European Innovation Partnership on Active and Healthy Ageing

Reference Sites

Excellent innovation for ageing

HOW TO GUIDE
This second edition of the Reference Sites Guide provides practical indications on how to scale up and transfer best elements of the Reference Sites experiences to other European contexts. This Guide is a follow-up to the first edition published in July 2013 which introduced the 32 Reference Sites.

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Good Practice:
Telemonitoring of patients with advanced heart failure (GP1)

Reference Site:
Olomouc Region, CZ: University Hospital Olomouc - Czech National eHealth Center (NTMC)

Contact information:
Prof. Milos Taborsky, M.D. Ph.D., FESC, MBA Email: info@ntmc.cz, taborsky@ntmc.cz
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Email: gutter@ntmc.cz

University Hospital Olomouc, Czech National eHealth Center, I.P. Pavlova 6, 775 20 Olomouc, Czech Republic

Short description of your good practice:
The 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. This new practice is to detect as many patients with the given diagnoses as possible, to deploy telehealth services for monitoring and improved treatment of these patients. New protocols will be standardized, based on evaluation of results of telemonitoring in initial phase of the practice.

Partners in the coalition:
Led by the University Hospital Olomouc and its Czech National eHealth Centre and the Faculty of Medicine and Dentistry of Palacky University Olomouc, the project brings in regional authorities, patient organisations and healthcare insurance companies. Other healthcare providers and selected social services providers in the region are also brought in to facilitate broader coverage for the practice.

Start date: January 2013

Project duration: the plan is to keep this initiative permanent

How we did it:
The good practice was initiated by experienced cardiologists who recognized a need for improvement in care for patients with structural heart disease (usually seniors). Political support has been sought on several levels, including regional government, national healthcare management authorities and from medical societies.

The good practice is financed through projects undertaken by the NTMC within Structural funds, national funds and from resources of project partners. The investment is approximately 75,000 Euro and still increases with the number of concurrently monitored patients, which is under control. Operation cost is approximately 500 Euro monthly.

It was possible to introduce the Good Practice with a minimum of organizational changes within the hospital and it also complies with the national healthcare system. It integrates medical practices and protocols with carefully selected telehealth services.

The technical solution, consisting of a telemonitoring system, was installed and monitoring devices are being distributed to selected patients according to relevant criteria, namely the condition of the patient and economic aspects. Medical procedures were upgraded so that the clinical part of the Good Practice becomes routine.

Our results:
Coverage: The project aims to cover 15% of the monitored population in the territory of the hospital.

The practice enabled screening of common population with the disease; it provides tools for remote control of patients with advanced heart failure (NYHA class III-IV,
which means patients who are markedly or severely limited during physical activity) in terms of standard medical therapy (ESC guidelines), before and after heart transplantation. Furthermore, it covers population of patients with hemodynamic support (ventricular assist device - VAD) before orthotopic heart transplantation (OTS) or in a long term regimen. There has not been recognized practice or protocol that would enable collection of relevant information about critical parameters’ development besides keeping the patient in a hospital.

There is a clear relationship between initial disease detection in population - screening, followed by specific individualized therapy and management of the target group of the ill in higher age and therefore the practice has positive impact to health among the target population. It is also expected that morbidity, mortality, and quality of life among the target patients with observed diagnoses will be improved.

This new practice is associated with higher deployment of new technologies, which enable the provision of telehealth services. This has had a positive impact to EU industry as major parts of the telemonitoring system have been supplied by manufacturers from EU countries.

Inputs into international medical (cardiology) societies will also further improve position and prestige of EU medical expertise.

New jobs associated with telemonitoring services were created.

**Added value:**

The practice is innovative especially in telemonitoring of patients before and after a heart transplant, patients with hemodynamic support before orthotopic heart transplantation or in long term regimen. This would not be possible to perform without having the patients in hospital, which would require significantly higher expenses.

**Success factors:**

This good practice can be replicated in other hospitals providing medical services for patients with heart failure. In 2013, amended medical protocols are under development and we plan to have them endorsed by medical societies.

**Barriers to innovation:**

The barriers in extending the services to all the elderly, who are candidates for screening or monitoring, are clearly of economic nature. Barriers on the side of medical societies are less serious but are also mapped. That is why Evidence Based Medicine (EBM) approach was chosen to provide solid data that will eliminate uncertainty or doubts of medical nature. This good practice cannot in its initial phase avoid classical drawbacks of telemonitoring, namely required investments and resources to maintain the service. That is why the good practice is designed to cover the issues of sustainability – negotiation with medical societies and national healthcare authorities to achieve reimbursement.

**Transferable elements:**

Thanks to the use of EBM methods the Good Practice is transferable to centers in other regions throughout the country, and with possible adjustments to other medical systems and EU countries. The target population in the Olomouc Region reflects standard population in EU countries with medium developed economy, occurrence of serious chronic diseases and medical risk stratification of population. University Hospital Olomouc has close relationships with other regional hospitals and healthcare providers. There is long term cooperation with a number of general practitioners GPs and internists in the region so the Good Practice will be developed first among them and then gradually to other locations.

**Lessons learnt and recommendations for others:**

- The more complex patients require selective approach.
- Medical personnel experience somewhat higher workload and this will be the subject of negotiations for payment for the services by national authorities.

**More information:**

**Good Practice:**

Tele-monitoring of patients with Acute Myocardial Infarction (AMI) and newly diagnosed diabetes (GP2)

**Reference Site:**

Olomouc Region, CZ: University Hospital Olomouc - Czech National eHealth Center (NTMC)

**Contact information:**

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**Short description of your good practice:**

The practice introduces remote monitoring of elderly patients who are hospitalized for acute infarct of myocardium (AMI) in cases of newly diagnosed (or until then unknown diagnosis of) diabetes using telehealth services. The patients are telemonitored for AMI relapse, unstable angina pectoris and need of further interventional or chirurgic revascularization.

**Partners in the coalition:**

Led by the University Hospital Olomouc and its Czech National eHealth Center and the Faculty of Medicine and Dentistry of Palacký University Olomouc, the project brings in regional authorities, patient organisations and healthcare insurance companies. Other healthcare providers and selected social services providers in the region are also brought in to facilitate broader coverage for the practice.

**Start date:** January 2013

**Project duration:** the plan is to keep this initiative permanent

**How we did it:**

The good practice was initiated by experienced cardiologists who recognized the need for improvement of care for mostly senior patients hospitalized for acute myocardial infarction (AMI), in order to detect frequent comorbidity early. Political support is sought on several levels, including regional government, national healthcare management authorities and also medical societies.

The good practice is financed through projects undertaken by the NTMC within Structural funds, national funds and from resources of project partners. The investment is approximately 50 000 Euro and still increases with the number of concurrently monitored patients, which is under control. Operation cost is approximately 400 Euro monthly.

It was possible to introduce the good practice with minimum required organizational changes within the hospital and it also complies with the national healthcare system. It integrates medical practices and protocols with carefully selected telehealth services.

The technical solution consisting of telemonitoring system was installed and monitoring devices are being distributed to selected patients based on two criteria: condition of the patients and economic aspects. Medical procedures were upgraded so that the clinical part of the good practice becomes routine.

**Our results:**

Coverage: The project aims to cover 15% of the relevant population in the catchment territory of the hospital.

The practice enabled both acute and long-term glucose telemonitoring in patients with diabetes, providing better outcome and enabling flexible management of peripheral artery disease (PAD) treatment or treatment by insulin – solutions of dietetic and disease complications.

There is a clear relationship between initial disease detection, followed by specific individualized therapy and management of the target group of the ill in higher age. Implementation of the practice leads to cost savings in health care by adjusting the treatment in early stage, reduction of visits of specialized departments in a hospital. Stabilization of the patient’s condition also reduces the need for demanding social care.

It is expected that quality of life and safety of the targeted patients with observed diagnoses will be improved.

The new practice is associated with higher deployment of new technologies enabling provisioning of telehealth services, which have positive impact to EU industry; major parts of the telemonitoring system have been supplied by manufacturers from EU countries.

**Added value:**

The practice is innovative both in terms of screening and monitoring of general population as well as in terms of long term glucose telemonitoring of patients with diabetes, allowing for better outcomes and also enabling flexible management of peripheral artery disease (PAD) treatment or solution of dietetic and disease complications.

**Success factors:**

The good practice can be replicated in other hospitals providing medical services for patients with AML. In 2013, amended medical protocols are under
development and we plan to have them endorsed by medical societies. There is also a need to have a telemonitoring system with devices commonly available on the market, which requires investments made by hospitals. Due to this steps have been taken towards having the medical protocols accepted by authorities, with the intention to be able to get these enhanced services reimbursed.

**Barriers to innovation:**

The barriers in extending the services to all the elderly, who are candidates for screening or monitoring, are clearly of economic nature. Barriers on the side of medical societies are less serious but are also mapped. That is why Evidence Based Medicine (EBM) approach was chosen to provide solid data that will eliminate uncertainty or doubts of medical nature.

**Transferable elements:**

Thanks to the use of EBM methods the Good Practice is transferable to centers in other regions throughout the country, and with possible adjustments to other medical systems and EU countries. The target population in the Olomouc Region reflects standard population in EU countries with medium developed economy, occurrence of serious chronic diseases and medical risk stratification of population. University Hospital Olomouc has close relationships with other regional hospitals and healthcare providers.

**Lessons learnt and recommendations for others:**

- The more complex patients require selective approach.
- Medical personnel experience somewhat higher workload and this will be the subject of negotiation for payment for the services.

**More information:**

http://ntmc.cz/?lang=en
**DENMARK**

Region of Southern Denmark

**Good Practice:**

SAM:BO – Cooperation on care pathways in Southern Denmark (GP1)

**Reference Site:**

Region of Southern Denmark, DK

**Contact information:**

Lotte Beck, Forskerparken 10H, 5230 Odense M, Denmark, email: Lotte.beck@rsyd.dk

**Short description of your good practice:**

SAM:BO is an agreement on collaboration between the Region of Southern Denmark and the 22 municipalities in the region, based on new innovative ways of providing services and new ways of communicating electronically. The goal of the cooperation is to ensure consistent patient care pathways between the health and social sectors in the Region and thus achieve higher quality, efficiency, and patient satisfaction with the health services provided. The citizen must experience consistency from the very beginning of the process until the citizen is home for the follow-up rehabilitation therapy. The starting point is the individual's needs, so that treatment is offered on a needs basis. Thanks to SAM:BO the patient will receive the best and most efficient treatment at the lowest cost possible without compromising the provision of healthcare.

For the complex patients with one or several chronic diseases, the Region is in the midst of implementing an innovative solution, Shared Care, that runs on the backbone of SAM:BO. This solution supports the integrated care approach and is established on the basis of the chronic care guidelines that have been issued both nationally and internationally.

**Partners in the coalition:**

SAM:BO brought together a coalition of local and regional stakeholders including players from the healthcare as well as the social care (home care) sectors and private practitioners. The partnership aimed at covering the entire Region geographically, and it was supported from the national level.

**Start date:** Initiated in 2009

**Project duration:** Not limited

**How we did it:**

In 2007, a reform was implemented with regards to the provision of health and social care. Therefore, there was an urgent need to harmonise the way healthcare was provided. The goal was for all citizens to receive the same care regardless of diagnosis and geography. SAM:BO was the result of this and since 2009 heavy investments have been made into its up-scaling.

The formation of SAM:BO, from its initiation until it was mutually agreed upon and implemented, took close to two years. The implementation involved 40,000 – 45,000 people and many different IT systems had to be updated in order to support the project.

SAM:BO was agreed upon and signed at political level, both by the Regional Council and by the 22 city councils. SAM:BO is a part of the Health agreements between the Region and the municipalities.

Upon entering the agreement, the Region of Southern Denmark, all the hospital units in the Region, as well as the municipalities have budgeted funds for the development and implementation of SAM:BO. SAM:BO is a cross-sector initiative and is funded by all the partners involved in the cooperation. Annually approx. €0.5m used on its development and running. In addition to that, the hospitals and municipalities have invested approx. 1.5 m EURO on implementing SAM:BO.

The development of the Shared Care Platform was funded by the national fund for Chronic diseases (Danish: Kronikerpuljen)
When SAM:BO was signed, information was sent to the management level. From there competency development of the users was the core focus in order to ensure a successful implementation. A large kick-off meeting was held in the Region with participants from all hospitals, municipalities, and representatives from among the general practitioners. What worked very well was that all participants were given bags full of dissemination materials that they could bring home to their own organisation and from there disseminate the knowledge they had gained.

On a wider scale - SAM:BO and the massive roll-out of new electronic communication has been described in several newspapers and magazines as well as presented at national conferences.

The fast roll-out and implementation of new procedures meant that the professionals had to use the agreements and the electronic messaging. A team followed the entire process, ready to support the implementation of the new organisational structures, but also to assist in the roll-out of the new electronic communication. There continues to be a team supporting SAM:BO and the electronic communication. This is to ensure a continuous development of services and to upgrade the services when new possibilities in technology arise.

The scaling up has been multidimensional and has involved an interaction of drivers. Once it was agreed upon on political level, all were highly involved in implementing SAM:BO and the services connected to them.

Once SAM:BO was initiated, all the normal procedures regarding agreements on discharging patients from the hospital were cancelled over a six month period. With the new procedures and agreements, the patients are (in principle) discharged the day they enter the hospital, which means a new way of not only organising health care, but also a new way of providing home care services. The incentive to learn and to carry out the new organisational process of SAM:BO was therefore very high for the involved professionals.

Our results:

- SAM:BO covers all citizens in the Region. When citizens are receiving hospital services and need services across the different sectors (primary, secondary, and/or social care sectors) SAM:BO comes into effect - regardless of age and diagnosis.
- The Shared Care solution targets all patients with a complex chronic disease where both health and social care is involved. As such, the aim is to reach 100 % of the target population within a few years.
- The statistics have shown that patients are discharged faster from the hospital. In addition to the faster discharge from the hospitals, the complex patients also have the Shared Care Portal that enables them to be monitored from home if needed.
- In a study done in the European project DREAMING it was shown, that the solution has a positive effect on mental health and quality of life. When patients were monitored from the home, it resulted in a significant effect on their QoL, in particular on 'vitality' and 'mental health'.
- Monitoring devices are now accessible in supermarkets and therefore people expect the healthcare system to be able to handle the information they collect. Patients, once registered in the Shared Care system, can either type in or automatically send their vital monitoring information, thus providing a better overview for the professionals taking care of the patient.
- SAM:BO builds on the concept of LEON – lowest possible cost level – which means that the patient will receive the best and most efficient treatment, but to the lowest cost possible without compromising the provision of healthcare.
- Studies have shown substantial cost-benefits, as significant savings are found when using electronic communication in health care. Electronic communication is an integral part of SAM:BO.
- SAM:BO and the electronic communication around it - including the Shared Care solution – is one way to create a sustainable solution to health and welfare, in accordance with the new Danish public sector eGovernment strategy. (http://www.digst.dk/Servicemenu/English/Policy-and-Strategy/eGOV-strategy)
- The homepage esundhed.dk (ehealth.dk) allows for monitoring the performance of several key indicators such as “communication between hospital and municipality” as well as benchmark with other regions.
- Health and social care innovation is based on a political vision of smart specialisation with health and social innovation as one of three prioritised areas of business excellence. The region has recently been awarded the European Entrepreneurial Region 2013 label by the Committee of the Regions, in part due to its smart specialisation strategy and the focus on entrepreneurship and inclusive growth within health and social care innovation.
- The service opens new markets, since the patients will need to have monitoring devices at home.
- The smart specialisation strategy within health and social innovation has resulted in 800 new private sector jobs (http://issuu.com/region-syddanmark/docs/1407_smu_8-2013?e=6537711/5343094)

Added value:

- The integrated flow of information through the healthcare chain increases the discharge rate and enables continuity once the patient is discharged and taken over by the municipality/home care. The electronic communication also generates cost-savings for all the actors involved in the process.
- Before the Shared Care system, the information of citizens with chronic illness was dispersed over many IT systems and it was up to the citizens to transmit them to the different health actors. Now the chronic care guidelines have been digitalised and all information is available to the relevant actors in the chain, at the right time and place.
- Thanks to the Shared Care system complex patients can be monitored directly from home, with positive
impact on their mental health and quality of life.

**Success factors:**

Political consensus was necessary for scaling up in Southern Denmark.

**Barriers to innovation:**

The existing barriers have so far been on a more technical character as IT systems needed to open up for integration of, not only the electronic communication between systems, but also to have access to national databases for patient information. Even though the ICT infrastructure in Denmark is well advanced, barriers continue to exist not only in ICT but also to the implementation of new innovative services. However, as the integration of services in health and social care has been an integral part of the strategies of the Region, these have been overcome and the Region is now looking into the new future where the aim is that citizens live healthier and longer in the comfort of their own home.

**Transferable elements:**

Although SAM:BO was written in a certain way to fit the settings, in which it was first implemented, it can also change. Since then, new procedures at the hospital, such as a joint acute admission unit at the large hospitals in the region, have made it necessary to extend SAM:BO. Therefore, overall it can be transferable to other settings.

**Lesson learnt and recommendations for others:**

The process of SAM:BO is twofold: organisational and technical.

- The organisational implementation works best when clear agreements and instructions on the individual's tasks and use of IT are formulated.
- The technical implementation is strengthened by developing IT as tools to support the work process that relates to the agreements and instructions. IT is best developed through active user involvement in the development phase.

SAM:BO applies to the field of cross-sector cooperation, that is, the development and IT-support of the cooperation between municipalities, hospitals, and GPs to secure that the patient experiences the treatment as one coherent treatment process. Cross-sector organisational implementation is most successful when the procedures and instructions are a result of cooperation across all sectors and new practices are taught in a cross-sector set-up where both municipal staff and hospital staff are trained together.

**More information:**

SAM:BO
http://www.regionsyddanmark.dk/wm348153
(in Danish)

Shared care:
http://www.regionsyddanmark.dk/wm319357
(in Danish)

Smart Care:
www.pilotsmartcare.eu

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**More information:**

SAM:BO
http://www.regionsyddanmark.dk/wm348153
(in Danish)
FINLAND
City of Oulu

Good Practice:

Wellness profile Oulu and Oulu Self – Care system (GP 1)

Reference Site:

City of Oulu

Contact information:

Anna Haverinen PL 37, 90015 City of Oulu Finland
anna.haverinen@ouka.fi

Project duration:

The development of OMAHOITO and the Wellness profile has been done in phases and it is still going on.

How we did it:

The need for citizens to know how to look after themselves was recognised early in our city. To do that, tools that would collect knowledge about their well being was needed and that is why the Wellness Profile assessment tools were developed for professionals and for citizens. The content was developed and evaluated during many years. Funding by TEKES made that possible. The web tool was developed in the “Soten sähköinen toimintatapa ja teknologia” –project, funded partly by EU.

OMAHOITO has been developed with the synergy of local industry and technology, and by planning its expansion, companies and service providers have a potential of developing relevant services and products that will be provided through OMAHOITO. OMAHOITO was developed partly with Tekes-funding.

Our results:

The city of Oulu professionals make 200 supporting house calls / year. They are meant for elderly of 80 years of age. The wellness profile is used in these house calls. It is a tool that can be used in assessing risks and intervention results. The next step is to launch the internet version, where all elderly can use it to assess their wellness profile.

There are about 33 000 users in OMAHOITO. There are 180 000 inhabitants in Oulu, so the percentage of use is still relatively low. Besides looking for information on various health issues, the OMAHOITO users have been booking their laboratory visits and communicating with the specialists. Nevertheless, most of these activities have been taking place using conventional means such as the phone. For this reason a detailed strategy about the advertising of the OMAHOITO services, as well as the further development has been set by the city of Oulu. There is a clear potential in the use of ICT for the Self Care in Oulu, as it has been demonstrated by a recent event: when the citizens were given the possibility to choose which health center they would like to belong to

Partners in the coalition:

The companies MSG and Mawell have been partners in developing the web tools. There is also collaboration with service providers.

Start date: 2008

Short description of your good practice:

The elderly people can estimate their own well-being by using the web tool Wellness Profile Oulu. The individual well being consists of many features: independence, physical capacity, social network, loneliness, safety, perceived health, lifestyle, quality of life, mental capacity.

The Wellness Profile is also an aid for nurses in preventive work. About 200 house calls are done / year for those who are 80-years-old but do not use services, in order to assess their situation.

The guidance, based on needs, is given through OMAHOITO Oulu Self – Care System. Users can log in the Oulu Self-Care Services using their bank credentials and book laboratory appointments, access their laboratory test results, send and receive messages, and enter measurements taken at home, such as blood pressure measurements.
and they got directions how to do register it with the authorities, 60% of the registration happened on line.

It is expected that by guiding people in looking after themselves and preventing certain conditions, the health system will become more effective and cost effective.

It is also foreseen that developing a good e-Health system such as OMAHOITO and providing interfaces and possibilities for services (e.g. services built around measurements), companies can get businesses.

**Added value:**

The wellness profile is meant for the elderly and is based on evidence. It is possible that all the elderly can use this system to estimate their own wellbeing and get guidance via the Oulu Self – Care system. This will support early detection of potential problems, which means that certain conditions can be prevented or delayed, and possible interventions can be evaluated. It can also provide a good estimation about the evolution of the general condition of the citizens, and provide the public health people with insights in designing resources and their use.

**Success factors:**

Our success factors are:

- A strong background in ICT for more than 35 years in our city.
- Good study and research, pilots for getting evidence that the tools can work.
- Offered opportunities and education for professionals and citizens in the use of such tools
- Replicatability
- Good cooperation between public and private stakeholders and companies in the development of the tools.
- Good infrastructure e.g. internet in public buildings and the center of Oulu, internet as default in elderly apartments.

**Barriers to innovation:**

A potential bottleneck in these plans is the Pre-commercial Procurement Processes as they stand now. The city of Oulu is constantly developing new ways for addressing the problems in these processes.

**Transferable elements:**

The wellness profile Oulu internet tool is developed by MSG. MSG actively markets Wellness Profile which is great tool to use in preventive house calls for the elderly which are advised to do in every municipality. OMAHOITO is taken into use in municipalities and areas like Oulunkaari.

**Lesson learnt and recommendations for others:**

The Wellness Profile is a long questionnaire, it can be considered too long and time-consuming tool. However, we consider that the wellbeing is comprehensive state and must be measured properly considering many dimensions. It is possible to use technology and make the process of answering and analysing the results easier.

**More information:**

- [http://www.ouka.fi/c/document_library/get_file?uuid=2d6c319b-e0d7-45fb-a9ee-b308013fe36e&groupId=840372](http://www.ouka.fi/c/document_library/get_file?uuid=2d6c319b-e0d7-45fb-a9ee-b308013fe36e&groupId=840372)
Good Practice:

Supporting independent living and home care using technological products and services (G P 2)

Reference Site:

City of Oulu

Contact information:

Anna Haverinen
PL 37, 90015 City of Oulu Finland
anna.haverinen@ouka.fi

Short description of your good practice:

Different kinds of technical solutions and services are taken into use to support independent living. The elderly feel safe, they experience that they get the help needed and the necessary care & cure. The solutions support elderly independence, ability to function and make communication possible with the relatives and friends. When using technology in home care, resources can be allocated better and it becomes cost effective.

Partners in the coalition:

This innovation concerns great deal of actors: elderly citizen and their relatives, service providers, companies, city of Oulu’s personnel and developers.

Start date:

There is no set start date for this good practice since its source is in the Finnish Law about the responsibilities of the municipalities. This is rather a collection of innovative ways of complying with the law, and delivering better service.

Project duration: see above

How we did it:

Because of the strong development of ICT and the relevant technologies that the city of Oulu had the chance to experience first-hand, it was recognized that such technological achievements could be use in delivering services to the elderly. Many technological devices and solutions have been tested in homecare in the City of Oulu. Part of these solutions has been adopted into common practices. A great gain in foresights has been achieved through the testing. Homecare and technology is a combination that needs to be reinforced in the future.

Our results:

Many pilots testing technological devices in homecare have been done during the last years and will be done in the future. On bottleneck that came out of these pilots and the up taking of the technologies to every day practices relates to the current processes of procurement. That is why Oulu is a partner in the SilverSuomi-project (funded partly by Tekes).

Some of the resulting practices are:

- Home care personnel have already mobile phones with a patient information system; locks are possible to open by using a mobile phone with a Bluetooth application.
- By using video connections with easy-to-use user interface, elderly can communicate with their relatives and with the home care personnel when needed, providing socializing and care.
- Technology has provided a good resource management, so that our homecare nurses can effectively look after our elderly, with a good work economy.

The strategic goal is that 92% over 75 year-old live at home with services needed by 2016. This provides a great opportunity for a wide range of companies, from builders who will have to provide the right infrastructure, to health professionals, to health insurance companies to technology providers and MedTech. Synergy is needed between all these stakeholders for the current as well as the future home services planned by Oulu to become true.

Added value:

Using technology in homecare, the homecare resources can be allocated right. A homecare customer feels safe and the solutions support elderly independence.

Success factors:

- Strong ICT background and firsthand experience in the opportunities of using technology for solutions in homecare
- Infrastructure, a good test bed such as our Kaakkuri Technological Health Center.
- Suitable companies and research Institutes

Barriers to innovation:

Bottlenecks are mainly seen in getting new realistic business models and innovative procurement processes that will benefit all stakeholders.

Transferable elements:

Pilots are done locally and the good practices will be taken into use everywhere in City of Oulu’s homecare. The model / good practices can be taken into use nationally and in other countries.

The services and the model provided in the city of Oulu are a collection that is tailored to its needs and it cannot
Lesson learnt and recommendations for others:

There can be many prejudices that using technology in homecare it is a “cold way” to provide service and that older people cannot learn how to use technological devices. The pilots have showed to us that there are all kind of users among elderly, and when they have courage to try technological devices, they usually are satisfied customers. Technology must be easy to use, intelligent and adaptive.

