<p>Issues during the implementation of the Good Practice</p> <p>The more difficulties during implementation of the Project are related to a management of the priorities of patients to be enrolled into the monitoring; for this reason, it was necessary to edit a technical and clinical protocol to identify most at risk patients. Other difficulties were technical, due to the presence of outdated technological systems in the patients' homes or because the internet network coverage was not very good in all parts of the country.</p>	
<p>Additional resources required to scale up Good Practice</p> <p>No.</p>	
<p>Basis to support sustainability of the Good Practice</p> <p>No base support provided.</p>	
<p>Evidence to observe the Good Practice</p> <p>A practice report; Video or other digital media (web page, audio); visit to an implementation site</p>	

www.brindisi.cs00113.hospitalathome.it

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Between one year and three years.

The most important steps that were made to develop the project have included the drafting of a Clinical Protocol, the training of doctors, nurses for use fixed devices telemedicine and the proper functioning of the technology. Meeting for share all choices made during the planning field. Checks and technical tests of equipment.

Investment per citizens / patient / client in terms of financial resources

Between €100 - €1.000 per targeted citizen / patient.

Evidence behind the Good Practice

Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

The advantages of the use of technology in the field of telemedicine and especially with the use of H @ H hospital equipment at home are: reducing hospital stays, greater assistance of the patient directly from home, improving the psychological and physical condition, improvement of the therapeutic plan, easy monitoring of physiological parameters, easy to use and flexible management system. Hospital at Home technology has also a CE certificate system and it's on the market in France.

Estimated time of impact of the Good Practice

Medium impact - e.g. shortly beyond the pilot project period.

Impact observed

Increased sense of security (societal)

Transferability of the Good Practice

The innovative practice has been transferred within the same region.

A similar Project is launched in another area of Italy, based on a slightly different organisation of the activity; Furthermore, it proposes to achieve objectives related.

Part 5: Your organisation

Name of the organisation	ASL Brindisi
Address of the organisation	ASL Brindisi, Via Napoi 8, 72100 Brindisi (BR)
Type of organisation	Hospitals
Name of the contact person	Doctor Francesco Galasso
Email address of the contact person	francesco.galasso15@tin.it

Puglia, Italy: Telehomecare, Telemonitoring, Teleconsultation and telecare project aimed at patients with Heart Failure, Chronic obstructive pulmonary diseases and diabetes

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Telehomecare, Telemonitoring, Teleconsultation and telecare project aimed at patients with heart failure and chronic obstructive pulmonary diseases and diabetes
Short name (Acronym)	Telehomecare project
URL of the Good Practice	Not available
Geographical scope	Local level

Country	Italy
Region(s) involved	Apulia (Puglia)
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Specialised physicians • General practitioners • Primary care centres • Home care centres • Nurses • Local public authorities • Informal caregivers • Private companies • Small-sized industry
Size of population covered	1,000-9,999
Targeted audience	50-64; 65-79; 80+
Summary of the Good Practice <p>TeleHomeCare Project is proposed as a technological support already structured the activities of home care with the main objective to affect favourably on the reduction of re-hospitalization rate and improving the quality of care at the patient's home, also validating new telemedicine models applied for diagnostic and therapeutic pathways for the management of chronicity.</p> <p>Patients, opportunely selected, are followed by their family doctors with by telemonitoring using the innovative technological instruments H@H Hospital at Home, able to detect the main clinical and instrumental parameters in addition to the therapeutic administration, based on oxygen and bronco-aspiration.</p> <p>The telemedicine project is to implement a new type of monitoring of the patients who suffering of chronic diseases, based on continuous collaboration and patient monitoring, by different professionals and different users. TeleHomeCare includes the following main objectives:</p> <ul style="list-style-type: none"> • Reduce the number of patients with heart disease, Chronic Diseases and Diabetes in the process of instability; • Reduce hospitalization and re-hospitalization; • Activate protected de-hospitalization; • Optimize the therapy and diagnosis according to international guidelines; 	

<ul style="list-style-type: none"> • To promote the integrated management of Hospital and Territory; • Evaluate the satisfaction of the doctor, caregiver and patient;
Key words: telemonitoring, teletherapy, de-hospitalisation, management of chronicity, innovative technological instruments.
Good practice being part of the larger programme Yes. Final programme of the project is to monitor all patients with chronic diseases managed by the local Health Board of Apulia Region. The ultimate objective is to create a single for all territory of Area and provide a great savings of economic resources and improving care for Italian Country.
Challenges / problems addressed by the good practice TeleHomeCare project wants to implement a new type of monitoring of the patients suffering from chronic diseases, based on continuous collaboration and patient monitoring, by different professionals and different users. The five challenges that the Project intends to pursue are: <ul style="list-style-type: none"> • Reduce the number of patients with heart disease, Chronic Diseases and Diabetes in the process of instability; •Reduce hospitalization and re-hospitalization; • Activate protected resignation; • Optimize the therapy and diagnosis according to international guidelines; To promote the integrated management of Hospital and Territory.
Importance of the challenges / problems before starting to implement good practice The main problems encountered during the first period of activities have been mainly due to the activity of collaboration between general practitioners, specialists and all health personnel involved in the activity. Technical difficulties have occurred in areas where there was poor coverage or absence of the Internet network coverage, and where there were technical problems with the patient's home unit.
Environment before the good practice was implemented Before the Telehomecare Project, there were no projects for telemonitoring, teleconsult or teleassistance in the territory.
Key innovative elements of the good practice and how the good practice improved

situation compared to previous practice

The examination of the data of the activity with the monitoring of about 100 patients, allows appreciating the effectiveness of the remote monitoring system as well as detect a favourable judgment on the part of the patients with reference to a better quality of care. patients are directly supervised by their General Practitioners, in a much faster and performance. We notice a very facilitated dialogue between General Practitioner and Specialist. Finally, the general practitioner feels more supported by the Specialist when he needs a quick consultation. 60% of patients are over 65. 30% of them suffering of heart disease, 40% of COPD, the remaining diabetes. In all patients who presented outside threshold values of blood oxygen saturation, oxygen administration by concentrator has allowed to re-establish the normal clinical condition. In approximately 30% of patients is the drug therapy was improved thanks to telemonitoring.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, deteriorated outcomes
<p>Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required)</p> <p>TeleHomeCare provides:</p> <ul style="list-style-type: none"> • The involvement of general practitioners; • The involvement of local specialists; • The involvement of nurses working in the area; • the involvement of caregivers of patients; • The patients. <p>For the activities is used a new technology called H@H Hospital at Home; CE Certificate, that system is allocated at the patient's home, permanently interconnected with the doctor, by pc, telephone, tablet, etc. Also, present at the hospital in Ceglie Messapica (Brindisi) a central monitoring of all patients and all devices located at the patient's home. All clinical parameters of patients are stored on a dedicated server, respecting all the rules for the respect of privacy. The system permits to the doctor (neurologists, pulmonologist, cardiologists, diabetologists, etc) remotely, to see the patient and talk to your health care professional on a visit to the domiciles of patients, through the activation of a video special device.</p>	

<p>In fact, in addition to real-time monitoring of physiological parameters, the doctor can monitor the physical and technical characteristics of the home device.</p> <p>It is possible to deliver therapy to the patient, remotely. In particular, it is possible to deliver oxygen therapy and endocavitary aspiration. Doctor or health care professional determines the limit of the range of physiological parameter values and when the parameter is out of range, the system draws the operator's attention through the alert. Practitioner or specialist can talk to the patient because the system has a video communications system. All the data are saved on the server at any time.</p>	
Total budget of the Good Practice	€100.000-€499,999
Source of funding	European funding
The main actions that have to be done to deploy the Good Practice	
<p>To start the project, our healthcare business has presented a project at the regional level in which they stated objectives to want to reach and how many resources. A follow-up confirmation at the regional level, our company has a contact person in charge of the project, by appointing scientific head and giving him the coordinator of all activities. We then invited the general practitioners to take part in the activities and to each nurse, specialist, etc have been assigned specific roles. Different training courses, both for the correct use of the new technology both as regards the precise rules to be followed throughout the project. They were organized also a several days of testing equipment.</p>	
Issues during the implementation of the Good Practice	
<p>The more difficulties during implementation of the Project are related to a management of the priorities of patients to be enrolled into the monitoring; for this reason, it was necessary to edit a technical and clinical protocol to identify most at risk patients. Other difficulties were technical, due to the presence of outdated technological systems in the patients' homes or because the internet network coverage was not very good in all parts of the country.</p>	
Additional resources required to scale up Good Practice	
No.	
Basis to support sustainability of the Good Practice	
No base support provided.	
Evidence to observe the Good Practice	

A practice report; Video or other digital media (web page, audio); visit to an implementation site

www.brindisi.cs00113.hospitalathome.it

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Between one year and three years.

The most important steps that were made to develop the project have included the drafting of a Clinical Protocol, the training of doctors, nurses for use fixed devices telemedicine and the proper functioning of the technology. Meeting for share all choices made during the planning field. Checks and technical tests of equipment.

Investment per citizens / patient / client in terms of financial resources

Between €100 - €1.000 per targeted citizen / patient.

Evidence behind the Good Practice

Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

The advantages of the use of technology in the field of telemedicine and especially with the use of H @ H hospital equipment at home are: reducing hospital stays, greater assistance of the patient directly from home, improving the psychological and physical condition, improvement of the therapeutic plan, easy monitoring of physiological parameters, easy to use and flexible management system. Hospital at Home technology has also a CE certificate system and it's on the market in France.

Estimated time of impact of the Good Practice

Medium impact - e.g. shortly beyond the pilot project period.

Impact observed

Increased sense of security (societal)

Transferability of the Good Practice

The innovative practice has been transferred within the same region.

A similar Project is launched in another area of Italy, based on a slightly different organisation of the activity; Furthermore, it proposes to achieve objectives related.

Part 5: Your organisation

Name of the organisation	ASL Brindisi
Address of the organisation	ASL Brindisi, Via Napoi 8, 72100 Brindisi (BR)
Type of organisation	Hospitals
Name of the contact person	Doctor Francesco Galasso
Email address of the contact person	francesco.galasso15@tin.it

Puglia, Italy: CKD integrated care

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Promising practice

Part 2: Description of the Good Practice

Name of the Good Practice	Integrated telemedicine platform for predictive medicine, telemonitoring and empowerment of patients affected by Chronic Kidney Diseases (CKD)
Short name (Acronym)	CKD integrated care
URL of the Good Practice	www.smarthealthpuglia.it
Geographical scope	National level
Country	Italy

Region(s) involved	Puglia, Campania, Calabria, Sicilia, Piemonte, Emilia-Romagna, Lombardia
Status of the Good Practice	Completed
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Specialised physicians • General practitioners • Primary care centres • Home care centres • Day care centres • Nurses • Nursing homes • National public authorities • Regional public authorities • Local public authorities • Informal caregivers • Private companies • Small-sized industry • Medium-sized industry • Large-sized industry • Housing organisations • Research centres & Academia • WHO • Advocacy organisations of patients / users • Advocacy organisations of physicians • Advocacy organisations of nurses
Size of population covered	>100,000
Targeted audience	Irrelevant
Summary of the Good Practice <p>Chronic kidney disease (CKD) has a high socio-economic impact, as it affects 10% of the world general population (700 M people). The Carhes Study reports an Italian CKD prevalence of 7.1% in the general population aged 35-79 years (2.2 million of Italians) that consumes about 2.5-4 % (around 5 billion euros) of the National Healthcare System's budget for each year. To be precise, the Italian government is spending 1.8-2.0% of its gross national product invested in health to guarantee the healthcare system to Italian people affected by stage I-IV of CKD (GFR between 90-15 ml/min) and the same amount</p>	

(1.8-2.0% of GNP) to treat 200.000 patients with a GFR less than 15 ml/min (about 150.000) or already on dialysis (about 50.000).

