eHealth

A SHOWCASE OF BEST PRACTICES FROM EUREGHA'S MEMBERS

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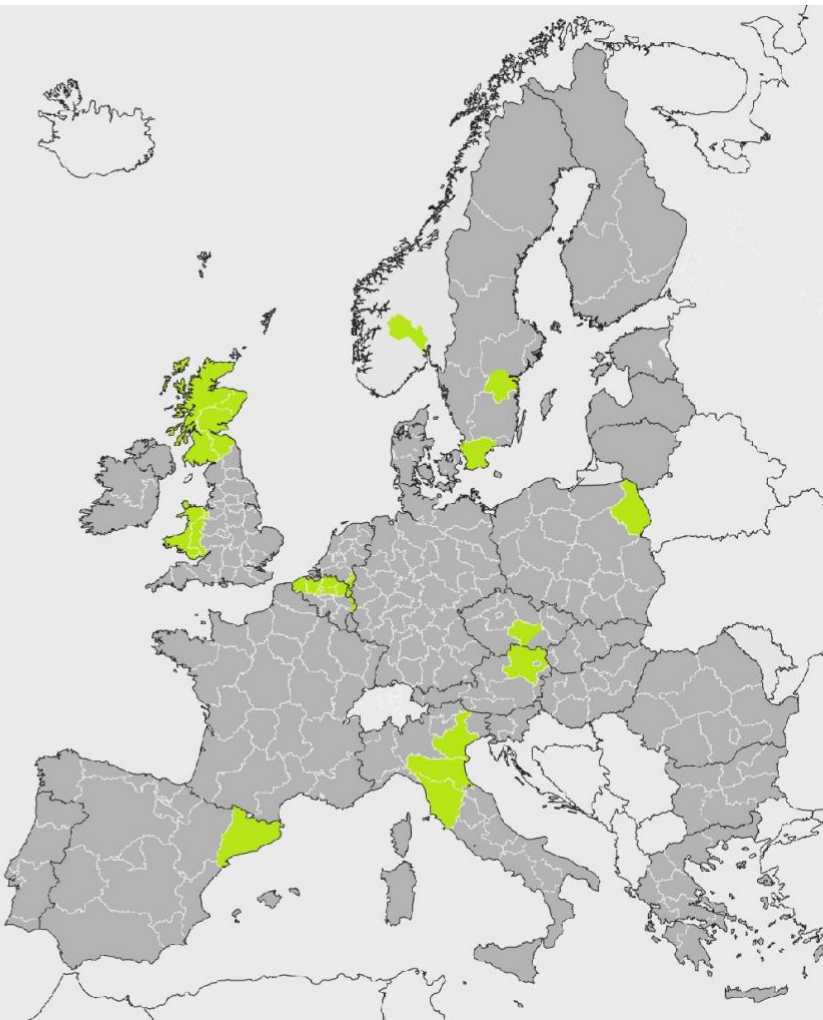

European Regional and Local Health Authorities

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BEST PRACTICES

Catalonia (ES)

Agència de Qualitat i Avaluació Sanitàries de Catalunya

Organisation name: CatSalut/ Health Department. Government of Catalonia

Region: Catalonia

Country: Spain

Total Region Population: 7.570.000

Cooperation partners: Providers of the Comprehensive Health System of Catalonia

MAIN CHARACTERISTICS OF THE GOOD PRACTICE

My region has **fully implemented** strategy/programme for eHealth

SUMMARY

La Meva Salut (LMS) (My Health) is a digital, personal and non-transferable query space which allows access to the healthcare information, make enquiries and carry out electronic procedures in a secure and confidential manner. LMS includes the information produced in any public healthcare centre: primary care centres (CAP), hospitals, laboratories, diagnostic imaging centres. For instance, one can find information about personal data, clinical information (diagnostic reports, visits to the emergency department, vaccines administered and test results among others), medication plan, living will and donations, e-consultation (virtual space through which one can talk to healthcare professionals. It also allows for carrying out procedures and procedures in a safe environment. This information is available if the healthcare centre has published it in the shared clinical history of Catalonia.

In order to guarantee security and confidentiality in the accessibility of the data, only persons of 16 years old or older who have an Individual Health Card (TSI), have a digital certificate can apply, in person, for a password at the appointed CAP. From 15 October 2018, parents and legal guardians are allowed to access the health data of children under 16 years of age.

DESCRIPTION

My Health puts at the disposal of the citizens the information of their clinical history. This information is owned by the citizen and is easily and readily accessible.

Its purpose is to promote participation and co-responsibility in health care, together with the healthcare teams that take care of citizens daily. It also becomes a tool for improving the quality of care and promoting the rational use of healthcare resources.

When healthcare professionals enter data in the centre's medical histories, through an automated system, the most important data is published in the shared clinical history (HC3) and from that moment, they are visible to My Health so that they can be consulted.

As of December 2018:

Population that has accessed the data space during the year	760.755
Average new monthly users	15.000
Average user / year accesses	4

METHODOLOGY AND PROCESSES

The information in this database is mainly in the shared clinical history of Catalonia. This is where the different healthcare providers publish the respective clinical histories. The citizen then can use this data space to access

- **Personal data** (contact, assigned primary care team ...)
- **Clinical information** (reports, diagnoses and administered vaccines)
- **Medication** (current medication plan)
- **Wills and donations** (to become donors, early wills ...)
- **Procedures and services** (links to services of health centres, such as eConsulta)
- **My controls** (install electronic services prepared by the centers)
- **My agenda** (with scheduled visits and information on the situation on a surgical waiting list)

LMS is available in the three official languages of Catalonia, Catalan, Spanish and Occitan-Aranese. In the website banner, one can find information about the minimum access requirements, a user manual, a glossary, a collection of frequently asked questions and a form to express the opinion anonymously.

INVOLVEMENT OF OTHER ORGANIZATIONS/ACTORS

Other entities in this project include actors and suppliers of the Comprehensive Health System of Catalonia

FUNDING SOURCE(S) OF THE INITIATIVE

This project is funded through their own budget and residual development investment by suppliers.

How do you plan to sustain the initiative?

This initiative is non-returning and it will be maintained with internal resources and a specific budget. The goal is to continue to provide more and better services and content. The LMS is currently working for having its own Strategic plan through the organizational and functional master plan and a communication plan. This initiative will be sustained through taking into account the involvement of healthcare providers of the health system and recognize their efforts in processing the access to LMS by means of objectives in the annual healthcare provider contract. This system is also published on the official health websites, with communication products such as videos, posters and leaflets. There are also videos displayed on the screens of the clinical waiting rooms.

INNOVATION, IMPACT AND OUTCOMES

Key Innovative Elements:

- Empowerment of the citizen
- De-bureaucratization of inquiries
- Ordering and improving the information to offer new services.

Analytical Indicators of Success

- Quantitative indicators
- Collection of anonymous public opinions
- Focus groups of professionals and citizens
- Claims

Evidence of Impact and Outcomes

- Increase of the citizens who access this services (15,000 new citizens on average every month)
- (In process): A survey of the citizens on the experience (PREMS)
- (In process): Qualitative and self-evaluation process.

LEGAL AND/OR ETHICAL ISSUES

Catalonia is currently in the process of elaborating the Decree that regulates LMS. There is an ethical healthcare debate on the publication of clinical information (especially diagnostic tests) prior to the healthcare professional visit.

TRANSFERABILITY TO OTHER REGIONS

It is a digital space that can be developed in any other health system, public or private. In Spain, there are some other similar experiences, but there is no transfer between them.

KEY LEARNING POINTS

- Successful initiatives require **robust access to the system**
- Limited interoperability with healthcare providers
- Initiatives should include the potential to customize, advise, warnings (alerts)

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Emilia-Romagna Region (IT)

Organisation name: RER-ASSR

Region: Emilia-Romagna Region

Country: Italy

Total Region Population: 4.452.629

Cooperation partners: Lepida S.p.A.

MAIN CHARACTERISTICS OF THE GOOD PRACTICE

My region has **developed** a strategy/programme for eHealth and **is in the process of implementing it**.

FOCUS AREA

Better Data to promote research, disease prevention and personalised health and care

SUMMARY

The Emilia-Romagna Region is historically characterized by a strong system of public, territorial and community welfare: an “engine of development”.

Health and social integration, prevention, promotion and equity, participation, quality and proximity of care are the driving forces planned through the 2015-2018 Regional Plan on prevention and the 2017-2019 Regional Social and Health Plan.

Services delivery is supported by the ICT regional system. It is based on integrated and interoperable technologies (SOLE network, Personal Health Electronic Record, Telemedicine), allowing the complete sharing of health information within services and for the citizen’s use.

Emilia-Romagna Region has also developed an innovative population-based model, Risk-ER, using longitudinal administrative databases (health and social care), that estimates the risk of hospitalization and death for the resident adult population and creates ‘patient risk profiles’, allowing proactive case management within Primary Health and Social Care services network.

The overall outcomes are the increase of the appropriateness of health care delivery in primary care settings, the reduction of unnecessary hospital admissions, and the increase of citizens’ satisfaction regarding the quality of care.