Good Practice:
TTKaakkuri product testing service and OuluHealth (LivingLab) (GP 3)

Reference Site:
City of Oulu

Contact information:
Anna Haverinen
PL 37, 90015 City of Oulu Finland
anna.haverinen@ouka.fi

Short description of your good practice:

Technology Healthcare Center Oulu offers product testing and analysing services to companies and research institutes. This service is called TTKaakkuri, product testing service. In product testing service professional health care personnel and product testing specialist creates an individual test program tailored for customers' needs. The products are tested in a real user environment.

Development is based on the strategies of City of Oulu and the needs of implementing new products and services into the public health care sector. The goal is to get well planned products on the market that meet the needs of health care professionals. The goal is to expand this testing model into home care. Customers and personnel test products, several different testing packages can be used, companies get feedback from real end-users.

Partners in the coalition:

OuluHealth is a forerunner in smart health. It can be seen as a coalition of expertise of Life Science and ICT. OuluHealth creates practical results and innovations which improve human wellbeing. OuluHealth brings together companies, the local hospital district, university, research institutes and the City of Oulu (TTKaakkuri and other parties). The future healthcare and social services on open systems and open collaboration is built together.

Oulu Health functions in the Kontinkangas area, which is already a significant center of biotech, health and wellbeing research, education, business and services. In the area at the moment:

Oulu University Hospital; Northern Ostrobothnia Hospital District administration; National Institute for Health and Welfare; Finnish Institute of Occupational Health; Oulu City Hospital and Health Center; Oulu University of Applied Sciences, School of Health and Social care; Departments of the Oulu University Faculty of Medicine and Faculty of Technology; Cross-
disciplinary Biocenter Oulu Research Center; Welltech Oulu Research Unit and Clinical Research Centre; Kastelli Research Centre; Medipolis;

**Start date:** 2012

**Project duration:** In various phases at least until 2035

**How we did it:**

Once the realization that ICT can be used in health related services was done, a testing environment was envisioned, and the city of Oulu participated to the development of a revolutionary technological health centre (2008), since it needed to take forward new age effective services and to renew the working processes. TTKaakkuri has been a small scale testing environment.

The Technology Healthcare Center Oulu offers product testing and analyzing services to companies and research institutes. The testing process, working process and environment was enabled via Tekes-funding.

TTKaakkuri Product testing in a real health care environment aims to get knowledge of product testing for well planned products that meet the needs of health care professionals, knowledge on the co-operation models with companies and public sector when producing and implementing new innovations, and on co-operation between the product developers and health care professionals.

A recent change in the business environment and profile of our city, when telecommunication and ICT companies started withdrawing resulted in the freeing of excellent test facilities that can now be used to form a Living Lab environment, and this development is part of OuluHealth.

**Our results:**

This service is relevant directly to companies and interventions, and indirectly to citizens and population. 100% of them will receive better services and the possibility to participate to their development.

There is a provision that citizens can participate to the development and testing of the new services. Companies and service providers will have the possibility to demonstrate the efficiency of their products in a reliable environment.

Live testing and pilots provide intuition about the impact of the services and products, and guidance in how to tackle the balance of costs vs. effectiveness, in business as well as in real value of services. A healthcare and social system that is leaning upon well piloted and tested services and products, that has assessed the cost efficiency and adjusted accordingly is also sustainable.

Companies can gain knowledge about their potential in their products and services and therefore provide better health services. Professionals of healthcare can be informed and updated about new development so that their decisions will better benefit the receivers of services.

Altogether, the Kontinkangas/Peltola area provides jobs for more than 8400 people – in fact, almost 10 percent of all jobs in Oulu are located in the area.

Two type of home monitoring devices were tested in TTKaakkuri. CheckUp Life contains eg measuring devices for weight, blood pressure, blood sugar. The measurements results could be sent wireless to personnel.

**Added value:**

The City of Oulu technology health care center personnel are forerunners in developing technology. The products are made based on needs.

**Success factors:**

- Infrastructure investment
- Good ICT background
- Innovative companies as partners and clients
- Technology and Innovation oriented citizens that understand the benefits of participation to the creation of services

**Barrier to innovation:**

- Prejudice about the value of technological testing of service oriented products
- Commercialization processes are still not adequate. It is not easy to convince companies on the benefits of using this testing environment.

**Transferable elements:**

Oulu Health is a unique Living Lab environment born out of the strong technological and life science background of Oulu, in combination with the good educational institutions of our city. It is still being planned but it is expected that it will be adopted by other places in Europe and the world, judging from the interest expressed until today.

**Lesson learnt and recommendations for others:**

TTKaakkuri product testing service is an unique service to companies and help their product development. Healthcare personnel are pleased when they have a possibility to influence on developing products.

**More information:**

## Key data:

### Finland

#### Health system

S1 - Beveridge  
(public provision and public insurance)  
no gate-keeping and ample choice of providers for users

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Good Practice:

HTLA: Health Territory Local Agreement (GP1)

Reference Site:

Région Ile-de-France, FR: Assistance Publique-Hôpitaux de Paris (APHP)

Contact information:

Prof. Francois Piette
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APHP Hôpital Charles-Foix, 7 av de la République, 94205, Ivry sur Seine, France
Tel. 01 49 59 44 07

Short description of your good practice:

This Agreement is a long-term project aiming at better coordination between local health and social stakeholders for a more efficient care pathway. The territory agreement seeks to reduce three obstacles:

- "social": feeling of loss of ownership of the process
- "technical": the lack of tools to share information
- "cultural": intensity of professional identities, which prevents holistic approach.

The target population is people of 75+ years old and extended to 60+ when concerning prevention. The project is organized around 5 topics: 1) Promoting therapeutic education; 2) Developing alternative strategies to avoid the entry of emergency by default; 3) Preparing both access to the hospital and return to home; 4) Providing care monitoring services and support at home; 5) Ensuring the quality of care in residential facilities.

Partners in the coalition:

The partners of the Agreement include stakeholders from all levels involved in health and social care provision in the Region. The project is organized in 3 levels of responsibility.

Level 1: Decision Level to ensure the Public Policy coordination with representatives of local authority of health (ARS), local representation of Social Security, local authority of social services (Regional Council).

Level 2: Territory Coordination, including the technical representatives of the involved partners and representatives of local entities involved in the agreement.

Level 3: Operational Management group which aims at performing the monthly control of the project. This group consists in representatives of all professionals working in all partner entities.

The entities include namely: Regional Health Agency (ARS), Public Health Insurance, Regional Council, APHP Hospital leading a geriatric network, Local Information and Coordination Center (CLIC) of the Local Authority, Health Network Association, Social and Home Services Providers.

Start date: 2011 – first 9 month spent on analysis and diagnosis phase. Since then establishing HTLA in Ile-de-France, which was the result.

Project duration: permanent

How we did it:

This Territory Agreement is based on national and regional political decisions. The current Agreement is in place in the territory "Paris districts 9, 10, 19" around one APHP hospital. This Agreement was created based on preparation work, an analysis and a diagnosis of the maturity in relevant areas in 3 territories in 3 regions (Île de France, Languedoc-Roussillon, Pays de la Loire) in 2011 undertaken by the ANAP (a national public agency in care provision). Such diagnosis is done based on a toolkit created for this purpose. This Territory contract in Paris (arrondissement 9, 10, 19) is the first application of this diagnostic process.
There has been political support present both on national and regional levels for the Agreement. On the national level, it is promoted by the French Ministry of Health. On the regional level HTLA is managed by the Regional Health Agency.

The project is funded by the French Ministry of Health in the PAERPA (Personnes Agées En Risque de Perte d’Autonomie)

Work at the territory level is essential:
National, Regional, Local authorities have recognized that the efficiency of any action to improve care pathways is possible only at the local level. All the while it has became clear that the best possible promotion of such “local Agreement” in a territory is by the highest level of French Public Bodies. The main forces to perform this promotion within the territories and managing the funding of such a practice are the Regional Agency of Health (ARS) present since 2010 in every French region.

The territory agreement has established project governance and coordination teams to enable cross-domain management. Previously the actions to structure the offer and ensure better coordination (networking, cooperation, geriatric approach) were not sufficient to provide an “integrated” service visible by the patients. Professionals still acted in silos. This disabled piloting transversal issues. Therefore, the territory agreement seeks to reduce the three obstacles mentioned above – the social, technical and cultural.

Promoting the coordination of stakeholders under the umbrella of local health and social authorities is the mean to remove the above obstacles.
For each action described above, the agreement has defined outcome indicators, which allow for measurement and reporting to the project management.

**Our results:**

Coverage: From among the target population the goal is to involve immediately 40%, and in the short term full 100%.
The main benefit related to the health status of elderly is the seamless management of their care pathways.

**Added value:**

- The decision of the regional stakeholders to undertake the diagnostics of care pathways in the territory.
- The decision of the concerned stakeholders in the territory to sign an agreement that would lead to transversal cooperation on the local level.
- Building a care pathway centred around the user’s needs. Along this care pathway, each topic applies according to the status of the person. The number of involved stakeholders increases with the complexity of the situation of the person.

**Success factors:**

- Political will in the region where the territory is located.
- Performing the diagnosis and analysis of the maturity of the care in the given territory through the Toolkit prepared for this purpose.
- Identification of the partners in the territory to be involved.
- The availability of finances and resources to perform new tasks connected with management of the Agreement within the relevant organisations has to be validated before the signature of the Agreement.

**Barriers to innovation:**

The main barrier which is still persistent is the reluctance to change. Interoperability between several professionals means adapting their manner of exchange and sharing their own experience. This fact delays the adoption of the new practice within the territory.
**Good Practice:**

**T4H: Technology and Human Help at home after Hospitalisation (GP2)**

**Reference Site:**

Région Ile-de-France, FR: Assistance Publique-Hôpitaux de Paris (AP-HP)

**Contact information:**

Prof. François Piette
Email: francois.piette@cfx.aphp.fr
APHP Hôpital Charles-Foix, 7 av de la République, 94205, Ivry sur Seine, France
Tel. 01 49 59 44 07

**Short description of your good practice:**

This project aims to reduce the number of falls, to avoid unjustified hospitalizations, to support seamless return to the home after hospitalization and to improve the physical autonomy of frail elderly once they are home, maintaining their independence and deferring admittance in sheltered accommodation. The best practice relies on rehabilitation after hospital discharge via e-learning and assistive technologies for both the elderly person and their family and carers who receive adapted training in assisting them at home.

The methods of e-learning and the development of an innovative business model, based on a rental system of the technology rather than the individual acquisition, make this project a good candidate for scaling up.

**Partners in the coalition:**

The project brings together various partners: the group of Paris hospitals – AP-HP; relevant public sector actors including National Pensions Insurance Fund, National Union of Carers, Regional Union of Health Professionals; and manufacturers and distributors under a regional industrial cluster SOLIAGE (Innovative Solutions for Autonomy and Gerontology).

**Start date:** 2013

**Project duration:** 3 years

**How we did it:**

The good practice was initiated based on collaborative work by AP-HP and the National Union of Care (UNA). The decision was to get funding from social and retirement pension funds for a pilot, involving 120 elderly people returning home after hospitalization from Charles Foix Hospital.

The whole project is supported by the Ministry of the Elderly and is a part of its new national programme "Silver Economy".

The project receives funding from the CNSA (National Solidarity Fund for Autonomy), CNAV (National Pensions Insurance Fund), the INPES (National Prevention Health Education Institute), private health insurance organizations such as AG2R La Mondiale, MACIF Foundation, Réunica and regional funds for social innovation.

**Our results:**

The project is just starting. The results are expected by the mid 2015.

The indicators will be based on statistical differences between controlled and treated groups in gait parameters (up and go test), in mobility (number of steps) and in quality of life (SF36).

The good practice aims to avoid hospitalization and institutionalization and has therefore strong impact on the sustainability of the care systems.

**Added value:**

The hospital provides technical expertise, training and therapeutic experience. The elderly people are taught how to use technology to their benefit. Health professionals are responsible for the supervision of home caregivers and the e-learning programme. Treatment is prescribed by the hospital and delivered by non-health caregivers under the supervision of health professionals at home. This reduces spending on hospital stays and allows the elderly to stay in their own environment.

The training program and the related technologies allow for adaptation to fit with the needs of the elderly. Furthermore, the work of carers will be enhanced to increase the value added of their tasks. The Good Practice will allow a change from basic house cleaning tasks to working on stimulating the elderly people’s autonomy.

**Success factors:**

The methods of e-learning and the development of an innovative business model, based on a rental system of the technology rather than the individual acquisition, make this project a good candidate for scaling up. It is possible to have the e-learning programme translated and adapted locally (taking into account cultural differences).

**Barriers to innovation:**

The main barriers are rooted in the change management of the home care providers.
One of the main innovations is the renting of the necessary technology by the elderly. The barrier here lies in the management, especially in the creation of a stakeholder network that would be involved in the provision chain of the technology.

**Key Data:**

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Good Practice:

*Dossier Pharmaceutique® (ICT) applied to the elderly in France (GP1)*

Reference Site:

Region Languedoc-Roussillon, FR: MACVIA-LR Consortium (Contre les Maladies Chroniques pour un Vieillissement Actif et en bonne santé en Languedoc Roussillon / Fighting Chronic Disease for active and healthy ageing in Languedoc Roussillon)

Contact information:

Christian Bourquin, President, Region Languedoc-Roussillon
Jean Bousquet, Chair MACVIA-LR
President du Conseil Regional Languedoc-Roussillon Hotel de Region, 201 Avenue de la Pompignane 34064 MONTPELLIER Cedex 2, France
Email: jean.bousquet@orange.fr
Dr Françoise Radier-Pontal (f.radier@offisecure.com)

Short description of your good practice:

The Dossier Pharmaceutique® is the electronic pharmaceutical record, a tool in use in 97% of private pharmacies in France, covering 35% of the French population (of all ages). This good practice proposes to deploy the Dossier Pharmaceutique® specifically for the needs of the elderly patients in order to (i) prevent drug interactions and improve compliance to treatment in people ≥65 years, (ii) to lower risk of falls (for the ≥75 years) and (iii) to manage chronic diseases better (in the ≥65 years).

Partners in the coalition:

Multi-sectorial leadership and governance is undertaken by MACVIA-LR. Activities are centred around patients' organisations involved in MACVIA-LR. This specific best practice involves Regional Health Agency, Regional health insurance, national council of pharmacists, private and public pharmacies, GPs, University of Montpellier, relevant hospitals, private sector – pharmaceuticals and ICT, research institutions, Schools and training centres for teaching and coaching.

How we did it:

To use the DP®, an electronic file under the leadership of the Conseil National de l’Ordre des Pharmaciens (law 2007-127 and article L.161-36-4-2, Code Sécurité Sociale), in elderly patients across France to achieve the goals of the EIP on AHA focusing on (i) drug interactions and compliance to treatment in people ≥65 years, (ii) risk of falls (≥75 yrs), (iii) fall prevention and (iv) chronic disease integrated care in the elderly (≥65 yrs).

The DP® is led by the Ordre National des Pharmaciens. The MACVIA-LR project is led by the President du Conseil Regional Languedoc Roussillon. The Presidents of Université Montpellier 1 and of the two teaching hospitals of the Region (Montpellier and Nîmes, over 15,000 employees) are co-leading the coalition. The Regional Health Agency (ARS) is part of the project.

DP® is financed by private French pharmacists through their subscription to the Ordre des Pharmaciens (pharmacy board).

The DP® (electronic pharmaceutical record) is a professional tool used by pharmacists. Its purpose is to offer a more secure dispensation of medications in order to coordinate care for the benefit of the patient. It establishes a comprehensive, accurate list of all the medications that have been delivered to a patient over the past four months by the pharmacies linked to the system.
The DP® is already in use in the majority of private French pharmacies. It is used for approximately third of the French population.

**Our results:**

Coverage: 97% of private pharmacists in France use the DP® for most patients. It is currently being deployed to hospital pharmacies. Over 30 million patients in France have agreed to use this tool.

A competitive cluster Eurobiomed has been created in 2009 to deploy this and other best practices and boost competitiveness and economic growth. It includes industrial, clinical and scientific stakeholders working together to gain in visibility, develop new collaborations and promote an R&D network along France’s Mediterranean coast. The cluster includes: 140 companies with approximately 3,000 industrial researchers ranging from biotech to large pharmaceutical and ICT companies; 4 science and technology parks; 8 universities; 4 research hospitals to support clinical research.

**Added value:**

By consulting the list, the pharmacist can identify and avoid negative interactions among drugs and unnecessary or redundant medications.

**Barriers to innovation:**

The DP® is not yet authorized to be used by physicians and there is no interconnection with medical files. This is planned for the near future.

**Transferable elements:**

The tool should be made inter-operable with other countries. Up to now it is available only in French.

**More information:**

[link](http://www.macvia.cr-languedocroussillon.fr)
[link](http://www.ordre.pharmacien.fr/Le-Dossier-Pharmaceutique/)

The DP® represents an innovative tool that covers the whole of France and that can be deployed to other EU countries.

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**Good Practice:**

Interoperable Integrated Care Pathways for co-morbid chronic diseases in the elderly (GP3)

**Reference Site:**

Languedoc Roussillon

**Contact information:**

Jean Bousquet
[jean.bousquet@orange.fr](mailto:jean.bousquet@orange.fr)

**Short description of your good practice:**

The general objective of this good practice is to develop multi-sectorial Integrated Care Pathways (ICPs) for chronic diseases based on a comorbidity clinic, for deployment in remote rural areas, and that can be used across European countries and regions in order to reduce the burden of the diseases and have an impact on active and healthy ageing.

**Partners in the coalition:**

The project will be led by the Region Languedoc Roussillon, University of Montpellier 1, the university hospitals of Montpellier and Nîmes, primary care physicians and all the stakeholders needed, in collaboration with the Regional Health Agency (ARS) and the Regional health insurance agency (CPAM).

**Start date:** 02-2012

**Project duration:** 7 years

**How we did it:**

The President of the Region decided to initiate this project and all stakeholders were invited within 2 months. The Good Practices already in place in the Region were embedded in the project and 2 new initiatives were added (co-morbidity clinic and fall prevention initiative).

Région Languedoc Roussillon, university hospitals of Montpellier and Nîmes and University Montpellier 1 are providing funding for the project. Direct funding (public funding): 250 k€, in-kind (private-public) funding is estimated at over 1 million €.

All actions are centred around the patient, and patients’ organisations are involved in MACVIA-LR. All actions are interrelated and multi-sectoral. The private industrial sector is involved through the Eurobiomed cluster.
The technical solution was implemented and integrated in daily practice: using highly committed stakeholders including patients.

Change management was implemented by setting up 2 clinics which did not exist and are now functioning. Links between the action groups of the EIPonAHA were made.

Our results:

At the global level, Life expectancy (LE) and Healthy Life Years (HLY) will be regularly computed for the Languedoc-Roussillon and the other French regions. The subnational level of the European Health and Life Expectancy Information System (EHLEIS) will be used. This system, developed by the European Joint Action on the Healthy Life Years, involves several partners in Languedoc Roussillon (http://www.eurohex.eu) and is coordinated by JM Robine (Montpellier). Results from French surveys and French samples of European surveys such as SHARE, SILC or EHIS will be adjusted to the local characteristics and used to compute French regional estimates of HLY fully comparable with EUROSTAT estimates for the Member States. The developed methodology will be made freely available for all European regions.

At the micro individual level, short forms of standard Health-related QoL (Quality of Life) so measurement will be used in all MACVIA-LR initiatives. A new form allowing the estimation of the contribution of each initiative to the overarching target of the EIP-AHA might be proposed, following the basic principle that Healthy Life Years are made up of Healthy Days. Between these global and micro levels, ad-hoc indicators related to each MACVIA-LR initiative will be followed over time. These indicators, to be tailored with each project, cover the heading topics which include falls, frailty and avoidable hospitalisation rates.

Eurobiomed is a member of MACVIA-LR, is a non-for-profit organisation accredited by the French government as a "competitive cluster" (Pôles de Compétitivité). It includes industrial, clinical and scientific stakeholders working together to gain in visibility, develop new collaborations and promote an R&D network along France's Mediterranean coast (Régions Provence-Alpes-Côte d'Azur and Languedoc Roussillon):
- 140 companies with approximately 3,000 industrial researchers ranging from biotech and ICT companies.
- Four science and technology parks.
- Eight universities with over 250 academic research laboratories (6,000 academic researchers in life science/healthcare).
- Four research hospitals to support clinical research: ranked second in France for the number of clinical trials.

Success factors:

The two clinics are fully operative and deployed in other areas of the region so to cover the entire region.

Barriers to innovation:

As any innovative programme, it takes time to convince all relevant stakeholders that the new system will not be time consuming and ineffective and will not overlap with existing ones.

Transferable elements:

The partners in the good practice are already using the nine-step scaling up strategy of ExpandNet/WHO. Replicability within the region: A regional network has been initiated to scale-up the expertise of MACVIA-LR and the other projects of the EIP on AHA (ICT using Antares®).

Replicability within France is using bottom-up (Presidents of the Regions) and top-down (project-based) approaches. Meetings between the applicants of the French Reference Sites are taking place to establish a well-structured collaboration and to work towards complementarity, scaling up and dissemination.

Replicability in EU regions will be done in collaboration with (i) EUREGHA (European Regional and Local Health Authorities), (ii) the Assembly of European Regions (AER) of which the Region is a member and (iii) the existing links of MACVIA-LR members with different regions. Specific links with Catalonia have been started.

Lessons learnt and recommendations for others:

The project is only in its first phase.
### Key Data:

**S5 - Bismarck**

(reliance on market mechanisms in service provision)

priavate insurance beyond the basic coverage and some gate-keeping

| Indicator | France (lowest) | France (highest) | GDP
|-----------|-----------------|------------------|---|
| Public expenditure on health, 2010 (% of GDP) | 3.3% | 7.8% | 7.9%
| Health care expenditure, €/PPS per inhabitant 2010 | 609.66 | 3,074.86 | 4,678.93 |
| Amenable mortality rates | 461.4 | 89.2 | 89.2 |

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Good Practice:

Regional House for Autonomy and Longevity and the Living Laboratory (Lena) (GP1)

Reference Site:

Region Pays de la Loire, FR: CENTICH (Centre d’Expertise National des Technologies de l’Information et de la Communication pour l’Autonomie / Information and Communication Technologies National Center of Expertise for Autonomy)

Contact information:

Jawad HAJJAM
51, rue du Vallon, 49000 – Angers, France
Email: Jawad.hajjam@centich.fr

Short description of your good practice:

The Regional House for Autonomy and Longevity (MRAL) is a showcase dedicated to the economic and societal challenges of demographic ageing. It informs and provides advice through exhibitions, seminars etc. about structures and assistive technologies designed to improve the quality of life of the elderly. The living lab (Lena) offers assessment to the elderly on individual basis; it then provides personalized information and advice on how to adapt one’s home with new technologies dedicated to independent living and health. 400 persons a year receive such information and advice. “Lena” integrates more than 30 technologies dedicated to independent and assisted living and to telehealth.

Partners in the coalition:

Lena is managed by CENTICH and the MRAL is managed by the Pays de la Loire Autonomy and Longevity Gerontopole. CENTICH brings together research labs, manufacturers, SMEs and user associations and is managed by the Mutualité Française Anjou Mayenne, which also manages more than 100 health care and social care institutions. The Pays de la Loire Autonomy and Longevity Gerontopole, a multidisciplinary regional institution, is supported by the Pays de la Loire Region and the Pays de la Loire Chamber of Commerce.

Start date: Lena was inaugurated in 2012; MRAL will be inaugurated and fully operational in December 2013

Project duration: permanent initiative.

How we did it:

The good practice was initiated by the CNSA in 2009 during the creation of the Information and Communication Technologies National Center of Expertise for Autonomy. Built and well fitted into the heart of the Innovation district of Nantes, the MRAL was initiated by the Pays de la Loire Region, the hospitals of Nantes and Angers and the regional chamber of commerce.

The Léna Living Lab laboratory is supported by the Mutualité Française and the CNSA - National solidarity fund for autonomy. The Regional House for Autonomy and Longevity is supported by the Pays de la Loire Regional Council and implemented by the Gérontopole with a view to reaching regional magnitude and national dissemination.

Léna has been designed thanks to the contribution and the expertise of several large companies and SMEs such as Legrand, Bticino, Linak, Wincare, Sarlam, Elderis, Santinel, and a partnership with Cirmad, a real estate developer of the Bouygues group, as well as the contribution of the Angers Hospital as regards cognitive disorders.
The MRAL Regional House for Autonomy and Longevity is financially supported by the Pays de la Loire Region and by the partners of the Gérontopole for a global budget of 2 million euros.

All the services promoted by MRAL and Léna are supported by national, regional and local funds.

The Regional House for Autonomy and Longevity is supported by the Pays de la Loire Regional Council and implemented by the Gérontopole with a view to reaching regional magnitude and national dissemination.

The « scaling-up » strategy at regional level relies on a series of seminars and events that will be organized at the end of 2013 and beginning of 2014 in order to present the Pays de la Loire Gérontopole and its areas of expertise in research, economic development for companies, training and territory planning thus contributing to disseminating this knowledge in the whole Region.

The roll-out of the Léna Lab is already planned for two other locations in the Pays de la Loire region and for at least one other region in France via the Mutualité Française network.

Finally, CENTICH is a national center of expertise managed by a bi-departmental union within the National Federation of the Mutualité Française. The Mutualité Française is a key player in the field of health prevention and complementary insurance, gathering 38 millions of French protected via its system but, above all, it is a national network of 2500 non-profit making healthcare and support institutions.

Such a tight territorial networking will support the national dissemination thanks to the departmental affiliates of the Mutualité Française.

Our results:

Coverage: Lena services approx. 10% of the elderly population of the Region, while MRAL addresses the whole population of the Region.