CKD is a silent disease that should be early identified by general practitioners (GPs) for an early referral to nephrologists to avoid its progression towards end stage kidney disease. The clinical characteristics of CKD patients have changed in recent years (aging and complexity), resulting in an increased burden of care for the healthcare facilities and the need for a more extensive involvement of families and social services.

In this context, our practice aims to create a new technological system, based on a new “digital” healthcare model, involving cooperation among different territorial care entities. Specifically, our practice aims to prevent CKD in general population, to early identify patients affected by CKD, to increase de-hospitalization of patients with overt CKD starting dialysis, to improve quality of life and to reduce the healthcare costs.

CKD integrated-care (Smart Health 2.0 project) is a platform with an e-learning environment, with edu-games for the empowerment of the general population (Help-Large) and patients affected by CKD with their caregiver, a business intelligence tool on board (ULYSSES) for the early identification of CKD patients through the analysis of clinical pathology data, a sofa (DIADOM), inspired by home living design and fully equipped with medical devices connected to a telemonitoring system (TELCARE) able to create an audio-video connection between patients, nurses and nephrologists.

In addition, Smart Health 2.0 project has trained Care and Case managers, Nurses and Physicians with specific expertise on the use of Ulysses, Help-Large and telemonitoring/teledialysis system, those will be the new professionals required for the creation of virtuous paths between hospital and territory.

Key words: neurology, teledialysis, care and case manager, eHealth, mHealth, empowerment, predictive medicine

Good practice being part of the larger programme

Yes.

Smart Health 2.0 project has create an innovative technological infrastructure, on which several high value-added services have been developed and integrated to provide innovative options in the area of health and well-being, and for an effective management of patients affected by CKD.

Challenges / problems addressed by the good practice

Smart Health 2.0 would like to support:

1. The constant and progressive increase of aging in general population and the related increase prevalence of chronic degenerative diseases with an e-health platform able to empower them
2. The early identification by general practitioners (GPs) of CKD, a silent disease, that should be early referred to nephrologists to avoid its progression towards end stage kidney disease.
3. The de-hospitalisation of chronic patients on in-centre hemodialysis
4. The demand for a good quality of life and the risk of marginalization of the most vulnerable people.
5. The commitment of financial and human resources to guarantee access to healthcare: rationalization and redistribution of resources is needed to provide the best quality of care with the least possible financial commitment, in assistance retraining, client empowerment and integrative social health.

Importance of the challenges / problems before starting to implement good practice

They were very important since dialysis treatment impact on quality of life, hospitalization and health spending. The development of predictive medicine could lead to significant cost savings. In fact, the implementation of prevention programs able to reduce the rate of progression of chronic kidney disease in 10% of the total renal population in has been shown to lead to a savings in health spending of 2.5 billion euros in five years.

Environment before the good practice was implemented

Before our innovative practice, CKD patients had haemodialysis treatment at the hospital for at least three time a week, with a reduced quality of life in terms of time spent at the hospital and stress due to transportation from home to the hospital and vice versa.

In previous attempts to bring the dialysis at home, no one included the support of a technological platform to create a dialog between the doctor and the patient and to promote the empowerment of all involved stakeholders.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

The use of the platform brings assistance directly to the patient's home, allows consultation among distant specialists, promotes the sharing of knowledge and diagnostic and therapeutic protocols, providing to the whole welfare system a powerful and efficient clinical information management infrastructure. The other innovative element introduced

is the empowerment of the patient and caregiver through a social network and e-learning system, with a related quality of life increase.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required) <ul style="list-style-type: none"> • Adequately equipped control room (PCs, monitors, network, etc.); • Specialized physicians (Case manager); • Specialized Nurses (Care manager); • ICT specialist (software maintenance and improvement) • Home telemedicine kits (sofà + medical devices + HD camera); • Smart devices (tablet, PC, smartphone, etc.); • ICT regional structure, with privacy and security systems; • Training facility. 	
Total budget of the Good Practice	€1M - €5M
Source of funding	National funding
The main actions that have to be done to deploy the Good Practice <p>As part of the SH 2.0 project, we have formed new specialists - Care (nurses) and Case (physicians) Managers, with specific expertise in telemedicine. From a planning policy point of view, we have presented the results of our Good Practice to the regional government, in order to promote the implementation of these new telemonitoring systems in daily clinical practice. In terms of technical issues there are some requirements that is important to take into account to starting, like telecommunications availability at Patient Home and Control Room organisation in terms of technology (like a multi connection audio-video platform).</p>	
Issues during the implementation of the Good Practice <ul style="list-style-type: none"> • Technical interfacing problem with the existing ICT structure • Difficulties in the use of devices by older patients • System scalability related to the increase in the number of patients • Privacy Policies 	

Additional resources required to scale up Good Practice
No.
Basis to support sustainability of the Good Practice
<p>Large amount of data in the medical literature documenting the possibility of reducing, with appropriate care interventions, at least the rate of progression of chronic renal diseases towards the dialysis. This leads to the conclusion that an approach which is not reactive (increase in the number of dialysis places), but proactive (primary and secondary prevention in the vicinity of people) can be more methodologically correct.</p> <p>Regarding cost sustainability for ESRD Patient (End Stage Renal Disease), we have performed a preliminary analysis that suggests the reduction of costs for home telemedicine haemodialysis treatment compared to traditional hospital one. Savings during 3 year follow-up would be about € 200,000 for 10 patients and € 2,800,000 for 100 patients.</p>
Evidence to observe the Good Practice
<p>Video or other digital media (web page, audio)</p> <p>A visit to an implementation site.</p> <p>https://www.youtube.com/watch?v=cUoLWDs1-98</p>

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice
<p>Between one year and three years.</p> <p>A site/region that want to prepare the implementation needs to verify different aspect basically related to his organisation in term of CKD Clinical Pathways adopted. First of all is important to identify immediately the target of the Patient and after that start to identify and dimensioning all the necessary resources in terms of technological resources needed and human resource (Case Manager, Caregiver, etc..) to be formed. It is necessary to identify additional resources to industrialize the experimental prototype. Therefore, we are evaluating the paths to follow and possible funding sources.</p>
Investment per citizens / patient / client in terms of financial resources
<p>Between €100 - €1.000 per targeted citizen / patient.</p> <p>We estimated an additional cost of about 23 € for each telemonitored home treatment,</p>

which is still adequately covered by the savings on home - hospital transportation and still generates the savings suggested above. Further investigations are still necessary.

Evidence behind the Good Practice

Documented evidence. Evidence is based on systematic qualitative and quantitative studies.

We have enrolled 8 CKD patients followed with CKD integrated-care platform for 3 months. We measured dialysis adequacy (Kt/V), compliance (therapy adherence) and quality of life (SF-12 questionnaire). Results showed a good satisfaction for the telemedicine service provided and increased quality of life. We have presented the results to the regional government and it is believed that the new model of care experienced is aligned with the health planning of the Puglia region, relevant and useful for health spending optimization.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

At the moment, the system is a prototype, tested on a small group of CKD patients. During the experimental phase (3 months), the system showed adequate functionality, stability and efficiency, and an appropriate degree of integration with existing systems. The system is designed for scalability and interoperability, but we need a further focus on this aspect.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

Better care integration (economic and societal)

We verified an average time-to-impact of two weeks, through psychological interviews and questionnaires on psychological state, self-perceived quality of life and satisfaction with the service, throughout the experimental period.

Transferability of the Good Practice

Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.

The Good Practice has been designed and developed considering the replicability of the service also outside the Puglia region. The identified model foresees the creation of a centralized control room in the entities accredited for telemedicine by the regional government, and enrolment of the whole region. There are no evidence of impediments to replicate this model and related services in other regions.

Part 5: Your organisation

Name of the organisation	Nephrology, Dialysis and Transplantation Unit - University of Bari - Bari Polyclinic
Address of the organisation	Giulio Cesare square, 11, 70124 Bari (Italy)
Type of organisation	Hospitals
Name of the contact person	Prof. Loreto Gesualdo
Email address of the contact person	loreto.gesualdo@uniba.it

Olomouc region, Czech republic: Integrated health and social care services in Pardubice region

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Good practice

Part 2: Description of the Good Practice

Name of the Good Practice	Integrated health and social care services in Pardubice region
Short name (Acronym)	AZASS

URL of the Good Practice	www.azaass.cz
Geographical scope	Regional level
Country	Czech republic
Region(s) involved	Pardubice region (Policzsko, Novomestsko)
Status of the Good Practice	Completed
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Primary care centres • Home care centres • Specialised physicians • Nurses • General Practitioners • Nursing homes • Informal caregivers • Housing organisations • NGOs • Local public authorities • Other (social services; retirement homes; home help services)
Size of population covered	10,000 - 99,999
Targeted audience	Irrelevant
Summary of the Good Practice <p>General and specific objectives of the practice is to provide holistic set of support/care/services (health and social care) tailored to the needs of people with reduced self-sufficiency due to illness, disability or frailty and to support their carers so that they can stay at home or in their community as long as possible. It includes close interdisciplinary cooperation within AZASS facilities and services (post-acute and long-term care hospital, primary care physicians/specialists, social rehabilitation and occupational therapy as well as home care, respite and residential services for elderly and housing) to assure person centred and continuous support to those in need in the region.</p> <p>Main methods, processes and organisation.</p> <p>The services operate through Association of all local/regional municipalities that joined together to create association of 27 municipalities “AZASS” to share decisions, strategy, property and services. The structure was designed to assure stability, subsidiarity, democracy and to face instability of political cycle. AZASS owns the hospital and all the</p>	

services mentioned previously that have one executive leadership. Each municipality has proportioned vote according to number of citizens, but none can have a majority (so they need to look for common agreement). Executive board (5 mayors) manages and set rules for the director of the services. Supervisory board is formed by professionals (doctor, economist) and 3 mayors. Ad hoc commissions are formed to prepare strategic projects, so that experts and public can participate to create solutions for local problems. The director is negotiator in all those activities, suggest and recommends to mayors, but has to respect their final decision.

Key aspects that can be transferable:

- Structured rules of cooperation on the development of AZASS shared by municipalities
- Intense personal cooperation and communication with stakeholders and municipalities
- Whole person approach to planning and provision of care/services including caregivers (carers) and their environment
- Close ties to the region and its citizens (inhabitants)

Key words:

Inderdisciplinarity, community based care, structured cooperation;

Good practice being part of the larger programme

No.

Challenges / problems addressed by the good practice

1. Inaccessibility of health and social care/services/support delivered in continuum and holistic manner in the region (fragmented care, no support for carers and families)
2. Small municipalities unable to solve the overall situation by their own means as their professional and financial capacity is too low.
3. Transformation of acute hospital (that went bankrupt) to post-acute and long-term care facility (hospital) with cooperating primary care and some specialist physicians complementing the post-acute/long- term care unit.
4. No systematic support for patients to transfer from hospital back home or to their community.
5. Low quality of life of people with long-term care needs, reduced self-sufficiency due to disability/illness and their families due to lack of support/services enabling to stay at home or in the community as long as possible.

Importance of the challenges / problems before starting to implement good practice

Challenges were immense as there were practically no (long-term care and social) services available for local population due to the bankruptcy of private hospital and underdevelopment in other provision of other health, social or home care services. Separate municipalities were too small to be able to provide these services and citizens had to travel either to different regional hospitals or the families of patients/dependent members of the family had to deal with the situation without sufficient support.