By focusing on people at low to medium risk, the Sunfrail tool (identified as part of an EU funded project coordinated by the Emilia Romagna-Region), helps to detect frailty in older persons, especially in community dwelling settings, thus complementing the regional risk stratification model for this target population.

In order to improve the access by the population with complex conditions living in more remote areas, the Region is also now developing telemedicine services linked to home care.

Emilia Romagna is working to enhance its supercomputing capacity and to undertake the challenge of ageing and smart life for the provision innovative services in the different domains.

DESCRIPTION

Emilia-Romagna Region health and social system and services driving forces are designed through the Regional Plan for prevention (2015-2019) and the Regional Social and Health Plan (2017-2019). Furthermore, the Region has transposed the objectives of the National Plan on Chronic Diseases (2016), by further strengthening integrated care for people with multiple chronic conditions at risk of hospitalization and disability through a multiprofessional integrated network among primary care services, hospital care and with the involvement of the voluntary sector.

Emilia-Romagna Region ICT services

Services delivery is supported by the ICT regional system, developed in close collaboration with Lepida S.p.A (https://www.lepida.it/en); an in-house providing company established by Regional Law (11/2004).

The System is based on integrated and interoperable technologies (SOLE network, Personal Health Electronic Record, Telemedicine), allowing the complete sharing of health information within services and for the citizen's use. Since 2006 it ensures the communication between GPs, pediatricians and specialists of the local health authorities and hospitals, contributing to the ICT regional system with the following features:

- electronic prescriptions of pharmaceuticals and specialist care visits, laboratory and radiology examinations by GPs, pediatricians and hospital physicians, and automatic return of the results in the patient's health record;
- management of updated patients' personal and administrative data;
- notification to the GPs/pediatricians of patients' admission and hospital discharge; first aid reports, from the hospital to the GPs/pediatricians;
- patients' vaccinations records.

Citizens' data, provided by the "SOLE Network", are available through the Personal Health Electronic Record, accessible online in a protected and confidential environment

For further details: https://www.fascicolo-sanitario.it/fse/?1;
https://www.progetto-sole.it/pubblica/;
http://support.fascicolo-sanitario.it/.

Regarding interoperability, within the Connecting European Facility (CEF), Emilia Romagna together with the Italian Ministry of Health and other Italian regions is fully committed to deploy and make operational cross border eHealth services linked to Patient Summary and ePrescriptions. Particularly, the project "Health Follows You" aims to raise awareness among citizens and healthcare professionals and all stakeholders (https://www.fascicolosanitario.gov.it/interoperabilita-ue).

Following the European decision to implement a digital agenda, from 2015 the Emilia Romagna established ADER and committed to a full digitalization by individuals, enterprises and cities within the 2025. Furthermore, since 2009 it has organized a programme of digital literacy, named Pane&Internet (Bread&Internet), aiming to fill the gap in terms of digital knowledge, with no discrimination in terms of age, gender and education.

From 2016, according to a Regional Decision, a comprehensive tele-home monitoring programme has been started to ensure equity and appropriateness of access to all citizens with chronic conditions living in remote areas, in close cooperation with the Community Health Centers and hospitals.

The Regional Risk Stratification Model

Emilia-Romagna Region, in close collaboration with the Regional Health and Social Agency (ASSR) and with the support of the Jefferson University of Philadelphia (US), has also developed an innovative model based on **population risk stratification** on chronic diseases for the resident adult population, using longitudinal administrative databases (health and social care).

Its objectives are (i) to apply a predictive model to identify patients at risk of hospitalization and death; (ii) to create 'patient risk profiles' that provide information about high-risk patients to GPs and nurses in the Community Health Centres; (iii) to assess whether this model provides additional information to identify patients for case or disease management purposes; and (iv) to analyse the quality of care through investigations on professionals and patients experiences (PACIC and ACIC).

Data are collected on Chronic Diseases/Multimorbidity, Pharmaceuticals, Specialist visits, Hospitalization, Home care, Emergency care, Adherence to Guidelines, Quality of care indicators.

Since a decade the Model has been implemented through the Community Health Centres. http://assr.regione.emilia-romagna.it/it/ricerca-innovazione/utilizzo-dati-amministrativi-integrati/rischio-ospedalizzazione.

The generated risk-profiles (high and very high risk), are distributed to GPs and nurses, and multidisciplinary teams are activated based on identified needs. Furthermore, data on demography and morbidity, health care resources, and several quality indicators allow the assessment of services performance.

It is foreseen that the system will also integrate data flows from the social services, thus allowing the identification of citizen's/patient's social and economic profiles, that are important determinants of risk and equity.

To ensure equity of access to all citizens with chronic conditions living in remote areas, telemedicine services have been also developed, in close cooperation with the Community Health Centers.

The **Sunfrail Tool**, aimed to detect frailty in older persons, especially in community dwelling settings, has been identified as part of an EU funded project coordinated by the Emilia Romagna-Region between 2015-2018. By focusing on people at low to medium risk, the tool will complement the regional risk stratification model for this target population (www.sunfrail.eu).

METHODOLOGY AND PROCESSES

Emilia-Romagna Region Health and Social Care Services

The Region Health Service comprises:

- 8 Local Health Units
- 4 university hospitals
- 4 research hospitals
- 38 health districts
- 113 Community Health Centers
- 22 Community Hospitals

LHUs deliver primary care, hospital care, outpatient specialist care, public health care, and health care related to social care. They operate through their health districts, at which level local councils and health services determine requirements, plan health and social services, and assess results.

Following the European Health Policy Framework – Health 2020 and the Italian Ministry of Health directives, since 2010 in Emilia Romagna Region primary care services are provided through Community Health Centers and a range of territorial services/facilities.

The Community Health Centers (CHC) and the Community Hospitals (CH) are the main structures ensuring integrated care between primary and hospital care, avoiding inappropriate hospitalization and facilitating hospital discharge. Up to date, 113 Community Health Centers and 22 Community Hospitals have been established on the regional territory.

The activities implemented in the **Community Health Centers** (**CHC**) reflect the integration between health and social services and the collaboration and support of patients and voluntary associations from the community. Particularly, the nurses' managed ambulatory for integrated chronic care located in the Community Health Centre is the pillar for the management of these conditions at primary care and through levels of care. It provides case detection and management (through the application of Pathways of Care and Personalized Integrated plans), under guidance of a case manager, support to self-management (also through telemedicine services for remote areas), in close collaboration with GPs, specialists, social workers and the voluntary sector. This group performs also periodic equity audits (to identify potential inequalities) and runs several projects on lifestyles for the promotion and prevention of chronic diseases in healthy adults.

Other innovative territorial facilities are the **Community Hospitals**, managed by nurses (under the clinical responsibility of GPs or LHUs physicians), and with the involvement of physiotherapists and care workers. These facilities have a limited number of beds (usually less than 30), and provide mainly rehabilitation services (physical, respiratory and cognitive), patient empowerment, self-management and caregiver training.

INVOLVEMENT OF OTHER ORGANIZATIONS/ACTORS

Lepida S.p.A. (https://www.lepida.it/en) is an in-house providing company established by Regional Law (11/2004). It designs, realizes and manages digital healthcare research activities and innovative solutions for the modernization of healthcare pathways, the improvement of the relationship between citizens and the Regional Health Service, and the rationalization of organizational processes within the social and health service of Emilia-Romagna.

According to the Emilia-Romagna Social and Health Plan, activities conducted at primary care level are developed through an intersectoral approach, in collaboration with local authorities, local patient's associations, educational institutions, and other relevant stakeholders. Particularly, patient's associations collaborate actively as permanent members of Regional specific Commissions, contributing to the planning, implementation and evaluation of services provided.

FUNDING SOURCE(S) OF THE INITIATIVE

The Regional Health Service is mainly founded by general taxation, gathered both at national and regional level. Specific population categories and interventions can also be supported by additional dedicated resources.

The total expenditure of the Emilia-Romagna Regional Health Service in 2018 amounted to 9,927 billion euros. During the period 2016-2018, Emilia-Romagna has invested 181 million Euros in the implementation of Community Health Centres (Case della Salute).

In addition, the Region has set up a Regional Fund for non-self-sufficient people, providing Residential care and home care for elderly, care giver support, counselling, social network support and prevention programs for subjects at risk. In 2017, the Fund has been financed with 474.6 million Euros.

INNOVATION, IMPACT AND OUTCOMES

Key Innovative Elements:

The Regional care system boosts a change management approach based on multi-professional and proactive care of "at risk" patients (identified through Risk-ER), and the activation of Pathways of Care and of Personalized Integrated plans. The Community Health Centres, the Community Hospitals and the Specialist Care Centres are the main structures ensuring integration between the primary and the hospital care and between the health and social sectors.

Integration is enhanced through the activation of the regional services network, supported by the ICT regional system. The involvement of family/carers and formal caregivers in the personalized care plan stirs empowerment and participation.