- Lena and the MRAL create resources, expertise and means dedicated to ensuring ageing populations remain independent and in good health.
- Léna and the MRAL, integrated in the healthcare and social care support system, aim at bringing together the community, the mutual insurance system, the companies and research in order to develop, integrate and ease the access to technologies focused on autonomy and health, while taking into account the quality of use, the universal access and adding the users’ needs to the economic distribution model, particularly through the national network of the Mutualité Française.
- The House for Longevity will give information and advice through exhibitions, sensorial spaces designed to improve the quality of life of the elderly. It provides information to professionals and individuals via conferences, seminars, joint workshops about products and innovative services which help improve the quality of life of the elderly. It provides a collaborative work space, equipment and common tools, training facilities in order to address the issues related to active ageing, longevity and independent living. It is a meeting place to discuss and exchange between private companies, public research, care workers, teachers, civil servants, associations of elderly people and family carers… in order to formulate and to carry out common actions in support of the longevity and the autonomy of the elderly.

- Léna welcomes per year more than 400 elderly persons who are losing their autonomy, with their relatives. These people are provided with information, advice and support in the implementation of their compensation plan and in the adaptation of their housing.
- So far Lena has integrated more than 30 technologies dedicated to autonomy, remote assistance and telehealth ranging from safety tag to ambient or digital equipment for monitoring systems;
- Lena evaluates, develops or integrates, on average, 20 such technologies per year.

Added value:

- Léna, which is a true Living lab combining the actions of public and private stakeholders, companies, associations and individuals in order to integrate, assess and develop « real life scale » interoperable solutions, services, tools or new uses.
- Lena helps research to leave the labs in order to come into the everyday life while keeping a strategic view on the potential uses of such technologies. It sponsors open innovation, networks sharing and users’ involvement throughout the whole designing process.
- It combines business, research and users with the view to integrating and developing interoperable solutions.

Success factors:

The Léna Lab is considered successful and its roll-out is already planned in two other locations in the Pays de la Loire Region and in at least one other region in France via the Mutualité Française network.

The Regional House for Autonomy and Longevity is also considered successful involving as effective and active partners all the concerned organizations in the level of the region of pays de la Loire (universities, SMES, industries, hospital and local and regional administrations).

Barriers to innovation:

Time, financial and expert resources are significant barriers to innovation.

Generally, innovation is seen to be too expensive for businesses or services to get involved in. However, there are cost effective ways to generate new ideas and managers need to look at the potential benefits that come as a result of investing in innovation.

For the Lena and MRAL project these barriers can be overcome when projects:
- are initiated by public and private organizations
- have political support
- bring together industry and research organizations
**Lesson learnt and recommendations for others:**

The strategic approach is based on the users and identifies the objectives of coordination, information to be shared between professionals or with the users and of equal access to autonomy and cares. And this is carried out in order to improve the users care itinerary. This itinerary is defined for one person depending on their given specificity (medical, psychological, social, environmental, etc...), as being one of the possible paths which needs a coordinated action from each stakeholder: prevention, health and social care. The Gérontopole as well as CENITH within the Mutualité Française Anjou Mayenne bring forward Lena and MRAL as new models of organization of care designed to optimize the care itineraries of elderly people likely to lose their independence in order to support their staying at home, limit their risk of being hospitalized, support and prepare their discharge from hospital and promote the seamless continuation of the various supports related to their healthcare and social care.

The success of this best practice is to build a bridge between the needs of the users and the solutions developed by research and industry.

**More information:**

[www.centich.fr](http://www.centich.fr)

[www.gerontopole-paysdelaloire.fr](http://www.gerontopole-paysdelaloire.fr)

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**Good Practice:**

**Hearing Impairments and Low Vision Regional Centre (GP2)**

**Reference Site :**

Region Pays de la Loire, FR: CENITH (Centre d'Expertise National des Technologies de l'Information et de la Communication pour l'Autonomie / Information and Communication Technologies National Center of Expertise for Autonomy)

**Contact information:**

Jawad HAJJAM  
51, rue du Vallon, 49000 – Angers, France  
Email: Jawad.hajjam@centich.fr

**Short description of your good practice:**

The centre offers a new approach that optimises the use of residual functional hearing or vision and the development of other possible substitution sensory capacities and promotes compensation techniques, with the aim of increasing patient’s independence and quality of life. It has 3,000 visits a year, which corresponds to about 600 patients.

**Partners in the coalition:**

The Centre is managed by CENTICH, which is managed by the Mutualité Française Anjou Mayenne. The centre brings together professionals from both fields of expertise as well as a wider network of stakeholders who complement the services of the Centre.

**Start date:** 2003

**Project duration:** permanent initiative.

**How we did it:**

The project started in 2003 with the creation of the Centre Regional Low Vision in Angers, followed, in 2009, the Centre of Evaluation and rehabilitation of hearing impairment.

It was initiated by the Mutualité Française Anjou Mayenne and the Regional Health Agency.

The Low Vision and Hearing Impairments Regional Center is fully compatible and coherent with the Pays de la Loire Region healthcare system.

The Mutualité Française Anjou Mayenne MFAM, which manages CENITH, is a forerunner in the creation and
development of Hearing Impairments Evaluation and Rehabilitation Centers. Along with its partners, it is a part of the national dissemination process of Regional Centers with a double evaluation and rehabilitation expertise for Low Vision and Hearing Impairments.

Funded via an overall allocation from the Health Insurance, the project is based on the Multiannual Contract of Objectives and Means for about 3 million euros per year.

The users of the Hearing Impairments and Low Vision Regional Centre are patients and all the costs are covered by the public health insurance.

The Hearing Impairments and Low Vision Regional Centre carries out a continuous assessment of the patients’ quality of life during their rehabilitation process.

Three assessment tools of the assistance are implemented: a first global patient-satisfaction questionnaire and two other questionnaires in order to measure the efficiency of the rehabilitation program.

These questionnaires are used according to the specific program of each patient before and after the rehabilitation in order to objectively measure the progress:
- For low vision: orthopty, Daily Life Independence (D.L.I), locomotion, social worker, psychologist...
- For hearing impairments: Orthophony/audiology, speech-language therapy and compensation strategy, learning of technical assistance use, social worker and psychologist.

A questionnaire before and after the rehabilitation based on the patient’s quality of life is carried out with the patient and the psychologist in order to assess the improvements.

Two-thirds of patients experience important effects caused by the program they underwent at the Low Vision and Hearing Impairments Regional Center.

Our results:

The Centre covers more than 10% of the elderly population affected by loss of independence caused by low vision or hearing impairments.

The Centre is open throughout the year. It registers more than 3000 visits corresponding to almost 600 patients.

The Centre carries out a continuous assessment of the patients’ quality of life during their rehabilitation process. Two-thirds of the patients experience important effects thanks to the programme they underwent at the Centre.

Funded via an overall allocation from the Health Insurance, the project is based on the Multiannual Contract of Objectives and Means.

Long term care services and rehabilitation programs cannot exist alone. Indeed, they are part of a larger assistance process (geriatrics, addictions, burns, etc...).

They are also part of a network of partners, sometimes a healthcare network, dedicated to guaranteeing patients’ access to the necessary skills and technical structures and making sure that they are assisted all the way through their usual social, domestic or professional environment.

Finally, they carry out initiatives related to research and innovation within their territory in order to develop new technologies and services for the silver economy market.

Added value:

- There are 11 Low Vision Regional Centres in France, but only 3 regions combine low vision and hearing impairments skills.
- A vast number of the elderly are suffering from a double sensory impairment. The Low Vision and Hearing Impairments Centre can provide its patients with the possibility of complementary evaluations and a combined rehabilitation.
- Disabilities in both senses can limit the possibilities of using compensation strategies. Only such multidisciplinary team (vision and hearing) can design the most efficient and best adapted rehabilitation possible.

Success factors:

Sensorial deficiency is a real issue in terms of public health and it therefore seems essential to promote initiatives which give autonomy, quality of life and dignity for all people, and particularly the elderly. Indeed, the aim of the Evaluation and Rehabilitation Center for Hearing Impairments and of the Low Vision Rehabilitation Center is to ensure the autonomy of the persons and to act more efficiently against dependencies which might develop when visual and/or hearing impairments appear.

The assessment of the visual and hearing impairments is based on the functional use of residual skills and on the measurement of these disabilities caused by the deficiencies.

Only 4 such centers exist in France. The patient can benefit at the same time from the visual and the hearing deficiency expertise and the Low Vision and Hearing Impairments Centers can therefore provide supplementary assessments and an adapted rehabilitation.

The rehabilitation project can then be discussed in between both teams of both Centers, thus providing the best adapted and most efficient rehabilitation possible.

Both centers welcome more than 800 patients each year and deployment is planned in all the regions of France.

Barriers to innovation:

The most persistent barrier to innovation is bridging the gap between medico-social and sanitary actors.

We first had to model what could be the functional rehabilitation of vision and hearing from a given state. We have complied with the obligation to define the protocols of care, technical platforms, the composition of the interdisciplinary team, to describe the factors of success. The first phase was then to transfer our models
in three other regions. Then, the intention grew to promote the opening of this type of institution at the national level by creating a transfer of experience, ranging from information and the mobilization of the health professionals and users' associations from one territory to the assembling of administrative and technical records.

**Transferable elements:**
- The idea of combining the two disabilities in one centre is very beneficial to the patients. Currently this care is available only in three regions. The ambition is to have national coverage by 2020.

**Lesson learnt and recommendations for others:**
The development and promotion needs the creation of a Committee of evaluation and national monitoring for:

- Setting up a "Toolbox" to share between institutions and project leaders
- developing a sustainable economic model
- reflecting on a strategy for internal and external communication
- continuing the overall assessment and proceeding to the impact of the course in rehabilitation for the patient from a tool already developed by the MF Anjou Mayenne

**More information:**
www.mfam.fr

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**Key data:**

| Country | S5-Bismarck | Private insurance beyond the basic cover and subject-to-keeping | Public expenditure on health 2010 (% of GDP) | Health care expenditure, €/inhabitant 2010 | Amenable mortality rates | Level of development | Level of co-operation | Local and state health expenditure as a % of total health government expenditure | Hospital expenditure, €/inhabitant 2010 | Hospital health expenditure, €/inhabitant 2010 | Health Readiness Index | Impact of ageing | Reference scenario | Risk scenario |
|---------|-------------|---------------------------------------------------------------|-----------------------------------------------|---------------------------------------------|------------------------|---------------------|---------------------|-----------------------------------------------|-------------------------------|---------------------|-----------------|----------------|----------------|
| France  | highest     | 7.8%                                                          | 692.86                                        | 46.78%                                      | 89.2                   | highest             | highest             | 3.0%                                                          | 0.86                          | -0.08               | 3.0%            | highest         | highest         |
| lowest  | 3.3%                                                  | 692.86                                        | 46.78%                                      | 89.2                                       | 692.86                | lowest              | lowest              | 2.1%                                                          | 0.08                          | -0.08               | 3.0%            | highest         | highest         |

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Page 30 of 181
Good Practice:

«Innovative policy for active and independent ageing» public policy (GP1)

Reference Site:

Lower Rhine Region FR: Regional Council

Contact information:

Mathilde FLAUSS
Hotel du Departement- Place du Quartier Blanc F-67964 Strasbourg Cedex 9
Email: mathilde.flauss@cg67.fr

Short description of your good practice:

The policy aims to explore the potential benefits of innovative solutions, in particular ICT, in promoting the independence of elderly people in their own homes. With this comprehensive approach, the Lower-Rhine Council promotes and supports collaborative projects on technical solutions in the field of prevention and early diagnosis of functional decline. The Council and its partners have developed an expertise on usages, acceptance of the solutions and business models, giving priority to mature technologies. By promoting the know-how of the local industrial and research base the Council nurtures the growth of the sector in the region.

Partners in the coalition:

The policy involves a large number of national regional and local partners including clusters of companies involved in ICT and home equipment; local and regional stakeholders in the health sector; assistance and home care professionals; stakeholders involved in housing; national public organisations with a stake in the relevant fields; representatives of public funds (State, European Union) The elderly people are also involved as users and testers.

Start date: 2008

Project duration: Long-term policy

How we did it:

In 2008 the Lower Rhine Council has initiated this policy, designed as a long-term plan and structured around public-private partnerships. Through it the Lower-Rhine Council has initiated several actions to support the development of innovative solutions to counterbalance loss of autonomy in the elderly, including:

- A call for projects launched in 2010 that designated 7 winning projects with an overall budget of €2.6 million piloted in 2010-2012. During the pilot deployment stage, the Council conducted an assessment of each of the solutions, especially with regards to how the elderly embraced the given technologies. This evaluation highlighted several weak points and good practices for the future deployment of technical solutions.

- In 2011 and 2012, the Council organised the "Flat for Tomorrow" exhibition, which recreates a model apartment and showcases innovations related to housing adaptation to prevent or compensate functional or cognitive decline in the elderly through innovation.

- In the end of 2012, the Council launched the "Independent at home" initiative, which fights social isolation of seniors and the digital divide between generations.

- In 2012, the Council started supporting local initiatives towards establishing a demonstrators’ network. The goal is to bridge the gap between innovative companies, users and those who potentially prescribe treatment.

- In terms of political support, there is strong involvement of the President and elected representatives of the Lower-Rhine Council. The political involvement will be strengthened by the creation, under the leadership of the President of the Lower-Rhine Council, of a French infra-regional (NUTTS III) network aiming at promoting active ageing in France.

The good practice has been financed on public funds (3 M€ altogether), but the aim is to trigger private initiatives. At the very end of the process, the idea is that costs should be supported by enterprises and not by public authorities anymore.

Most actions within the policy involve the different organizations that may play a role in the process of social innovation applied to the elderly: social, medico-social and health sectors, businesses, universities, local authorities, social housing agencies, resources centers, public and private funders. The mobilization of these actors is realized through collaborative projects, working...
groups, meetings and conferences and broad scale communication tools.

Our results:
- The evaluation of different solutions as a part of the pilot testing, based mainly on a user-centered approach, has given companies a better understanding of the market allowing them to develop new and improved solutions.
- With its comprehensive approach, the Lower Rhine Council indirectly supports job creation in this new sector of activities.

Added value:
- The Lower-Rhine Council now has a transversal vision of the key players in the medico-social sector who are involved in independent living at home. The public-private partnerships approach allows the local authority to save time on its future strategies.
- This innovative partnership mode allows a bottom-up method to be applied, in line with a public policy built from a long-term perspective.
- By giving priority to mature technologies in the call for proposals, the Council and its partners developed an expertise on uses, acceptability of the solutions and business models. Experiments carried out in this framework are real functional prototypes that have been pre-tested before introduction into market.

Success factors:
- Governance: A public administration, which would be interested in replicating this practice would have to, by its statutory competences, be able to deal with issues of quality ageing at home.
- Partnerships: The Council found essential that territorial economic development and relevant interdisciplinary partnerships were included in the policy from the start.
- The Region also put a lot of effort into continuous dissemination.
- Attention must also be paid to the pre-testing stage of the technologies. Collective and transversal management of the call for projects, through a steering committee, an evaluation committee and multi-stakeholder and multidisciplinary working groups should be observed. Local economic background for this should be facilitated.

Barriers to innovation:
The main difficulty consists of raising the awareness of the older people, but also of enterprises that could market new applied technologies.
To a certain extent, the public status of the Lower-Rhine council could be a limit to go further in the cooperation with identified relevant enterprises as well.

Transferable elements:
The global and complete aspect of the approach (from solutions production to users) is particularly innovative and could be transferred to other settings.
A guide of good practices has been published. This guide shows the level of home equipment needed in accordance with the level of dependence of an elderly person.

Lesson learnt and recommendations for others:
Interoperability and compatibility of developed technological solutions are essential.
It is also essential to keep in mind that it is the elderly person who is at the core of the approach. It is recommended to think in terms of "service delivery" more than in terms of technological equipment.
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55 - Bismarck
(reliance on market mechanisms in service provision)
private insurance beyond the basic coverage and some gate-keeping
Good Practice:

Saxon State Ministry for Social Affairs and Consumer Protection: Geriatric Concept (GP 1)

Reference Site:

Saxon State Ministry for Social Affair and Consumer Protection

Contact information:

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Saxon State Ministry for Social Affairs and Consumer Protection
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Germany
0049 351 5793
Volker.Koehn@sms.sachsen.de

Short description of your good practice:

The geriatric care concept is a region-wide strategy to address the challenges brought by the demographic change. In order to enhance the care of geriatric patients to stay longer at home and to avoid re-hospitalisations of patients with chronic diseases, the model aims to a better cross-sector cooperation of the health care providers, establishing standard assessments, introducing treatment pathways and supporting formal and informal carers. In 2010 four pilots were commissioned to identify and implement innovative projects. The four pilot sites consist of geriatric centres attached to hospitals and rehabilitation facilities cooperating with other hospitals, specialized medical practices, family practitioners, specialists, outpatient and inpatient rehabilitation facilities, nursing homes and services, municipalities, social services and housing companies. Central point shall be the geriatric centres, coordinating and steering the different services. On basis of the geriatric assessment the personalized care need of the patients can be identified and aligned. The services within the personalized treatment plan are given coherence, in order to optimize treatments and avoid time delays. The project takes into account that self-help is better than outside-help. Purpose is that elderly people should be enabled to lead an independent life in the home environment. To grant sustainability of the curative treatment and rehabilitation, an after-treatment by care and social services, self-help institutions and community care has to be secured. The objective is to spread out the geriatric care approach throughout in Saxony. In particular elderly people are dependent upon their familiar environment. All service should be provided close to the home (near the living places of the elderly). The overall objective is to develop the so to say mono-oriented structures to care nets for geriatric patients. The elderly patients shall get access near to their living places to high-quality and efficient care diagnosis, treatment and rehabilitation. The project is ongoing. Therefore, a final evaluation is not available. The comments reflect just experiences by project partners and not the assessment of the whole project by the Saxon Government.

Partners in the coalition:

On regional level: National Health Fund (AOK PLUS – Die Gesundheitskasse für Sachsen und Thüringen). Federal Association Geriatrics (Bundesverband Geriatrie e. V.); German Institute for Health Promotion (Deutsches Institut für Gesundheitsforschung gGmbH); Association of Statutory Health Insurance Physicians Saxony (Kassenärztliche Vereinigung Sachsen); Hospital Association Saxony (Krankenhausgesellschaft Sachsen e. V.); Regional Association for Hospice Work (Landesverband für Hospizarbeit und Palliativmedizin Sachsen e. V.); Regional Association Geriatrics Saxony (Landesverband Geriatrie Sachsen); State Chamber of Physicians of Saxony (Sächsische Landesarztekammer); Saxon Housing Cooperatives (Verband Sächsischer
Wohnungsgenossenschaften e. V.); Association of Health Insurance Funds (Verband der Ersatzkassen e. V. Landesvertretung Sachsen).

The local geriatrics nets have set up their own nets: the Geriatric Net Eastern Saxony a net with 132 partners, the GerN Radeburg a net with more than 250 partners, Geriatrienetzwerk_C 231 partners. The different nets within the ‘GeriNet Leipzig’ encompass more than 900 partners. Among these partners are hospitals, practitioners, municipalities, social services, rehabilitation facilities, universities research facilities and many more.

Start date: The Saxon State Ministry for Social Affairs and Consumer Protection launched in 2010 the Geriatric Net Implementing Plan (Geriatric Concept).

Project duration: The project will last until the end of 2015.

How we did it:

This project had been discussed with all relevant key stakeholders, such as the State Chamber of Physicians of Saxony, universities and the Hospital Association Saxony. In 2010 the Saxon State Ministry for Social Affairs and Consumer Protection launched a call for project. A group of experts evaluated the applications of 13 institutions. Among the applications 4 institutions and networks obtained the contract. The four pilots were established at the beginning of 2012. A first evaluation is still ongoing. One first result is the decision to extent the duration of the projects up to the end of 2015.

The Geriatric Concept is part of the strategy of the Saxon State Government to cope with the challenges brought by the demographic change.

The costs for the coordination of networks are covered by public health insurance. Furthermore, the Saxon State Ministry for Social Affairs and Consumer Protection funds the project and its evaluation.

The Geriatrics Concept is the result of a comprehensive process of discussions with all relevant institutions and stakeholders in Saxony.

Information and communication technology is partly already introduced.

The coordinators support all tasks, measures and activities to bring about the implementation of new strategies, structures, systems, processes or behaviours. They accompany the organisational change as a structured approach in order to ensure that changes are smoothly and successfully implemented to achieve lasting benefits. The implementation process is accompanied by a lot of conferences, workshops and training courses for formal and informal carers.

Special training meetings for geriatrics network stakeholders (“GeriNeTrainer”) every 6 to 8 weeks on the care of patients suffering from dementia turned out to be very successful. The focus is put on optimizing the care of these patients in their living environment, mobilisation and fall prevention. Objective is to establish compelling training and quality standards.

The implementation is an ongoing process of testing and evaluating the cooperation between all partners. The main concern is to overcome the delimitation of the different health care sectors.

Important is a long-term-oriented cooperation of the network partners.

Conducive are often models which include social services and volunteers. For example, the GeriNet Leipzig established a night café for dementia patients suffering from a day-night-change. Volunteers take care about them and receive vouchers for this which they may use at the time they need help. Another example is volunteers working in hospitals to support elderly people who prolong the care during the first weeks of the return of these people into their homes.

To improve the understanding what it means to be old it is helpful for formal and informal carers to try the ‘Age Simulation Suit GERT’ which offers the opportunity to experience the impairments of older persons even for younger people.

Our results:

Many hundreds of patients older than 65 years have been included into the models. It is the aim to reach all elderly people insofar in the different geriatrics nets.

Regarding some diseases a special case management has been introduced or is being set up, such as fall prevention.

Integrated care pathways will be at least partly spread out throughout the local areas where geriatrics nets are established. For example, the geriatrics net in Eastern Saxony is going to include all relevant elderly people into the integrated care model in 2014.

First of all, the elderly patients must be identified by aid of certain categories. A common approach by all institutions helps to encompass all of them.

All morbidities need to be addressed for optimal patient health improvement and maintenance. Services like the geriatric care model bridge existing gaps and missing coordination between primary, secondary, home and self-care. This service improves daily life of patients, lowers the burden of their caring relatives and friends and supports professionals in developing and managing complicated care plans and care pathways for this patient group.

Geriatric centres make a step toward managing chronic conditions and support not only patients, professionals and informal carers but affect positively outcomes and therefore costs related to, among others, hospitalizations.
and long term care. Chronic care and multi-morbidity care management can increase the sustainability of the healthcare system for insurances and healthcare organisations.

One goal of the geriatrics nets is to get approaches introduced into the standard care funded by the nation health funds as soon as possible. The health funds agree to this just when efficiency and effectiveness is proved.

The geriatrics nets identify the needs and challenges of multi-morbid patients and their carers in order to provide solutions supporting the creation and adaptation of personalized care plans across care settings as well as their provision (embodied into services) to the patients in a way to stimulate patients in their care plan management. During the implementation of the approaches new product ideas emerged. First steps have been taken to develop them into products and business models.

The demand for tailored ICT solutions and service engineering will increase. Defining important procedural and business needs of healthcare will allow alignment of the products with these needs and ensure a better match between expectations and the project’s outcomes.

Informal carers are mainly women. Proving a sound infrastructure to support elderly people according to their needs helps in particular these female carers to reconcile work and family. One example may be in this context the day clinics which secure a care during the working hours.

**Added value:**

Geriatric centres and the associated partners provide a form of integrated care for elderly people that will contribute to enable elderly people to stay longer at home. Moreover, they will also contribute to reduce re-hospitalizations.

Elderly people and especially very old people often suffer from chronic diseases and multi-morbidity. Services like the geriatric care model bridge existing gaps and missing coordination between primary, secondary, home and self-care. This service can improve daily life of patients, lower the burden of their caring relatives and friends and support professionals in developing and managing complicated care plans and care pathways for this patient group.

There is a shift from a disease-oriented treatment to a patient-oriented approach. Beginning from the first assessment there is one single treatment pathway across all disciplines and sectors. This provides the basic for innovative technical solutions.

**Success factors:**

Essential is the active cooperation of the health care providers in the nets, in order to enhance the care of geriatric patients. There must be the firm intend to overcome the different sectors of the health care system to ease the transition from one ‘health site’ to another. Beneficial is establishing standards and treatment pathways agreed on by all net partners. Furthermore, helpful is the opportunity to tackle similar problems with other net partners and to widen the set of measures which one single health care provider cannot offer.

The general practitioners are key actors. Due to several reasons it is sometimes difficult to motivate them to participate in the nets. Financial incentives may help. Crucial is also the participation of the municipalities as key stakeholders. Support by policy makers is needed.

Cross-sectoral preventive strategies support independent and healthy ageing, among others by means of raising awareness on risks, advice on risk factors, age-appropriate housing concepts and fall prevention strategies. Cooperation with universities helps to develop and evaluate tools, such as the assessment questionnaire on the determination of requirements (STEP).

Furthermore, it turned out that the different approaches have to be designed in such a way that after finishing a pilot phase and its evaluation the projects must be transferred into the standard care framework, or otherwise they projects must be terminated sooner or later. It is not beneficial to run just pilots again and again.

**Barriers to innovation:**

Medical care takes place in largely separate sectors with their own compensation systems, budget, high market entry barriers and complex planning structures. This is not only a problem at the interface between outpatients and inpatients treatment, but also within sectors, such as the decision process between primary care physicians and specialists. The overall objective is therefore to develop the so to say mono-oriented structures to care nets for geriatric patients. The elderly patients shall get access near to their living place to high-quality and efficient care diagnosis, treatment and rehabilitation.

Moreover, there is a lack of integration of technical processes and informational technology in the care pathways. This reflects especially the lack of cooperation between disciplines and the missing interoperability. Additionally, it reflects that the field of activities of physicians is characterized by its wide spectrum and tasks.

**Transferable elements:**

Even though the project is still ongoing, there are already elements which could be transferred into other regions, in particular special screening tools, living environment strategies, guidelines and counselling and care frameworks.

**Lesson learnt and recommendations for others:**

Many successful cross-sector and integrated care models for geriatric patients have been described. Anyhow, it is helpful to get support by experienced partners.
Integrated care models such as the Geriatric nets open up opportunities for

- realising measures which cannot be conducted with own capacities and technologies;
- addressing and solving problems immediately;
- optimising treatment pathways;
- avoiding double work;
- improving patient satisfaction.