Environment before the good practice was implemented

Scorched earth, problems were not dealt with, property that we currently use was meant to be abolished as hospital went bankrupt and no one wanted to take responsibility for its operation, no social services or residential place for frail elderly or people with disabilities, carers etc. People travelled to other regional cities to obtain usually acute or post-acute care.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

1. We cover the majority need of social and long-term care/rehabilitation services by the local population.
2. Accessible network of post-acute, health, long-term care and social services that are interlinked and interdisciplinary reacting to the needs of people and local community (creation of entirely new services).
3. Intense and structured, legally based cooperation of municipalities on the development and sustainability of services provided - Municipalities are forced to communicate and cooperate on the development (increases the amount of cooperation and solidarity among municipalities, more civilised discussion among municipalities that are not otherwise motivated to cooperate/provide services for their inhabitants).
4. Increase in quality of provided services, increased quality of life of those with long-term care needs and their carers.
5. Stable and 2nd largest employer in the Polická region.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better

Equal costs, improved outcomes

health, quality of life or other resources)	
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required.	
<ul style="list-style-type: none"> • Equipment - for healthcare facilities 128 mil CZK, social care 262 mil CZK, • Facilities -120 beds post-acute care/nursing health care, 119 places in residential retirement home, 15 long-term care beds, 6 beds for respite care, 5 beds for accommodation of carers, family members etc. • Other capacities - social rehabilitation, rehabilitation, occupational therapy training flat, homecare etc... cooperates intensely with inpatient services • ICT -healthcare information system (hospital, outpatient specialists, complement - laboratory, screenings, patient transport etc.) Social care information system, administrative/management support system. 	
Total budget of the Good Practice	Mora than €5M
Source of funding	European funding, otherwise operation covered from health insurance funds and social care funding.
The main actions that have to be done to deploy the Good Practice	
<ol style="list-style-type: none"> 1. Setting up Association of municipalities. 2. Creating strategy and vision of services for region and to communicate it to all stakeholders. 3. Transform the acute care hospital into post-acute and long-term care hospital (some acute wards cancelled, all outpatient specialties remained and complement inpatient care). 4. Professional roles - staff policy - individual approach to different category of employees (motivation through new specialization for some physicians - form internists to geriatrician, diabetes specialist, “psychotherapist”, etc., joining of work at inpatient and outpatient services, clinical days in other hospitals, research involvement). Middle medical staff underwent training for post-acute and long-term care specialisation (pain management, palliative care, respite care etc.). Different types of social services were all newly built/introduced with new/retrained employees. 5. Interdisciplinary working is enhanced by interdisciplinary teams, complementary competencies/roles management, joint working in outpatient and inpatient services, whole persona approach to out patients/clients and our mission. Sharing of information about patients/clients: health documentation has social aspects part, social services 	

documentation has relevant information about health related status, inpatient social services has both parts - social and health status.

6. New services Health services - new post-acute, long term care wards, outpatient specialities, one-day hospitalization in surgical specially Social services - all new: nursing home, long-term care, retirement homes, home care, social rehabilitation, social activation and respite care services.

7. Assuring cooperation and solidarity among municipalities All decisions are based on principles of participative democracy, subsidiarity, consensus and voting rules that assure equal position and simple majority decision making (as described previously). Solidarity of municipalities (contributing to services no matter what municipalities users come from) and service responsiveness to local needs is evaluated and addressed. This proportion of contribution is achieved through intense communication, negotiations, and consensus.

Issues during the implementation of the Good Practice

1. To eliminate prejudices and stereotypes (unwillingness to confront with illness and death by general public e.g. when opening up of facilities and gardens to the public, unwillingness to be proactive and to do things that are not within given work duties - “the others/government are responsible approach”).

2. To persuade local/municipal representatives that to provide community based social care/services/support might be part of municipal identity, sign of their quality and is important that they deal with/take interest in it despite not being obliged to do so by law/regulation.

3. Legal and financial constraints in insurance and financing of social services (strictly divided financing of social and health services, crossing these artificially made borders).

4. To eliminate negative effects of policy cycle (pre-electoral and post-electoral pressures and changes).

5. Insurance policy politics with regard to provision of relevant types of care including home health care.

Additional resources required to scale up Good Practice

No.

Basis to support sustainability of the Good Practice

- To sustain the structured and joint cooperation of municipalities within AZASS.
- To sustain awareness of municipalities that it is their project, which serves their inhabitants (and continuous support of culture of solidarity and cooperation among

<p>them).</p> <ul style="list-style-type: none"> • To sustain structure and financing of the currently provided services. • To sustain coherent leadership of the AZASS and its services. • To obtain contract with health insurance fund to provide of relevant types of care including home health services
<p>Evidence to observe the Good Practice</p> <p>www.azass.cz</p>

Part 4: Viability assessment of the Good Practice

<p>Time needed to deploy the Good Practice</p> <p>More than three years.</p> <p>Before it was implemented - Long term strategy in 1999 (4 features: 1.to transfer of acute care hospital to post-acute and long-term care hospital, development of residential and community-based services that were missing in the region; 2. to assure social services and home care services that were insufficient or missing in the region; 3. Integration of health and social care for the patient and his environment (home, community) and lifetime approach (whole person approach); 4. Lifetime approach to community environment and its development, to continuously influence and cooperate with the community and to remove barriers within it.</p>
<p>Investment per citizens / patient / client in terms of financial resources</p> <p>No available calculation.</p>
<p>Evidence behind the Good Practice</p> <p>Apparent evidence. Evidence is based on qualitative success stories</p>
<p>Maturity of the Good Practice</p> <p>The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth.</p>
<p>Estimated time of impact of the Good Practice</p> <p>Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.</p>

Impact observed
Better health (societal)
Transferability of the Good Practice
Transferability has not been considered. The innovative practice has been developed on local/regional/national level and transferability has not been considered in a systematic way.

Part 5: Your organisation

Name of the organisation	Svazek obci AZASS
Address of the organisation	Palackeho namesti, 160, 57201 Policka
Type of organisation	Local public authorities
Name of the contact person	Mgr. Ing. Libor Stráník - director
Email address of the contact person	l.stranik@tiscali.cz

Olomouc region, Czech republic: Improved management of visits in Home Care

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Good practice

Part 2: Description of the Good Practice

Name of the Good Practice	Improved management of visits in Home Care
Short name (Acronym)	HC
URL of the Good Practice	www.nmskb.cz
Geographical scope	Regional level
Country	Czech republic
Region(s) involved	Prague

Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Home care centres • Nurses
Size of population covered	25-99
Targeted audience	Irrelevant
Summary of the Good Practice <p>The practice includes Home Care services for patients within the region of Prague Capital. The Home Care Centre is a department of the Sisters of Mercy of St. Borromeo Hospital in Prague (Nemocnice Milosrdných sester sv. Karla Boromejského). The general objective is providing the medical care at the homes of patients. Specifically, it is concentrated on nursing care, i.e. treatment of wounds, application of infusion, injections, wound dressing, treatment of pain and others.</p> <p>The nurses are visiting the patients according to the indication of medical doctor and in cooperation with him. Management of visits in Home Care (HC) is improved by ICT solution called IMACHECK. The First step of the innovation is implemented (identification of nurse visits); second step is under development in Autumn 2016 - distribution of scenarios for individualized home care and patient data collection (reporting). The ultimate goal is to improve services in homecare by digital processing of routine operations in homecare.</p> <p>The transferable experience at current stage of the practice could be electronic evidence of visits at the patients and their time management.</p>	
Key words: Home care, nursing care, electronic evidence of visits, Near-field communication (NFC), integration of data with hospital information system (HIS).	
Good practice being part of the larger programme <p>Yes.</p> <p>This practice is part of regular homecare service in the CR provided to selected patients for a period of time as prescribed by medical doctor (practitioner).</p>	
Challenges / problems addressed by the good practice <p>Identification of the nurse visit in specific time period in patient's home. The use of electronic tools during the visit and transfer the data from visits into Hospital Information System (HIS) introduces accuracy in this identification. Android Mobile phones or tablet</p>	

with NFC were selected as suitable technological solution and the system was developed by a local ICT company in Prague (IMA).

Importance of the challenges / problems before starting to implement good practice

There was no electronic identification before and record of it was done only manually on paper by the nurses themselves. Generally, this is a part of better comfort in data transfer into HIS, the security of transfer and accuracy. Implementation of electronic tools is supposed to help the nurses save time and simplify the way of data transfer from nurse to doctor and hospital.

Environment before the good practice was implemented

Paper evidence of visits, filling paper forms, paper documentation.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

Electronic evidence of visits has improved the survey and control of the Home Care manager about nurses and their visits, enables manager operatively and reasonably manage the nurses in the locations of Prague a respond to urgently medical needs of patients. Help to improve the quality of care of patients. When a patient is scheduled for homecare, he receives a NFC identifier (smart card). The nurse coming to visit has a NFC enabled smartphone as a reader of the identification from patient's card. Smartphone serves as a gateway for the identification data that are sent to the central server in the hospital where the ID with time stamp is assigned to respective patient's record. Further extension of the practice is already under development and it should include electronic recordings of the visits.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
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Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required.	
Personnel: 5 nurses + 1 manager, 1 office room, 1 nurse room, usual office equipment, HW (PC, 6 smart phones, data traffic in mobile network, SW - IMACHECK, 100 smart cards for patients).	
Total budget of the Good Practice	0 - €9,999
Source of funding	Other (not-for-profit)
The main actions that have to be done to deploy the Good Practice	
HW and SW equipment to be able to make bedside patient's documentation during the visit. Some minor organisational measures to ensure distribution of identification cards for patients and providing compatible smartphones for nurses and initial training.	
Issues during the implementation of the Good Practice	
Ensuring financial resources for the Home Care services. Some patients need deeper familiarization with the purpose and method of identification. Very small number of patients refused participation because they felt being part an electronic identification system.	
Additional resources required to scale up Good Practice	
No.	
Basis to support sustainability of the Good Practice	
Financial resources and functional HW, SW.	
Evidence to observe the Good Practice	
A visit to an implementation site.	

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice
Less than a year.
Investment per citizens / patient / client in terms of financial resources

Between €100 - €1.000 per targeted citizen / patient.

Smartphones for nurses (average, in 2014,2016) 11 pcs 117 1287 Smart cards (average, in 2015) 100 pcs 1,2 120 Data traffic per phone/month 11 pcs 2,4 26,4 SW license monthly 1 pcs 26.9 Life time of smartphones - 5 years Lifetime of smartcards - 5 years Average number of patients in the service: 75 Average length of home care is assumed 1 month Monthly cost per patient in service (incl. depreciation of phones, cards; traffic and SW license): 1 Euro.

Evidence behind the Good Practice

No knowledge about evidence. No evaluation or documentation of effect has been carried out.

Maturity of the Good Practice

The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

Increased sense of security (societal).

Transferability of the Good Practice

Transferability has not been considered. The innovative practice has been developed on local/regional/national level and transferability has not been considered in a systematic way.

Part 5: Your organisation

Name of the organisation	The Sisters of Mercy of St. Borromeo Hospital in Prague (Nemocnice Milosrdných sester sv. Karla Boromejského)
Address of the organisation	Vlašská 336 / 36, 118 33 Prague 1, Malá Strana, Czech Republic

Type of organisation	Hospitals
Name of the contact person	Mgr. Šárka Šlégrová, Manager of Home Care
Email address of the contact person	slegrova@nmskb.cz

Olomouc region, Czech republic: Telehealth service for patients with advanced heart failure

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Good practice

Part 2: Description of the Good Practice

Name of the Good Practice	Telehealth service for patients with advanced heart failure
Short name (Acronym)	TCHF
URL of the Good Practice	http://www.ntmc.cz/?lang=en
Geographical scope	Regional level
Country	Czech republic
Region(s) involved	Olomouc region
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Specialised physicians • National public authorities • Nurses • WHO
Size of population covered	100-249
Targeted audience	Irrelevant

Summary of the Good Practice

The practice, performed by University Hospital Olomouc with regional activity, introduces specific remote monitoring of patients with Congestive heart failure, structural damage of myocardium and left chamber dysfunction through the deployment of telehealth services and enhances relevant medical protocols. This new practice is to detect as many patients with the given diagnoses as possible, deploy telehealth services for monitoring and improved treatment of these patients.