Analytical Indicators of Success

The results of Emilia Romagna Region good practices and model have been recognized by the European Commission (April 2017) and the European Parliament (ENVI Committee, November 2017).

The SOLE network has been enriched by many flows and actors that have led to: The creation of new application services specific to the implementation of new processes; The development of interoperability mechanisms; The creation of administrative flows; The creation of specialized paths (Diabetes, Rheumatology, drug addiction support services); The integration between multiple regional systems; The provision to the citizen of own health reports through the Personal Health Record (Fascicolo Sanitario Elettronico).

Evidence of Impact and Outcomes

Overall, the implementation of SOLE/EHR have brought to the following benefits: increasing quality of care and efficiency; reducing operating costs of clinical services; reducing administrative costs; enabling entirely a new model of care.

According to the estimates obtained for 2018-2019 with the ER-Risk-Stratification, Emilia Romagna adult population amounts to 3.820.263 adult people (14 y.o and over), of which 3.091.202 are at low risk for hospitalization and death (1.6% in female; 1.7% in male population), 427.868 at medium risk (9.4% in female; 9.3% in male population), 148.081 at high risk (19.2% both in female and male population) and 135.274 at very high risk (40.2% in female; 41.8% in male population).

The overall outputs of the Risk Stratification Model are measured through reduced hospital and emergency admissions for ambulatory sensitive conditions due to improved pathways for the management of chronic conditions within Primary Health and Social Care services network. The assessment and analysis of the economic impact of the risk stratification model is ongoing.

LEGAL AND/OR ETHICAL ISSUES

The models, strategies, and intervention promoting integration take benefit from administrative and health related patient's data that are already subject to national and European regulation mechanisms such us the GDPR.

These regulatory aspects are considered also for the implementation of specific initiatives, with in depth analysis of sensitive issues.

As part of the 2015-2018 Regional Plan for prevention, the Emilia-Romagna Region has undertaken a Health Equity Assessment to identify population's vulnerability due to socio-economic conditions potentially affecting health status and access to care. The resulting equity profiles are important tools to inform health planning.

TRANSFERABILITY TO OTHER REGIONS

The Regional ICT system and the Services organization Model (incl. Risk-ER), constitute an essential component of the Regional System, that is being appreciated at the National level.

The request of adoption and replication of these Models and tools (incl. Sunfrail), by other Italian Regions, with the support of the Italian Ministry of Health and other key Institutions, witnesses the success obtained.

KEY LEARNING POINTS

- The availability of Regional ICT systems is a precondition to address population main health and social needs due to demographic challenges
- Risk stratification model allows to predict the risk of hospitalization and death, to identify patients at risk and to manage their conditions in primary care settings;
- Telemedicine services support the management for people with complex conditions living in remote areas;
- An integrated and intersectoral approach by local health and social authorities is a necessary condition for efficient and effective planning and implementation of integrated care based on primary care services;
- Community Health Centres are the essential primary care facilities acting as a point of access for population health needs, to avoid inappropriate hospitalization through a preventive and proactive approach.

CONTACT PERSONS

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Flanders Region (BE)

Organisation name: Flanders Agency for Care and Health

Region: Flanders

Country: Belgium

Total Region Population: 6.000.000

Cooperation partners: Providers of the Comprehensive Health System of Catalonia

MAIN CHARACTERISTICS OF THE GOOD PRACTICE

My region is **in the process of developing** a Digital Care and Support Plan as a part of the evolution towards integrated care and eHealth.

FOCUS AREA

Digital health; integrated care; interdisciplinary cooperation; communication and data sharing; central position of the person-with-a-care need.

SUMMARY

The Government of Flanders intends providing a digital platform to work on a shared digital care and support plan [DZOP] in order to support interdisciplinary collaboration and data sharing in the context of care and welfare. The goal is an integrated care provision that is based on the individual's care needs and objectives. Creating this collaboration platform fits on the one hand in the evolution of the primary care towards integrated care, including in parallel the existing or future reforms such as on the secondary care and on the specialized care. On the other hand, the platform will build on the existing data sharing amongst professionals such as Vitalink; on the Flanders assessment tool of a patient's self-sufficiency Belrai; and will be linked with the Flemish Social Protection which provides non-medical support.

DESCRIPTION

The strategy towards the DZOP serves the purpose of facilitating and paving the way for self-management, care coordination and case management throughout all levels of care, and, in particular, home care, residential and elderly care, mental health care, youth care, welfare, and the cooperation between primary, secondary and tertiary care, etc. The digitization of the underlying care processes is essential in guaranteeing continuity of care, facilitating care coordination and putting the individual (or their representative) firmly in charge of their own care. It is not intended to replace or renew existing e-care plans, nor is it intended to offer a new type of electronic patient/client file (EMR, EPD, EVD, EFD, etc.).

METHODOLOGY AND PROCESSES

1. Reflection Process:

Setting up DZOP as a digital care and support plan was part of the reflection process of the **Flanders' primary care reform**. It cannot be regarded as a separate or stand-alone, purely IT implementation project, and must be embedded throughout the entire reform process that is realized by a Program that consists of more than 10 projects. It is therefore extremely important that the other reform track projects sufficiently consider that the preconditions were created to guarantee the success of the digital care and support plan tool.

2. Business Analysis Digital Care and Support Plan:

The Steering Group for the DZOP of the Flanders Agency for Care and Health decided to outsource the initial outline of the concept to IMEC, Inter-university Micro-Electronic Centre

The result and the current basis for the tool further development is a **Business Analysis Digital Care and Support Plan**.

The analysis is based on a stakeholder consultation (conducted May-November 2018), a literature review of the documents/references supplied, a workshop with the Primary Care steering group (held on 18 October 2018) and a feedback workshop with the stakeholders (on 7 December 2018).

3. Creating a New Software Market

Based on the scenario descriptions and due to the pronounced sector preference the choice was made to explore further the setup of an integrated platform supplied by the Government in which the Government of Flanders purchases and/or develops a chain software system with (a consortium of) market parties that can supply this software and present sufficient innovation potential.

The Care and Health Agency is thereby **creating a new software market** in Flanders where this do not currently exist.

The idea is to employ a two-step procedure that commences with a market consultation of available products and/or ideas that can satisfy the requirement for providing digital support to care and assistance in Flanders.

The market consultation will be followed by an internal requirements analysis conducted by the Flemish Agency.

Depending on the outcome, the government will determine to initiate a procedure for pre-commercial procurement or an innovative procurement procedure immediately. Thus the government acts as a first-buyer of these products, making it easier for companies to access the market.

In order to facilitate future innovation and development in functionality, the requirement for purchasing open-ended software will also be considered when selecting and executing the procedure.

INVOLVEMENT OF OTHER ORGANIZATIONS/ACTORS

Flanders wants to emphasize that this is a multi-stakeholder operation which includes: the health and social care sector; research institutes; health insurance companies; relevant authorities in Flanders as well as at the Federal (national) level; the other regions in Belgium; software vendors (local and international);

FUNDING SOURCE(S) OF THE INITIATIVE

The budget needed to realize DZOP will not only be funded by the Flanders Agency for Care and Health, but also by several projects and other agencies of the Flemish Government who are supporting innovative projects in Flanders.

How do you plan to sustain the initiative?

The introduction of this tool alone will not be a sufficient incentive for a successful implementation in day-to-day healthcare practice. This should go hand in hand with customised forms of financing that promote economic incentives for encouraging use.

The government of Flanders will use Indicators to measure the success and achievements resulting from the introduction of the DZOP tool(s) and the effective follow-up of care will be included.

The tool provides support in order to ensure that this entire process is more straightforward and accessible for the entire care team. In order for successful sustaining of this initiative, programmes must be provided to clearly inform the professional care taker but also the patient and informal care providers and support them in the use of the tool.

INNOVATION, IMPACT AND OUTCOMES

Key Innovative Elements:

- A new software market in Flanders where these do not currently exist.
- The contribution to a value based health care approach: patient-centredness; life goals; care team; data for improving population health management.
- The opening up of possibilities in terms of monitoring the support provided and the care and support quality and planning. A digital care and support plan should, at the micro level, allow the patient's development to be monitored in line with set targets (care goals but also goals in live of the patient) and make adjustments to care objectives and planning possible. At the meso level, a first-line zone should be provided with more insight into which issues/opportunities arise and facilitate (preferably preventive) remediation. At the macro level it should allow the government to monitor policy effectiveness and amend where necessary. It’s also a first step to population health management when we are able to correlate the data of the DZOP-platform with other data-sources available at the Flemish Government.

Analytical Indicators of Success

To the Flanders Region a successful process means:

- Access for all welfare workers, counsellors, care providers and private individuals, but also for the patient and the informal care provider. This should be realized by a clear access matrix and verifiable relationships.
- Utilization is initiated by the patient/citizen/informal caregiver, preferably as early in the care process as possible.
- Standardization and reuse are possible, preferably via international standards.
- Interoperability means that the right tool(s) have been selected in order for the professional care provider to perform as little additional or double registration as possible. Information can be retrieved from existing authentic sources via an API or direct registration in the DZOP database is

possible.