More information:

More information can be found on the websites of the Saxon State Ministry for Social Affairs and Consumer Protection and the different pilot sites (just in German):

The document is available on the website of the ministry:
https://publikationen.sachsen.de/bdb/artikel/11680.

Geriatrics Net Eastern Saxony:

Geriatrics Network-C (Chemnitz):

GeriNet Leipzig:
http://gerinet-leipzig.de/.

Geriatric Network Radeburg (GERN):

- Ongoing region-wide project aiming at strengthening cross-sector cooperation of all health care providers and social facilities to improve the care of geriatric patients.

- Enhancing skills of formal and informal carers and patient empowerment.

- Support at the proper time, to the necessary extend and at the right location.

- Greatest independence of elderly people, thanks to this a longer stay in their home environment.

- Fostering the principle ‘priority of outpatient to inpatient treatments’.

- Interoperability of the different ICT solutions of the health care providers is a main concern.

The GeriNet Leipzig is awarded with the ‘

- Health Network Award 2013’ (Preis der Gesundheitsnetzwerker; website: http://www.gesundheitsnetzwerker.de/2013/prei

- MSD Health Award 2013 (Merck Sharp & Dohme, MSD is an American pharmaceutical company; website:

The Geriatrienetzwerk_C is member of a consortium which reached the second phase of the ongoing research funding competition by the Federal Ministry of Education and Research on health regions (website http://www.bmbf.de/foerderungen/20243.php).
Good Practice:
Tele-diabetological Competence Centre in Saxony – Improved Chronic Care Management for diabetes patients (GP2)

Reference Site:
Saxon State ministry for Social Affair and Consumer Protection

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Short description of your good practice:
The University Hospital of Dresden has developed together with the TUMAINI Institute for prevention management in Dresden, Germany, an innovative approach to cope with the chronic disease diabetes. The medical objectives are

1. The patient is measuring blood sugar and is injecting insulin. At this moment the information regarding glucose value and injected insulin units are transmitted in an electronic health record. The patient owns this record, but as part of the chronic care management program can enable access to the date for physician, family, friends and other related partners.

2. A machine-based algorithm continuously analyses the incoming data and builds risk stratification onto the individual patient data. The algorithm tests whether the patient is in the prescribed treatment corridor, but also how the patient performs his management. Furthermore, the medical parameters will be continuously evaluated regarding the disease specific risk changes and the output will be given in a color code green (stable and no risk), yellow (increased risk), red (immediate attention is necessary). The patient will receive an immediate feedback on his Smartphone or electronic health record about the quality of diabetes care to support his own self-management.

3. The treating physician will receive an alert specific indication for the red and the yellow patients initiating specific treatment actions (immediate contact necessary to evaluate data: red; contact by a diabetes educator: yellow).

4. Prevention managers also have access to the data and perform a structured intervention program focusing on healthy lifestyle with the diabetes patient by using telemedicine based delivery channels (telephone, online courses, sms etc.). The medical data are taken for educational purposes only. If possible a telemedicine based pedometer will be added to monitor and support patient’s daily physical activity.

5. Automated analysis of the medical data will allow performing a quality management for the chronic care management program. This data will be fed back to the physician and the payer allowing enabling a pay for performance model.

6. A direct link to the medical data in conjunction with pharmacies and distributors will allow analyzing the individual use of insulin and test stripes and other associate material. If 90% of the material is used, an order will be placed for the distributor to supply the patient with the next necessary material.

Partners in the coalition:
Hospitals, general practitioners, specialised practitioners, outpatient clinics, pharmacies, rehabilitation facilities, day care facilities, geriatric centres, health funds, in particular the largest health fund in Brandenburg; Saxon State Ministry for Social Affairs and Consumer Protection.

Start date:
The telediabetological Competence Centre has been established in the neighbouring region Brandenburg in 2011. In this region the centre will become part of the standard care scheme in January 2014. In Saxony the centre has been set up in 2013 aiming at coming in operation in the third quarter of 2014.

Project duration:
In Brandenburg the largest health fund has introduced the telediabetological competence centre into the standard care scheme for one year. In Saxony the pilot is scheduled for 3 years with the option to introduce the model into the standard care scheme.

How we did it:
The telediabetological competence centre is the result of comprehensive scientific research (Prof. Dr. Schwarz is Europe’s first professor of prevention and care of diabetes). Due to the development of technical solutions by the TUMAINI Institute for prevention management in Dresden, Germany and a company in Brandenburg the initial pilot was launched in this region.

The State Ministry for Social Affairs and Consumer Protection supports the introduction of the telediabetological competence centre in Saxony.

The Saxon State Ministry for Social Affairs and Consumer Protects supports the project with 200,000 Euro (EFRE-Fond). The TUMAINI Institute for prevention management in Dresden, Germany invests a substantial amount to develop the practical implementation of the system. The TUMAINI Institute with its partners is constantly seeking for additional partners, especially from health funds, to cover the
running costs and to establish the required evaluation of the system.

The telediabetological competence centre is the result of an intensive research work. The implementation of the approach was prepared and is accompanied by comments, feedbacks, evaluations and proposals by patients, health care providers, health funds, industry and other stakeholders.

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The telemedicine device represents the world’s first self-contained system with data acquisition, data analysis and data transfer to patients and the doctors treating them. It encompasses a comprehensive system of products and services for the acquisition, monitoring and transmission of diagnostic and therapy data for diabetes. It provides the necessary components and services for fully automated wireless transmission of blood glucose levels, bread units and administered insulin doses with the aim of improving the diagnosis and treatment of patients suffering from severe diabetes mellitus.

The next level of action in the development of the telediabetological competence centre will be to improve the automated analysis of patient data with respect to the social network of all existing patients managed by the competence centre. Here the medical data, together with the lifestyle intervention information, can be used to identify successful examples of improved individual self-management.

Our results:

The telediabetological competence centre has already been successfully tested in the neighbouring region of Brandenburg and transferred into the standard care scheme.

Even though the telediabetological competence centre is currently being built up in Saxony, it is likely that 10% of the patient group in question can be reached by this approach very soon. The current spectrum of the competence centre is adequate for all patients receiving diabetes control including insulin. This can be finally up to 30% of the patient population.

The telediabetological competence centre has already been successfully tested in the neighbouring region of Brandenburg. Initial analysis shows that the application of the telemedicine based innovative chronic care management leads to an additional improvement in quality of diabetes care. The expectation is based on preliminary data that this becomes highly cost effective.

The innovation of the system in Saxony is the competence centre. This centre bundles the information withdrawn through the monitoring by the patient. This information is continuously analysed and a continuous risk stratification process is initiated. Based on this, the direct personal counselling and intervention for the patient is initiated to direct adequate attention based on the quality of diabetes control. Patients with the lowest quality of care are receiving the best attention.

The telediabetological chronic care management achieves financial sustainability due to targeting of medical attention based on a risk stratification based to those patient with a high morbidity, the quality management based on treatment goals by supporting a higher attention to evidence based treatment goals and by enabling a targeting supply with insulin test strips to the patient based on his individual need. Financial analyses of pilot projects support an expected cost reduction over a period from 2 years between 28 to 32%.

Telemedicine has a huge potential to contribute to the growth of the economy. This sector, where local industry - including small and medium-sized enterprises is well placed, can be expanding rapidly in the next decade.

Informal carers are mainly women. Improving a sound infrastructure to support diabetes patients according to their needs helps in particular these female carers to reconcile work and family.

Added value:

One added value is improving the living conditions of patients by increasing patient compliance, the self empowerment and quality of life of patients.

Another added value is the support for medical personnel improving diagnosis, treatment and patient management. An added value for health funds and insurance companies is the cost reduction in the regional and national scale.

Furthermore, the steering of chronic care management due to a telemedical competence centre helps to improve the quality of care delivery for diabetes patients due to implementation of care standards on a very high level. This leads directly to improved outcome, survival and quality of life for the patient with a chronic disease.

A special added value by the telediabetological competence centre is with ageing population. Often we see reservations with telemedicine in this age group. In the introduced model the ageing patient will not recognize that he participates in a telemedicine based chronic care management, but will recognize that he receives an improved attention by the medical specialist as well as the prevention manager, helping him to reach better treatment goals and to approve his daily healthy lifestyle. The competence centre is an innovative good practice combining a number of innovative elements from telemedicine with innovations in modern chronic care management and individualized lifestyle counseling for the patient. Overall the telediabetological competence centre enables by the help of technological solutions to improve the quality of chronic care management of ageing diabetes patients.

Success factors:

In Germany there is in general a lack of cooperation between disciplines. The strategy tackles this bottleneck explicitly. The implementation of this telediabetological competence centre will allow a know-how expertise transfer from the competence centre into the non-specialised GP private practice.
One important innovation of the system is the competence centre. This centre bundles the information withdrawn through the monitoring by the patient. This information is continuously analysed and a continuous risk stratification process is initiated. Based on this, the direct personal counselling and intervention for the patient is initiated to direct adequate attention based on the quality of diabetes control. Patients with the lowest quality of care are receiving the best attention.

Due to the timely accessibility of patient data and the direct feedback of a stratification of care quality back to patient, the physician and payer structures and the identification of good practice models will be directly possible. This will help to mirror and implement similar telediabetological competence centers within Europe.

**Barriers to innovation:**

The system is in Saxony still in an experimental phase together with an evaluation. The stage to implement the system into the standard healthcare as part of disease management and chronic care management is not achieved yet. This is due to a relevant skepticism of the health funds regarding the cost effectiveness of the system over a yearly period, but the funding for the required evaluation studies is still pending.

**Transferable elements:**

Enabling the telediabetological competence centre in Saxony is a innovation combining innovative aspects from different level of medicine. The competence centres enable the delivery of improved quality of chronic care management by sharing information, peer support and chronic care management within the centre management. This model combines modern technology with modern aspects of disease and prevention management in real world clinical practice.

**Lesson learnt and recommendations for others:**

Due to the timely accessibility of patient data and the direct feedback of a stratification of care quality back to patient, the physician and payer structures and the identification of good practice models will be directly possible. This will help to mirror and implement similar telediabetological competence centers within Europe.

**More information:**

More information can be found on these websites:


- [http://nebel.tumainiserver.de/tumaini/](http://nebel.tumainiserver.de/tumaini/)

- Comprehensive telemedicine system on diabetes.
Good practice:

Saxon Housing Cooperatives (VSWG): Project ‘Alter leben – Getting old with a good Mode of Life- Self-determined Living with a combined Solution of Technical Improvement and Services’ (GP3)

Reference Site:

Saxon State ministry for Social Affair and Consumer Protection

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Short description of your good practice:

In the framework of the cooperation project "Living the Age", the application of AAL – systems in the field of housing as well as the development of suitable business models is further developed and tested. In this case the challenge is the integration of micro-technical system functions and services for a unique system with user friendly facilities, a high users’ acceptance and a financial viability. The project "Living the Age" is a cooperation project of housing cooperatives, research institutions and companies. Its declared target is to adapt housing units of Sax cooperatives to the changing needs of their ageing inhabitants. It is the objective of the project to design pilot forms of self-determined housing supported by technical measures, systems of technical assistance as well as personally linked services and to implement all this within housing cooperatives.

How we did it:

The project „Living the Age“ was the result of long-term reflections regarding the urgent need to support elderly people to stay longer in their homes. It was a cooperation project of housing cooperatives, research institutions and companies. Its declared target was to adapt housing units of Sax cooperatives to the changing needs of their ageing inhabitants. It was the objective of the project to design pilot forms of self-determined housing supported by technical measures, systems of technical assistance as well as personally linked services and to implement all this within housing cooperatives.

The Saxon State Government fully supported the project. The Federal Ministry of Education and Research (BMBF) provided funding aid equivalent to 75% of the total amount of 1.4 million € for scientific research The co-financing was provided by the project partners. Investment costs for construction work and technic were fully covered by the housing cooperatives.

With regard to the severe challenges brought by the demographic change in Saxony, all key stakeholders working in this field had already set up a comprehensive cooperation prior to the project. This cooperation backed by the Saxon State Government is still ongoing.

The technical support systems were introduced for the assistance of daily life as well as combined services for tenants. Micro system technical solutions were developed as AAL – solutions and combined with individual service provision, which compensate specific functional restrictions of elderly (such as weakness of seeing and hearing) and cognitive limitations as well as organic diseases (e.g. diabetes, circulation problems, strokes). The assisting systems shall support the users within their daily activities in the best possible and hardly noticeable way – by taking over certain control and steering efforts.

The implementation of the project was accompanied by training courses for formal and informal carers, municipalities and associations.

As a result, successful criteria for a high degree of acceptance of technical and business models were in particular an objective communication and information policy and a practical orientation to the general conditions and limitations of the housing industry.

Partners in the coalition:

GdW Federal Union of German Housing and Real Estate Companies, German Federation for Housing, Municipal and Regional Planning, Public authorities involved were among others the Federal Ministry for Housing and the Saxon State Ministry of Internal Affairs, Saxon State Ministry for Social Affairs and Consumer Protection, Saxon State Ministry of Economics, Work and Traffic, Saxon State Chancellery. Social stakeholders were among others the LIGA of free welfare care. Furthermore, there were other stakeholders, such as academia: Technical University of Dresden, Technical University of Leipzig, Technical University of Chemnitz, WHZ Zwickau, FH Mittweida.

Start date: The project was launched on 1 August 2009.

Project duration: The project ended on 30 June 2012 (duration nearly 3 years).
Our results:

The Saxon Housing Cooperatives can directly inform 229 associated housing cooperatives with 286.000 housing units (it is expected to reach 10 %, 30000 users), in particular through intensive co-operation with approximate 8 housing cooperatives with practice solutions. Furthermore, over the cooperation with the welfare care the project could also reach users.

Micro system technical solutions are developed as AAL-solutions and combined with individual service provision, which compensate specific functional restrictions of elderly (such as weakness of seeing and hearing), and cognitive limitations as well as organic diseases (e.g. diabetes, circulation problems, strokes). The assisting systems support the users within their daily activities in the best possible and hardly noticeable way – by taking over certain control and steering efforts.

Technique is positively evaluated, when it is adapted to the essential needs of people, especially of elderly. This is illustrated through the estimated remaining of users in their dwelling, if supporting technical solutions are installed. Approximately 61 per cent of the interviewed persons, which means a clear majority, expressed the opinion, that a general technical support would motivate them to stay in their dwellings furthermore. Other important factors can be seen in the supported security through technical solutions. It is quite obvious, that there is a general positive consideration of using technique in daily housing life. As it can be recognized in the result of the survey, there is a solid basis for commitment, which is expressed by a general readiness and acceptance of AAL-solutions, combined with services. The financial possibilities of the target groups have to be taken into consideration. It can be noted, that approximately one third of the interviewed persons would participate to it financially, if a co-financing of the project through other partners could be realized.

During the introduction period of the pilot solution „Aging Dwelling", lasting from 21 July until 31 October 2011, the following opinions, based on individual talks and partly on filled out questionnaires, could be summarized:

- Questions about the technological acceptance shows, that the concept has a positive feedback. The modular installation of the equipment in the dwelling, enabling an adaption to the individual need of tenants, is regarded in a positive way. The installed technical assistance systems as well as their easy handling are mainly accepted and received well. Persons, who had reservations, that it would be difficult for elderly to get in touch with new developments of modern technology, confirmed their willingness to learn about this topic and to deal with it. The possible intervention into the private sphere through data flowing had not been regarded as negative circumstances. The feeling of being controlled is understood in a positive sense by the interviewed persons: in the sense of a better security.

At the end of 2011 pilot dwellings had been occupied by elderly people, who were testing the apartments and its functions and integrating them into their daily life. From these experience criteria, real modernisation costs and the running costs of an „Aging Dwelling” could be found out and it had been made within an apartment of the already existing stock. From calculations of the capitalized earnings value of corresponding dwellings generalized intervals of realizable investment could be derived. Considering the experience of the housing cooperatives further pilot projects based on the concept of „Aging Dwelling” were realized by the housing cooperatives. These pilot projects were planned and implemented with respect of regional conditions and local circumstances. This means that also additional systems were integrated, which enables some possibilities of further development.

From a technological point of view, insights from these practice-orientated conceptions and realizations within pilot apartments enable to combine different AAL-solutions via sensors and actors as supporting components of micro technical systems with improved services in a reasonable and economic way. Its high users' acceptance is also based on ergonomic handling elements.

In the framework of the design process, important aspects of the business model „Aging Dwelling” were developed. They serve for the design and analysis of the business model „Aging Dwelling” or corresponding business systems.

Combining of components was made in the process of Service Engineering by forming a complex approach of the corresponding service engineering. The solutions, embodied in the business model shall be accepted by the users, which means, they have to find an economic as well as a social acceptance. This is the reason, why the elements of users' acceptance and their fulfillment play an important role in order to develop market adequate service concepts and business models.

Added value:

The added value of the project is providing design forms for dwellings aiming at supporting self-determined housing by technical measures, systems of technical assistance as well as personally linked services. In the sense of a balanced use of techniques and services a move to an elderly home or a similar care institution should be postponed or completely avoided. The concept is based on a combined approach of economically acceptable measures within the dwelling in order to reduce housing barriers. Technical support systems for the assistance of daily life are included as well as combined services for tenants.

Success factors:

Founded on intensive form of tenants' participation in the conception and realisation, a high readiness for the use of micro technical system solutions and elderly adequate assisting systems could be reached.

Success criteria for a high degree of acceptance of technical (and consequently also the created business
models) encompass the modularity of all efforts, its refurbishment and easy handling as well as an unobtrusiveness of control possibilities.

- Modularity means that the solutions consist of a basic equipment of a housing unit and additional modules. It is necessary to have communication and marking of singular parts of performance, a design for interfaces in order to combine modules as well as the assistance for the configuration of individual service packages. Technical functionalities and services can be „bought“ in separate additional packages and be combined for individual efforts.
- Refurbishment means, that the AAL-solution „Aging Dwelling“ is backed by additional AAL - elements, which can be completed (refurbished), depending on interests and needs of users. Based on an elementary installation of improvement, in the sense of interoperability the realisation of additional AAL-elements is guaranteed.
- Easy handling contains specific aspects of technical design of interfaces like the transparency of displays. Easy handling, adequate size of written letters, clear information signals, additional visual and acoustic signals, density - based signals as an additional acoustic signal, elderly adequate colour concepts as well as a security - safe signal system. Easy handling is an important part of the „intelligence“ of technical assistance for the final user.
- Unobtrusiveness or control facility means that the technique is supporting in a discrete way what is going on. In its complexity it should not overcharge the final user. In this sense a part of the „intelligence“ of technical assistance is visible for the user. So a tailor-made individually usable solution is made possible. The respect of data security avoids a „feeling of being watched“. Unobtrusiveness means that technique plays a vital role in the evaluation of solutions within the dwelling of elderly. Therefore control facility enables the users’ adaption (or they let it made adapted) of techniques, according to their needs.

Criteria for an increasing acceptance for target groups are low-barrier based. This means the assistance of users' efforts as well as the „financial viability“ of provided services is important.

**Barriers to innovation:**

The project encountered several barriers and obstacles, among these in particular:

1. Lacking interoperability of technical systems,
2. Financing;
3. Lacking cooperation;
4. Everyday like fitness of systems;
5. Lacking knowledge of available systems.

Solutions to overcome the barriers and obstacles were:

1. The system of the technical partner is a universal, producer independent framework of automatisation, based on the most modern industrial standards. The communication with sensors and actors is made via IP and structured cables or standardised minutes of telecommunication. Steering is centralised and can be interpreted in a redundant way. Innovative building automatisation system offers the possibility to integrate any electrical communicating systems and is virtualizing them.
2. In regard of the financial viability of technical assisting systems a reference value for the investment costs of the technical systems of a maximum of 2.500 € will be reached.
3. Active cooperation in Saxony with the LEAGUE of the central associations of the free welfare care.
4. Ergonomic organization and different operation possibility.
5. User sensitization.

**Transferable elements:**

Recommendations and criteria for a successful elaboration of offers dedicated for a self-determined living were formulated which contain aspects for an increasing acceptance of the target groups as well as technical acceptance.

**Lesson learnt and recommendations for others:**

During the implementation the project did not encounter delays. Lessons learned were among others:

- ‘friendly working atmosphere’ – mutual trust and open and informal communication;
- honest exchange – pro and con of ideas and innovations;
- grass-root and demand-driven approach;
- committed personal management – ‘driver’;
- neutral intermediary;
- regular network meetings and objectives to implement;
- step-by-step approach and phases for evaluations;
- taking into account of the societal, economical and political framework;
- not a pure financing out of the project but also use of own funds.

**More information:**

Further Information is available on the project’s website: [http://alter-leben.vswg.de/](http://alter-leben.vswg.de/) (only in German).

Electronic assistance services in the field of housing; integration of micro-technical system functions and services; user friendly facilities; high users’ acceptance and a financial viability; suitable business models.

The project was awarded in 2012 with the 'Hans Sauer Award' in a competition with 70 innovative care projects (website: [http://www.hanssauerstiftung.de/hans-sauer-preis/hans-sauer-preis-2012/](http://www.hanssauerstiftung.de/hans-sauer-preis/hans-sauer-preis-2012/)).
### Key data:

**Health system**

**S4 - Bismarck**

(reliance on market mechanisms in service provision)

Private insurance for basic coverage

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**IRELAND**

**COLLAGE (Collaboration on Ageing)**

**Good Practice:**

Community Assessment of Risk and Treatment Strategies (CARTS) Programme (GP1)

**Reference Site:**

COLLAGE (Collaboration on Ageing)

**Contact Information:**

Prof George Shorten  
School of Medicine, Brookfield Health Sciences Complex, University College Cork, College Road, Cork, Ireland  
g.shorten@ucc.ie

**Short Description of Your Good Practice:**

This purpose of this initiative is to assess the effectiveness of the CARTS comprehensive screening, triage and treatment strategies programme to delay or prevent functional decline and frailty and three adverse outcomes (AO), institutionalisation, hospitalisation and death. It assesses and describes each individual patient’s problems, the ability of their caregiver network to manage the problems and describes deficiencies called the “care deficit”. Established, cost effective and evidence based strategies are used to reduce the risk of these adverse outcomes and care pathways or bundles are tailored to individual’s needs. The first phase of the initiative will use the CARST (Community Assessment of Risk Screening Tool) to describe the natural history of risk of frailty and AO in community dwelling older adults in counties Cork and Kerry in Ireland, before the introduction of intervention strategies to reduce risk.

Older adults are screened using the newly developed screening tool CARST (Community Assessment of Risk Screening Tool) in four domains: (1) mental state, (2) activities of daily living (ADL) (3) medical problems (4) social/economic concerns. Cognition, behavioural change, depression, impairment in ADL, medical issues, e.g. diabetes, arthritis, falls, poor nutrition and inactivity are included. It assesses the environment, hearing, vision and current supports. The CARST assesses the ability of the caregiver network to manage the subject’s problems by scoring the ability of the whole caregiver network (professional, family and friends) and identifies gaps or deficiencies called the “care deficit”.

**Partners in the Coalition:**

Dr. Roger Clarnette Perth, Australia, Dr. Costanza Paul, Oporto, Portugal, Dr. Marina Lupari, Northern Ireland, Dr. Francesc Orfila, Spain, Dr. Harriet Jager-Wittenaar, Holland, Mr. Mario Ellul, Malta, Ms. Gabrielle O Keeffe, Health Service Executive Ireland.

We are working with public health nurses and family doctors to educate them how to respond to and manage these high-risk individuals.

**Start Date:** March 2013

**Project Duration:** five years

**How we did it:**

To provide effective care in the community, with shrinking health care budgets and growing demands, the challenge is not only to determine which patients have the greatest needs, but which interventions will bring the greatest benefits. We conducted an extensive consultation (1 year) with Public Health Nurses (PHNs) leading to the development of the CARTS programme, which contains a rapid screening tool, called the Community Assessment of Risk Screening Tool (CARST) that groups the factors associated with increased risk of AO into four domains. It scores Mental State, Activities of Daily Living (ADL), Medical problems and others. CARST, takes 2-5 minutes to provide a global assessment with a numerical score from 1 to 5 (1=low risk, 5=high risk), for the three AO. It easy to use, and simple to interpret. Response from PHNs has been very positive, describing the tool as intuitive and easy to use, yielding a holistic assessment of patients, and scoring the ability of the caregiver network to manage their problems. Public health nurses tell us that this
operationalizes what they do every day and now provides a simple tool that they can use to communicate the results of their assessments. We scored the CARST in 800 subjects and followed them for six months. Those at highest risk (score 4 and 5) and those at lowest risk, (1and 2), had 30% and 1% rates of institutionalisation respectively. We found similar data for death and hospitalisation at six months. This short, simple, screening tool, predicts hospitalisation, institutionalisation and death. It identifies those at high risk, can identify the clauses of risk and allows for rapid referral to the appropriate service to manage the issues that create this risk.

When we got the results of the first 800 back, the local health authority immediately saw what this simple approach could do to identify these people at risk in the community. We don't have any tools that do this at the moment. So they immediately offered to fund a larger trial in our region. This identifies these high risk individuals using this simple tool and provides a new way of looking at and managing these high risk individuals.

We have been funded by the Health Service Executive to train 300-400 PHNs to screen 5000 community dwelling older subjects in counties Cork and Kerry in 2014. We will train these nurses using a "train the trainer" model, beginning in October 2013. We received funding from the HSE for the initial phases and they are continuing to fund Phase 4 and Phase 5: the development and piloting of the interventions study. This next study will scale up on the original pilot. All the PHNs in Cork and Kerry (300- 400) will attend our workshops to receive training on the CARTS programme. Ideally, we would like to put the training on line and this would allow us to scale up nationally and internationally.