The telehealth service consists of telemonitoring with clinical protocol that is in line with the protocol used in a large EU project Unite4Health (www.united4health.eu) that focused on assessing the impact of innovative healthcare services in real conditions in 14 regions of Europe. The practice adapted this generic protocol for the target group of patients (with advanced CHF) and for the regional conditions.

The practice enabled screening of common population in the Region with the disease; it provides tools for remote control of patients with advanced heart failure (NYHA class III-IV, it means patients that are markedly or severely limited during physical activity) on standard medical therapy (ESC guidelines), before and after heart transplantation. Further it covers population of patients with hemodynamic support (ventricular assist device - VAD) before orthotropic heart transplantation (OTS) or in long-term regimen. Until the service was introduced, there has not been method that would enable to collect relevant information about critical parameters development besides keeping the patient in hospital.

The practice requires only minimum organisational changes in the hospital; it's essential parts are under control of clinical staff (cardiologists and nurses) who make use of data (including weight, blood pressure, SpO2) received from patients at home. The ICT system used for the practice has also several features that enable bidirectional communication between the medical personnel and patient; including distant ordering of medicaments, which partly fills the gap of non-existent e-prescription service in the country. Other features increase technical reliability of distant communication between patient's smartphone (gateway) and healthcare personnel (nurse, cardiologist with access to telehealth portal).

There is clear relationship between initial disease detection in population - screening, followed by specific individualized therapy and management of the target group of ill in higher age and therefore the practice has positive impact to health conditions of targeted population. It is also expected that morbidity, mortality, and quality of life of the targeted patients with observed diagnoses will be improved. Inputs in international medical (cardiology) societies will also further improve position and prestige of EU medical expertise. As the issue of sustainability of the service is essential, the Good

Practice management systematically negotiate with medical societies and national healthcare authorities to achieve reimbursement on national level and to upgrade standardized treatment protocols.

New jobs associated with telemonitoring services were created. New force is needed mostly for technical and management oriented tasks. With growing penetration of telemonitoring into the target population it is clear that especially an increase in newly detected patients with heart failure will require more medical personnel. However, the load of staff associated with inclusion a patient into the service is not significant. The practice demonstrated increase of the quality of care.

Essential elements of the practice can transferred as a whole to other regions in the CR or abroad. The practice is suitable for hospitals/centres treating advanced CHF.

Key words: cardiology, heart failure, VAD, telehealth, ICT

Good practice being part of the larger programme

Yes.

This practice is targeted to improve care of cardiac in the Region. This service is one of the 2 original practices employing ICT in distant communication between medical staff and patients with chronic diseases in University hospital Olomouc. An extended set of practices is under development as part of hospital program in 2016. A common ICT system is to be used for a number practices comprising several chronic diseases (currently in mid 2016 it is planned to cover more services for than 5 departments in the hospital). The practices reflect current status of eHealth in the CR (mostly underdeveloped) and concentrate on benefits in medical domain.

Challenges / problems addressed by the good practice

Training of medical personnel, preparation of the infrastructure, such as the ICT system and its features reflecting needs, pathways for patients including education, methodology for stratification of patients (selection for the service), financing - investment and operation, strategy for negotiation of sustainability (ongoing with stakeholders in the CR in 2016).

Importance of the challenges / problems before starting to implement good practice

Unexpected deterioration of status of patients with advanced CHF that could not be detected in time. Limited number of medical personnel that could cope with increasing number of patients.

Environment before the good practice was implemented

Classical clinical care however advanced but without possibility to process data about status of patients located at home. Hospitalisation of these patients was the only option.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

Patients with CHF can be discharged from the hospital and more regular information about their vital signs is available to the medical staff that care. If a decision is to be made the patients is called to come to the hospital as the practice introduces only informative elements and therefore medical protocols are not compromised. The practice enables to reduce routine status checks for which the patients must have stayed in or frequently to come to the hospital. Patients stay in the services for period of time as necessary (e.g. 1 month) and then the equipment can be transferred to another patient.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required). <p>Personnel: nurses + cardiologists (training), 1 telehealth engineer, office room for dedicated ICT system and education of patients, HW and application SW (small server - in cloud), Bluetooth enabled smartphones with SW, devices (scale, BP meter, oximeter), telecommunications (2G, 3G, 4G mobile). Negotiations of the practice with the aim to achieve the service sustainability take long time and require adequate skill.</p>	
Total budget of the Good Practice	€10.000 -€ 99,999
Source of funding	Other (European & national funding)
The main actions that have to be done to deploy the Good Practice <p>Initial training of medical staff, defining professional roles in the practice in the hospital, modification of clinical protocols and workflow, putting the ICT system in operation.</p>	

Issues during the implementation of the Good Practice Ensuring financial resources for the service after project resources were exhausted. Some patients need more intensive education. The technical feature of the telehealth system enabling distant configuration of patient's smartphones saves significant effort, resources and time to the support. Not all patients can enrol, mostly due to their cognitive impairments.
Additional resources required to scale up Good Practice Yes. Inclusion of each new patient requires appropriate investment in the equipment if the number of available (and recyclable) devices is reached.
Basis to support sustainability of the Good Practice Financial resources and functional HW, SW.
Evidence to observe the Good Practice A visit to an implementation site.

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice Less than a year.
Investment per citizens / patient / client in terms of financial resources Between €1.000 - €5.000 EUR per targeted citizen / patient. Cost of equipment of the patient, share on the cost of the system and its operation, telecommunications.
Evidence behind the Good Practice Documented evidence. Evidence is based on systematic qualitative and quantitative studies. Evidence behind the practice was part of results of our deployment site in Unite4Health

project. Clinical evidence is based on analysis of evidence provided by based medicine resources (were also bases of Unite4Health project). Evaluation of the practice was completed by methodology MAST - Model for Assessment of Telemedicine.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

The practice is beneficial to patients, the hospital and even the healthcare system. However, its economic viability is still subject of negotiation (status August 2016) with appropriate authorities. The negotiations are on-going on several levels including Ministry of Health of the CR.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

Less hospital re-admission (economic).

The impact of the intervention was in increased quality of care of the patients, namely due early intervention thanks to the practice that reduced deterioration of the patient's condition. Reduction of re-hospitalization is approx. 40%. Reduction of number of patients' visits in the hospital. The patients better adhere to medication and have better access to healthcare professionals.

Transferability of the Good Practice

The innovative practice has been transferred within the same region.

The practice has been transferred also to other region in the CR and is performed in a reference health institute in Prague (IKEM). Scaling up to other hospitals can follow, however the team in NTMC concentrates on organisational aspects of such telehealth service, especially economic conditions to ensure sustainability.

Part 5: Your organisation

Name of the organisation	University Hospital Olomouc
Address of the organisation	I.P.Pavlova 185/6, 779 00 Olomouc, Czech Republic
Type of organisation	Hospitals
Name of the contact person	Zdenek Gütter, PhD ; Milos Taborsky, M.D., Ph.D, FESC, MBA (head of I. Internal clinic)
Email address of the contact person	Gutter@ntmc.cz

Olomouc region, Czech republic: Telemonitoring of patients with AMI and in anticoagulation regime

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Good practice

Part 2: Description of the Good Practice

Name of the Good Practice	Telemonitoring of patients with AMI and in anticoagulation regime
Short name (Acronym)	TMCIP
URL of the Good Practice	http://ntmc.cz/?lang=en
Geographical scope	Regional level
Country	Czech republic
Region(s) involved	Olomouc region
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Specialised physicians • National public authorities • Nurses • WHO
Size of population covered	1,000-9,999

Targeted audience	Irrelevant
Summary of the Good Practice <p>The practice, performed by University Hospital Olomouc with regional activity, is an updated and extended practice (no. 2) of the same healthcare provider that was evaluated in first half of 2013 in the context of EIPonAHA Reference Sites call in that year.</p> <p>This Good Practice was initiated by experienced cardiologists who recognised the need for improvement of care for mostly senior patients hospitalized for acute myocardial infarction (AMI) and other cardiac conditions. The purpose of the practice is support patients at home, early detect frequent co-morbidity (diabetes) and respond to unwanted development of INR of patients in anticoagulation regime. Political support is sought by management of Czech National eHealth Centre (NTMC, part of UHO) on several levels, including regional government, national healthcare management authorities and also medical societies. The practice reflects regional conditions that are characterized by low usage of ICT in healthcare in the CR and lack of reimbursement and other pre-requisites that would otherwise allow smoother operation of such services. The practice then must have been economically optimized. Experience from participation in relevant EU projects (CIP, such as United4Health) is capitalized in the updated practice. The practice in case of diabetes detection consists of telemonitoring with clinical protocol that is in line with the protocol used in a large EU project Unite4Health that focused on assessing the impact of innovative healthcare services in real conditions in 14 regions of Europe. The practice adapted this generic protocol for the target group of patients after AMI and for the regional conditions.</p> <p>Until the service was introduced, there has not been method that would enable to collect relevant information about critical parameters development co-morbidities and precisely control development of patient's INR at home.</p> <p>The practice requires only minimum organisational changes in the hospital; its essential parts are under control of clinical staff (cardiologists, diabetologists and nurses) who make use of data (glucose level or INR, as appropriate) received from patients at home. The ICT (telehealth) system used for the practice has also several features that enable bidirectional communication between the medical personnel and patient; including distant ordering of medicaments, which partly fills the gap of non-existent e-prescription service in the country. The system also provides basic functions for patient empowerment as measured data are available to patients and bidirectional communication is possible.</p> <p>The same system is also used for other telehealth-based practices in UHO. Its further features increase technical reliability of distant communication between patient's</p>	

smartphone (gateway) and healthcare personnel with access to telehealth portal.

Central system (portal) is tailor-made for UHO and allows besides of automatic collection of measured data from devices (glucometers, prothrombin time - INR) also controlled manual entering of data by the patients and their processing and presentation to healthcare personnel as needed for amended care protocols.

There is clear relationship between initial co-morbidity detection in population - screening, followed by specific individualized therapy and management of the target group of ill in higher age and therefore the practice has positive impact to health conditions of targeted population.

It is also expected that morbidity, mortality, and quality of life of the targeted patients with observed diagnoses will be improved. Inputs in international medical (cardiology) societies will also further improve position and prestige of EU medical expertise.

As the issue of sustainability of the service is essential, the Good Practice management systematically negotiate with medical societies and national healthcare authorities to achieve reimbursement on national level and to upgrade standardized treatment protocols.

New jobs were created; work force is needed mostly for technical and management oriented tasks. The practice demonstrated increase of the quality of care and satisfaction of patients (esp. INR intervention).

Essential elements of the practice are subject of scaling up in the Region in 2016, where other healthcare providers plan making use of the telehealth system and assume the protocol design for diabetics. The practice can be transferred to other regions in the CR or abroad.

Key words: AMI, diabetes, cardiac, INR, telemonitoring

Good practice being part of the larger programme

Yes.

This practice is targeted to improve care of cardiac patients in the Region. This service is one of the 2 original practices employing ICT in distant communication between medical staff and patients with chronic diseases in University hospital Olomouc. An extended set of practices is under development as part of hospital program in 2016. A common ICT system is to be used for a number practices comprising several chronic diseases (currently in mid 2016 it is planned to cover more services for than 5 departments in the hospital). The practices reflect current status of eHealth in the CR (mostly underdeveloped) and

concentrate on benefits in medical domain.