- Complying with all existing enforceable privacy or security requirements.
- Sufficiently user-friendly and comparable to conventional software product standards for the consumer market.
- Available as a web application and by mobile apps on different platforms
- Population health management is part of the tool's growth track.
- A firm integration with other platforms of the Flemish Government regarding integrated care like BelRAI.

Evidence of Impact and Outcomes

The process is running, it is too early to provide evidence on the impact of the Platform as it is still in a conceptual phase. Below are a few of the goals that Flanders has for impact and outcome measurements:

- The sector explicitly requested the inclusion of policy and quality indicators. They must help care providers and front-line zones to better focus their activities and also actively improve the government's ability to steer policy.
- A number of SMART objectives will have to be formulated in the context of measuring tool implementation success factors. Some have been suggested such as unplanned hospital admissions; emergency admissions for patients with an active care plan on the DZOP-platform; PROMs and PREMs).
- Current primary care reforms place significant responsibility on the patient and their informal care providers for assuming the coordination of care. It is expected that the tool provides support in order to ensure that it is more straightforward and accessible for the entire care team.

LEGAL AND/OR ETHICAL ISSUES

By definition, interoperability, using the same terminology for health and social care providers, preserving the professional secrecy are legal and ethical issues that needs to be considered in the development of the DZOP and for the training of care professionals and patients as well as throughout the entire implementation;

It is important that adequate consideration is given to the legal liability aspect of the care communication functionality in the context of not seeing or ignoring calls and messages addressed to individual caregivers. Also, when working together with multiple professional care givers on a single care plan, it has to be clear who's responsible for the outcome of the actions, and the medical follow-up.

TRANSFERABILITY TO OTHER REGIONS

The methodology is transferable to other regions; the learning process, work and knowledge can be shared as well as the procurement learning experience.

KEY LEARNING POINTS

- Population health management;
- Involvement of the entire health and social care sector
- Same tool part of different reform trajectories in health care and wellbeing.
- Integrate platforms
- Government acts as a first-buyer, making it easier for companies to access the market

Challenges:

- Identifying Customised Forms of Financing: that promote economic incentives for encouraging use.

- Linking Client Files: many care organisations are active in Home Care. These organisations tend to have (customised) software in which (care) planning, calendars, etc. is integrated. (This is in contrast to individual primary care providers) It is essential that the tool provides web services and APIs to enable this functionality to be integrated or implemented in the existing software.

- Being Full Operational from Day One: a) the implementation must ensure that all functionality is fully operational. Even if a growth track is provided for incorporating care providers. b) all care providers involved in the care chain must be able to use crucial tool functionality immediately.

- Creating and Maintaining Relationships: Access is an essential prerequisite for using the tool. For Flemish services, such as home care organisations, home nursing and residential care, being able to demonstrate a care relationship between patient and care organisation is an absolute must for using the tool. An effective in-house security policy that complies with core information security and privacy principles is required.

- Preventing Market Distortion: There are several initiatives by the private local IT-market regarding integrated care.

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German Speaking Community (BE) BelRAI

Organisation name: Ministerium der Deutschsprachigen Gemeinschaft

Region: Deutschsprachige Gemeinschaft

Country: Belgium

Total Region Population: 77.185 (as of 1.1.2018)

Cooperation partners: Caregivers in East Belgium

MAIN CHARACTERISTICS OF THE GOOD PRACTICE

My region is **in the process of implementing** an eHealth policy/strategy/programme for eHealth

FOCUS AREA

Our region is focusing on clients with complex care needs.

SUMMARY

The German Speaking Community is working with BelRAI, a web application (available in the three national languages from Belgium). BelRAI is a multidisciplinary tool that enables caregivers to evaluate the situation of a client in a complex care situation. All of the professionals who are working with the client can use BelRAI. For more information on this web application you can visit www.belrai.org.

DESCRIPTION

While this project is still in the process of being implemented, the German Speaking Community has been able to implement the use of BelRAI. A few examples are provided below:

- The “Dienststelle für Selbstbestimmtes Leben” (Services for a Self-Determined Life) works with one tool of BelRAI, the Screener, to give clients one category of care (for example: autonomy, little care needs or high care needs).
- Senior citizen home will begin projects soon to implement BelRAI (LCTF modul) into care.
- Instructions for BelRAI Trainer are given.
- Information events about BelRAI have been organized.

METHODOLOGY AND PROCESSES

This implementation is a step by step process. The German Speaking Community will begin by trying to make the web application available in senior citizen homes.

INVOLVEMENT OF OTHER ORGANIZATIONS/ACTORS

- FÖD Volksgesundheit (federale BelRAI-Zelle) (Federal Public Service: Health, Food Chain Safety, and Environment)
- Dienststelle für Selbstbestimmtes Leben (Services for a Self-Determined Life)
- Caregivers of East Belgium
- School for caregivers in East Belgium.

FUNDING SOURCE(S) OF THE INITIATIVE

InterRAI is a non-profit research organization that is a registered 501(c)3 organization in the United States. BelRAI is the Belgian implementation of the assessment tools provided by InterRAI. This system is available to all healthcare professionals and healthcare providing organisations in Belgium.

How do you plan to sustain the initiative?

The German Speaking Community will continue with implementation by providing information, formations, and reference personnel as well as continuing with projects

INNOVATION, IMPACT AND OUTCOMES

Key Innovative Elements:

- The creation of a multidisciplinary online tool.

Analytical Indicators of Success

- Evaluation in the form of quality observation.

Evidence of Impact and Outcomes

- Studies form InterRai and BelRAI.

LEGAL AND/OR ETHICAL ISSUES

The legal and ethical issues are discussed in the law over the DSL and care for older persons.

TRANSFERABILITY TO OTHER REGIONS

InterRAI is a great transferrable tool which can be used in any region.

KEY LEARNING POINTS

This simple online tool provides an instrument for all caregivers and international guidelines.

CONTACT PERSON

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German Speaking Community (BE) eHealth Action Plan

Organisation name: Ministerium der Deutschsprachigen Gemeinschaft

Region: Deutschsprachige Gemeinschaft

Country: Belgium

Total Region Population: 77.185 (as of 1.1.2018)

Cooperation partners: Caregivers in East Belgium

MAIN CHARACTERISTICS OF THE GOOD PRACTICE

My region has **fully implemented** an eHealth policy/strategy/programme for eHealth

SUMMARY

The German-speaking Community The German-speaking Community has reached an agreement with all other communities and regions of Belgium on the implementation of the computerization of health care. This federal action plan "e-Health" was initially defined for a period of five years, i.e. for the period 2013-2018. An update of the Action Plan for the period 2019-2021 has been adopted. Today it is a plan with 20 concrete work packages.

A specific action plan for the German-speaking Community has been drawn up based on the federal guidelines. The focus here was on the optimal exchange of health data between health service providers and between citizens/patients and their health service providers.

METHODOLOGY AND PROCESSES

After a 6-month extensive research, in-depth discussions with the various health care actors as well as citizens/patients and based on the federal 20-point plan, an action plan has been worked out. The resulting recommendations for action aim to optimize the following indicators:

- Mobilization of human and financial resources
- Access by citizens to their health data
- Mobilization and coordination of health care actors and networks.

DESCRIPTION

Among others, the Action Plan foresees 4 key sub-projects, which are briefly outlined below. Its measures are based on the parameters of accessibility, effectiveness, efficiency and user-friendliness. The principle of "patient empowerment" applies to all sub-projects. An effective concept for training measures at all user levels, both for the area of application on the professional side ("read and writer") and for consumers ("reader"), is elementary here.

Project Partner - The partnership-based cooperation of the health service providers among each other

The objective is to formulate recommendations together with representatives of hospitals, general practitioners, pharmacist associations and patient associations in order to establish, optimize and permanently guarantee the digital exchange of medical information in the network. These recommendations should primarily ensure the exchange of medical information and to make this exchange of data uniform, efficient and user-friendly.

Project Pharma – The implementation of a drug products scheme

Project objective is to develop a digital drug scheme together with representatives of hospitals, general practitioners, pharmacists' associations and the patients' association, in order to provide a better overview for professionals on the patients' medical history as well to support patients with their medication.

Project Team - The streamlining of digital cooperation between multidisciplinary care teams

The objective is to ensure that all health actors involved in the medical care of a patient have a mobile solution for the exchange of information by 2024 at the latest. Especially when the patient's need for care is high and multidisciplinary teamwork becomes necessary.

Project Portal – The Integration of the patient/citizen into the digital healthcare system

The Objective is the easy access to specific medical data such as vaccination status, cancer screening, prescription medication, Sumehr, children's health data, etc.