**Our results:**

PHNs will screen ALL of the older adults receiving community services in Cork and Kerry in 2013. At present all 5,000 community dwelling older adults, >65, are being assessed by their PHNs in Cork and Kerry. We will sample all of these subjects (100% coverage). This sample will be randomised to receive tailored intervention strategies. The sample size currently being sampled by PHNS is 5,000. Once stratified, with the CARST, the sample will be randomised to receive either the CARTS intervention or usual care.

CARTS allows citizens to actively participate in their own healthcare. Once screened, a management plan is decided, and all participants are informed of their “personal risk level” and “risk management plan”. Participants meet regularly with their PHN (community nurse), providing feedback and encouragement. All cases and management are reviewed at the CARTS multi-disciplinary meeting. Quality of life (QOL) is assessed using the SF-36 and EQ-5D.

The CARTS demonstrated that frail individuals, living alone, were more likely to receive community services, than non-frail older adults, living with someone p<0.001. It also demonstrated that those institutionalised (p<0.001) or hospitalised (p=0.002), but not those that died (p=0.07), at six-month follow-up, were more likely to be receiving services than those that did not have an AO. This information improves service delivery and the ability to target community services.

CARTS will have a direct effect on competitiveness & employment by: Increasing productivity, streamlining assessment processes and rationalizing service delivery. CARTS improved targeting and rationing of resources will also increase competitiveness through improved efficiency in healthcare delivery, which will also impact upon healthcare budgets. Community healthcare workers will work more efficiently, in a targeted fashion, with clear outcomes.

Maintaining older adults at home, maximizing their independence and reducing costs are all potential benefits from this program. In Ireland, in 2011, the annual cost of nursing home care reached 0.9% of GDP, equivalent to $2 billion (World Bank).

**Added value:**

This short, simple, easy to use screening tool now allows us to provide profile of those individual who are at risk in our community in a way we could never do before. It will inform service development based on actual need and allow us to target those at risk. It will connect the community to family practise and specialized outpatients and in patient services by providing a simple universal risk score that can be easily interpreted by all professionals no matter what part of the health system they work in. It can be used by inpatient services prior to discharge, in the Emergency Department, by family doctors and community nurses. It can be used by a wide variety of different health professionals for all ages and diseases.

**Success factors:**

We working with our partners now who are busy are translating the tools and training program into different languages so they can start to pilot the program in 2014. We will aim to standardize use but this is challenging because each system is different and the program will be used in different ways in different systems. But since the screening tool is so simple, it can be used in many different settings with minimal training.

**Barriers to innovation:**

The greatest challenge to this process will be to change current practice to a proactive preventive system, using targeted interventions. This research programme will provide the evidence to support this change. This program will screen and triage those at high risk in the community. This will allow us to develop risk profiles of our community dwelling older adults. It will allow us to target them specifically to minimize risk and allow them to live at home longer by postponing preventing or delaying these negative outcomes. We will collaborate with patients, families and existing health care providers to maximize independence and minimize disability.
Transferable elements:

We are also collaborating with different sites in Europe to translate our tools and training materials, and have started pilots in their regions. We have a collaborator in Perth Australia who started in June 2013 to duplicate our original pilot. Together with our Dutch, Maltese, Northern Irish, Portuguese and Spanish collaborators, we will screen community dwelling older adults in each country to compare the natural history of risk in these populations. We will then intervene with evidence based assessments and treatment strategies to prevent these negative outcomes. We recently met with our European partners for two days in October 2013, in Cork, to train on the use of the CARTS and to plan our research program. We are hoping to submit a proposal to Horizons 20/20 in 2014.

Lesson learnt and recommendations for others:

The EIP AHA provided us with a huge incentive to do this research. Furthermore, it provided a forum to meet like-minded researchers and to collaborate with them to scale up the work that otherwise would have taken years to do. It was a marvellous experience coming to Brussels to meet colleagues from all over Europe, form friendships and find out who was doing what. These friendships and collaborations will bear fruit for us all in the short and long term.

Good Practice:

Louth Age-Friendly County Initiative (LAFCI) (GP2)

Reference Site:

COLLAGE (Collaboration on Ageing)

Contact information:

Ms Joan Martin, Director of Services, Louth County Council, Millenium Hall, Dundalk, Ireland Joan.Martin@Louthcoco.ie

Short description of your good practice:

The initiative is a citizen-centric model of integrated social, economic and environmental development, that is sustainable, equitable and inclusive for all ages, founded on the following underlying principles:

- To operate within existing, though evolving, organizational structures;
- To find, and be guided by the voice and participation of older people;
- To be easily replicated in any City or County in Ireland, and that is scalable and adaptable to wider European municipalities, cities and regions.

Partners in the coalition:

Louth Local Authorities, Health Services Executive (HSE), An Gardai, Dundalk Institute of Technology (Netwell Centre and CASALA); the Louth Older Peoples’ Forum; Louth Leader Partnership, Louth Economic Forum, the City and County Manager’s Associations; The Sustainable Energy Authority of Ireland, The Birches Centre, Alzheimers Ireland; Age & Opportunity; Age Action; Irish Council for Social Housing; the Ageing Well Network; Dept of Health; Dept of Local Government; Dept of Environment; Dept of Transport; Dept of Protection and Social Welfare; the universities in Cork (UCC and the Tyndall Institute), UCD (TRIL/CHRC) and the U3 group (DCU (technology), NUIG (Innovation) and RCSI (health and medicine); Age-Platform, the WHO Global Network of Age-Friendly Cities, the International Federation on Ageing, the European Network of Living Labs.

Start date: The project was seeded through participation in the WHO Age-Friendly Cities Project in 2006/7. Multi-stakeholder commitment to implement the project was made in 2008.
Project duration:

The project has been developing for 5 years and is now embedded into the operating structures of all the collaborating stakeholders. It is now a self-sustaining programme.

How we did it:

Following community consultation within the initial WHO programme, the summary report laid out an ambitious, but achievable, agenda for change. The crosscutting ‘age-friendly’ agenda presented local leaders with an opportunity to bring forward a holistic approach to integrated county development through the lens of demographic change.

A conference was organised which brought together all the relevant local stakeholders, political representatives, public, private and NGO service providers and older peoples representative bodies. Together, they made a joint commitment to develop a shared ‘age-friendly-county’ strategy, framed by the WHO guidelines and contextualised by the voice of local older people. The lobbying of national stakeholders through the activities of the Ageing Well Network created the operational space to pursue more innovative and experimental, cross-agency approaches.

The initial project addressing age-friendly social and economic development was seeded by a philanthropic grant of €250k, with matching funding provided by the stakeholders. The economic partners within the LAFCI driving age-friendly business include:

- Louth County Council, Teagasc (agriculture agency), Failte Ireland (tourism), Louth County Enterprise Board, FAS (Training and Development Agency), Enterprise Ireland (indigenous industrial development), IDA (foreign direct investment), CASALA, Netwell and DkIT (research and development), Chambers of Commerce in Dundalk and Drogheda, Sustainable Energy Authority of Ireland, Louth tourism.

Stakeholder buy-in has been achieved by a combination of collaborative vision setting informed by analyses of comparative practices and possibilities, robust local baseline socio-demographic data to establish the case for change, confidence building by reviewing and assessing current assets and capabilities (a strong starting position), recognizing our readiness to adapt, improve and transform, strong adaptive leadership to create the space to innovate, and a sense of shared ownership that fostered a collaborative management framework for co-design and development.

The conceptual simplicity of the technical delivery framework provides an easily implementable and replicable model, which encapsulates complexities internally until organisations are ready to progress more deeply. The key components are:

- A multi-stakeholder collaborative alliance of partners dealing with services for older people across the public, private and NGO sectors at the local/regional level;
- A representative forum of older people ensuring that the variety of voices of older people (age, gender, economic status, urban/rural etc) is developed and heard;
- The development of a common, shared holistic action plan framed by the principles and domains of the WHO;
- A transformative culture based on citizen-centred principles, supported by adaptive leadership and commitment to continuous quality improvement informed by good information and data;
- A cross-agency virtual office, anchored in the local authority to provide support services to the stakeholders;
- A menu of specific targeted practices for local implementation based on local context – service broker/advocacy, aware housing, culture change tools (places to flourish) etc.

Our results:

Overall, the LAFCI is now reaching throughout the county and its urban centres through being embedded in the following plans:

- Louth County Development Plan 2009-2015 (County: Total: 122,879, 65+: 13,477);
- Dundalk & Environ Development Plan 2009-2015 (Town: Total: 37,816, 65+: 6315);

Across the county, there are about 580 long term care places in residential care settings and about 1,500 older people are recipients of home care packages. Of the 580 places in residential care across the public and private sector in the county, over 180 (or 31%) have adopted LAFCI driving age-friendly social and economic development.

Our results:

The following benefits related to the health and well-being status and quality of life for older people are now emerging:

- Respect and Social Inclusion: Older people are valued for their life experience and are shaping and enhancing the communities in which they live;
- Social & Civic Participation and Employment: Older people have greater opportunities for civic, social and economic participation and life-long learning;
- Housing: Additional supports are in place to help more older people to stay living in their own homes and connected to their communities;
- Transport: Service connections are improving, making it easier for older people to get to where they want to go, when they want to go;
- Outdoor Spaces and Buildings: Places are more conducive to being out and about and people can feel safer in their own homes and their communities;
- ICT: ICT is providing additional media channels to support social connection and information...
 provision, empowering older people to realise these outcomes.

New brokering and advocacy services and related community-based supports are currently yielding a 5:1 return on investment, extending healthy life-years and saving 1.5m/year on a compound basis in relation to older people at risk of nursing home admission. Two brokers, and 3 co-ordinators, are managing a team of 100 volunteers supporting a 1000 older people in the community to maintain independence. These home and neighbourhood based services are reducing pressure on LTC admissions and providing an accelerated discharge pathway from the regional hospital.

In relation to market growth, employment and job creation, the LAFCI, through the work of the Louth Economic Forum, and the ‘age-friendly-business’ sub-group, have developed a 10-point economic development action plan, which is a template for the development of economic pillars in counties in Ireland. The dimensions of the plan are:

- Foreign direct investment;
- Indigenous industries;
- Tourism, heritage and leisure;
- Sustainable energy;
- Age-friendly business;
- Education and training;
- Agriculture, Food and fisheries;
- Broadband and communications;
- Making Louth a great place to do business;
- The cross-border economic corridor.

In partnership with the Dept of Social Protection, and building off the LAFCI platform now in place, we are now planning an integrated Youth un-employment and Active Ageing programme that can see 160 new inter-generational jobs created locally, with the potential to scale considerably across a national network as the programme evolves.

**Added value:**

The LAFCI programme provides a framework for developing common and integrated plans, aligning local actions, sharing resources, reducing cross agency barriers, and becoming citizen centred. Its value is manifest through horizontal stakeholder coordination within the county and region, through vertical alignment of national policy and regional and local implementation, and through greater co-design, participation and involvement of citizens implementing solutions to improve their well-being.

**Success factors:**

The initial three design principles have proved to be the essential building blocks for the success of the initiative.

In order to find a solution that operates within existing organizational structures, LAFCI attached itself to the integrated economic, social and cultural pillars of County Development. This had an existing multi-stakeholder composition which helped support a holistic approach, but more importantly, provided an organizational replicability framework for adjacent counties in the region, and wider take-up nationally.

While challenging to implement, finding, and be guided by the voice and participation of older people has underpinned legitimacy, helped prioritise need, propagate awareness, and resource local change through co-design, volunteering and mentoring.

Finally, by basing the agenda on the standard WHO framework and guidelines, there is a readily accessible and comparable structure to frame actions that are amenable to both top down and bottom up activation, and which can be adopted, adapted, scaled and replicated in almost any European municipal, city or regional context. The further adaption of these guidelines to the European context with the D4 action group will help widen mobilization and take-up even further.

**Barriers to innovation:**

Some of the most persistent barriers and obstacles that can delay or make it more difficult to develop include:

- The socio-political cohesion/diversity of the area and the ability to pull diverse stakeholders together under a single plan, without forcing a top-down approach;
- The urban/rural diversity and balancing central and distributed interventions and access in a manner consistent with overall sustainability objectives;
- The availability of robust baseline data, and the costs associated with gathering it;
- The continuity and stability of alliance membership through organisational and personnel change;
- Operational mechanisms for collaboration with dispersed people in different places and on difference schedules. ICT helps, but early work requires considerable face-to-face contact time;
- Public awareness and communications, as the message has to sit and integrate with many others brands and images that a city/county will be promoting as part of its social and economic development;
- Shifting from an activity/output mode of operation to one more directed at integrated impact over a long haul;
- Prioritising actions and avoid continuous expansion and creep while recognising the wide connectivity and inter-relatedness of activities.

**Transferable elements:**

The core elements which require fidelity are:

- The formation of a multi-sectoral stakeholder alliance, under the leadership of the county manager;
- The formation of an Older Peoples’ Forum (representative body for seniors);
• The completion of a base-line study on existing age-friendliness;
• The preparation and adoption of a local 'age-friendly county strategy' documenting improvement actions based on the 8 domains of the WHO age-friendly city guidelines;
• Embedding age-friendly principles in key statutory planning instruments, to ensure sustainability of effort;
• A commitment to review progress and to continuous assessment and improvement.

Lesson learnt and recommendations for others:

Some key lessons include:

- The need for better mezzo-level data to reveal hidden secrets within cities and communities;
- The importance of achieving a holistic shared vision on goals and outcomes, to sustain common efforts;
- Recognising tensions: social vs medical, consultation vs co-design, inter-generational pressures, prevent vs fix, lifestyle inclusivity growing, ageing and ending well;
- Managing activities across spatial hierarchies rural, city, county, region.

LAFCI implementation involved an adaptive response to a global, holistic framework. It involves change and transformation, and is dependent on situational readiness, adaptive leadership and culture change tools. There is a simple clarity in its idea yet it requires patience, tolerance and resilience to deliver.

More information:

Futher information on the LAFCI is available from:
Joan Martin  (LCC) +353 (0)42 933 5457
Mary Deery, (LCC) +353 (0)42 932 4389
Rodd Bond, (Netwell/DkIT) +353 (0)42 937 0497
www.collage-ireland.eu
www.louthagefriendlycounty.ie
www.netwellcentre.org

Good Practice:

The “Let Me Decide” Advance Care Planning and Palliative Care Programme in Long-term Care (GP3)

Reference Site:

COLLAGE (Collaboration on Ageing)

Contact information:

Prof George Shorten
School of Medicine, Brookfield Health Sciences Complex, University College Cork,
College Road, Cork, Ireland
g.shorten@ucc.ie

Short description of your good practice:

This programme simultaneously implements an advance care planning programme (using the 'Let Me Decide' advance care directive) and a palliative care educational initiative into long-term care settings. The LMD-PC programme empowers people to take charge of their healthcare, may help to prevent futile and unwanted medical treatments and ensures that any treatment given is consistent with the patient’s wishes.

Partners in the coalition:

The Health Service Executive (HSE) in the Cork Region, the Irish Hospice Foundation (IHF), the Health Information and Quality Authority (HIQA), the All Ireland Institute of Hospice and Palliative Care (AIHPC), and Department of General Practice at University College Cork, and Marymount Hospice, Cork.

Start date: June 2011

Project duration: 5 years

How we did it:

Our Pilot Implementation Study is being funded by the Irish Hospice Foundation (IHF) and Atlantic Philanthropies (AP), while representatives from IHF, HIQA, the Health Service Executive (HSE), UCC, AIHPC, and General Practice Education, sit on the Steering Committee. This initiative involves LTC residents and their families, LTC providers, Family Doctors, geriatricians, and PC specialists.
We have obtained funding to develop a multidisciplinary e-learning module on general palliative care in collaboration with Palliative Care Specialists, the Irish Hospice Foundation (IHF), UCC (School of Medicine and School of Nursing and Midwifery), and the All Ireland Institute of Hospice and Palliative Care
The use of advance care directives (ACD), also called living wills, originally evolved out of the fear of unwanted treatment. ACDs may prevent futile (and unwanted) medical interventions; while at the same time maximising patient autonomy and dignity. Research shows that ACDs and ACP reduce stress, anxiety and depression for bereaved families and increase satisfaction with healthcare. By informing next of kin and health care workers of the patient’s wishes, they prevent a lot of stress and potential disagreements between family members because the patient has “taken them off the hook” and they don’t have to make these difficult, potentially hazardous, decisions for their loved ones.

Not only are the goals of this initiative important for residents, their families, and healthcare staff, but also for the healthcare system, as there is evidence that ACP promotes better use of resources. By avoiding treatments or transitions to hospital that are unwanted by residents, are inappropriate or futile, it allows limited healthcare resources to be used in a more efficient and cost-effective manner. Our previous research showed that hospitalizations were reduced by between 60 and 70% when LMD was systematically used in long-term care. Interestingly, there were more deaths in the group that were hospitalized. Residents, who stayed in the nursing homes, had lower mortality rates.

The ACD program was developed over the last 20 years and was objectively studied over this period of time. Training is an essential key to the success of this program. Policies, education, surveys of attitudes and educational needs of the staff are routinely performed to assess the needs of staff before the program is implemented. We also assess barriers to implementation so strategies are developed to overcome these barriers when training is planned. Another key element of this program is the use of a capacity assessment instrument that measures the capacity of individuals after they are educated. This ensures that only those who understand the terms and decisions they are making, complete the directives. If individuals do not understand the directive, we go to next of kin to discuss the person’s wishes. This is important because many of the individuals in long term care have dementia and it is important to be able to measure their understanding of the process so that we are confident that they understand the decision they make.

The training for the two programs has been standardized now and when it goes on line, we will be able to scale up quickly.

Our results:

The 2011 Irish national census indicated there were 4,588,252 people living in Ireland. Of these, 11.7% (535,393) were aged 65 years and over. Almost 16% of this age group resided in counties Cork and Kerry (83,368) where 5.3% were in long-term care (LTC). In Ireland approximately 25% of all deaths occur in LTC. Clearly, advance care directives and planning in advance for end of life care is highly important and relevant in the LTC setting.

The total number of beds in the LTC centres currently piloting the LMD-PC programme is 488, representing 11% of the target population in the Cork and Kerry areas.

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Not only are the goals of this initiative important for residents, their families, and healthcare staff, but also for the healthcare system, as there is evidence that ACP promotes better use of resources. By avoiding treatments or transitions to hospital that are unwanted by residents, are inappropriate or futile, it allows limited healthcare resources to be used in a more efficient and cost-effective manner. Our previous research showed that hospitalizations were reduced by between 60 and 70% when LMD was systematically used in long-term care. Interestingly, there were more deaths in the group that were hospitalized. Residents, who stayed in the nursing homes, had lower mortality rates.

The LMD-PC programme aims to maximise the older people’s autonomy and dignity at the end of life, to improve the quality and efficiency of the delivery of palliative care in LTC, to avoid inappropriate or unwanted treatment or hospitalisation of LTC residents at or near the end of life. This will facilitate the use of limited healthcare resources in a more cost-effective way.

Currently in three of our homes more than 50% of competent and incompetent residents have completed Let Me Decide. Over time, as staff become more familiar with the program, their confidence is growing. Feedback from staff, residents and their next of kin has been very positive and encouraging. Now when residents become ill and are dying, the decisions have been made and they can focus on care and clear communication rather than having to try to make difficult care and treatment decisions in an atmosphere of crisis. Since all the important decisions have been made, family can rest assured that their loved one is getting exactly the care that he/she wants. This is very reassuring for them as well. Everyone can just focus on the care of the individual and are not distracted and stressed by trying to make difficult decisions at this time.

Added value:

ACP empowers older people to play an active role in their own personal health management and places them at the centre of the decision-making process, promoting their autonomy by enabling their wishes to be documented before potential loss of capacity to decide or to communicate their wishes. It promotes and extends autonomy, even in spite of loss of capacity later. It takes family and health care workers off the hook. They don’t have to make these difficult decisions for people anymore. It reduces hospitalization from nursing homes. It reduces health care costs, by preventing futile health care use and reduces mortality.

Now that we have added the Palliative Care training program to the advance care directive part, the whole is so much more comprehensive and makes great sense. Together with the quality assurance pieces now where we actually measure symptom control at the end of life from chart reviews, staff, family and hopefully patients’ perspective, we have a very useful and much needed program indeed.

Success factors:

The ACD program was developed over the last 20 years and was objectively studied over this period of time. Training is an essential key to the success of this program. Policies, education, surveys of attitudes and educational needs of the staff are routinely performed to assess the needs of staff before the program is implemented. We also assess barriers to implementation so strategies are developed to overcome these barriers when training is planned. Another key element of this program is the use of a capacity assessment instrument that measures the capacity of individuals after they are educated. This ensures that only those who understand the terms and decisions they are making, complete the directives. If individuals do not understand the directive, we go to next of kin to discuss the person’s wishes. This is important because many of the individuals in long term care have dementia and it is important to be able to measure their understanding of the process so that we are confident that they understand the decision they make.

The training for the two programs has been standardized now and when it goes on line, we will be able to scale up quickly.

Barriers to innovation:

Enhanced communication is a key feature of the ACP process and is fundamental to respecting a person’s right
to a dignified death. By empowering LTC residents and their families in this way, we address the issue of inadequate user involvement, which has been identified as a bottleneck by the Partnership.

The majority of residents in Irish LTC institutions have some level of cognitive impairment, which presents a challenge when educating this population to make informed healthcare choices. While this labour-intensive step presents as a potential bottleneck in the ACP process, this has being addressed by the development of patient educational aids that can be used by residents and next of kin. This intervention is basically an educational intervention that is done when a person is capable to let others know what he/she wants when he/she becomes incapable of making his/her wishes known. Three groups are targeted for individualized education: residents, next of kin and health care workers. The program is essentially an educational intervention aimed at these three groups delivered in a clear standardized fashion with quality assurance tools built in.

Transferable elements:

Let Me Decide is a comprehensive ACD that covers a variety of different potential issues. It covers cardiac arrest, tube feeding and treatment of life threatening illness. People can use it to make choices depending on whether they have an acceptable or unacceptable quality of life. Furthermore, there is a personal statement where people can define what they consider to be unacceptable and in this way each person can personalize their own directive. It has a comprehensive set of instruments that go with it and has been studied for over 20 years with more than 30 peer-reviewed publications on various aspects of the program. A book called “Let Me Pass Gently” is a guide to the use of the program. The book, Let Me Decide, has been translated into six languages.

Now with the addition of the Palliative care program, we have at the tools we need to ensure that people get top quality care at the end of life in nursing homes where about 25% of deaths occur. In the future, it is likely that even more people will die in nursing homes. It is incumbent on us to make sure that the care they get is optimal and ensures that people die in comfort with minimal suffering for residents, family and staff. Following completion of this Pilot Study (summer 2014), the programme will be scaled-up as follows:

Phase 1: Scaling-up to six LTC in all regions in Ireland (with involvement of senior HSE managers)

Phase 2: Pilot implementation of LMD-PC programme into European sites.

Lesson learnt and recommendations for others:

When we started we spent a long time working with the staff in the homes discussing the program. The program had been developed in Canada and we had to make quite a few changes to adapt it for an Irish setting. The culture is different and the laws are very different in Ireland. While this process seemed to move very slowly and at times felt like a waste of time, it was time well spent. The staff took ownership of the program because they felt they had contributed so much to the development of the Irish version of this program. This was a very new program in Ireland and we had to ensure they were comfortable with it before we implemented it. When we first implemented it, it went very slowly. But over time as they got used to it, the rate of completions increased.

I would not try to rush this program and would not be worried for the first year until the staff become used to it and become accustomed to it. Once they do, it goes in very easily and quickly. There is a time lag before they become familiar with it. But once they do, it goes really quickly. So don’t rush it.

Now that we have it working really well in these pilot homes, others have heard about it and are asking for it. When we first put the program in the only tool we were using to score quality of life at the end of life and symptom management was the Quality of Death and Dying Tool that was completed by relatives. Now we have developed a tool that staff scores to measure their perceptions of the death and how well it was managed. We are going to try to develop a tool that we can give to people in nursing homes when they are dying to try to assess their comfort and how well we are managing their symptoms. We will try to measure symptom even in spite of dementia. This will be a fairly complex hierarchical instrument that will measure communication, control and symptom management from the patient’s perspective.

Our next study is a randomized trial of six homes where we stagger the implementation. We will pilot our on line training program and the new tools we have developed for staff and patients to measure the quality of the person’s death. Once the training is on line, and if our findings show that the use of ACD’s with this palliative care program improves the quality of care people get in nursing homes at the end of life, it will be much easier to roll it out nationally in Ireland.

More information:

www.Letmedecide.ie
Professor William Molloy, St Finbarr’s Hospital, Douglas Road, Cork City Ireland.
w.molloy@ucc.ie
Key data:

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**Good Practice:**

Adapted Physical Activity (APA) (GP1)

**Reference Site:**

Regione Liguria

**Contact information:**

Lorenzo Bertorello  
Piazza De Ferrari 1 – Italy  
Affari.europei@regione.liguria.it

**Short description of your good practice:**

APA is a programme of exercise, not a rehabilitation activity. It is a health oriented programme aimed at improving the lifestyle and quality of life of the elderly. Adapted Physical Activity (APA) is a sound programme for the prevention of the loss of functional autonomy that Regione Liguria plans in the coming years to extend to the widest number of elderly inhabitants. The overarching objective is to include the programme in the mainstream socio-health policies of the Region. Therefore, the initiative is strongly linked with the EIP on AHA’s scope and it covers significant aspects of the three pillars: it is a prevention initiative (pillar 1), it has to do and addresses people with chronic diseases (pillar 2) and it helps fostering active and independent living.

**Partners in the coalition:**

In collaboration with the 5 Regional Local Health Agencies (LHAs), Public Health Districts (PHDs) and Organizations of the Ligurian Active Ageing Network (LAAN).

**Start date:** 5/4/2013

**Project duration:** 1 year

**How we did it:**

There are two typologies of APA programmes: a) APA programmes for people with “low disability” and b) APA programmes for people “high disability”. The aim is to offer various activities among which everybody is able to choose the most suitable one, enhancing interest and motivation, which is very important to encourage people to attend lessons constantly. Being active has to become a habit and an incentive to live an active life, even outside organized physical activity lessons.