Challenges / problems addressed by the good practice

Training of medical personnel, preparation of the infrastructure, such as the ICT system and its features reflecting needs, pathways for patients including education, methodology for stratification of patients (selection for the service), financing - investment and operation, strategy for negotiation of sustainability (ongoing with stakeholders in the CR in 2016). There is technologic challenge in case of INR intervention as there is lack of Bluetooth enabled devices on the market, which does not allow eliminating fully human entering the measured data. Acceptance of the INR intervention by both the medical personnel and patients is generally very positive, while in case of diabetes intervention it is more complex task and its success is also influenced by relatively high level of care of diabetics by specialists in the CR.

Importance of the challenges / problems before starting to implement good practice

In case of diabetes detection, the challenges resulting from scope of work of relevant personnel, as well as technology (glucometers) issues were quite important and have lead to modifications of the practice. In case of INR, the prevailing issue is cost of strips for blood drops that should be resolved (normally, strips are not reimbursed to the patients in the CR).

Providing support by medical personnel in INR intervention increases their work load (even during off-work time periods).

Environment before the good practice was implemented

Classical clinical care, not always systematically focusing on early diabetes detection and development after AMI. Uncontrolled INR values in period between hospital visits were source of various health status issues.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

Early detection of diabetes; precise control of INR in cardiac patients results in reduction of occurrence severe stages of co- morbidities and enable to stabilise patients' status.

Improved care, less visit to hospital. The interventions have elements and therefore medical protocols are not compromised. Patients stay in the services for period of time as necessary (depends on the intervention and conditions) and then the equipment can be transferred to another patient.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Higher costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required). Personnel: nurses + cardiologists (training), 1 telehealth engineer, office room for dedicated ICT system and education of patients, HW and application SW (small server - in cloud), Bluetooth enabled smartphones with SW, devices (glucometer, INR meter) and consumables, telecommunications (2G, 3G mobile). Negotiations of the practice with the aim to achieve the service sustainability take long time and require adequate skill.	
Total budget of the Good Practice	€10.000 -€ 99,999
Source of funding	Other (European & national funding)
The main actions that have to be done to deploy the Good Practice Initial training of medical staff, defining professional roles in the practice in the hospital, modification of clinical protocols and workflow, putting the ICT system in operation.	
Issues during the implementation of the Good Practice Ensuring financial resources for the service after project resources were exhausted. Some patients need more intensive education. The technical feature of the telehealth system enabling distant configuration of patient's smartphones saves significant effort, resources and time to the support. Not all patients can enrol, mostly due to their cognitive impairments.	
Additional resources required to scale up Good Practice No.	
Basis to support sustainability of the Good Practice Financial resources and functional HW, SW.	
Evidence to observe the Good Practice	

A visit to an implementation site.

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Less than a year.

Investment per citizens / patient / client in terms of financial resources

Between €1.000 - €5.000 EUR per targeted citizen / patient.

Cost of equipment of the patient, share on the cost of the system and its operation, telecommunications.

Evidence behind the Good Practice

No knowledge about evidence. No evaluation or documentation of effect has been carried out.

Evidence behind the practice was part of results of our deployment site in Unite4Health project. Clinical evidence is based on analysis of evidence provided by based medicine resources (were also bases of Unite4Health project). Evaluation of the practice was completed by methodology MAST - Model for Assessment of Telemedicine.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

The practice is beneficial to patients, the hospital and even the healthcare system. However, its economic viability is still subject of negotiation (status August 2016) with appropriate authorities. The negotiations are on-going on several levels including Ministry of Health of the CR.

Estimated time of impact of the Good Practice

Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.

Impact observed

No knowledge about evidence. No evaluation or documentation of effect has been carried out.

Implementation of telemedicine in care of chronically ill patients has impact in better compliance of patients, lower cost of treatment of patients due to early detection of adverse development of the disease or co morbidity that typically prevent transition of the patient's condition to worsen. We observed also better quality of life and economic aspect - fewer hospital readmissions.

Transferability of the Good Practice

The innovative practice has been transferred within the same region.

The diabetes practice has been transferred to other healthcare provider in the Region. Scaling up to other hospitals can follow, however the team in NTMC concentrates on organisational aspects of such telehealth service, especially economic conditions to ensure sustainability.

Part 5: Your organisation

Name of the organisation	University Hospital Olomouc
Address of the organisation	I.P.Pavlova 185/6, 779 00 Olomouc, Czech Republic
Type of organisation	Hospitals
Name of the contact person	Zdenek Gütter, PhD ; Milos Taborsky, M.D., Ph.D, FESC, MBA (head of I. Internal clinic)
Email address of the contact person	Gutter@ntmc.cz

Norrbottnen, Sweden: My plan

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	No
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Promising practice

Part 2: Description of the Good Practice

Name of the Good Practice	My plan
Short name (Acronym)	TSIP
URL of the Good Practice	Under construction
Geographical scope	Regional level
Country	Sweden
Region(s) involved	Norrbotten
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Specialised physicians • Primary care centres • General practitioners • Regional public authorities • Local public authorities • Nurses • Home care centres • Nursing homes • Informal caregivers • Private companies • Academia • Advocacy organisations of patients / users
Size of population covered	1,000-9,999
Targeted audience	<18, 18-49, 50-64, 65-79, 80+
Summary of the Good Practice <p>The Project covers 5 hospitals, 33 primary Health care centres and the social service at 14 municipalities. It aims to empower the patient in both the discharge planning process and the planning process at home by increasing their influence on the process and enhance their access to their plan. This will be reached through development, test and implementation of new workflows, routines and new supportive technology that support a new upcoming law that regulate the planning process.</p>	
Key words: co-creation, equality, availability, safety	
Good practice being part of the larger programme No.	

Challenges / problems addressed by the good practice <ul style="list-style-type: none"> • Better cooperation between different stakeholders • More person-centred care • Better accessibility to needed information on time for everyone involved in the process including the patient
Importance of the challenges / problems before starting to implement good practice <p>The challenges have been the starting point for the development, tests and implantation of new practices and technology.</p>
Environment before the good practice was implemented <p>Different stakeholders worked in different ways with the planning process and not always following the existing law and regulations with delays and consequences for the patient.</p>
Key innovative elements of the good practice and how the good practice improved situation compared to previous practice <p>We have not reached the evaluation point yet in the project.</p>

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required). <p>Education in new practices for estimated 10 000 employees in healthcare and community care.</p>	
Total budget of the Good Practice	€1M - €5M
Source of funding	European funding
The main actions that have to be done to deploy the Good Practice <p>Not there yet.</p>	

Issues during the implementation of the Good Practice
Not there yet.
Additional resources required to scale up Good Practice
No.
Basis to support sustainability of the Good Practice
Not there yet.
Evidence to observe the Good Practice
A home page is under construction

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice
Between one year and three years.
Investment per citizens / patient / client in terms of financial resources
No available calculation.
Evidence behind the Good Practice
Documented evidence. Evidence is based on systematic qualitative and quantitative studies.
There are external personnel that follow the project and constantly evaluate the project process from the start to the end. There are also senior scientists in the project practicing research within the project.
Maturity of the Good Practice
The idea has been formulated and/or research and experiments are underway to test a 'proof of concept'.
The practice has not been evaluated yet since the project runs until 2018.

Estimated time of impact of the Good Practice
No evidence or no demonstrated impact.
Impact observed
Not available.
Transferability of the Good Practice
Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.

Part 5: Your organisation

Name of the organisation	Norrbottn county council, Hälso- och sjukvårdsavdelningen
Address of the organisation	HSE Norrbottnens läns landsting Robertsviksgatan 97189 Lulea Sweden
Type of organisation	Hospitals; Nurses, General practitioners; Specialised physicians; Primary care centres; Other (County Council)
Name of the contact person	Sofi Nordmark
Email address of the contact person	sofi.nordmark@nll.se

Norrbottn, Sweden: Care process schizophrenia and schizophrenia-like state

Part 1: General Information

Publication on EIP on AHA Portal	Yes
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Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Promising practice

Part 2: Description of the Good Practice

Name of the Good Practice	Care process schizophrenia and schizophrenia-like state
Short name (Acronym)	Care Process Psychosis
URL of the Good Practice	Not available
Geographical scope	Local level
Country	Sweden
Region(s) involved	The County Council of Norrbotten, Gallivare
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Specialised physicians • Primary care centres • General practitioners • Nurses • Home care centres
Size of population covered	100-249
Targeted audience	Irrelevant
Summary of the Good Practice <p>The group of patients with schizophrenia and schizophrenia -like state with varying disabilities with mental and somatic illness. The patient group should be offered early intervention and professional treatment by a health care programs that support. Intervention will be symptoms and function-oriented. Provide medical treatment and psychosocial interventions. A clear and documented care plan must be drawn up jointly and evaluated.</p>	
Key words: participation, cooperation, equal treatment	
Good practice being part of the larger programme <p>Yes.</p>	

Deleted from the National guidelines for schizophrenia and schizophrenia -like state .	
Challenges / problems addressed by the good practice	
Improvement work based on the patient's needs and aims to see the whole person, not just the person's mental illness. It's a big problem with unemployment, inactivity, isolation, poor diet, high use of alcohol and tobacco among people with mental illness. This leads to increased mental and somatic illness.	
Importance of the challenges / problems before starting to implement good practice	
It is difficult for psychosis patients to get the support they need, often they answer not on the phone, do not open mail, etc. and then usually ends caregivers to contact them. They are usually a question of resources, and these patients are at the bottom of the priority although they are a priority group with a poor quality of life and with recurrent relapses of the disease.	
Environment before the good practice was implemented	
Vagueness of patient contributes to poor structure and division of responsibilities between health and medical care providers. The patient was referred to various parties without holistic perspective. Poor collaboration between health care providers.	
Key innovative elements of the good practice and how the good practice improved situation compared to previous practice	
Collaboration with health care "neighbours", inpatient care, local authorities and primary care is getting better and the patient's needs are more in focus.	

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required).	
It requires staff training, to health neighbours such as primary care, community care, with more to gain understanding of these patients and their need for individual action.	

We can do it but need staff who can devote time to training to healthcare neighbours. Joint educational efforts for patients and relatives.	
Total budget of the Good Practice	Not available.
Source of funding	Local funding
The main actions that have to be done to deploy the Good Practice	
<ul style="list-style-type: none"> • Implementation • Training own personnel and healthcare neighbours • Get understanding what the disease does to the individual and how it affects the individual as well as the approach staff should adopt in relation to this group of people with mental illness 	
Issues during the implementation of the Good Practice	
<ul style="list-style-type: none"> • Poor understanding of the patient group's problems (healthcare neighbours). • Lack of follow-up meetings. Recurring relapses of the disease with inpatient hospitalization of medication interruption caused by medication interruption • Lack of social action in terms of housing, employment. • Lack of social action in terms of housing, employment. 	
Additional resources required to scale up Good Practice	
Yes.	
Several health care providers with adequate training and/or experience.	
Basis to support sustainability of the Good Practice	
Consensus of all concerned health care providers.	
Evidence to observe the Good Practice	
A home page is under construction.	

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice
Between one year and three years.