CONTACT PERSON

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Lower Austria (AT)

Organisation name: NÖGUS / Health and Social Fund of Lower Austria

Region: Lower Austria

Country: Austria

Total Region Population: 1.671.000

Cooperation partners: Lower Austria, NÖ Gebietskrankenkasse, Notruf Niederösterreich

MAIN CHARACTERISTICS OF THE GOOD PRACTICE

My region has **fully implemented** strategy/programme for eHealth

SUMMARY

Telephone Health Advice "1450"

Under the motto *"If it hurts! 1450 "*a telephone health advice hotline has been introduces in Lower Austria, and since November 2019 throughout Austria, as a simple first point of contact for health issues and acute symptoms. Specially trained qualified nurses guide each caller through a medical-scientific and internationally proven interrogation system developed by experts, assessing the urgency of the request and then providing behavioral recommendations.

DESCRIPTION

The 24/7 health advice hotline "1450" can be called in Lower Austria, and since November 2019 throughout Austria, to receive telephone health advice on any health problem that is worrying, without prefix or costs.

A particularly trained qualified nurse gives advice through the phone and the caller will receive information about the urgency of the health problem and a suitable medically validated behavioural recommendation. This may, for example, be the recommendation to consult the next general practitioner (GP) or the recommendation to seek for health in the next hospital emergency department. If the health problem turns out to be acute, the emergency service will immediately be dispatched.

The health advice hotline "1450" is quick and bureaucratic and guides every caller through the health system and leads them to the best available care.

METHODOLOGY AND PROCESSES

1. You suddenly have a health problem that worries you.
2. Call the number 1450 without area code.
3. A specially trained medical nurse will advise you right on the phone and give you a suitable recommendation.

Do not worry: If your problem turns out to be acute, of course, the emergency service (with / without ambulance) can be sent immediately. The health consultation is free - you only pay the usual telephone charges according to your tariff.

INVOLVEMENT OF OTHER ORGANIZATIONS/ACTORS

1450 is carried out by the cooperation partners, namely the federal states of Austria, the responsible federal ministry and the social insurance institutions.

The health advice for the federal states of Burgenland, Carinthia and Lower Austria is handled by **144 Notruf Niederösterreich**.

FUNDING SOURCE(S) OF THE INITIATIVE

Federal states of Austria and social insurance institutions fund this initiative.

INNOVATION, IMPACT AND OUTCOMES

Key Innovative Elements:

In Lower Austria, the "Notruf NÖ" bundles all health and emergency calls under one roof. They receive and dispose more than thousands of calls from various health and emergency hotlines daily, e.g. rescue emergency calls, ambulance requirements, mountain rescue, water rescue, cave rescue and also the 1450 telephone health advice.

Evidence of Impact and Outcomes

In the pilot phase (Jan 17 – Jan 18), 37.235 incoming calls were counted which lasted approximately 14 minutes. That shows, that callers received comprehensive health advice in a quick and uncomplicated way and they knew at which time they should turn to which health care facility. Moreover, 7.500 emergencies were filtered for which the emergency service has been dispatched.

TRANSFERABILITY TO OTHER REGIONS

Due to a successful pilot phase in Lower Austria, Vienna and Vorarlberg, the hotline will be implemented throughout Austria. It is transferable to other regions.

CONTACT PERSON

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Östergötland (SE)

Organisation name: County Council of Östergötland

Region: Östergötland

Country: Sweden

Total Region Population: 464.000

Cooperation partners: Municipalities in Östergötland, Swedish Municipalities and Regions (SKR) and Inera

MAIN CHARACTERISTICS OF THE GOOD PRACTICE

My region **is in the process of implementing** a strategy/programme for eHealth

FOCUS AREA

The strategy for digital transformation and the five areas, based on the national strategy, digital competence, digital security, digital innovation, digital leadership and digital infrastructure.

An action plan is in development and a subset are ongoing.

There is a connection to operational plans and ongoing investments in the national work within INERA and SKR (Swedish municipalities and county councils), customer group to Cambio Cosmic (EHR) as well as regional cooperation in southeast Sweden (Region Östergötland, Region Kalmar, Region Jönköpings län) and well as cooperation with the 13 municipalities in Östergötland. In both cases the cooperation is on both a political and public official levels.

Focus with regards to citizen services is services which produces increased patient involvement, services increasing availability, including consuming services at a time convenient for the patient. Services creating opportunities for effectiveness and appropriate use of health care resources.

Another area is to make sure that benefits from investments in eHealth are truly realized. This includes putting effort into addressing culture, implementation and operational progress.

SUMMARY

National services such as web booking, prescription management, medical journal online, platform for online treatment, and health care plans. In addition, automated anamnesis, chat, and video appointments is in progress.

We involve service design services to educate and facilitate a mind shift in the way health care is executed, to involve patients in the design process, and rethink the way health care traditionally always functioned.

DESCRIPTION

There is an increasing demand of digital services and tools to involve patients and work with the point of departure being the individual and her or his needs and capabilities. As far as possible there is

cooperation with neighbouring regions in south east Sweden.

Implementation of web booking continues in Region Östergötland with the purpose of increased use. Health care centres offer a standard range of booking; stiches removal, ECG before operation, sampling and skin changes. However, still only 4% of appointments are booked via web booking.

The patient's journal is made available online and about 4000 log in and read their journal each day. Still not all of the information is available due to technical difficulties.

Besides traditional channels such as telephone, letters and physical meetings there are new ways to communicate with health care. The digital health care centre is one such channel offering video-meeting with physicians and physiotherapist. More categories of health care professionals is planned. This is a step towards automated anamnesis, triage, and video and chat in one solution. The age distributed mirrors that of traditional health care, with the exception of fewer in the oldest age groups.

By utilizing asynchronous chat with health care centres patients are spared from telephone ques, and reports indicate that some cases are ended directly without rendering appointments or treatments.

By using internet the availability of cognitive behavioural therapy have increased substantially due to more efficient usage of therapist's time. Most common conditions such as insomnia, anxiety, depression, and stress is treated. Today 10% of all cognitive behavioural therapy is conducted online via a platform for treatment. These programs are procured, but also research into fatigue syndrome has been conducted and show promising results. The plan is to start treatment next year. Also smoke secession is treated online. The benefits of online treatment for the patient is that they can work with the program when they have the opportunity, and visits to health care is reduced. The treatment online is also more time-efficient. The online platform is also used in "my care plan cancer" which is offered to cancer patients to document the process of cancer treatment, which can be added to by the patient with for instance contact information to several clinics involved.

Digital questionnaires are used in some areas and are expected to almost displace the used of paper questionnaires. Example of areas where this is used in in preventive health check-ups conducted 10 years apart for the general public, but also in women's health, geriatrics, and before operation.

Instead of mailing letters for appointments to patients the use of digital mailboxes being introduced in Sweden, there is digital letters for appointments used in rehabilitation appointments. The patient receives a SMS or email when there is a digital letter in the digital mailbox. Digital questionnaires can also be integrated in the digital letter before the appointment.

With regard to patients with heart failure, there is a challenge to determine is a specialist, general practitioner or nurse is needed in routinely. Therefore a home monitoring system is tested in one municipality Valdemarsvik. By monitoring the weight for instance of a patient, an appropriate level of specialist can be used in the patient's next visit. The consequences is that unnecessary hospital visits can be avoided, unless needed.

There are also systems for translation used to reduce dependencies on interpreters, as well as mobile x-ray. The mobile x-ray is used to for instance determine if a fall has rendered a fracture in a patient and can reduce the number of unneeded hospital visits.

The Project "**With the patient in the driver's seat**" is externally funded with the aim to create an environment in Östergötland with the potential to scale and spread system-innovation and coordinated health care. The project has led to the development and anchoring of a vision how health care can be organized, integrated and coordinated among actors to function seamless from a patient's point of view. The developed vision: "With the individual in the driver's seat – action for a seamless,

holistic and trust-based health care system 2030". This investment aims to test, develop and create a safe and well-functioning system where the individual and resources around the individual, after ability and preference, together with health care, can co-create health and health care. In addition to improved individual health, the purpose of the environment is to release capacity in health care organisations to be able to face the predicted increase in demand on health care systems. We have elected to place this work in the context of cooperation with municipalities and Close Care (a national shift towards care closer to the patient). In this context several workshops together with patients, representatives from the municipalities, and Region Östergötland, as well as actors from real estate companies. The result of these workshops was used for application of further national funds. Regardless of external funding, the parties are convinced that this development must continue.

Irritable bowel disease (IBD) Home is a system in which patients take samples at home and analyse it with a phone app. The result is transferred to a nurse or physician in the clinic an eventual actions are communicated back to the patient. This means a simplification for the patent whom doesn't need to travel to the clinic with his or her sample. The physician and the patient decide together if this is appropriate for the specific patient, or if traditional routines should be used. All patients however, have the possibility to via internet fill out questionnaires about symptoms, wellbeing etc. The questionnaires are both transferred to quality registers, and as a basis for the health care professionals in diagnosis. The development of these online questionnaires is a product of national cooperation in the speciality. The medically responsible physician report that the app has been used less than expected, but the online questionnaires have been used extensively.