Public Health Districts (PHDs) foster APA by PHDs Plans which involve institutions, voluntary associations and private entities.

APA normally consists in a fort-nightly programme of one-hour, in a group of a maximum of 20 people, trained by qualified teachers (physical education graduates and/or physiotherapists). APA exercise programmes are based, for every typology, on scientific literature. They are uniformly applied for every structure taking part in the activity and are periodically validated by local coordinators and advice coming from scientific coordinators.

APA Programme is auto-financed since courses are self-paid by users (20 Euro/month; 50 Euro/three months). In 2013, the Italian Ministry of Family will provide 150.000 Euro for activities of APA, while Regione Liguria will integrate this funding so as to involve in the service approximately 400 patients/year. In particular, Regione Liguria envisages a contribution of 1.000 Euro for each new APA course activated, so as to partially cover organizational costs, such as the reimbursement of instructors, insurance costs, training places, rent, etc.

The DSS (Socio-health District) advances AFA in the scope of the DSS Plans, involving institutions, voluntary associations and private resources operating in this context.

**Our results:**

Data gathered from LHA n. 4 concerns 19 courses in 6 municipalities with 351 participants, mostly females (88%). The most represented age group (51%) was between 60 and 69 years of age, followed by those between 70 and 79 years old (26%). The main reasons to attend the courses were lumbar back (42%) and neck
pain (32%). The results were evaluated by specific questionnaires. Most of the participants (97%) reported pain reduction with physical improvement. They also reported a reduction (22.2%) or full use (14.6%) of anti-inflammatory drugs or painkillers. Some participants also added that they did not subject themselves to other diagnostic tests (21.2%) and that they no longer needed to consult with a doctor anymore on back pain after the programme (21.2%).

Data gathered from LHA n.3 concerns 129 participants (89 females and 40 males). About 32% of participants reported a reduction in the use of anti-inflammatory drugs or painkillers, while about 80% of participants reported pain reduction or stability. TUG (Time Up and Go) Test score improved in about 88% of cases.

Benefits related to the health status and quality of life of the local population include the continuation of rehabilitation as opposed to being sedentary.

**Added value:**

The Adapted Physical Activity confirms its validity in the prevention of back pain and frailty in general. APA has also a meaningful impact on the reduction of public health expenditure. As a matter of fact, APA courses are self-paid by users, who turn to the programme instead of applying for physiotherapy sessions financed by the National Health System (i.e. in Liguria, 10 sessions and a visit for back pain costs about 89 Euro). APA courses have also prevented institutionalization in certain cases (which costs 27 Euro/day to the LHA and 48 Euro/day to the user or his/her administrative district).

A satisfaction survey with LHA n.3 and n.4 users underlined that teachers’ courtesy, courses settings and training schedule were all considered ‘very well’.

**Barriers to innovation:**

A possible barrier is the best approach to be used when first introducing the movement to sedentary elderly people.

**Transferable elements:**

Participants are offered not only a tool for prevention and well being, but also have the possibility to socialise.

**Lesson learnt and recommendations for others:**

This has been a successful experience where the long-term financial sustainability of the proposed service needs to be stressed and recommended. The balance between the cost of the service and resources saved by the health system is very effective.

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**Good Practice:**

**Memory Training (MT) (GP2)**

**Reference Site:**

Regione Liguria

**Contact information:**

Prof. Ernesto Palummeri
Ospedale Galliera Mura delle Cappuccine 14
16121 Genova
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**Short description of your good practice:**

This good practice aims to maintain, as long as possible, a good quality of cognitive life for elders, easing the conservation of functional and psychic autonomy and, consequently, relying less on the local health system. Secondly, MT’s diffusion will help citizens realize the importance of cognitive health and fostering a healthy lifestyle.

**Partners in the coalition:**

Liguria Region; ANCI Federsanità; The Memory Center, (E.O Ospedali Galliera) and ADA Association.

**Start date:** 2011

**Project duration:** 1 year

**How we did it:**

At the beginning, in the middle and at the end of each Memory training course that addressed the audience, the trainer and observers will meet with a representative of the Scientific Committee, managed by Galliera Hospital-geriatric department. The objective being to assess progress and discuss any of the issues which have arisen in the perspective of the dissemination of the results and the replication of the initiative in other regional and extra-regional contexts. In the first phase, the program involved 119 residents of Genova over 65 years old. Other Ligurian cities are currently activating the program reaching from 300 to 400 actors in the region.

Liguria region has allocate d approximately 45,000 € for Memory Training Courses in 2013 and is going to organise at least one course for each Ligurian Local Health Agency within 2014.

The Memory Center, belonging to Ospedale Galliera, guarantees selections, courses evaluation and trainers education. Furthermore, it guarantees the collection of
data related to the course and provides their statistic elaboration to produce reliable papers on project efficacy.

**Our results:**

Older people involved in this first phase of the project will range from 300 to 400 MT in Liguria.

MT allows elders to maintain their functional and mental autonomy over time and to thus save costs for the local health system. Secondly, the spread of MT should allow citizens to realise the importance of cognitive health and to adopt, as a result, adequate lifestyles. Finally, as a parallel effect in the area of prevention, MT will make it possible to intercept those at risk of early dementia or those already showing first signs, allowing them to anticipate diagnostic interventions and care.

Subjects have been involved in specific tests carried out before the beginning of the programme and at the end of the 9 weekly meetings. Results show a statistically significant improvement (p<0.0001) concerning important cognitive capabilities.

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</tr>
<tr>
<td>Word Recall (3 lists of 10 items)</td>
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</table>

**Added value:**

According to the results of the tests, cognitive training reinforces residual cognitive capabilities and compensates the less active ones due to insufficient use. Furthermore, strengthening cognitive efficiency generates sensible improvements even on the mood and on individual motivations. Memory Training programmes, specifically based on cognitive functions, improve mental performances both in the medium and long term; there will also be positive on everyday life activities, such as walking, car driving, as well as on self-esteem and social relations.

**Success factors:**

Easy to realise and economically sustainable; proper communication focusing on the achieved results is very useful to foster replication.

**Barriers to innovation:**

Methodology in other regions/countries needs to be adapted to specific contexts and local customs.

**Transferable elements:**

Memory training was already transferred and adapted from Regione Emilia Romagna, so our case demonstrates this transferability.

**Lesson learnt and recommendations for others:**

There is a growing level of interest and participation: communicating results is important and users are a powerful driver for dissemination and for demonstrating that a non-pharmacologic approach is effective.

**Key data:**
**Good Practice:**

Implementing innovative prevention and health promotion strategies to tackle frailty: Health Campus as an innovative experience to connect health care services and the citizen (GP P1).

**Reference Site:**

Campania

**Contact information:**

Carolina Di Somma  
Department of Clinical Medicine and Surgery  
Federico II University Hospital  
Via S. Pansini 5, 80131 Naples, Italy  
cdisomma@unina.it

**Short description of your good practice:**

The goal of our action is to carry out prevention and health promotion activities on the territory, in order to detect frailty and pre-frailty conditions, and reduce functional decline and frailty among older people, improving their well-being and quality of life.

**Partners in the coalition:**

Health Campus  
Federico II University Hospital  
Volunteers from many organizations (>200 total volunteers)

**Start date:** 2010

**Project duration:** ongoing

**How we did it:**

The Health Campus provides the establishment of a true "Field Clinic" dedicated to prevention and health promotion, where interested citizens can go and visit, receive ultrasounds and x-rays (e.g. mammography in particular for the prevention of breast cancer, and bone mineralometry for early detection of bone loss) and be informed about the most frequent health risks and good practices to be implemented, in order to prevent poor health and emergence of diseases. The Village is typically set up during large public events, or at the request of public and/or individuals wishing to promote the culture of prevention, and to provide citizens with the opportunity to check their health.

**Our results:**

Health Campus has now expanded from Naples to two other provinces: Salerno and Caserta, where screenings during popular events have been carried out twice since January 2013. The section of the Health Campus that is based in Naples holds an average of 8 events/year, with about 1000 citizens screened and over 2000 services provided for each edition. This approach carries also the opportunity to promote active living and healthy lifestyle by providing information and feedback to the citizens.

**Added value:**

This practice is the first example of screening and services outside of the hospital setting and has the advantage of enrolling people less likely to undergo preventive screenings. Furthermore, carrying out these activities during popular events such as the ‘Prevention Race’, ‘Walk for Life’ and the ‘America’s Cup’, provides broad visibility and impact to disseminate the culture of a healthy and active lifestyle.

**Success factors:**

An effective fund raising organisation and a network of physicians to support the clinical activities are key to success. In the case of Health Campus, the Endocare network is the key organisation responsible for enrolling many specialists and general practitioners who share health care pathways and protocols.

**Barriers to innovation:**

Many organisational issues are faced when setting up the Health Campus tents at the events locations: permits from fire workers, safety controls, space related issues that can limit the number of tents available for the screening, and security issues for the equipment. However, the organisation is now well known so its...
procedures have been standardized, therefore handling all these issues has become part of the routine set-up.

**Transferable elements:**

The transferable element is the flexibility of the organisation allowing for a rapid set-up at different locations. Conjugating health screenings and promotion with locally relevant sport events is an effective way to enhance the awareness of active lifestyle for good health.

**Lesson learnt and recommendations for others:**

The Association’s activities are carried out exclusively on a voluntary basis and are grounded on agreements and partnerships with public and private organizations that reach the largest possible number of citizens. The activities are carried out on the principle of subsidiarity, which see the voluntary sector in the front line to guarantee services and assistance to the community.

More than 200 volunteers are currently involved in Health Campus activities. As an example, they provided 3378 clinical services to citizens during an October 2012 event, and screened over 1000 citizens, providing over 2000 services at the last Health Campus event in November 2013.

**Good Practice:**

The use of ICT for the integrated care of chronic patients: the “Campania nel Cuore” commitment. (GP2)

**Reference Site:**

Campania

**Contact information:**

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Department of Medicine, University of Salerno
Via Salvatore Allende, Baronissi, Salerno, Italy
giacarino@unisa.it

**Short description of your good practice:**

The “Campania nel cuore” commitment aims to scale up the good practice implemented in a specific province (Naples) to handle hypertensive patients, and broaden its target population.

**Partners in the coalition:**

Specialist centres for the treatment of cardiovascular diseases, general practitioners and cardiovascular patients.

**Start date:** 2012

**Project duration:** ongoing

**How we did it:**

The project was first established about 15 years ago in the area of Naples, at the Hypertension Center of Federico II University Hospital. From there, the follow-up was exported to the Local Health Authority “ASL Napoli 1”, Department of Care Continuity. We are currently exporting it to the “San Giovanni di Dio e Ruggi d’Aragona” Hospital, connected with Salerno University Medical School.

Support to the scale up foreseen in the good practice come from the local area health authorities (ASL), in particular ASL NA1 which agreed to join the effort.

Original funding to the project was provided by a European Commission funding scheme (DGXVI), Regional Policies, « TEMETEN project » (Towards European MEdical and TEleworking Network project, 1998). Since the original financing, the project was supported by Campania regional funding (Telemedicine regional project « PORTE » (Portale Regionale di
Telemedicina 2003). The scale-up to the Salerno Area is funded by the AOU San Giovanni di Dio e Ruggi d’Aragona University Hospital, connected with Salerno School of Medicine. Further support derives from the Scientific Societies (Italian Society of Hypertension).

In 2012, the connection between the Ruggi Hospital and the School of Medicine of the University of Salerno was formalized. Personnel from Federico II University of Naples, where the project was started, was transferred to Salerno, and an agreement was signed to extend the project also to the new University Hospital. The Manager of the University Hospital of Salerno accepted to support its first implementation.

A new Outpatient Clinic for Hypertension, Ischemic Heart disease and Blood pressure disorders during pregnancy was started. Personnel were identified among the University doctors. The office is open 3 times a week.

Our results:

After 15 years of activity, the Campania Salute project in Naples covers 25,000 patients. In Salerno, on November 2013, that is 18 months since establishment, 600 patients have been enrolled.

A reduction of cardiovascular events that is produced by this management of hypertensive patients has been scientifically proven, and is the object of peer review publications (J Hypertens. 2005 Jul; 23(7):1417-23).

The analysis demonstrates how the ICT-based model is instrumental for the improvement of health outcomes, quality of life of patients and contributes to their active aging.

The proposed good practice will increase the esteem of the citizen about the received public health care services with a consequent reduction in inappropriate emergency access and referral to extra-regional providers.

The ICT provides an electronic chart that GPs and University doctors can update during each patient appointment at the hospital or to their office.

If scaled up further, the project will stimulate the demand for ICT interfaces with other existing systems and databases.

Added value:

Scale up of a best practice like Campania Salute is considered an important added value since it does not require testing. Its scale-up is facilitated through the clinicians’ networks, like the Italian Society for High Blood Pressure.

Success factors:

The ICT is scalable and there are interactions with other clinics and departments to integrate their electronic records with Campania Salute.

Barriers to innovation:

The major problem was implementing a stable access to the internet, given the poor infrastructure of the University Hospital. This was overcome by using technologies alternative to land connections.

Transferable elements:

The ICT is easily transferable. It is possible to make acquisitions of modules separately, according to resources and opportunities.

Lesson learnt and recommendations for others:

A strong interaction with the hospital management and with its ICT services is at the core of the interoperability, to ensure maximum impact.

Dedicated personnel is key to a fast forwarding of scale-up implementation. Young residents, who possess an higher level of “digitalization” than the older hospital doctors, further facilitate its implementation.

More information:

![Distribution of the patients included in the Campania Salute (CS) in different classes of blood pressure (BP) values, at the baseline and at the end of the follow-up (FU).](image)
Good Practice:
Campania Integrated Regional ICT Health Network (GP3)

Reference Site:
Campania

Contact information:
Lara Natale
Centro Direzionale Isola C3, 80143 Napoli - Italy
lara.natale@regione.campania.it

Short description of your good practice:

The good practice concerns the implementation of a centralized management and accounting system for Health, that is pivotal to the further development of an integrated regional ICT network among the actors of the regional health system.

This activity creates a central dashboard, fully integrated with the systems of territory health units (ASL). Its continuity interface with the regional health agencies allows constant monitoring not only for administrative and accounting data, but also for management data related to the implementation of the LEA (Essential Levels of Care), integrating in a coherent way the services offered by the different regional providers.

The creation of homogeneous data streams through the interoperability of different databases will support the reduction of hospitalization, and shift care from reactive, and focused in acute care hospitals, to proactive, and decentralized, in an integrated manner throughout the territory.

Partners in the coalition:

Campania Department for Health and Natural Resources
Campania Department for Planning and Economic Development
Campania EIP-AHA Reference Site

Start date: 2013

Project duration: On-going

How we did it:

The activity responds to the need of implementing an ICT management and accounting system for health services, with particular reference to the regional level for the implementation of the LEA (Essential Levels of Care).
Campania EIP-AHA has been stimulating the use of structural funds to implement the EU eHealth digital agenda in Campania, with a specific focus on supporting the integration of central and territory services.

The centralized ICT management and accounting system for health services has been financed for 10ME through the P.O.R. Campania FESR 2007-2013. “Asse 5: ICT Society- Operative Objective 5.3: Health Care”.

Notably, an agreement has been recently signed between Campania and the Ministry for Economic Development to carry out interventions aimed to broad and ultra-broad band. These interventions are the pre-requisite for the deployment of advanced ICT solutions to provide integrated health services to Campania citizens. The project involves strategic hospitals that will be the starting point for the development and set-up of hub-spoke models to support integrated health care services, organized as integrated disease pathways. The foreseen intervention will also support the implementation of the Campania Citizen digital record.

**Our results:**

Centralized handling of administrative and accounting data allows real time consultation, as well as extracting the information in an aggregate manner for reports and synthesis that are essential for monitoring.

The novel ICT model is evolving management into a system of collaboration and control, capable of integrating the information of individual institutions of the Regional Healthcare System.

The intervention is also leading the creation of shared procedures and tools for centralized health management and consolidated financial statements in order to reach the certifiable budgets of local healthcare agencies.

Following the directions provided by the commissioner’s decrees nos. 14/2009 and 60 /2011 and Legislative Decree no. 23 June 2011, n° 118, Local Health agencies are adjusting to this innovation, and are developing the administrative and accounting procedures, so that they are compatible and interoperable with the regional platform.

We estimate that the improvement of the management and accounting system will greatly contribute to the effectiveness of the allocation of the resources and will translate into a general upgrade of health care services for Campania citizens.

Furthermore, the broad band coverage in the next 2 years will be provided to 200,000 Campania citizens, filling the digital divide gap and providing ICT services to 95% of Campania inhabitants. The big project: “Broaden the net: ultra-broad band and digital development in Campania”, involves:

- 80 cities chosen for their demographic features;
- 14 cities chosen because they host a strategic hospital;
- 15 cities with strategic industrial development areas;
- 1 city with strategic industrial development areas and a public administration node;
- 5 cities with strategic industrial development areas and a strategic hospital;
- 1 city with a strategic hospital and strategic industrial development areas.

**Added value:**

The improved accounting and administrative system will support a more rational distribution of resources and will improve the overall effectiveness of the services provided. The system will also contribute to the reduction in the number of accesses to extra-region health care providers.

**Success factors:**

The current effort of the Local Health Authority towards integration with the regional central system is the key for the success of the activity.

**Barriers to innovation:**

The most relevant barriers concern:
- ICT interfaces between data-flow;
- Homogeneity of administrative and accounting procedures;
- Training of personnel.

**Transferable elements:**

The improved accounting and administrative system will provide a novel business model and will generate several interoperability models that will be exportable to other organisations.

**Lesson learnt and recommendations for others:**

- Involve all relevant stakeholders from the start and create interdisciplinary working groups;
- Set up a Gantt for the activities;
- Promote group interdisciplinary meetings.
### Key data:

#### Italy

**Health system**

- **Gate-keeping and ample choice of providers for users and strict budget constraint**

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<th>Highest</th>
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</table>
**Good Practice:**

SOLE (Healthcare online) and EHR (Fascicolo Sanitario Elettronico - FSE Emilia-Romagna) – SOLE/FSE (GP1)

**Reference Site:**

Agenzia Sanitaria e Sociale Regionale dell'Emilia-Romagna (ASSR)

**Contact information:**

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**Short description of your good practice:**

The idea is to create an integrated network of Local Health Trusts, Hospitals, General Practitioners and Paediatricians and provide, through the Electronic Health Record (EHR), the clinical history of every citizen of Emilia-Romagna Region. Indeed, SOLE network aims at boosting the efficient sharing of health information which is indispensable for the effective delivery of care. Elderly people and those with chronic conditions can particularly benefit as they often have several physicians, and are shuttled to and from multiple care settings. The use of ICTs in the Emilia-Romagna Region ensures the timely and accurate collection and exchange of health data and can foster better care co-ordination and the more efficient use of resources through the promotion of standards, guidelines and reference platforms for interoperable solutions (as identified in the 3 pillars mainly in pillar 3).

**Partners in the coalition:**

All the relevant stakeholders have been involved: the Emilia-Romagna Region; all regional local health trusts and primary cares; GPs, Pediatricians, specialists and hospital doctors; CUP 2000, an in-house providing company.

**Start date:** 2002

**Project duration:** SOLE project is still unfolding as a regional service.

**How we did it:**

Since 2002, Emilia-Romagna Telematic Plan has been the main tool to support and foster the territorial development of information society. Indeed, the quality of healthcare services may also improve thanks to a more effective, coordinated and efficient circulation of information and data related to patients and beneficiaries. For these reasons the Emilia-Romagna region has been promoting and supporting for several years innovative and e-government projects like SOLE.

The regional government and local health trusts secured the engagement of all strategic stakeholders and professionals, firstly GPs and paediatricians, hospital doctors, administrative operators and pharmacies; secondly, the citizens that have been empowered to access their health data through their personal health records.

SOLE/EHR adopts standard formats and processes for the indexation and sharing of the application, which promotes the inter-operability of the achieved solutions. This way, the Region acknowledges the importance of the European Interoperability Framework and a lot of practical results and insights have been obtained in the defined interoperability specification for the epSOS project, both at the infrastructure, services, technical and semantic level (within the context of the two epSOS use cases, Patient Summary and ePrescription). Emilia-
Romagna took part in the epPSOS through a national sub-project called IPSE.

Yearly regional resolutions regulate and allocate funds to develop and provide ICT services within the eHealth domain. In particular, during the period 2002-2012, approximately 93 million Euros dealt with the development of the SOLE/EHR network.

The project was ambitious from the beginning and regional commitment was high. As regards GPs and pediatricians, the following incentives were guaranteed: 
- integration of their allowance; 
- funding of IT equipment and data connection; 
- fee given to GPs and pediatricians; 
- provision of integration with GP/pediatrician medical records.

Through the implementation of the technological infrastructure (electronic health record), the project provides a large amount of telematic services, which can be used on a local or district scale by all territorial healthcare structures and authorities. Therefore, every citizen in the region, has his/her Electronic Health Record on-line, containing medical prescriptions, medical referrals, laboratory referrals, radiology referrals, a patient summary and emergency report.

The quality of healthcare is closely linked to the quality and quantity of the health information available to individuals and to those who deliver clinical care and services. Thus, Emilia-Romagna has guaranteed less bureaucracy, complete and immediate information, and faster communication between health professionals. Specifically five criteria have been applied for the regional deployment of eHealth:

- regional management of ICT projects; 
- stakeholder engagement (GPs, citizens, software supplier); 
- technology assets development through software integration; 
- use of standards for medical contents (HL7, XDS/IHE); 
- sharing clinical digital documents.

Our results:

It is important to underline that the implementation of SOLE/EHR allows 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. 

SOLE/EHR have contributed to the reduction of risks of clinical mistakes at the point of care; enhanced continuity and smoother transfer between different points of care; time savings from avoiding unnecessary journeys.

In the period 2008-2013, more than 225 million clinical documents transited through the SOLE network. This means that well focused policies on data privacy and security have a great influence on how different organisations on the market use cloud-based services and how they develop the data aspects of their innovative platforms and new products addressing in particularly elderly people.

Added value:

The creation of personal electronic medical records, possible through the SOLE network, means that with a patient’s formal consent, documents already available in the network are automatically inserted in the record - which is permanently available on the Internet in a protected, confidential format, i.e. it can only be consulted with the use of personal credentials (information on obtaining credentials is provided on the website). Therefore, all citizens can insert medical documents, personal data and information into their own file; these documents can be accessed only by the patients themselves or can be shared with general practitioners and other specialists.

Moreover, SOLE/EHR deals with the management of highly prevalent chronic diseases, one of the biggest obstacles to the sustainability of many public health-care systems, which are strongly associated with preventable hospitalisations; therefore, there is an opportunity to significantly address the key priority pillars.

Success factors:

- Political will to reinforce quality of care and efficiency, reducing at the same time operating costs of clinical services; 
- Involvement of relevant partners/stakeholders; 
- Adoption of ICT platforms/infrastructures/networks to make possible the sharing of data/information.

Barriers to innovation:

The initial digital divide of general practitioners (GPs) represented a threat, while today more than 99% of GPs have been computerized as well as the majority of regional hospitals. In addition, the increasing use of eHealth tools by professionals played an important role.

On the other hand, the fragmentation in software applications available to the different GPs caused delays and increased costs. Furthermore, due to their initial resistance, the process which led to the acceptance of the organizational change from the GPs’ Associations was particularly slow.
SOLE/EHR have, therefore, contributed to the interoperability of the clinical and non-clinical system by distributing the electronic health record system and associated services such as e-prescriptions or e-referrals.

Transferable elements:

The Regional Health Service is committed to complete the implementation of the computerized network thus allowing GPs and paediatricians, professionals in hospitals and territorial services, and administration departments of local health trusts to communicate with each other, in order to provide and simplify public access to services, and improve both patient management and continuity of care.

The assurance of the interoperability of all information systems within the public administration is one of the essential pillars of the Italian Digital Agenda. In order to meet this goal, the Emilia-Romagna region, local health trusts and regional industries have been working for years to foster the transfer of know-how acquired in the implementation of its most significant services, mainly SOLE and EHR, to other public administrations.

Lesson learnt and recommendations for others:

Acceptance of the new organizational models and change management should be taken into account seriously, from the beginning, and continuously monitored.

It should be straightforward that the identification of a long-term plan is a strategic driver together with a continuous performance monitoring of the system.

The choice to provide the GPs involved with technical and organizational support has been successful as has the prompt management of ethical and privacy issues.

* Direct commitment at regional level rather than at local dimension, with the involvement of every local health trust, is key.

More information:

Some key websites:

* **SOLE project**
  http://www.progetto-sole.it/

* **EPSOS ”European Patient Smart Open Services” project** - aims to design, build and evaluate a service infrastructure that demonstrates cross-border interoperability between electronic health record systems in Europe
  http://www.epsos.eu/

* **IPSE project** - national project related to interoperability of regional electronic health records
  http://www.progettoipse.it.

* **Electronic Health Record**
  https://www.fascicolo-sanitario.it/cittadino/login
Good Practice:

PROFITER - Prevention of falls initiative in Emilia-Romagna (GP2)

Reference Site:

Agenzia Sanitaria e Sociale Regionale dell'Emilia-Romagna (ASSR)

Contact information:

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Lorenzo Chiari
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Short description of your good practice:

Building on a number of seminal regional initiatives involving different Local Health Trust (LHTs), research institutions and industrial stakeholders, this project aims to establish a regional network for falls prevention. The action will substantiate in the following steps, involving to different extents both inpatients and outpatients: 1) Collection, digitalisation, and retrospective analysis, within the FSE (Electronic Health Dossier) of relevant fall-related information (Registro Regionale Cadute, RRC); 2) Development and validation of a personalised fall risk model, integrating known fall risk factors, clinical balance measures, and parameters extracted from wearable inertial sensors through appropriate epidemiological methods and psychometrically sound techniques; 3) Deployment and evaluation of tailored ICT-based solutions for fall detection and prevention; 4) Classification of fall risk factors according to the International Classification of Functioning, Disability and Health (ICF) to allow interoperability among different clinical specialties and, in perspective, across European Regions; 5) Mapping of the identified fall risk model into an operational programme for the prescription of personalized interventions and/or ICT-based assistive devices for falls prevention and rehabilitation in community dwelling older subjects; intensive monitoring of high-risk patients at hospital discharge; specific training for personal carers of high-risk subjects.