Meetings with health canterers and municipalities are in progress in our catchment area, four meetings are planned with the municipalities aiming to start up a collaboration and enter it into the on going process.
Investment per citizens / patient / client in terms of financial resources No available calculation.
Evidence behind the Good Practice Apparent evidence. Evidence is based on qualitative success stories. The method is based in the Swedish national guidelines.
Maturity of the Good Practice The idea has been formulated and/or research and experiments are underway to test a 'proof of concept'. Continuation is planned with primary care and municipalities and we have agreed with health care neighbours that integrated care gives better results for the patient .We must conduct common procedures and checklists to support patients with mental illness. An important group is young patients and how we identify those in the early stages where psychosis is present and quickly offer these persons interventions/treatments to prevent chronic conditions.
Estimated time of impact of the Good Practice Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.
Impact observed Better quality of life (societal). Other alternatives imply: Better health (societal) Better quality of life (societal) Less isolated people (societal) Increased sense of security (societal) Better care integration (economic and societal) Less hospital re-admission (economic) Shorter stay in hospital (economic) Better health (societal) Better quality of life (societal) Less isolated people (societal) Increased sense of security (societal) Better care integration (economic and societal) Less hospital re-admission (economic) Shorter stay in hospital (economic) creation of jobs or SMES, or growth of local companies.

Transferability of the Good Practice

Ready for transfer, but the innovative practice has not been transferred yet. The innovative practice has been developed on local/regional/national level and transferability has been considered and structural, political and systematic recommendations have been presented. However, the innovative practice has not been transferred yet.

Part 5: Your organisation

Name of the organisation	The County Council of Norrbotten, Gällivare
Address of the organisation	Psykiatri Källgatan 14 982 34 Gällivare
Type of organisation	Hospitals
Name of the contact person	Rose-Marie Larsson, Bertil Karlsson
Email address of the contact person	Rose-marie.a.larsson@nll.se and/or Bertil.karlsson@nll.se

Norrbotten, Sweden: Distance spanning healthcare

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes
Type of the Good Practice	Notable practice

Part 2: Description of the Good Practice

Name of the Good Practice	Distance spanning healthcare
Short name (Acronym)	Not available
URL of the Good Practice	https://www.nll.se/publika/lg/verk/Kansli/Lst/2014/Bilagor/140527/L%C3%A4nsstrategi%20distansv%C3%A5rd.pdf
Geographical scope	Regional level
Country	Sweden

Region(s) involved	Norrbotten
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Specialised physicians • Primary care centres
Size of population covered	1,000-9,999
Targeted audience	Irrelevant
Summary of the Good Practice <p>Distance spanning healthcare is a practice stemming from the strategy for distance spanning healthcare where three prioritized areas for carrying out healthcare at distance are pointed out:</p> <ol style="list-style-type: none"> 1. Acute assessment between rural healthcare centres and hospitals as well as between hospitals 2. Planned and routine visits/assessments between rural healthcare centres and hospitals as well as between hospitals 3. Planned and routine visits/assessments between rural healthcare centres and healthcare centres along the coast (larger towns) <p>For area 1 and 2 pilot projects have been carried out and routines have been established and implementation is on- going. Not however for number 3.</p> <p>For the work there has been an assigned project manager, project group and steering group. Work has been focused and carried out in areas in most need of the solutions but also with a readiness/maturity to do the piloting. The specific objectives have been to create:</p> <ol style="list-style-type: none"> 1. New ways of working and new opportunities 2. Method for continued development and implementation 3. User and patient-participation 4. Technical solutions and services 5. Organisation and regulations <p>The key aspects which can be transferred to the rest of the county and also to a national level and beyond would be the knowledge of infrastructure needed in place, which competences need to be present, the maturity and readiness to adopt technical solutions, digital literacy in both personnel and patient.</p>	

Key words: eHealth, integrated care, primary care, rural medicine
Good practice being part of the larger programme Yes. The practice is the embodiment of the regional strategy called “strategy for distance spanning healthcare”.
Challenges / problems addressed by the good practice <ul style="list-style-type: none"> • Long travel time and distance for patients - Health inequalities • Cost • Patient and staff safety in rural areas • Lack of access to specialist care
Importance of the challenges / problems before starting to implement good practice They are very big in a county like Norrbotten with a small and increasingly ageing population on a largely spread out geographical area. We have evidence that both staff and patient safety is compromised when frequent travel is required, and we need to reduce this as well as the cost for travel which, in a county like ours, can skyrocket. The access to equal healthcare is also an issue and we need to make sure that each person is close to the care needed on a more regular basis. For the area where one pilot was carried out this became quite evident when the nearest on call physician is in a hospital 70 km away.
Environment before the good practice was implemented Before distance spanning healthcare personnel was required to travel to patients in homes or from hospitals to healthcare centres for routine visits or on-call visits or vice versa - the patient had to travel for quite simple diagnostics and assessment. Travel would be done either by ambulance or if not life-threatening by bus or taxi. All appointments with specialist care had to be made via hospital.
Key innovative elements of the good practice and how the good practice improved situation compared to previous practice New ways of working and routines have been established for both planned visits and acute assessments. Patients do not have to travel long distances for planned visits and an on-call doctor can easily be reached for acute assessments (when not directly life threatening). The technology is stable and reliable and everything is conducted through

the county council's internal video solution ensuring all patient data kept confidential. The solution makes it possible for doctors and patients to meet via video (assisted by nurse) and this offers much better assessments than solely by phone.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required). <ul style="list-style-type: none"> • Education - medical and technical. • Technical equipment in particular video equipment, a functional and customized space, information and marketing (internal and external). 	
Total budget of the Good Practice	€1M - €5M
Source of funding	Regional funding
The main actions that have to be done to deploy the Good Practice <p>Make sure all equipment is in place and that suitable environments, in both hospital and health care centre, are in place for the practice. Time and funding for education and information campaigns. For increased use amore long-term education plan needs to be in place and development resources are needed (personnel).</p>	
Issues during the implementation of the Good Practice <p>Motivating staff to use the equipment, convince all units to collaborate (arouse interest). Not all saw immediately the patients' benefits with the practice.</p>	
Additional resources required to scale up Good Practice <p>Yes.</p> <p>Long-term training and education is needed. In order to have distance spanning healthcare at scale an organisation is needed which can manage, administer and provide support on a daily basis to hospitals and healthcare centres.</p>	

Basis to support sustainability of the Good Practice

The organisation is working on a plan for full deployment and implementation of distance spanning healthcare. The plan is to be further developed and set into action during the fall of 2016. On a local level the basis is patient benefits. This is a way to offer an equal and accessible health care in rural areas.

Evidence to observe the Good Practice
Reports

Statistics available on a local level

Visit to an implementation site

Videos

https://www.youtube.com/watch?v=C37_-pkYy14&list=PLtyEoZJon32cTGcmgY1qlmDU-38ARLEBZ&index=3

Part 4: Viability assessment of the Good Practice
Time needed to deploy the Good Practice

Between one year and three years.

There is a plan on management level for the county council of Norrbotten to deploy the practice in all of the regions. Work is undergoing to form the project organisation for this.

Investment per citizens / patient / client in terms of financial resources

No available calculation.

Evidence behind the Good Practice

Apparent evidence. Evidence is based on qualitative success stories.

Maturity of the Good Practice

There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.

On a local level we can see decreased costs for staff and transportation.

Estimated time of impact of the Good Practice
Medium impact - e.g. shortly beyond the pilot project period.
Impact observed
Better health (societal). Also less hospital re-admissions as well as better quality of life.
Transferability of the Good Practice
The innovative practice has been transferred within the same region.

Part 5: Your organisation

Name of the organisation	The County Council of Norrbotten
Address of the organisation	Norrbotten County Council Administrative service Box 511 961 28 Boden
Type of organisation	Hospitals; Primary care centres; Specialised physicians; General practitioners; Nurses; Regional authorities
Name of the contact person	Mari Huhtanen or Lisa Lundgren
Email address of the contact person	mari.huhtanen@nll.se , lisa.lundgren@nll.se

Norrbotten, Sweden: The patient journey through emergency medical care

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Promising practice

Part 2: Description of the Good Practice

Name of the Good Practice	The patient journey through emergency medical care
Short name (Acronym)	IVAK
URL of the Good Practice	www.nll.se
Geographical scope	Local level
Country	Sweden
Region(s) involved	Norrbottn
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Primary care centres • Home care centres • Nursing
Size of population covered	1,000-9,999
Targeted audience	65-79; 80+
Summary of the Good Practice <p>Our goal has been to reduce the transportations and provide better accessibility for patients to local hospitals. Everyone who seeks the hospital gets a call and a prioritizing where we determine the level of care according to an interview guide. Then, we take care of the sick patients directly, while others who are not acutely ill refer to other instances. This saves energy and time for the elderly. They may also meet familiar health professionals, without long waiting times. The references are made both at the hospital and from the ambulances in Piteå. Many times, the paramedics to meet the person's needs are done already in their homes by treating and safeguarding patients directly, without bringing them to the hospital. We work together with the patient through the use of person-centred care. We listen to the patient's story, forming a partnership with the elderly and documenting what we come up with together. Person-centred care means to respect and acknowledge the person's experiences and interpretation of health and illness and to promote health for this particular individual. We often interact with the elderly, health centres, home care, district nurses and with the patient in order to find the most convenient solution. The patient receives a folder where we write down what we agreed on and how all the vital parameters. Here, the elderly get information about where to call. The patient also receives the name of the health care professionals as they talked to. We see the patient as a capable person with resources and abilities. Introducing this method had reduced the need for emergency and intensive care and increased the patient safety.</p>	

Key words: Process working, collaboration
Good practice being part of the larger programme
No.
Challenges / problems addressed by the good practice
Our goal has been to reduce the transportations and provide better accessibility for patients to local hospitals
Importance of the challenges / problems before starting to implement good practice
To improve the care and continuum of care for the elderly people, it is important to short down the time for waiting and reduce the number of unnecessary care contacts. Also patients, who already are, at the hospital must be followed up and if worsening occurs in the vital parameters, monitoring must be conducted, as soon as possible.
Environment before the good practice was implemented
Before the development work began, the emergency care in Pitea worked by conventional methods with little interaction between internal and external stakeholders.
Key innovative elements of the good practice and how the good practice improved situation compared to previous practice
We work for right care to right patient at the right time, provided by right professional. In order to meet future needs, we have adapted to the urgent care for today's conditions. Our aim is that the patients are provided a well- coordinated care chain where the transitions between the different institutions are covered. Keywords are process thinking and collaboration. Our improvement efforts have improved and make it easier for patients to get a well- coordinated way in the care chain. Today, many patients who call the ambulance are secured already in the home and get an assessment according to a standardized approach. Then they can be cared for directly, be referred another health-care provider, get support for self-care or brought to the Emergency Department, depending on the results from the assessment. Previous, the ambulance brings all the patients to the hospital, when they had been alerted to it. This led to long waiting lists and unnecessary journeys back and forth home and hospital. In Piteå, priorities have led to an improved flow for the patients. The sickest is quickly disposed of while non-acutely ill patients are referred to other health care providers or self-care, depending on the situation. Non-value adding time for our patients is decreasing and those who are acutely ill receive emergency medical care right away. From the intensive care, we can support

the hospital's other divisions; since we have introduced a standardized evaluation method. All estimates according to an assessment and we know exactly when to alert on. It doesn't matter who conducted the assessment. The titles they find patients who are deteriorating and they get emergency care faster than before. In the past it sometimes took a long time to find these patients and handling was different depending on experience, time of day, and profession. In every stage of this improvement, we have used person-centred care. We listen to the patient's story, forming a partnership and documenting what we come up with together. To work based on person-centred care gives patients more satisfaction and everyone gets a larger picture of the patients' whole situation. In addition patients who are involved in decisions concerning their health care can "speed up" the rehabilitation process and professionals and patient can work towards common goals.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Lower costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required). To deploy the example is (only) education of health care providers required, concerning the changing approach.	
Total budget of the Good Practice	Not available
Source of funding	Local funding
The main actions that have to be done to deploy the Good Practice The above described improvement work does not require resources in terms of equipment or personnel. What is needed is preparatory meetings where managers and health care providers from relevant organisations collaborate and take decisions on how to act and how to work. All staff has received training and introduction in the new way of working, so that they can feel secure with the new way of working.	
Issues during the implementation of the Good Practice Improvement works take time and it is important to include all staff professionals at the same. In all our improvements, we have been working with interdisciplinary groups so	

that all personnel come to speak. In today's health care is in short supply. We want to do a lot, but we have to prioritize the time so that it is enough for a lot. Emergency medical care is difficult to plan because we rarely have a steady business without “peaks and dales”. Sometimes it is hard to get the managers with you, since they may not be familiar with the topic/activity. They may not see the long-term achievements by working with improvement work. Our ambition has been to influence the whole patient journey through the health care, this requires the involvement of many actors. The difficulty can be to get everyone to make quick profits. Often leads one to the other and the achievements gains first in the long run.