The **Health Diary** is developed by the researchers a Linköping university in collaboration with health care professionals working with care of patients in their homes. The Health diary is an diary connected with the hospital via a digital pen. There is interest to try also in health care centres. The Health diary is primarily used heart failure and chronic obstructive pulmonary disease, wherein the patient measures their weight periodically with a digital pen on the health diary. The patients also answers quality of life questions. The data is transferred to a database which is used by the medically responsible nurse for the care of the patient. With the help of this data changes in weight for example can be noticed at an early stage and changes in treatment can be implemented at an early stage. The consequences of this is fewer hospital stays (73% reduction for heart failure and 56% reduction for chronic obstructive pulmonary disease.

METHODOLOGY AND PROCESSES

To guide the development of digital tools in health care that are truly needed, we rely on principles in service design to make sure to address the needs of our citizens. Design principles including patients involvement in participatory design constitutes the gold standard in development.

INVOLVEMENT OF OTHER ORGANIZATIONS/ACTORS

National cooperation for citizen services (INERA, SKR), municipalities in Östergötland, southeast health care region (Region Östergötland, Region Jönköpings län, Region Kalmar) with approximately 1 million citizens.

FUNDING SOURCE(S) OF THE INITIATIVE

A multitude of funding, development means from national funding (applications), ordinary development activities, and politically funded investments in introducing new technology and work practices (Video appointments and Cognitive Behavioural Therapy online).

How do you plan to sustain the initiative?

Special funds to manage reorientation of work practices is needed to facilitate change, but must in time become self-funded due to gains in ceasing of activities no longer needed or done to a lesser extent. However, reorientation in eHealth is not primarily savings, but a means to provide citizen with quality and modern health care.

INNOVATION, IMPACT AND OUTCOMES

Key Innovative Elements:

Principles of service design and focus on needs assessment.

Analytical Indicators of Success

Transformation of patient flow from traditional services (telephone, physical appointments, paper questionnaire) to modern services (web booking, video appointments, online treatment and self-care).

Evidence of Impact and Outcomes

Records of usage of services, with plans to implement the appropriateness of health care, to take care of patients with needs today overlooked, and patients not in need of health care identified and advised.

LEGAL AND/OR ETHICAL ISSUES

Laws with regard to procurement with hinders the possibility to try and test new ways to provide health care.

Laws with regard to integrity where information needs to be shared to provide better health care with several principals.

Laws with regard to information safety in systems displacing manual routines.

TRANSFERABILITY TO OTHER REGIONS

The principles and initiatives ongoing could be transferred to other regions with easy because the process involves needs assessment and is therefore adapted to the specific context.

KEY LEARNING POINTS

Culture in health care is the biggest roadblock to digital transformation and the ability to adopt innovation without sabotage is vital to success.

CONTACT PERSON

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Scotland (UK) Attend Anywhere

Organisation name: Scottish Government

Region: United Kingdom

Country: Scotland

Total Region Population: 5.400.000

Cooperation partners: Scottish Government, NHS24, Attend Anywhere

MAIN CHARACTERISTICS OF THE GOOD PRACTICE

My region has **fully implemented** strategy/programme for eHealth

SUMMARY

The Scottish Government's Technology Enabled Care (TEC) Programme was established in 2015, with one of its aims to increase the use of video conferencing (VC) technologies for health and care consultations. Initially using traditional video conferencing systems such as Cisco and Polycom devices, a range of projects were established to improve communication between the health and social care sectors, support the use of VC consultation with outpatients and develop video clinical services to care homes.

In late 2015, the team identified a new product, Attend Anywhere, which uses browser-based technology to deliver a video consulting solution that matches the consulting workflow. This greatly simplified the video consultation workflow and provided a simpler technical solution.

DESCRIPTION

The aim was to develop a video consulting system that could compete with the ease of use of traditional telephony or face to face consultations.

The Attend Anywhere system provides a video clinical environment that can be accessed by a member of the public using a web browser on their own device, be it a laptop, tablet or smartphone. The system is purpose built to meet the needs of the health and care sectors, with the ability to deliver video consulting services at scale.

Attend Anywhere Consultation Process:

The Attend Anywhere system was procured in October 2016 and was formally launched by the Cabinet Secretary for Health and Sport in December 2016. We identified regular communications within Cabinet Secretary briefings and speeches to ensure significant buy-in and spread of knowledge and plans across the whole of Scotland.

To be effective and scalable, the Attend Anywhere system supports the clinical workflow allowing:

- multiple patients to attend a clinic and wait for their appointment;
- a family member, interpreter or other provider to join the call;
- text chat and sharing - screen functions

METHODOLOGY AND PROCESSES

The initial goals of the Attend Anywhere programme were to establish a video consulting service across Scotland, providing 50 clinics across health, care and the 3rd sector, with the aim of reducing travel, improving efficiency and supporting service change. It drew on best practices from Australia and the United States.

In NHS Highlands, quality improvement methodology was used to develop the NHS Near Me service with multiple cycles of small tests of change before a standardised process was defined for spreading. This has since been shared across Scotland.

Most importantly, Attend Anywhere supports a patient centered approach, providing care as near to home as possible.

The key to the success of the programme has been aim at providing a 'once for all' solution, strategic buy in from the Scottish Government along with appropriate support for adoption. This includes:

- working with local eHealth teams to configure systems;
- a peer reviewed system security policy in line with GDPR;
- an online resource centre;
- customisable leaflets and guidelines (such as consent, consent with incapacity, best practice);
- regular online meetings with stakeholders;
- participation in both local and national events.

With central national funding for the platform and project support resource available, the service is offered free of charge to health and care organisations.

INVOLVEMENT OF OTHER ORGANIZATIONS/ACTORS

In Scotland one of the main issues we encounter is the rurality and complexity we have across regions. Because of this, our initial focus centered on reducing the 10,000 patient journeys between Caithness General Hospital in Wick and Raigmore General Hospital in Inverness. As this service was the developed, the Health Board made the decision to re-brand the service "NHS Near Me". This ensured it was known to be a trusted service.

FUNDING SOURCE(S) OF THE INITIATIVE

TEC Programme, nationally funded by Scottish Government to scale up across the country. Additional targeted funding was provided the ensure scale up continued at pace.

How do you plan to sustain the initiative?

All TEC programme funding is given out on the premise that services are to be developed with sustainability in mind. For Attend Anywhere, we purchased sufficient licenses to be able to provide the service across health, social care and beyond without having to charge them a penny. This was to ensure that the focus is always on the service provision rather than the technology itself.

INNOVATION, IMPACT AND OUTCOMES

Key Innovative Elements:

The key innovation across all of our programs is around adopting the Scottish Approach to Designing Services. This led to a service being designed that does not hamper clinicians in what they would do on a day to day basis and provides a service that is easy for the patient to use first and foremost.

Analytical Indicators of Success

- The number of consultations held – over 1000 per quarter and growing at a steep curve.
- Customer and clinician satisfaction – feedback showed over 95% of patients would use the service again.
- Cost savings for organisation and patients – clinicians don't always have to be in the same place to do their role, the saving on travel time and cost is proving to be significant.

Evidence of Impact and Outcomes

- One of the hospitals in the North of Scotland (Highlands) is now providing 8% of all outpatient appointments by Video Consultation (Attend Anywhere) with a main target of over 20%. This is saving patients upwards of 10 hour round trip journeys and cost of fuel, taxi's and flights in some cases for the NHS Board. Not only that, for specific services like gastro the comfort for patients being able to stay within their own home instead of an uncomfortable journey is unquestionable.
- Nationally it has been implemented in all but one health board, but we are seeing the service now being used to bring in specialists from social care to do joint consultations where necessary and now also in primary care too.
- The use of this service has gone from very few sporadic consultations to now showing increased national support with a significant upward trend in usage envisaged.

LEGAL AND/OR ETHICAL ISSUES

This initiative has been set up in the knowledge that face to face care can never be replaced and can continue to be provided where required.

TRANSFERABILITY TO OTHER REGIONS

We see this as an extremely transferrable method of supporting scale up of Video Consulting services, but it requires strong national leadership to be able to scale at pace.

KEY LEARNING POINTS

Based on experience gained over the course of the programme and feedback from users, the following recommendations are made.

- Staff training, and public engagement material should set realistic expectations around the relationship between available bandwidth and audio/video quality. These will be similar to using Skype or Facetime.
- Service providers should be reminded that image quality issues can often be resolved by getting both parties to “refresh” the call.
- Service providers should be reminded that audio quality is greatly improved by using either a headset or an appropriate IP telephony speaker.
- Users have recommended that short videos should made available as part of the engagement and training programmes. It is anticipated that these would lessen any anxiety for both staff and service users when using the technology.
- The NHS Near Me service model developed by NHS Highland is seen as a useful tool to support service development elsewhere. Further service models should be developed to support outpatient clinics to people at home, out of hours support to care homes and general practice.
- To support a once for Scotland approach, engagement materials should be developed to support the development of services to care homes and GP patients.
- A fuller, external evaluation of the service will be undertaken prior to contract renewal in October 2019.