Partners in the coalition:

Seven LHTs (Bologna, Forlì, Imola, Modena, Parma, Piacenza, Reggio Emilia: involving operative units of Rehabilitation Medicine, Geriatrics, Neurology, Internal Medicine); four research hospitals (Modena, Parma, Reggio Emilia, Istituto Ortopedico Rizzoli - Bologna), two Universities (Bologna, Modena-Reggio), three industrial partners. The team is coordinated by the University of Bologna, Health Sciences and Technologies Interdepartmental Center for Industrial Research (HST-ICIR).

Start date: October 2012

Project duration: 3 years

How we did it:

The Good Practice is the natural follow-up and systematization of a number of seminal initiatives in the fields of fall prevention, eHealth, and mHealth, which in the last few years involved most of the partners of the current coalition. Such a fertile ecosystem was inspired by regional policies documents and fed by grants for regional innovation and EU-FP7 projects. The ASSR worked as a catalyst of the initiative and is now directly involved in its management. The ASSR has been supporting the EIP-AHA objectives by having its priorities (including Falls Prevention) listed in its most recent competitive calls for research projects in the field of clinical governance. One of the selected projects will soon start comparing the effectiveness of different fall prevention programs in community-dwelling older subjects, with a RCT design. Synergistic actions have been put in place with two on-going FP7 projects that involve regional partners and deal with falls and fall prevention: FARSEEING and I-DON'T-FALL. Useful exchange of experience and documentation is started within the European A2 Action Group.

The aim of the PROFITER project is therefore to provide systems and services to support an evidence-based health-care decision support system in the field of falls. In order to do this, the digitalization of current clinical information, the deployment of novel ICT-based solutions, and the integration of these two sources of evidence for fall risk estimation were initiated. In particular, ICT-solutions are based on a wearable inertial sensor unit and a Smartphone/Tablet to collect and process the data captured by the sensor. The Smartphone/Tablet platform has been used because of its high-level processing, and user-friendliness.

Parallel to translational and implementation activities, a number of educational initiatives, especially targeting clinical end-users, have been put in place to raise awareness on the novel opportunities that multidisciplinary, psychometrically sound, and ICT-based solutions may offer in the field of fall prevention. It is worth mentioning, for example, that about 90 professionals (including MDs, PTs and biomedical engineers) attended a 3-day training course on clinical and instrumental measurement of balance and fall risk organized with the Italian Society for Movement Analysis in the Clinic (SIAMOC).
Our results:

Twelve out of nineteen regional LHTs and research hospitals are currently involved in PROFITER. About 200 older out-patients (65+) have been assessed so far in a single center (S. Agostino Estense hospital in Baggiovara, Modena) with novel fall risk assessment methodologies, including wearable sensors. Three more centers will start activities on patients in early 2014.

The expected outcome is the implementation, within the next 3 years, of a regional collaborative model involving caregivers across at least 5 regional LHTs, researchers and technological providers. The care model will include innovative wearable devices integrated with the eHealth network used by the GPs and public hospitals already using the SOLE infrastructure, plus a considerable number of yet uninvolved professionals and final users engaged in screening and prevention, including home-based monitoring for high-risk subjects. The aim of PROFITER is to maintain and increase the quality of life in older persons using a proactive approach. The applied approach is derived from the concept of selected optimization and compensation. This means that we engage independent older persons as much as possible to maintain autonomy and support their social roles in order to maximize participation.

1) better and faster fall risk assessments will reduce hospital stays and the number of repeated visits of older subjects for re-diagnosis and treatment (currently estimated at 20% of hospital costs);
2) subject-specific at-home interventions will reduce the work-load on health professionals and reduce person transport associated with falls and fractures; 3) reduced cost of hospital diagnostic services (currently about 60% of hospital costs).

PROFITER will increase the competitiveness of the regional Healthcare Information Services and HW/SW industry. The possibility to share and integrate data coming from different sources/different sites, search for problem-specific content in very large data and knowledge repositories, and provision of this content in the format and language of the user will reduce healthcare costs and improve institutions competitiveness at a global level. The possibilities offered by the project to companies to take advantage of cooperation with both research institutions/universities and healthcare institutions, and the chance to insert the project results and discoveries, after a post-project re-factorising phase, into their own product portfolio, represent a significant opportunity to improve their competitiveness in the global market.

Added value:

The regional commitment has so far allowed to:
- build a broad, multidisciplinary network of clinical/research experts;
- recollect a number of relevant regional initiatives for fall prevention in different settings;
- start the process to structure knowledge and classify fall risk factors to allow interoperability among different clinical specialties;
- prepare the exploitation of novel ICT-based tools for fall detection, activity monitoring in daily life, instrumenting clinical scales; the majority of such tools are already available on smartphone platforms.

Success factors:

The creation of a regional network of clinical entities helps to create a widely accepted framework with a common standardization and high level of interoperability. The creation and the success of a widely accepted clinical best practice in fall risk estimation would allow replicating and adapting the system to different regions in Italy and in other European countries.

Barriers to innovation:

1) Different clinical specialties (e.g. geriatric and neurology) are interested in fall risk but usually do not share the same clinical test, knowledge of the phenomenon, and best practice. This was overcome by building a multidisciplinary regional network and finding a common framework for classification of risk factors.

2) Usually there exist different databases of clinical data for different hospitals, creating problems in storage of data, comparability and standardization. This could be an issue to consider when translating this Good Practice in other regions which use a different network infrastructure.

Transferable elements:

The multidisciplinary approach is, in our experience, a key to success which may be transferable to other settings.

Furthermore, the link with two European Thematic Networks (ProFound and eNoFalls) active on falls prevention and several European projects is facilitating a fast and effective exchange of information from/to
PROFITER which is highly valuable to speed-up innovation and up-scaling

**Lesson learnt and recommendations for others:**

PROFITER started as a small team, with the initial promoters (biomedical engineers at HST-ICIR, University of Bologna and the clinical units of Rehabilitation Medicine, Geriatrics, and Neurology of the S. Agostino Estense hospital, Baggiowara - Modena) meeting regularly, on an almost bimonthly bases. With time the group increased in numbers and specialties making it unpractical to have frequent plenary meetings to discuss results and plan activities. For this reason the activities have been recently reorganized along three workpackages: regional data and evidence; fall risk assessment; fall prevention programs and educational activities.

The lack of specific funding from EIP-AHA, at least initially, may be a barrier or delay the process. We found it extremely important to initially have synergies with other projects, and later to have a direct regional support by means of the inclusion of AHA priorities in its competitive calls for research projects.

We found it very positive to share the knowledge and models behind the EIP-AHA approach to personal health management with the clinical community at large. Since this may imply a deep change in paradigm with respect to a more traditional approach and the acquisition of novel skills, the sooner we are able to start it the better.

**More information:**

**Some key websites:**
- Agenzia Sanitaria e Sociale Regionale dell’Emilia-Romagna (ASSR)
  [http://assr.regione.emilia-romagna.it/it](http://assr.regione.emilia-romagna.it/it)
- EIP on AHA in the Emilia-Romagna Region
  [http://assr.regione.emilia-romagna.it/it/aree_attivita/governance-dellaricerca/progetti_internazionali/eip-aha](http://assr.regione.emilia-romagna.it/it/aree_attivita/governance-dellaricerca/progetti_internazionali/eip-aha)
- EU-FP7 FARSEEING. FARSEEING - a collaborative research project. It aims to provide a thematic network focusing on the issue of promoting healthy, independent living for older adults
  [http://farseeingreserach.eu/](http://farseeingreserach.eu/)
- EU-CIP PSP I don’t fall - The main goal of the I-DONT-FALL project is to deploy, pilot and evaluate a range of innovative technological solutions for fall detection and prevention management

**Good Practice:**

**ARIA project (GP3)**

**Reference Site:**

Agenzia Sanitaria e Sociale Regionale dell’Emilia-Romagna (ASSR)

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**Short description of your good practice:**

The ARIA Project, started in 2008 and still ongoing, aims to evaluate the feasibility of an innovative home follow-up program combining tele-monitoring and chest physiotherapy in preventing and early treating acute respiratory episodes in order to avoid/reduce hospitalization and to maintain good clinical condition as long as possible in such fragile patients, who like to stay out of hospitals as much as possible. This way, tele-medicine is an important innovative and powerful tool that can contribute to deliver to patients, care-givers and health workers benefits to improve: collaboration among them, earlier clinical decisions, fragile patients’ quality of life, patients’ independent daily life, patients’ life length, health-care costs cutting.

**Partners in the coalition:**

The hospital specialist pulmonologist, the Pt’s GP, the chest physiotherapist, the patient, his family / caregivers, the home service provider, the hospital management and the leadership of local health authority.

**Start date:** 2008

**Project duration:** ongoing

**How we did it:**

The ARIA Project is the development of an idea born within the Italian Union for the Fight Against Muscular Dystrophy (UILDM) by some medical specialists in pulmonology, belonging to the Arcispedale Santa Maria Nuova (Santa Maria Nuova General Hospital) in Reggio
Emilia and to the San Sebastiano Hospital-Local Health Trust of Reggio Emilia, who have long dedicated themselves to the care and follow-up of acute and chronic respiratory failures in neuromuscular, neurological and rib cage diseases patients.

With reference to the different project’s steps, patients and their care-givers were initially submitted to an educational meeting in Hospital; at home they had to daily register respiratory signs and symptoms. Each patient was equipped with a clinical respiratory 10 items questionnaire and with a pulse-oximeter with a modem for transmitting data to a remote control center in charge of alerting the pulmonologist in case of early sign and symptom deterioration. Patients’ GP and chest physiotherapy interventions at home were planned after pulmonologist indication.

At the beginning of the study, the Italian Union for the Fight Against Muscular Dystrophy covered the costs of the interventions at home performed by a respiratory physiotherapist, while the performances of the three respiratory physicians, involved in the Project, were included in their daily clinical activities. Since 2010, the full cost of the Project (Pneumologists, chest physiotherapist, consumables) has been covered by Local Health Trust and Arcispedale S.Maria Nuova Hospital, following a mutual agreement.

**Our results:**

Here is 2008 to 2012 period outcomes: 14 Patients (PTs) total yearly hospitalization days: from 300 to 22; every PT’s mean yearly hospitalization days: from 40 to 2; every PT’s mean yearly Respiratory exacerbations hospitalization days: from 19.36 to 0; every PT’s mean yearly total check-up hospitalization days: from 0 to 1.42.

The purpose of the ARIA project is to identify, as early as possible, the occurrence of these respiratory exacerbations in order to start timely therapeutic interventions that can reduce the severity and duration of these flares to allow patients to remain at home and to return as soon as possible to their daily occupations and work.

Therefore, integration of early detection of pathological symptoms and respiratory parameters by mean of tele-monitoring, early medical and chest physioterapic treatments in a home based setting may allow a greater independent living to particularly vulnerable patients than the traditional hospital care and cure model. Moreover, the reduction of the number of acute respiratory complications may allow to maintain good health conditions as long as possible, with very favourable impact on social and occupational daily life and on life length.

Hospitalization costs in Arcispedale S. Maria Nuova General Hospital in Reggio Emilia due to acute respiratory failure are: € 300,00 per day in a Pneumologic Ward, and € 2,000 per day in a high - intensity care unit.

The average annual cost per patient included in the ARIA project, (including telemedicine service and home visits of the respiratory physiotherapist), is around € 1.200.

The Project continues to demonstrate, since 2008, that more human, much less expensive and more preferably treatment of patients with different kinds of highly disabling diseases, is possible compared to the classical scheme of hospital care.

The spread of home care settings forces the industry to propose new telecommunication and remote monitoring devices, to gain physiological parameters with sensors as user friendly as possible. As a matter of fact, the Aria Project is based on an electronic platform developed and managed by the service company MedicAir.

**Added value:**

The ARIA project demonstrates that a continuous remote clinical conditions monitoring in really fragile outpatients allow to obtain: a physiological tranquillity for patients and their families, an useful clinical decision support to the patients’ GP, a significant reduction in hospital admissions for acute respiratory diseases, a cutting of health-care costs.

**Success factors:**

- the idea that tele-medicine and home-telemonitoring services are innovative and powerful tools that can contribute to deliver benefit both to patients/caregivers and health system in the whole;
- Collaboration among different Wards medical specialists, GPs, patients/caregivers.;
- Active involvement of local/regional home-based service providers.

**Transferable elements:**

Given the excellent results achieved so far by the ARIA Project, there is the intention to propose its spread to all Pneumologic and Neurologic Wards of the Emilia-Romagna Region and also involve patients with Amyotrophic Lateral Sclerosis, Quadriplegia and Gold stage IV COPD. To this end, meetings with the heads of pneumologic wards sited in the hospitals of Emilia-Romagna region as well as Local Health Trusts have been scheduled and then, with the aim to scale-up the ARIA Project in the Provinces of the Region, there is the idea to contact the home-based service providers to standardize assistance and home monitoring procedures.

**More information:**

Some key websites:

Agenzia Sanitaria e Sociale Regionale dell’Emilia-Romagna (ASSR)
http://assr.regione.emilia-romagna.it/it

EIP on AHA in the Emilia-Romagna Region
http://assr.regione.emilia-romagna.it/it/aree_attivita/governance-dellaricerca/progetti_internazionali/eip-aha
* Unione Italiana per la Lotta alla Distrofia Muscolare (UILDM)
http://www.uildm.org/

**Key Data:**

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<th>Category</th>
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Regione Friuli Venezia Giulia: Istituto Regionale Rittmeyer per i ciechi

Good Practice:

Quality of life of blind and visually impaired (GP1)

Reference Site:

Istituto Regionale Rittmeyer per i Ciechi

Contact information:

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Italy

Short description of your good practice:

To regularly monitor the following elements:
• vision;
• orientation and mobility;
• psychological support;
• rehabilitation and use of visual aids;
• construction of interior spaces adapted and adaptation of outdoor spaces;
• continuous training of dedicated personnel;
• continuity of caregivers of residential structures.

Partners in the coalition:

In the good practice, all the different invited partners are involved and work together very actively. The collaboration is being established at different levels, for instance by means of collaborative projects formalising local and regional strategic alliances.

Start date: 01.09.2013

How we did it:

Activities are related to social and educational aspects as well as social care and social rehabilitation impacts. The style of leadership is top-down. Public funding is available while the legal and policy frameworks are regulated by national and regional laws. Guidelines are represented by the Regional Health Plan and the Regional Law 31 March 2006, n. 6 “integrated system of interventions and services for the promotion and protection of the rights of social citizenship.”

Our results:

Our goal is to achieve better standards related to the quality of life for the elderly population with visual disabilities. These objectives could be reached through increased home care services, monitoring by personnel specialized in welfare systems and specific technologies for the blind and visually impaired people. The status of the elderly people with visual disabilities must be identified through better interventions.

Job creation and an improvement in secondary care could have a positive impact on competitiveness. Incentives could also be provided in order to attract caregivers to become more specialized.

In Trieste and in our region, the population is ageing. As such, local authorities are looking for innovative services which would allow the elderly to stay at home and live independently. For this reason, local authorities will work to increase the number of people who could benefit and receive a specific training.

Activities related to this action line focus on the development of services that support and motivate people to become and stay active. Concretely, the initiatives currently running in our Reference Site contribute to improve prevention and the quality of life.

Added value

The aim is to outline guidelines of good practices for the development of projects for rehabilitation and improvement of personal independence: a comparison of methodological aspects contributes to improving the quality of life of elderly visually impaired people.

The policy of integration between health and social services, education and training, social inclusion, in accordance with a maintenance or improvement of residual capacities, is a specific best practice we want to maintain and increase.

Success factors

The implementation of best practices and their dissemination: an information program on the culture of
ageing well, which promotes social activities, the development of well-being and the monitoring of risk situations. Information and promotion initiatives, conferences on topics related to maintaining the quality of life of the visually impaired could be related to projects for the development of home care, to increase the chances for a living environment that is not an institutionalized one. Project training and support to families and care givers is also key.

**Barriers to innovation**

Barriers are related to issues of administrative difficulties that slow the retrieval of proper communication and the practical applicability of the procedures.

**Transferable elements**

We had the opportunity to compare information related to the adoption of the services for independent living with other neighboring regions such as the province of Bolzano and the province of Ascoli Piceno.

We participated in local initiatives in the province of Trieste for sharing the achievement in the communications network of dedicated services to the elderly population, in particular with regard to activities for physical and psychological wellbeing.

**Lesson learnt and recommendations for others**

In this experience, we have benefitted from the comparison with other realities for the improvement of independent living. From this comparison, related to the practical aspects and professional improvement of the operators involved, we have a better understanding of how we can improve our best practices. A comparison with social organizations involved in the field of disability could also be useful.

**Key data:**
Regione Piemonte: Assessorato Regionale alla Tutela della Salute, Sanità, Edilizia Sanitaria, Politiche Sociali e per la Famiglia

Good Practice:

Family and community nursing - University Master: Workforce Development, Staff and Community empowerment, through the training for Management change in New Organisational Models for Integrated Care

Reference Site:

Regione Piemonte: Assessorato Regionale alla Tutela della Salute, Sanità, Edilizia Sanitaria, Politiche Sociali e per la Famiglia, Coordinamento Interassessorile delle Politiche del Volontariato.

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Short description of your good practice:

In 2005 a University ‘nurses advanced learning programme’ (Master in Infermieristica di Famiglia e di Comunità) was established. It aims at training the professionals to a new multidisciplinary activity in order to facilitate their skills conversion and to pave the way to the implementation of a new model of healthcare delivery.

The Master, which is a post-graduate specialization, provides a proactive management model of care for chronic diseases. The model identifies the family and community nurse as the central carer who support the community empowerment and the case/care management. The general aim is the development of integrated care pathways, designed with the contribution of patients and nurses including long life prevention and healthy lifestyle promotion. Specific objective is to increase the quality of life of frail old people, mostly from isolated territories, through innovative models of healthcare delivery with multidisciplinary professional teams.

Further development is the inclusion of the family and community nurse in the organization of the Primary Healthcare Centres (CAP) according to the Piedmont regional healthcare reform which is carrying out the conversion of hospital based care to a new model of community based medicine. The family and community nurse is expected to play a central role in facilitating the implementation of a network of private and public stakeholders that will provide social support for health in all policies, through:

• assessment of patients’ needs, combining medical advice with personal requirements, to overcome difficulties and strengthen the personal and social opportunities (patient empowerment);
• promote the wide and active participation of public, no profit and private local organizations to the identified goals of healthcare and prevention;
• facilitate the dialogue and interaction between specialized healthcare pathways, including primary, secondary and tertiary prevention activities (care management);
• enhancing the opportunities for home care, together with the use of telemedicine and ambient assisted living solutions;
• provide support for multi-therapy compliance.

Partners in the coalition:
- University of Turin
- North-Eastern Piedmont University A. Avogadro (Novara)
- Family and Community Nurses Association (AIFeC)
- Almese and Pinerolo City Councils
- CONISA (Social Care Authority of Val Susa)
- “Bottega del Possibile” (Association for Social Promotion)
- Piedmont Region Center of Documentation for Health Promotion - DoRS –
- Piedmont Region Epidemiology Service of Grugliasco (Turin)
- Master in Infermieristica di famiglia e di comunità di Lucca (Pisa University)
- CESPI (Centro studi professioni sanitarie – Center for the Study of healthcare professions - Torino)

**Start date:** 2005

**Project duration:** The first edition of the Master ended in 2007. The fourth edition is currently in progress (2012-2014).

**How we did it:**

The Master was created to provide the Italian Health System with the skilled professionals needed to strengthen public primary care services. In the start-up phase several actions were taken:
- involvement of the professional nurses’ association;
- research of the best expertise available for theoretical and practical training;
- creation of a project team;
- building of a network of medical services involved, local and regional institutions and other stakeholders, such as non-profit organizations.

The training contents have been adapted according to the regional health policies aiming at strengthening primary care services and integrated care pathways.

In the first start up editions the Master was self-funded by the students’ enrolment fees. Since 2012, the Piedmont Region (through the Regional Healthcare Agency) supported the opening of a second branch of the Master at the University of Novara. Each site was funded with a regional contribution of €30,000.

Since 2005, the project team obtained the approval of many stakeholders. The strategies to get consensus were:
- sharing the training project;
- the use of the expertise of each partner to analyse the local needs;
- the involvement of required expertise as teachers or consultant in the lessons;
- the opening of the most interesting training activities to external participation;
- the internship of students also in non-profit organizations.

In terms of practical implementation, the teaching staff was identified by the Scientific Committee of the Master with direct appointment by selecting the appropriate expertise to fulfil the role. Before starting each edition of the Master wide promotion was ensured. Through the Master, the foundation of the National Association of Family and Community Nurses (AIFeC) was promoted and then implemented by a group of students.

**Our results:**

Coverage: A total of 75 nurses have already been trained. The number is going to rise to 125 at the end of the current edition.

The Master tries to answer the societal need of specialized nurses with specific advanced skills such as:
- the ability to assess the health problems of the individual, the family and the community, within the themes of the chronicity, of multimorbidity, the social and economic frailty;
- the ability to assess from the epidemiological point of view, the impact of chronic illness on the levels of autonomy / dependence of the population;
- the ability to implement strategies and interventions of therapeutic education, self-management for the patients and their families;
- the capability of dialogue and interaction with the non-profit organization;
- the ability to develop an active and responsible collaboration with other professionals involved;
- the ability to activate and manage follow-up of individuals and groups of patients;
- the ability to perform the function of care and case management;
- the ability to improve the lifestyles of healthy people.

In addition, the transformation of the Healthcare Service (moving towards de-hospitalization), in addition to the training of Family and Community Nurses, can lead to an increased demand for qualified personnel, filling the present skill mismatch.

**Added value:**

This is one of the few examples in Europe where a specific training for nurses’ specialization was developed and oriented to integrate the management of chronic diseases, prevention and promotion of healthy lifestyles. The Master has also a strong social and anthropological connotation. The inspiring model is the Human Caring and a narrative approach to the “new patients” and their families.

**Success factors:**

INTERDISCIPLINARY APPROACH
Family and community nursing represents an inclusive and inter professional approach to patients’ health that requires an interdisciplinary approach.

NETWORKING
The Master has been developed involving a network of institutions and organizations not exclusively belonging to the healthcare field.

**Barriers to innovation:**

The main barrier is the risk of overlapping between responsibilities and roles of the nurses and those of other professionals.

The strategies adopted were:
- seeking synergies and comparison with other professions involved;
- using learning methods like case studies, presentations of reports to the panel of experts belonging to multi-professional and non-profit organizations etc.;
- involving other healthcare professionals in the training of nurses.
Transferable elements:

- The social and anthropological connotation
- active and creative learning
- student centred learning

Lesson learnt and recommendations for others:

In the first edition of the Master the program was too much linked to clinical contents which were not sufficiently tailored to the new job configuration. Modifications were later on introduced, focusing the learning program on the issues of chronic care and prevention with reference to the best evidence practice. Furthermore learning pathways were individually adapted to fit the participants' previous work experience. Eventually personalized educational agreements were signed by students.

An initial drawback was the inappropriate selection of teachers whose personal experience background was not in depth assessed. Later, greater attention was paid to select teachers with relevant work and didactical experience in the field.

The great care given from the beginning to people, to their learning needs and welfare and to the didactical environment has been the true success factor leading to increasing active participation, mutual trust and collaboration among students as well as teachers.

Another strength to mention is the organization of a learning experience abroad, leading to a broader vision through the comparison with other environments. Experiences were conducted in Scotland, Spain, Portugal, USA, France, Romania and Peru.
Good Practice
Cluster for early diagnosis and management of brain ageing, dementia and vision impairment (GP1)

Reference Site:
Ageing@Coimbra

Contact information:
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Short description of your good practice:
To implement an innovative and holistic ecosystem of stakeholders and good practices to manage brain ageing, dementia and vision impairment – 1) prevention and diagnosis, 2) care and cure, 3) active ageing and independent living.

Partners in the coalition:
The University of Coimbra (UC) Faculties of Medicine (FMUC), Psychology (FPUC) and Sport Sciences and Physical Education (FCDEFUC); Municipality of Coimbra (CMC); Instituto Pedro Nunes (IPN) business incubator; University of Coimbra Hospital (CHUC), Regional Administration of Health - Network of Primary Care Units (ARS Centro); Nurses School of Coimbra (ESEnfC); Center for Neuroscience of Coimbra (CNC); Institute of Systems and Robotics (ISR); Fundação Bissaya Barreto; Geography Studies and Territory Planning (CEGOT); Faculty of Human Kinetics University of Lisbon; Institute for Nuclear Sciences in Health (ICNAS); Association for Innovation and Biomedical Research on Light and Image (AIBILI); Institute for Education and Citizenship (IEC); Exploratório Infante D. Henrique Science Center, Intelligent Sensing Anywhere (ISA), Health Innovation System (HIS) and several private ICT companies and private, including non-profit, care institutions.

Start date: January 2013 (formal launching of Ageing@Coimbra)

Project duration: Current phase: 2013-2020

How we did it:
The Partnership:
We created a regional bottom up structure, involving different players willing to build a real partnership. Acting together, the partners in Ageing@Coimbra are launching a new vision for Active and Healthy Ageing in the Center Region of Portugal, revealing and promoting excellence and innovation in health and social care, active and healthy ageing, innovation and entrepreneurship.

The Good Practice:
The excellence of the cluster for diagnosis and management of brain ageing, dementia and vision impairment relies on the close collaboration and integrated activity of major stakeholders across the three EIP-AHA pillars. The health units at CHUC and researchers at FMUC, CNC and AIBILI play a central role in coordinating health professionals involved in diagnosis and care of cognitive and vision deficits with a special focus on detection of biomarkers and promoting healthy life styles and awareness/empowerment.