Additional resources required to scale up Good Practice

No.

Basis to support sustainability of the Good Practice

We have included the County Council plan and the plan of the Division in the improvement process. In the work we see all as the winner. All working towards the same goal and everyone sees the benefits of change. Today, no one wants to change it back to the previous way of working. We have especially gained time by creating a unified vision and common documents that will guide us in our daily work. The improvement work has made that everyone feels like there are important persons in the process. Our range is unique and it will lead to many improvements for patients, staff and the economy. On all our meetings, we go through what achievements we make by highlighting statistics, benefits, hours and follow-ups. We also try to disseminate good examples to others by presenting our improvement work.

Evidence to observe the Good Practice

A practice report.

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

Less than a year.

Right now, we continue our improvement by interacting with other actors such as: other clinics at the hospital, primary care, and management. It is important to have meetings and partnership meetings to inform and involve everyone in the way of working in the future health care. Together, we can continue to improve the patient journey through the healthcare system so that it is efficient and effective. Process leader convenes and chairs

the meetings. First on the agenda is our monitoring locations which we want to observe, care for, monitor and treat our patients. Many times, patients can stay for observation, while waiting for a non-emergency transport or while waiting for test results or given treatment and then go home without having to be admitted to a ward. We see this as a new part of our improvement, team work similarly.
Investment per citizens / patient / client in terms of financial resources No available calculation.
Evidence behind the Good Practice Apparent evidence. Evidence is based on qualitative success stories. By continuing to follow up the statistics both from the ambulance transportations' and the work inside the ambulance and the statistics from the acute health care in our patient documentation system (VAS), the benefits can be shown continuously.
Maturity of the Good Practice Proof of concept is available: it works in a test setting and the potential end-users are positive about the concept. We have implemented the improvement work in ordinary work tasks and, also, have plans to continue to work with other challengers.
Estimated time of impact of the Good Practice Low impact - e.g. impact has been seen only while a pilot project was running
Impact observed Shorter stay in hospital (economic). Emergency medical care resources are now used more efficiently. The ambulances are tangible for the new missions with higher priority. The ambulances remain on each city to a greater extent. The Emergency Department at Piteå hospital are getting into fewer people, this leads to more time to the people who need emergency care. The patients avoid unnecessary transports. Better accessibility for patients to local hospitals. Increased patient safety by getting all staff to do the same in a standardized way of working. Better patient security through assessment and follow-up meetings. Fewer hospital visits. Fewer care contacts. Economic savings to find the patients deteriorates rapidly leads to economic gains, decreased cardiac arrest and shortened treatment times. Similarly, we

see a win for patients where the paramedics can facilitate/support staff at homes for the elderly. Patients can remain in their normal environment. Person-centred care, this means that the person will be seen as a resource and as an expert himself.

Transferability of the Good Practice

Transferability has not been considered. The innovative practice has been developed on local/regional/national level and transferability has not been considered in a systematic way.

Part 5: Your organisation

Name of the organisation	The County Council of Norrbotten, IVAK Pitea hospital
Address of the organisation	Norrbottens läns landsting Piteå sjukhus, Akutsjukvården Lasarettsvägen 94150 Piteå
Type of organisation	Hospitals
Name of the contact person	Anna Åström (clinical nurse)
Email address of the contact person	Anna.c.astrom@nll.se

Norrbotten, Sweden: An effective palliative care process

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	Yes
Evaluation of the Good Practice	No
Type of the Good Practice	Promising practice

Part 2: Description of the Good Practice

Name of the Good Practice	An effective palliative care process
Short name (Acronym)	Palliative care
URL of the Good Practice	www.nll.se

Geographical scope	Local level
Country	Sweden
Region(s) involved	Norrbottnen / Gällivare
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> • Hospitals • Primary care centres • Home care centres • Nursing
Size of population covered	Not available
Targeted audience	<18; 18-49; ;50-64; 65-79; 80+
Summary of the Good Practice <p>We tried to get an overview of how the palliative patient's way through the health and social care works. We did a review of the medical- and care journals of patients connected to our palliative team, to see what kind of problems the patient/relatives contacted health- or social care for and who they contacted in case of help needed. We recognised that it seems unclear for the patient and their relatives who they should contact in different kind of problems. There were many caregivers involved in various kind of care forms. They seemed not to have a primary health care contact. We had meetings with representatives of care units involved and tried to find ways to improve the contacts for the patients, to sort out who is primary health care contact for the patient. Some new routines for primary care centres and hospital have to be made to get this work done.</p>	
Key words: palliative care; health and social care	
Good practice being part of the larger programme <p>No.</p>	
Challenges / problems addressed by the good practice <p>We wanted to improve the palliative care in the primary care area. We have seen difficulties with getting good palliative health care at home, according to the patients' desires. Also, we have noticed knowledge gaps according to the base staff work and also unclear physician involvement which could contribute to difficulties with providing good quality health care to patients in need of support from health care providers in Gällivare.</p>	
Importance of the challenges / problems before starting to implement good practice	

We did not have knowledge of this problem before we started the project. We wanted to see how the patient's way in the palliative care could be.

Environment before the good practice was implemented

Ordinary provided in hospital interventions for patients in need of palliative health care.

Key innovative elements of the good practice and how the good practice improved situation compared to previous practice

There has not been an improvement yet because new routines has not been fully constructed or implemented

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required). No changes have been made so far. Routines need to be updated/are established for primary health care, community and hospital care. These must then be implemented and staff need to receive information about the new routines. No especial equipment is needed. Educational efforts need to be done regarding to base personnel, particularly for home care groups have been proposed. The municipality has the responsible to arrange educations but and the division offers the practical education concerning palliative care both for co-workers in the municipalities and for those working in the County Councils.	
Total budget of the Good Practice	Not available
Source of funding	Local funding
The main actions that have to be done to deploy the Good Practice The most important activity was that the municipal home care, primary care and inpatient, strived to solve problems in collaboration. The interventions decided in agreement was thereafter assembled and presented to the primary care management team. The management team has then given the clinic the mission to map the palliative care in the area. We have made proposals on procedures for inpatient care, based on	

these recommendations, but they have not yet been accepted by the highest leaders of the County Council of Norrbotten. None of the suggested improvement actions have yet been executed and we can therefore not yet see if the interventions' can change or improve the palliative care.

Issues during the implementation of the Good Practice

The difficulty is to get actions in the work. The project is, so far, only a "paper product" which not yet has been implemented.

Additional resources required to scale up Good Practice

No.

Basis to support sustainability of the Good Practice

Easy-to-implement provides value to both patients and business without huge charges.

Evidence to observe the Good Practice

The suggested work has been presented at local management meetings and on the "Utvecklingskraft" (The power of development) in a day in April this year. Otherwise, the work has not been presented anywhere.

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice

No evidence or no record kept of prior preparation.

Investment per citizens / patient / client in terms of financial resources

No available calculation.

Evidence behind the Good Practice

Apparent evidence. Evidence is based on qualitative success stories.

Maturity of the Good Practice

The idea has been formulated and/or research and experiments are underway to test a 'proof of concept'.

Estimated time of impact of the Good Practice
Low impact - e.g. impact has been seen only while a pilot project was running
Impact observed
Not available. We have not yet seen any effects, as described above, but we expect to see an improved interaction from hospital care to home care, particularly regarding physician participation in home health care. We hope that this will lead to that those patients, who desire to be cared for at home, to a greater extent than today can stay at home for the rest of their lives.
Transferability of the Good Practice
Transferability has not been considered. The innovative practice has been developed on local/regional/national level and transferability has not been considered in a systematic way.

Part 5: Your organisation

Name of the organisation	Palliativa rådgivningsteamet Gällivare sjukhus
Address of the organisation	Källgatan 14 982 82 Gällivare
Type of organisation	Hospitals; Nurses
Name of the contact person	Susanne Espling
Email address of the contact person	susanne.espling@nll.se

Norrbotten, Sweden: Shoulder rehabilitation via distance technology

Part 1: General Information

Publication on EIP on AHA Portal	Yes
Copyright	Yes
Verification of the Good Practice	No
Evaluation of the Good Practice	Yes

Type of the Good Practice	Good practice
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Part 2: Description of the Good Practice

Name of the Good Practice	Shoulder rehabilitation via distance technology
Short name (Acronym)	SRD
URL of the Good Practice	www.nll.se
Geographical scope	Regional level
Country	Sweden
Region(s) involved	Norrbottnen
Status of the Good Practice	On-going
Stakeholders involved	<ul style="list-style-type: none"> Hospitals Primary care centres Specialised physicians Other (Patients at home)
Size of population covered	100-249
Targeted audience	Irrelevant
Summary of the Good Practice <p>In our part of the country some people live far away from a physiotherapist, and may not have the ability to travel far. In those cases we use distance technique, after for example shoulder surgery, in order to give equal rehabilitation to every patient. We have used this method for some years.</p> <p>The patient is at home with a computer or an iPad and meet the PT at the hospital via distance technique. The PT and patient can see and talk to each other while exercising.</p> <p>The communication programme is safe and the secrecy is maintained.</p>	
Key words: shoulder , rehabilitation , distance	
Good practice being part of the larger programme <p>No.</p>	
Challenges / problems addressed by the good practice <p>Long distance between patient and physiotherapist, or disability for the patient to leave home (caused by other diseases).</p>	

Importance of the challenges / problems before starting to implement good practice The technology does not always work as desired but problems related to the interaction between the patient and physiotherapist in hospital can often be solved by IT-professionals.
Environment before the good practice was implemented The patient previously had to visit his/her primary care centre. They often had a long journey to visit the primary care centre, sometimes up to 10 Swedish miles, one way.
Key innovative elements of the good practice and how the good practice improved situation compared to previous practice An improvement for the patient due to journey, and postoperative problems come to light in and can fast be treated after feedback to the operator. The first passage of the rehabilitation is conducted with the orthopaedic clinic's physiotherapist.

Part 3: Transferability of the Good Practice

Cost-effectiveness of the good practice (including all kind of costs and outcomes such as better health, quality of life or other resources)	Equal costs, improved outcomes
Resources required for the deployment of the good practice (personnel, equipment, facilities, ICT and other resources required). Ordinary personnel, internet connection, motivated patient, distance technique equipment.	
Total budget of the Good Practice	Not available
Source of funding	Other (Ordinary budget for the clinic)
The main actions that have to be done to deploy the Good Practice Often other planning is required, the selection of patients is started in connection with pre-operative visit to the health care. Contact with IT is taken in connection with the surgery, so that the IT- professionals can make their technical preparation.	
Issues during the implementation of the Good Practice	

Finding right patient, planning and collaboration with IT-personnel, just right in time.
Additional resources required to scale up Good Practice
No.
Basis to support sustainability of the Good Practice
The method is grounded at the work place, following a research project: "Effects and patients' experiences of interactive video-based physiotherapy at home after shoulder joint replacement", by Lisbeth Eriksson. Support from the management.
Evidence to observe the Good Practice
Visit to an implementation site. Several articles about the improvement work with use of distance technology to support shoulder rehabilitation at home, following surgery.