CONTACT PERSON

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Scotland (UK) HMHM

Organisation name: Scottish Government

Region: United Kingdom

Country: Scotland

Total Region Population: 5.400.000

Cooperation partners: Scottish Government, Local Government, Technology Enabled Care (TEC) Programme' partners, NHS Scotland, University of Edinburgh, NHS Lothian, and NHS Lanarkshire.

MAIN CHARACTERISTICS OF THE GOOD PRACTICE

My region has **fully implemented** strategy/programme for eHealth

FOCUS AREA

The use of home and mobile health monitoring solutions to enable people to live longer healthier lives at home or in the community.

SUMMARY

United4Health[1] was a large European project on scalable deployment of telehealth which aimed to support the management of long-term conditions. It was implemented by a consortium of 14 regions in 10 countries with overall project coordinated provided by the Scottish Centre for Telehealth and Telecare (SCTT) within NHS24 in Scotland.

United4Health captured important insights and enablers to overcome the challenges of large-scale deployment of telehealth. As such, the outcomes of this EU funded project were used to inform the expansion of telehealth in Scotland within the framework of Technology Enabled Care.

The Scottish Government's world leading Technology Enabled Care (TEC) Programme[2] began in March 2015 and is designed to accelerate the use of proven technology to support people to manage their health and well-being at home, and in their community. Over 90,000 people have now benefitted from the programme and this includes Patient to Clinician Video Consultations, Home and Mobile Health Monitoring and Telecare (including community alarms etc).

Home and Mobile Health Monitoring:

Home and Mobile Health Monitoring, in particular the system FLORENCE (simple telehealth), is used to inform **self-management** decisions by the patient and to support diagnosis, treatment and care decisions by professionals through simple low-cost SMS text messaging. For example, it allows for readings to be sent to clinicians by patients and sends reminders to patients to take critical medicines. Over 20,000 people have now benefitted from this with particular success being found in monitoring high blood pressure and the benefits this can bring – particularly reducing "white coat syndrome".

1 http://united4health.eu
2 https://www.digihealthcare.scot/home/resources/technology-enabled-care-tec/

Over the past three years in Scotland, Home and Mobile Health Monitoring (HMHM) has become firmly established through the Technology Enabled Care (TEC) Programme as a proven digital enabler in the pursuit of increased patient self-management, better service experiences and in better clinical outcomes while supporting the optimal use of healthcare resources.

In addition to this, Scotland's Digital Health and Care Strategy[3] asserts that *"spread and adoption at scale of proven digital technologies within services across Scotland is critical to achieving Scotland's ambitions."* It specifically commits to "*deliver remote monitoring of long- term conditions by scaling-up our work on home and mobile health and care monitoring nationally to support prevention and supported self-care within priority care pathways".* This Strategy is on the back of the Health & Social Care Delivery Plan which recognises that we cannot achieve our ambitious transformational agenda without maximising the opportunities of new technology and better use of data. The Delivery Plan brings together different strands of our work – such as the National Clinical Strategy, which recognises the need for greater use of technology to support self-management, Health & Social Care Integration and Realistic Medicine, which will not be successful without good access to shared information, a nationally joined up approach.

DESCRIPTION

National Scale UP BF - Guidance Note - 2:

Diagnosis and management of hypertension (High Blood Pressure) is one of the most common interventions undertaken in primary care, predominately by GP's and practice nurses. BP (Blood Pressure) checking alone is the third commonest reason for attending the GP practice in Scotland. This equates to over 1.2 million blood pressure consultations being taken up across primary care annually with many more appointments where BP is measured.

Hypertension (High Blood Pressure) currently affects around 31 % of adults in Scotland and forecast projections indicate that this will double in the next 15 years. **From a health outcome prospective, despite well-established benefits of blood pressure treatments (BP) lowering drug regimens, hypertension remains the leading preventable risk factor for** premature morbidity and mortality in Scotland.

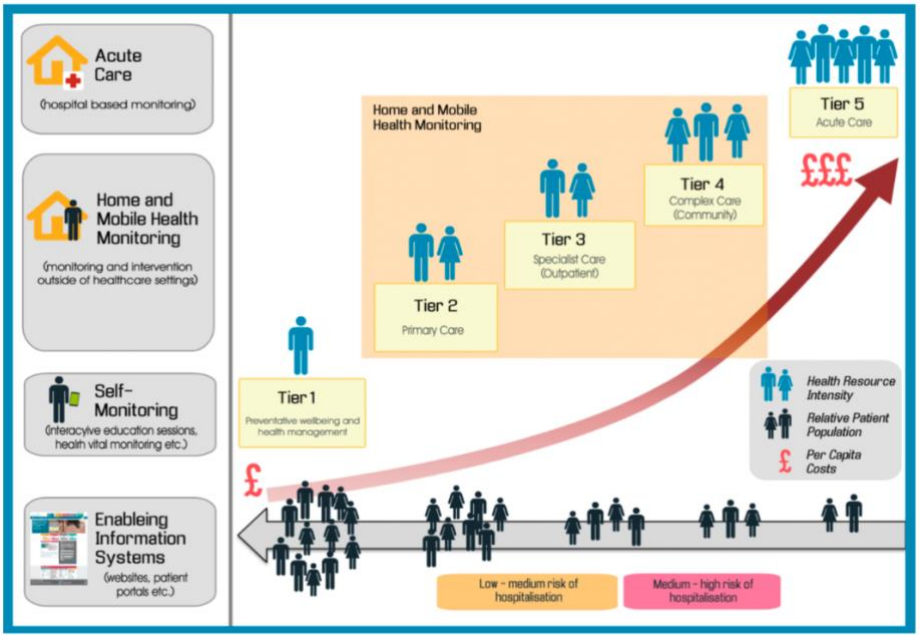
METHODOLOGY AND PROCESSES

This National Service Model for Home and Mobile Health Monitoring (HMHM) in Scotland is a tool to support service design and development. The framework;

- consolidates learning from early adopters and service pioneers in Scotland and applicable learning from other parts of the world, especially Europe and North America;
- establishes a foundational service template designed to be scalable and efficient when applied in the context of services in Scotland;
- provides a starting point from which new experiences based on common principles can be used to drive improvement in this field of practice.

3 https://www.gov.scot/publications/scotlands-digital-health-care-strategy-enabling-connecting-empowering/

Whilst the focus for HMHM has been and remains on supporting citizens who are living with long term conditions, HMHM can support citizens and services across a much broader spectrum of health and care needs. Recent work in Scotland has seen a significant positive change in the appeal of HMHM as a result of introducing technologies that are easier to work with and at a significantly lower cost. This has resulted in a broadening scope of application for HMHM to support citizens with a wider range of chronic and acute conditions. To support this broader application, the conceptual model uses a tiered approach to delivering citizen and service support. This provides flexibility to meet the changing needs of citizens living with long-term conditions as well as supporting diagnosis, triage and review activities for a wider range of Primary Care and Outpatient pathways.



This conceptual model (illustrated above) describes the landscape in which Home and Mobile Health Monitoring interventions are applied. It illustrates the context in which these types of intervention can deliver the greatest value. Citizens are grouped into tiers according to the intensity of their healthcare needs. The tiers also reflect the relative citizen population, health resource utilisation and the per capita costs at each tier:

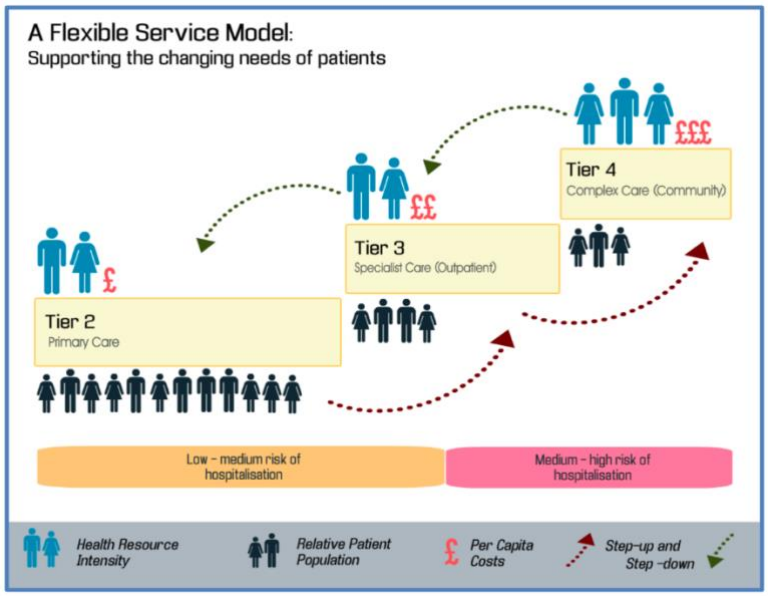
Tier 1: Citizens self-managing and maintaining their good health and wellbeing generally outside of healthcare.

Tiers 2 through to Tier 4: These are the focus of remote health monitoring activities and describe escalating citizen healthcare needs and the ways in which those needs are met.

Tier 5: Represents citizens with acute needs receiving healthcare outside of a community setting. They are largely or wholly dependent on NHS services.

To date, HMHM is most effective when focused on Tiers 2, 3 and 4.