Part 4: Viability assessment of the Good Practice

Time needed to deploy the Good Practice
Less than a year. The method is used as a complement to conventional interventions, when the patients need follow-up interventions and when it's technically possible to conduct the distance training at home.
Investment per citizens / patient / client in terms of financial resources
No available calculation.
Evidence behind the Good Practice
Documented evidence. Evidence is based on systematic qualitative and quantitative studies. The thesis: "Effects and patients' experiences of interactive video based physiotherapy at home after shoulder joint replacement", by Lisbeth Eriksson.
Maturity of the Good Practice
The practice is "on the market" and integrated in routine use. There is proven market

impact, in terms of job creation, spin-off creation or other company growth.
Estimated time of impact of the Good Practice Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began.
Impact observed Increased sense of security (societal). Better health and quality of life, increased sense of security with training with distance technology at home and better care integration.
Transferability of the Good Practice Transferability has not been considered. The innovative practice has been developed on local/regional/national level and transferability has not been considered in a systematic way.

Part 5: Your organisation

Name of the organisation	Orthopaedic clinic, Sunderby Hospital, Norrbottens Läns
Address of the organisation	NLL Ortopedkliniken Sunderby Sjukhus 971 80 Luleå
Type of organisation	Hospitals
Name of the contact person	Ulla Klippmark, Christina Jakobsson
Email address of the contact person	ulla.klippmark@nll.se ; christina.m.jakobsson@nll.se

APPENDIX V: Viability assessment of Good Practices

Scotland, UK

1. Building Healthier and Happier Communities		
Criteria	Answer	Score
1	Less than a year	4
2	No available calculation	1
3	Documented evidence. Evidence is based on systematic	3

	qualitative and quantitative studies	
4	The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth	4
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score		18
2. Home & Mobile Health Monitoring		
Criteria	Answer	Score
1	Less than a year	4
2	No available calculation	1
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	The idea has been formulated and/or research and experiments are underway to test a ‘proof of concept’	1
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score		15
3. Collaborative Commissioning of Care at Home Services		
Criteria	Answer	Score
1	Between one year and three years	3
2	No available calculation	1
3	Apparent evidence. Evidence is based on qualitative success stories	2
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Medium impact - e.g. shortly beyond the pilot project period	3
6	The innovative practice has been transferred within the same region	3
Total score		15
4. Technology Enabled Care Programme		
Criteria	Answer	Score
1	Between one year and three years	3
2	No available calculation	1
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and	3

	development is needed in order to achieve market impact and for the practice to become routine use	
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	The innovative practice has been transferred in other locations or regions or national scale in the same country	4
Total score		18
5. Reshaping Care for Older People		
Criteria	Answer	Score
1	Between one year and three years	3
2	Between 1.000 - 5.000 EUR per targeted citizen / patient	3
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Medium impact - e.g. shortly beyond the pilot project period	3
6	The innovative practice has been transferred within the same region	3
Total score		18
6. cCBT in Scotland		
Criteria	Answer	Score
1	Between one year and three years	3
2	Between 100 - 1.000 EUR per targeted citizen / patient	4
3	Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the Good Practice	4
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	The innovative practice has been transferred in other locations or regions or national scale in the same country	4
Total score		22
7. Living it Up		
Criteria	Answer	Score
1	More than three years	2
2	Between €100 - €1.000 per targeted citizen / patient	4
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	There is evidence that the practice is economically viable and	3

	brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use.	
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Ready for transfer, but the innovative practice has not been transferred yet.	2
Total score		18

Basque Country, Spain

8. Integrated approach in pain management		
Criteria	Answer	Score
1	Less than a year	4
2	Between 100 - 1.000 EUR per targeted citizen / patient	4
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth	4
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	The innovative practice has been transferred within the same region	3
Total score		22
9. Malnutrition in the elderly and hospital stay		
Criteria	Answer	Score
1	Less than a year	4
2	Between 1.000 - 5.000 EUR per targeted citizen / patient	3
3	Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the Good Practice	4
4	The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth	4
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score		21
10. Advance Care Planning in an Integrated Care Organisation		
Criteria	Answer	Score
1	Between one year and three years	3
2	Between 100 - 1.000 EUR per targeted citizen / patient	4

3	Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the Good Practice	4
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score		20
11. Telemonitoring COPD patients with frequent admissions		
Criteria	Answer	Score
1	Less than a year	4
2	No available calculation	1
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth	4
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	The innovative practice has been transferred in other locations or regions or national scale in the same country	4
Total score		20
12. Design and implementation of interventions aimed at improving the safety of prescription		
Criteria	Answer	Score
1	Between one year and three years	3
2	Between 100 - 1.000 EUR per targeted citizen / patient	4
3	Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the Good Practice	3
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Medium impact - e.g. shortly beyond the pilot project period	3
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score		18
13. Care plan for the elderly		
Criteria	Answer	Score

1	Between one year and three years	3
2	No available calculation	1
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score		16
14. Integrated care process for children with special needs		
Criteria	Answer	Score
1	Between one year and three years	3
2	No available calculation	1
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score		16

Puglia, Italy

15. MARIO: Managing active and healthy aging with use of caring service robots		
Criteria	Answer	Score
1	Less than a year	4
2	More than 5.000 EUR per targeted citizen / patient	2
3	No knowledge about evidence. No evaluation or documentation of effect has been carried out	1
4	Proof of concept is available: it works in a test setting and the potential end-users are positive about the concept	2
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Transferability has not been considered	1

Total score	14	
16. DIAMONDS (Digital Assisted MONitoring for Diabetes)		
Criteria	Answer	Score
1	Less than a year	4
2	Between 100 - 1.000 EUR per targeted citizen / patient	4
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Medium impact - e.g. shortly beyond the pilot project period	3
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score	19	
17. Smartaging mindbrain		
Criteria	Answer	Score
1	Between one year and three years	3
2	No available calculation	1
3	Agreed evidence. Evidence is based on an agreed established monitoring system/process before and after implementation of the Good Practice	4
4	Proof of concept is available: it works in a test setting and the potential end-users are positive about the concept	2
5	Medium impact - e.g. shortly beyond the pilot project period	3
6	Transferability has not been considered	1
Total score	14	
18. "RMHF". Remote monitoring in heart failure outpatient		
Criteria	Answer	Score
1	Between one year and three years	3
2	Between 100 - 1.000 EUR per targeted citizen / patient	4
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score	19	
19. RITA: Radiofrequency-induced thermal ablation of liver tumours		
Criteria	Answer	Score

1	Less than a year	4
2	Between 1.000 - 5.000 EUR per targeted citizen / patient	3
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth	4
5	Medium impact - e.g. shortly beyond the pilot project period	3
6	Transferability has not been considered	1
Total score		18
20. Telemonitoring, Teleassistance and Teleconsultation Project for patients with Heart Failure and Chronic Pulmonary disease		
Criteria	Answer	Score
1	Less than a year	4
2	No available calculation	1
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Medium impact - e.g. shortly beyond the pilot project period	3
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score		16
21. “Telehomecare”. Telemonitoring, teleconsultation and telecare project aimed to patients with Heart Failure, Chronic obstructive pulmonary disease and diabetes		
Criteria	Answer	Score
1	Between one year and three years	3
2	Between 100 - 1.000 EUR per targeted citizen / patient	4
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth	4
5	Medium impact - e.g. shortly beyond the pilot project period	3
6	The innovative practice has been transferred in other locations or regions or national scale in the same country	4
Total score		21
22. CKD integrated-care		
Criteria	Answer	Score
1	Between one year and three years	3
2	Between 100 - 1.000 EUR per targeted citizen / patient	4
3	Documented evidence. Evidence is based on systematic	3

	qualitative and quantitative studies	
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score		19

Olomouc region, Czech Republic

23. Integrated health and social care/services in the Pardubice region		
Criteria	Answer	Score
1	More than three years	2
2	No available calculation	1
3	Apparent evidence. Evidence is based on qualitative success stories	2
4	The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth	4
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	The innovative practice has been transferred in other locations or regions or national scale in the same country	1
Total score		14
24. Improved management of visits in Home Care		
Criteria	Answer	Score
1	Less than a year	4
2	Between 100 - 1.000 EUR per targeted citizen / patient	4
3	No knowledge about evidence. No evaluation or documentation of effect has been carried out	1
4	The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth	4
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Transferability has not been considered	1
Total score		18
25. Telehealth service for patients with advanced heart failure		
Criteria	Answer	Score
1	Less than a year	4
2	Between 1.000 - 5.000 EUR per targeted citizen / patient	3

3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	The innovative practice has been transferred within the same region	3
Total score		20
26. Tele-monitoring of patients with AML and in anticoagulation regime		
Criteria	Answer	Score
1	Less than a year	4
2	Between 1.000 - 5.000 EUR per targeted citizen / patient	3
3	No knowledge about evidence. No evaluation or documentation of effect has been carried out	1
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	The innovative practice has been transferred within the same region	3
Total score		18

Norrbotten, Sweden

27. My plan		
Criteria	Answer	Score
1	Between one year and three years	3
2	No available calculation	1
3	No knowledge about evidence. No evaluation or documentation of effect has been carried out	3
4	The idea has been formulated and/or research and experiments are underway to test a ‘proof of concept’	1
5	No evidence or no demonstrated impact	1
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score	11	
28. Care Process schizophrenia and schizophrenia-like state		
Criteria	Answer	Score

1	Between one year and three years	3
2	No available calculation	1
3	Apparent evidence. Evidence is based on qualitative success stories	2
4	The idea has been formulated and/or research and experiments are underway to test a 'proof of concept'	1
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Ready for transfer, but the innovative practice has not been transferred yet	2
Total score	13	
29. Distance spanning healthcare		
Criteria	Answer	Score
1	Between one year and three years	3
2	No available calculation	1
3	Apparent evidence. Evidence is based on qualitative success stories	2
4	There is evidence that the practice is economically viable and brings benefits to the target group. Further research and development is needed in order to achieve market impact and for the practice to become routine use	3
5	Medium impact - e.g. shortly beyond the pilot project period	3
6	The innovative practice has been transferred within the same region	3
Total score	15	
30. The patient journey through emergency medical care		
Criteria	Answer	Score
1	Less than a year	4
2	No available calculation	1
3	Apparent evidence. Evidence is based on qualitative success stories	2
4	Proof of concept is available: it works in a test setting and the potential end-users are positive about the concept	2
5	Low impact - e.g. impact has been seen only while a pilot project was running	2
6	Transferability has not been considered	1
Total score	12	
31. An effective palliative care process		
Criteria	Answer	Score
1	No evidence or no record kept of prior preparation	1
2	No available calculation	1
3	Apparent evidence. Evidence is based on qualitative success stories	2
4	The idea has been formulated and/or research and experiments are underway to test a 'proof of concept'	1
5	Low impact - e.g. impact has been seen only while a pilot project was	2

	running	
6	Transferability has not been considered	1
Total score		8
32. Shoulder rehabilitation via distance technology		
Criteria	Answer	Score
1	Less than a year	4
2	No available calculation	1
3	Documented evidence. Evidence is based on systematic qualitative and quantitative studies	3
4	The practice is “on the market” and integrated in routine use. There is proven market impact, in terms of job creation, spin-off creation or other company growth	4
5	Long term and sustainable impact - e.g. a long time after the pilot project ended and routine day-to-day operation began	4
6	Transferability has not been considered	1
Total score		17