The needs of citizens change as they move up and down the tiers. HMHM must adapt to these changing needs and support the changing strategies that are employed to preserve and improve health and wellbeing of individual as each level.



Tier 2 Implementations	Tier 3 Implementations	Tier 4 Implementations
Supporting Primary and community care pathways	*Supporting specialist and community care pathways*	*Supporting later stage & complex long term conditions pathways in the community*
• Diagnoses and assessment of conditions • Assessment of treatments • Stabilise / establish / re-establish condition control • Health and wellbeing coaching to inform and enable self-management • Preventative interventions to promote behaviour change in lifestyle, diet, self care. • Promote anticipatory care – newly diagnosed LTC	• Triage to outpatients • Pre-consultation data gathering • Assessment of treatments • Timely interventions to exacerbations / crisis/ deterioration in stable condition • Support to re-stabilise / re-establish condition control • Treatment compliance and adherence to medication	• To support coordinated case management and anticipatory care • To support early interventions for citizens with resource intensive needs • Early discharge (with appropriate care package)

INVOLVEMENT OF OTHER ORGANIZATIONS/ACTORS

Scale up in the use of tech for monitoring high blood pressure from home was identified early on as a key area to progress. A collaboration was brought together between the TEC Programme, NHS Scotland, NHS Lothian, NHS Lanarkshire and University of Edinburgh. World renowned telehealth research specialist Brian McKinstry led on the development of important research on the impact and outcomes of blood pressure monitoring from home.

FUNDING SOURCE(S) OF THE INITIATIVE

TEC Programme, nationally funded by Scottish Government to scale up across the country. Additional targeted funding was provided after receiving sufficient and clear evidence to ensure scale up continued at pace.

How do you plan to sustain the initiative?

Scaling up the use of HMHM within Primary Care to support Blood Pressure Management has been identified as a priority area, and one which the international panel of experts convened to advise the Scottish Government on Digital Health and Chaired by Professor David Bates was recommended to *"be more broadly implemented at scale across Scotland."*[4]

Each organization looking to implement the service has been funded on the basis that what they undertake must become a part of core business and everything we work toward is about sustainability and doing things "Once for Scotland".

Although not originally an aim of the three years HMHM Programme, some of the learning to date provides important considerations for sustainability. Although national programme funding is ending, a wealth of expertise has been developed by the 12 partners and it would be a great loss if this resource did not continue to be available, both locally and for others wishing to adopt any of the technologies.

But long-term maintenance also requires ongoing national support and local ownership of HMHM (and other aspects of Technology Enabled Care) by our NHS boards and health & social care partnerships.

INNOVATION, IMPACT AND OUTCOMES

Key Innovative Elements:

- A unique collaboration between national and local government, health boards and academia provided the basis and evidence for major national scale up.
- For its size, Scotland is perfect to be able to scale up these types of initiatives nationally rather than by a region by region basis.
- The thinking originally came from an EU project, developed into a national programme and then focused on a specific area recognised as requiring important intervention.
- The programme focused on targeted investments at key opportunities. Starting with small tests of change and finishing with a £1m investment in major scale up.

Analytical Indicators of Success

- Inaccuracy of BP measures
- The use of telemetrically supported self-monitoring
- Evidence for efficacy in primary car
- Evidence of cost effectiveness
- Barriers to use

Evidence of Impact and Outcomes

We now have considerable and robust evidence that, supported by HMHM:

- More people are self-managing their health

4 Digital Health & Care in Scotland: Report of the External Expert Panel. D. Bates, April 2018. https://www.gov.scot/publications/digital-health-care-scotland-report-external-expert-panel/

- Condition control has increased
- Face to face contacts have been optimised
- Access to services has improved
- Barriers to use have been reduced

A recent meta-analysis of 24 RCTs and 8292 patients including one study conducted in Scotland showed that in monitored patients with active support there was a mean 6.9mm reduction over the course of one year. Such a reduction would result in a >20% lowering in the incidence of stroke if sustained for 5 years.

However, the mean societal and clinical costs of stroke have been estimated at £45,409 and £24,003 respectively in the first 12 months and economic modelling based on large pharmaceutical studies has been undertaken and shown that telemonitoring is cost-effective if the resultant reduction in stroke is considered.

Other Health Board areas across Scotland has focused on introducing the use of BP monitoring to support predominately diagnosis of Blood Pressure and medication management. NHS Lanarkshire, for example, have rolling this out to over 50% of practices since 2017 and supported over 2500 people to have a faster, more convenient assessment of Blood Pressure. Similarly, NHS Ayrshire and Arran have developped a pathway which allows Primary Care to directly refer patients for remote BP testing. Results and readings are all reported back to referring GP within 7 days and has significantly reduced length of waits for 24-hour tapes.

Early evidence from use of HMHM for diagnosis of BP indicates that there is potential to reduce the number of Primary Care Appointments for testing of BP by up to 30% depending on the model adopted by the practice. NHS Lanarkshire estimate that over 9000 appointments have been saved by use of the alternative model.

Future developments: Through the National Scale up BP programme, as well as supporting national Implementation and roll out, TEC programme are working with NSS and other Scottish health boards to design a national system which could be rolling over the next 12 months. This will potentially include link the outputs to Sci-Store so they become available to secondary care and to the new NHS patient portal.

LEGAL AND/OR ETHICAL ISSUES

This has been set up in the knowledge that face to face care can never be replaced and can continue to be provided where required.

A new solution is now in the process of being procured to replace the current (FLORENCE – Simple Telehealth) solution. As it stands, new medical device regulations are creating a barrier to successful procurement. A steering group has been set up to manage this transition.

TRANSFERABILITY TO OTHER REGIONS

This solution is very transferrable- many regions in Europe face the same challenges as we do, in particular high blood pressure and high numbers of white coat syndrome@.

KEY LEARNING POINTS

Scaling up HMHM is complex and complicated

Recommendations

- Set an agreed target level for HMHM scale-up at national level, and preferably for different populations to drive forward implementation
- Review the initial 'complicated' rating assigned to HMHM with a view to identifying how to further reduce elements of complexity and accelerate scale
- Consider the initial review of Scotland's progress against the eight principles for increased success (Greenhalgh et al, 2018) to inform plans for the way forward with HMHM
- Continue to ensure that the further evolution of HMHM benefits from detailed and continuous evaluation.

CONTACT PERSON

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Vysočina Region (CZ)

Organisation name: Vysočina Region

Region: Vysočina

Country: Czech Republic

Total Region Population: 508.592 (as of 2016)

Cooperation partners: EUREGHA, Europaregion Donau -Moldau

MAIN CHARACTERISTICS OF THE BEST PRACTICE

My region has **is in the process of implementing** a strategy/programme for eHealth

SUMMARY

The Vysočina Region is in the process of implementing the NIX-ZD.CZ program, the eMeDocS program, the eAmbulance program and PACS.

DESCRIPTION

NIX-ZD.CZ - The purpose of NIXZD.CZ is to ensure standardized exchange of medical data across various sources and target systems, with the use of existing exchange networks and protocols. There are two key cross border elements of NIXZD.CZ – 1) patient summary availability and 2) ePrescription.

eMedocs – The electronic exchange of patient medical records between different hospitals, and between hospitals and the Vysočina emergency medical service.

eAmbulance - Portal for scheduling patient appointments for all specialized out-patient offices at hospitals set up by Vysočina region

PACS - Picture Archiving and Communication System – A system for acquiring, storing, distributing and presenting medical image data. It is comprised of several parts: a modality for acquiring data, a control centre, an archive, and imaging stations.

METHODOLOGY AND PROCESSES

1. Finding room for improvement of current situation.
2. Detailed planning.
3. Analysis of legislation.
4. Building a project team.
5. Negotiation with project parties.
6. Work on the project.
7. PR campaign for public.

INVOLVEMENT OF OTHER ORGANIZATIONS/ACTORS

NIX-ZD.CZ is assisted by DG SANTE and eHDSI (the eHealth Operations Knowledge Base). You can find more about eHDSI here.

eAmbulance is assisted by Taiwan(ROC)

FUNDING SOURCE(S) OF THE INITIATIVE

This project is funded through their own funding sources and NIX-ZD.CZ is 75% CEF TELECOM.

How do you plan to sustain the initiative?

By development of current practice, by sustainable funding and with positive results.

INNOVATION, IMPACT AND OUTCOMES

Key Innovative Elements:

- IT use for simplification of everyday practice.
- Making everyday life easier for patients and for medical staff.

Analytical Indicators of Success

- Statistical evidence.
- General use of good practice
- Cost reduction

Evidence of Impact and Outcomes

- Rising number of users
- User friendliness
- Statistical evidence
- Cost reduction

LEGAL AND/OR ETHICAL ISSUES

A few ethical issues include data protection, security, and technical security.

TRANSFERABILITY TO OTHER REGIONS

This region stresses that these programs are transferrable to other regions.

KEY LEARNING POINTS

- Absolute need for detailed planning
- Quality of team implementing the projects

CONTACT PERSON

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