The Regional Health Administration authority joined the consortium and would like to stimulate the regional development of new ICT-based solutions for the remote monitoring of health parameters and to stimulate integrated care programs for chronic diseases.

The Regional Coordination and Development Commission of Centro of Portugal adopted the societal challenge of Ageing and Wellbeing as a priority for the future program CRER 2020 and the strategic application of Structural Funds. A close collaboration has been established with Health Cluster Portugal and Institute for Social Solidarity of Centro.

Funds supporting the good practices on "Cluster for early diagnosis and management of brain ageing, dementia and vision impairment (GP1)" come mainly from: 1- Revenues from technologies/services; 2- Competitive scientific/technological projects from FCT-Portugal, Ministry of Health and Ministry of Science and Education, partnership with industry, 7FP projects; 3- Projects from Structural Funds (e.g. through FEDER and FES).

Innovative services and technologies are advertised through web-based communications, professional networks and, mainly, through the involvement of local
diabetic retinopathy was achieved by a profound
Change management in neurodegenerative diseases and
practices with high scientific/technological standards.
validation of concepts and implementation of good
business incubators and health care/user allows the solid
validation of concepts and implementation of good
practices with high scientific/technological standards.
change management in neurodegenerative diseases and
diabetic retinopathy was achieved by a profound
interdisciplinary culture and close interaction of
institutions, in a bottom-up perspective.
The innovative good practices rely on the intimate
collaboration of major regional stakeholders working in
multidisciplinary teams, state-of-the-art infrastructures
and highly trained staff, in close collaboration with
patient organisations and care providers.

Our results:
The unit of Neurology at CHUC receives a total number of
1350 patients/year (numbers for 2012) for specialised
evaluation in the medical consultation of dementia.
AIBILI provides a total number of 5600 patient
consultations/year, including 1400/year in clinical trials
and 4200 resulting from a direct partnership with the
Ophthalmology units of CHUC. A number of
consultations of 1600/year and 1500/year correspond to
diabetic retinopathy and age-related muscular
degeneration, respectively.
Early diagnosis of cognitive deficits and detection of
biomarkers of brain ageing and dementia is extremely
important in order to act pharmacologically and to re-
adapt the life style of the target population and so
preventing the fast cognitive decline and deterioration of
quality of life. Prescription for cognitive impairment and
dementia is allowed only by specialists.
Early detection and evaluation of progression of diabetic
retinopathy is a priority in the management of diabetes. It
is crucial to prevent vision loss and to detect pathologies
at early stages which is possible through Screening
Programmes like the Diabetic Retinopathy Screening
Programme in place in the Centre region of Portugal and
coordinated by AIBILI. The innovative technologies and
therapeutic/preventive procedure available at
AIBILI/CHUC focus on early detection of retinopathy,
allowing early stage intervention contributing to reduce to
5-10% of the expected costs with advanced stage diabetic
retinopathy.
The evolution of the national program for diagnosis of
Alzheimer’s disease (where CHUC/CNC/ICNAS/Faculty
of Psychology are highly relevant) allowed an
improvement of the number Alzheimer’s disease patients
under medication: March 2007, 40000 people, March
2011, 67000 people. These numbers highlight the impact of
the cluster for detection of biomarkers and early
diagnosis of brain ageing and dementia, at the National
level, with a major contribution from the Center Region of
Portugal. A total number of 500 patients were evaluated
by MRI at ICNAS, improving significantly the clinical
diagnosis of Alzheimer’s disease and enhance clinician
confidence in their diagnosis. ICNAS produces an
average of 3500 PET exams per year, numbers which are
expected to rise rapidly.
Before ICNAS started the pipeline synthesis of
radiotracer compounds (beginning of 2012) the price of
FDG was 485 Euro/dose in Portugal. After one year of
production, the price dropped to 150 Euro/dose.
The global business market of ICNAS synthesis unit is
0.8 M Euro/year. This synthesis platform allowed the
saving of 3MC in imports, in 2012. The benefits for the
health systems by the combined use of 18FDG and 11C-
PIB in PET studies are highlighted by the improved
clinical diagnosis of Alzheimer’s disease and enhance
clinician confidence in their diagnosis. ICNAS activity
contributes to better and adequate prescription, saving
public money and contributes to more efficient
therapies.
The cluster of excellence in diagnosis and management of
brain ageing and dementia contributes to the direct
employment at CNC and Neurology unit of CHUC of 5
psychologists, 1 technician and 2 researchers. Indirectly,
the impact of genetic and biochemical identification of
biomarkers of brain ageing and dementia is high, since
the estimated cost per sample processed is €180 for
biomarkers of Alzheimer’s disease (APP, tau, amyloid
beta 1-42) and €1140 for genotype (PSEN1, PSEN2, APP,
ApoE), representing an overall yearly impact of 0.33 M
Euro/year. ICNAS created a number of 35 direct jobs, 15
in the synthesis unit. The majority of these jobs
correspond to highly qualified positions (including 12
scientists holding PhD).
A significant growth of the research and development
and business activity of ICNAS is expected in the near
future. Diagnosis and management of vision impairment
(focus on diabetic retinopathy) is supported by basic
research in IBILI, involving 40 researchers (0.96 M
Euro/year) working in the field of vision research.
The Platform for Neuropsychological Evaluation of
Coimbra created a contract for 10 psychologists for
administration and scoring tests and 8 PhD students
(with grants from the Portuguese Foundation for Science
and Technology – 0.32 M Euro/year). The screening of
biomarkers for Parkinson’s disease led to the creation of
2 new technician positions.

Added value:
The quality of the integrated approach from early
detection of biomarkers to medical assistance and
care/intervention of people affected by cognitive deficits
and vision impairment relies on the excellence level of
fundamental neuroscience, vision research, brain
imaging and neuropsychological assessment, allowing
early diagnosis, facilitating better prognosis of diseases
and the transfer of innovative concepts into the clinical
and care practices.

Success factors:
Success factors of the good practice rely on the
standardization procedures supported by the thematic
networks Joint Program in Neurological Diseases,
The main individual players in the innovation chain are members of the main Portuguese Neurosciences and Neurology Scientific Societies, the Federation of European Neuroscience Societies (FENS), European Neurology Society (ENS) and Group for the Study of Dementia and Alzheimer’s disease that facilitate updating and scaling up/transferability of good practices into other regions of Portugal and across Europe. Furthermore, the involvement of patient organisations and science centers at regional and national level facilitates the engagement of society with the awareness and empowerment strategies emerging from the good practices developed at Ageing@Coimbra.

**Barriers to innovation:**

The poor culture of entrepreneurship of Portuguese academia and the top down structure imposing limitations to coordinate actions at regional level have been challenged at the University of Coimbra by the establishment of units for protection of intellectual property, entrepreneurship and business incubation. There are nonetheless financial limitations imposed to the public health and social care sector. The close interaction and physical proximity of the academic, health and innovation sector could contribute to overcome barriers and deliver innovative products and services.

**Transferable elements:**

- The screening of biomarkers of prions diseases and other dementias, including, Alzheimer’s disease, has been standardized and normalized in the Network of laboratories included in the Joint Program in Neurological Diseases.
- The MoCA screening test, adapted and extensively validated for Portuguese population has been adopted by the National Health Plan.
- The humanitude MGM method initially implemented by ESEnfC in local institutions from the National Network of Continuous Care, located in Coimbra, was adopted and validated in other institutions located in Estarreja, Lisbon and Alcacer do Sal.
- VitaCare is the exclusive tool for management of patient information and organization of pathways of care in 23 primary care units in the Center and South Regions of Portugal. These units directly serve a population of 276,000 people, reaching 100% of the target population (users, patients and health professionals, of the primary care units). Moreover, the success of internationalization of VitaCare led to the strong implantation in Brazil.

**Lesson learnt and recommendations for others:**

The organization of public services in Portugal is essentially centralized in Lisbon. Accordingly, the functional independence of regional authorities in Portugal is very limited. Indeed, there is a gap in the identification of appropriate regional structures able to coordinate the actions generated through different Governmental structures. This top-down structure imposes important limitations to coordinate actions at regional level. These difficulties are particularly striking in interdisciplinary and intersector/interinstitution activities, usually depending on a diversity of central governmental ministries. Ageing@Coimbra results from a collaborative effort between major regional stakeholders, acting in concert, with the focus on the senior citizen and the need to stimulate innovation, entrepreneurship and economy growth through the ICT and e-health sector.

Ageing@Coimbra encloses a new vision for partnership and collaboration at regional level in the Center Region of Portugal.

**More information:**


[http://www.ageingcoimbra.pt](http://www.ageingcoimbra.pt)
Good Practice:
Cluster for human kinetics and mobility in senior people (GP2)

Reference Site:
Ageing@Coimbra

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Short description of your good practice:
The objective is to implement an innovative and holistic ecosystem of stakeholders and good practices to manage human kinetics and mobility – 1) Prevention and diagnosis; 2) Care and cure; 3) Active ageing and independent living.

Partners in the coalition:
The University of Coimbra (UC) Faculties of Medicine (FMUC), Psychology (FPUC) and Sport Sciences and Physical Education (FCDEFUC); Municipality of Coimbra (CMC); Instituto Pedro Nunes (IPN) business incubator; University of Coimbra Hospital (CHUC), Regional Administration of Health - Network of Primary Care Units (ARS Centro); Nurses School of Coimbra (ESEnfC); Center for Neuroscience of Coimbra (CNC); Institute of Systems and Robotics (ISR); Fundação Bissaya Barreto; Geography Studies and Territory Planning (CEGOT); Faculty of Human Kinetics University of Lisbon (FMH-UL); Institute for Nuclear Sciences in Health (ICNAS); Association for Innovation and Biomedical Research on Light and Image (AIBILI); Institute for Education and Citizenship (IEC); Exploratório Infante D. Henrique Science Center, Intelligent Sensing Anywhere (ISA), Health Innovation System (HIS), and several private ICT companies and private, including non-profit, care institutions.

Start date: January 2013 (formal launching of Ageing@Coimbra)

Project duration: Current phase: 2013-2020

How we did it:
The Partnership:
We created a regional bottom up structure, involving different players willing to build a real partnership. Acting together, the partners in Ageing@Coimbra are launching a new vision for Active and Healthy Ageing in the Center Region of Portugal, revealing and promoting excellence and innovation in health and social care, active and healthy ageing, innovation and entrepreneurship.

The Good Practice:
The excellence of the cluster for human kinetics and mobility relies on the close collaboration and integrated activity of major stakeholders. The Neurology and Rheumatology health units at CHUC and researchers at FM-UC, CNC, FCDEF-UC and FMH-UL play a central role in coordinating health professionals involved in diagnosis and care of kinetics disorders and mobility of people, with a special focus on detection of biomarkers/risk factors and promoting healthy life styles and awareness/empowerment.

The Regional Health Administration authority joined the consortium and would like to stimulate the regional development of new ICT-based solutions for the remote monitoring of health parameters and to stimulate integrated care programs for chronic diseases. The Regional Coordination and Development Commission of Centro of Portugal adopted the societal challenge of Ageing and Wellbeing as a priority for the future program CRER 2020 and the strategic application of Structural Funds. A close collaboration has been established with Health Cluster Portugal and Institute for Social Solidarity of Centro.

Funds supporting the good practices on "Cluster for human kinetics and mobility in senior people (GP2) come mainly from: 1- Revenues from technologies/services; 2- Competitive scientific/technological projects from FCT-Portugal, Ministry of Health and Ministry of Science and Education, partnership with industry, 7FP projects; 3- Projects from Structural Funds (e.g. through FEDER and FES).

Web resources were (i.e. web portals and social networks) created to facilitate contact for potential users with innovative technologies and services towards the identification of risk factors for falls and fractures, care and services focusing on movement disorders, rheumatic diseases, osteoporosis and physical education and training.

The good practice and the supporting methods/services were built on the basis of a close interaction of research groups with health care professionals and entrepreneurs. The triangle of innovation in the health sector, especially on ageing and age-related chronic diseases, is a differentiation factor of the innovative ecosystem in the region of Coimbra. The added value of the chain from University and Research laboratories to business incubators and health care/user allows the solid validation of concepts and implementation of good practices with high scientific/technological standards.

Change management in kinetics disorders, rheumatic diseases, osteoporosis and falls prevention was achieved by a profound interdisciplinary culture and close interaction of institutions, in a bottom-up perspective.

As a resource of advanced education and training/awareness of professionals (health and social care), the University of Coimbra uses its web TV/radio and remote teaching resources to offer educational
courses/materials to citizens and professionals. The network of collaborators within Science Centers and Institute of Citizenship allows cross-society communication channels, approaching health and social care providers/researchers within the society.

Our results:

Coverage:
- CURe, the Rheumatology unit at CHUC, treats about 10,000 patients/year, mainly from the Center Region of Portugal.
- FRAX Portugal (the Portuguese version of the worldwide used FRAX tool for determination of risk of osteoporosis and fractures) has been used by 13,487 people from all regions in Portugal.
- Neurology unit (CHUC) treats about 1000 Parkinson’s disease patients and 1000 patients with stroke each year.
- VitaCare is a platform that offers solutions for online medical assistance launched by e-Health Innovation System (HIS). It was adopted by 23 primary care units in the Center (Unidades de Saúde Familiar) and South Regions of Portugal, processing health data from 276,000 people (more than 5 Million if Brazil is included). In another set of functionality, Vita Care offers digital contents for patient and care providers empower/awareness in 70 primary health care units through “Kiosques” (via TV awareness), reaching 840,000 users.
- The environment-friend electric car “Pantufinhas” serves four main neighborhoods in Coimbra offering about 58,900 trips/year.
- The autonomous electric car “Move” serves per day about 60 patients (from a total of 80) receiving movement/motor coordination rehabilitation at Rovisco Pais Hospital (service available 24/day, 2 Km long circuit, in total about 6300Km/year).
- Pantufinhas: allows people to move between urban areas with primary care services, pharmacies, markets, banks, citizen’s shops and other services important for daily life of 65+ residents in Coimbra.
- Move: facilitates the mobility of people with kinetic limitation at the rehabilitation hospital Rovisco Pais.
- VitaCare: allows the electronic booking of medical and nursing consultation, allows a better management of patient-centred pathways of care, personalized and holistic records of health data, among other functionalities.
- Vita Care has resulted in improved efficiency of the care pathway, reducing waiting periods by 50%.
- “Move” reduced the operational costs in Hospital Rovisco Pais and allowed, in parallel, savings directly associated with 2 permanent bus drivers (33,600 Euro/year).
- The billing volume of HIS in 2012 was approximately 9 M€ and the volume for 2013 will approach 25 M€.
- The projects Co-living, Tice.Healthy and AAL4ALL (with direct involvement of IPN business incubator) created 130 new jobs (Co-living 10; Tice.Healthy 55; AAL4ALL 65) – 1.9 M euro/year.
- “Move” led to the creation of a new spin off company (Move Mile).
- Pantufinhas, directly contributed to the creation of 3 jobs for bus drivers.
- The innovative FRAX/SAOL/DoCare tools/studies created 5 new researchers and nurses’ positions in CHUC.
- ISA created a spin-off company for the health sector - ISA Intellicare which contributed directly for the creation of 10 new jobs.

Added value:
- Intimate collaboration of the health and care sector with the innovation ecosystem supported by IPN business incubator;
- Innovative technologies support the business of new companies focusing on human kinetics, falls detection or integrated health services.
- The partnership of IPN with the regional Hospital Rovisco Pais was a stepping stone of innovation towards the development of “Move”, an autonomous vehicle with the potential to be replicated in a variety of places requiring horizontal mobility infrastructures;
- HIS and the product VitaCare, a good example of the cross-pillar and cross-actions culture of the innovation sector;
- User/citizen centred care and the integrated management of information and pathways of care in primary health.

Success factors:

The Division for Innovation and Knowledge (DITS) is the main instrument from the University of Coimbra to identify, protect and transfer intellectual property from research groups of UC. Under the scope of Ageing@Coimbra and its bottom up approach, DITS was fundamental to promote inter-institutional collaboration of researchers in order to create the environment for innovation and entrepreneurship, working close with business incubators.

Barriers to innovation:

The poor culture of entrepreneurship of Portuguese academia and the top down structure imposing limitations to coordinate actions at regional level, has been challenged at the University of Coimbra by the establishment of units for protection of intellectual property, entrepreneurship and business incubation. There are nonetheless financial limitations imposed to the public health and social care sector. The close interaction and physical proximity of the academic, health and innovation sector could contribute to overcome barriers and deliver innovative products and services.

Transferable elements:

- FRAX Portugal adopted and officially validated by WHO and adopted by all the major regional hospitals in Portugal after incorporation by the Portuguese authority for health (Direcção Geral de Saúde) in the clinical orientation guidelines for management/risk evaluation of osteoporosis; Partners in dissemination: the pharmaceutical company AMGEN and Merck Sharp & Dohme.
- VitaCare is used by more than 5 million people, 10500 health professional, 800 health teams, 490 schools, 490 community agents and more than 850 health units from the Center and South region of Portugal, Rio de Janeiro, São Paulo and Belo Horizonte in Brazil. VitaCare is now growing in other Latin America countries.
- ISA Intellicare is member of the consortium Giraffplus and implemented a partnership with the telecom company Optimus to commercialize One Care and with "Amo Vida – Serviços Integrais de Saúde", “DomicareCuida – Serviços de Saúde” and “Plural – Cooperativa Farmacêutica” for dissemination and distribution of One Care Safe (including in pharmacies).
- Pantufinhas: The success of the implementation in Coimbra contributed to the immediate adoption of similar electric cars and personalized concepts in other Portuguese cities and Toulouse (France).
- The projects Co-living, Tice.Healthy and AAL4ALL (with direct involvement of IPN business incubator) implementing an ICT based framework/platform for developing web applications and the creation of a rich ecosystem oriented for Health and Wellbeing.

**Lesson learnt and recommendations for others:**

The innovative good practices depend on the intimate collaboration of major regional stakeholders working in interdisciplinary teams at the Hospital, innovative training protocols to support muscle force and body equilibrium from the Faculties, in close collaboration with patient organizations, care providers and stakeholders acting on planning and implementation of age-friendly urban policies and services.

The organization of public services in Portugal is essentially centralized in Lisbon. Accordingly, the functional independence of regional authorities in Portugal is very limited. Indeed, there is a gap in the identification of appropriate regional structures able to coordinate the actions generated through different Governmental structures. This top-down structure imposes important limitations to coordinate actions at regional level. These difficulties are particularly striking in interdisciplinary and inter-sector/inter-institution activities, usually depending on a diversity of central governmental ministries. Ageing@Coimbra results from a collaborative effort between major regional stakeholders, acting in concert, with the focus on the senior citizen and the need to stimulate innovation, entrepreneurship and economy growth through the ICT and e-health sector. Ageing@Coimbra encloses a new vision for partnership and collaboration at regional level in the Center Region of Portugal.

**More information:**

https://www.facebook.com/pages/Ageingcoimbra/148450901977969?ref=hl

http://www.ageingcoimbra.pt

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**Good Practice:**

**Innovation model for ICT technological transfer in health and wellbeing (GP3)**

**Reference Site:**

Ageing@Coimbra

**Contact information:**

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**Short description of your good practice:**

To support the innovation e-health ecosystem of Coimbra with the highest standards at European level – 1) To create innovative products; 2) To stimulate the economy based on ICT and e-health technology; 3) To create new companies and highly-qualified jobs.

**Partners in the coalition:**

The partnership encloses a regional cross-sector consortium of stakeholders acting under the scope of promotion of active and healthy ageing, including: the University of Coimbra (UC; Faculties of Medicine, Psychology and Sport Sciences and Physical Education); Municipality of Coimbra (CMC); Instituto Pedro Nunes (IPN) business incubator; University of Coimbra Hospital (CHUC), Regional Administration of Health - Network of Primary Care Units (ARS Centro); Nurses School (ESEnfC); Center for Neuroscience of Coimbra (CNC); Geography Studies and Territory Planning (CEGOT); Faculty of Human Kinetics University of Lisbon; Institute for Nuclear Sciences in Health (ICNAS); Association for Innovation and Biomedical Research on Light (AIBILI); Institute for Education and Citizenship (IEC); Exploratorio Infante D. Henrique Science Center and several private ICT companies and private, including non-profit, care institutions.

**Start date:** January 2013 (formal launching of Ageing@Coimbra)

**Project duration:** Current phase: 2013-2020

**How we did it:**

The Partnership: The partners within Ageing@Coimbra presented indicators on impact in terms of competitiveness, market
growth and employment in EU industry. An example is the IPN-incubator which gained, in 2010, the “Best Science-Based Incubator 2010” award. This distinctive award highlighted its self-sustained business model and also its business volume superior to 75 million of Euros. Being a founder member of Ageing@Coimbra project, the IPN-incubator profile indicates 141 companies with an export capacity greater than 35%, employing directly more than 1500 qualified people.

The Good Practice:
Coimbra region is a reference in healthcare and education in Portugal. Within this environment, IPN contributes to technological transfer and services developed by incubated companies. HIS and Take the Wind are two examples of companies whose products have had impact on the health market. In case of HIS, the business volume was about 9 million of Euros in 2012, enclosing more than 10,500 professional users. In respect to Take the Wind, this incubated company at IPN was awarded the “EMF Seal of e-Excellence in Digital Media” (first prize) for its Vita SalutisTM product line, in 2012. Since IPN-incubator has more than 20 companies in the health field, this data is only a small example of the potential of the Ageing@Coimbra model in terms of product innovation and financial-market value.

The model of innovation incubation benefits of few examples of efficiency on performance and sustainability of care systems. The product VITAHISCARER from HIS is a good example of an open source solution for electronic medical prescription. This care system is available to more than 850 healthcare providers (hospitals, clinics, etc), recording more than 5 million people. Being certified by ACSS (Central Administration of Health System), the user’s system is allowed to have access to the health care providers system in a simple and safe way.

The Ageing@Coimbra model is focused on the development of tradable products/services on the market, taking into account the needs of the ecosystem (people, institutions, and other stakeholders). The impact of this model in terms of market growth and employment is demonstrated throughout the engagement of the consortium in order to develop and profit from innovate products and to add tradable value on their partnership work.

Our results:
The result of this best practice cooperation is a service ecosystem focusing on the following areas. In the local region of Ageing@Coimbra we realized a closed cooperation and innovation incubation (services and products) for the direct benefit of the end users.

Prevention and diagnosis – partners IPN, UC, CHUC, ARS Centro contribute with know-how from current undergoing national and international projects in the area of ICT for Health and Wellbeing. The results of these projects contribute to the identification of strategies for adapting technologies and infrastructures/ environment to the needs of the elderly.

Care and cure – partners IPN, UC, CHUC, ARS Centro have been active following the latest trends in ICT for Health and Wellbeing, including the domain of smart environments for the elderly. Current undergoing and starting projects in the field of eHealth and Quality of Life services and applications allow a constant follow-up of the state-of-the-art in technological and social initiatives. Therefore, the state-of-the-art technological innovations in this domain can grant access to the partners within the network of the reference region.

Active ageing and independent living – the initiative connects associations focused on elderly and also people with disabilities. By knowing the real needs and desires, IPN can investigate and transfer technology in order to contribute to product development with specific targets.

Added value:
The innovation model for ICT technological transfer in health and wellbeing provide added value to the products and services that are introduced at the market. The engagement of the healthcare services providers and the other stakeholder in the ecosystem benefit from three main aspects:

1. Healthcare services providers benefit of products more focused on real needs;
2. End-user has access to innovative services;
3. The products gain more trade value.

Overcoming the barriers and bottlenecks of articulation between the scientific community, industry and the consumers.

Involvement of all relevant stakeholders to meet consumer expectations such that products fulfill societal needs and in this way reduce costs of companies and public body investments on incompliant and inadequate products.

Success factors:
The model of innovative ICT technology transfer is scalable and replicable due to the profits-taking from companies which creates new, innovative and tradable products on the market. In parallel, the products development cycle is validated in the field by the poles presented. Thus, the dynamic of the model promotes the transfer of knowledge and communication among all stakeholders of the consortium. Consequently, they are involved and engaged in order to profit of innovate products and, to add tradable value on their partnership work.

The technological innovation referred above is achieved, for example, by R&D institutions and companies incubated at IPN. Actually, IPN-incubator is responsible for increasing the employment rate for young qualified people in the Coimbra area. Since 2010, IPN-incubator has been considered as a worldwide model of creation of value and transfer of knowledge. As a result, Coimbra has become an emerging technological innovation pole where companies, industry and education are working together towards better health care and quality of life. Besides, IPN-incubator has received multiple international visits seeking details about its business model. Within this ecosystem, Ageing@Coimbra model contains, in this matter, multiple sources of new ideas and challenges in order to develop more innovation and more products/services with focus and impact in

IPN acts as a vector which promotes innovation and technology transfer, being the main link between the University of Coimbra and the business sector. IPN work is made through RTD in partnership with enterprises; specialized training: dissemination of scientific and technological knowledge; promotion of the creation of technology-based enterprises and their support.

Besides, IPN-incubator has a history with 22 companies focused in the health area. The coverage is obviously greater in internationalized companies, such as, HIS, Take the Wind and Medicine One. Since these local companies are capable to capitalize their products around the world, they are an essential stakeholder in Ageing@Coimbra model in terms of market knowledge, end-user needs and technological know-how.

IPN technology transfer:
- RTD projects and technology transfer contacts > 250
- Number of Clients
- Weight of international projects (2012); 49%

IPN project incubation (1996-2012):
- Total Firms > 200
- Spin-offs University of Coimbra > 65%
- Survival Rate > 80%
- Turnover (2012) > 75 M euro
- Export > 35%
- Direct Employment Qualification > 2.000

IPN received 1st place in “Best Science Based Incubator 2010”

Barriers to innovation:

The poor culture of entrepreneurship of Portuguese academia and the top down structure imposing limitations to coordinate actions at regional level, has been challenged at the University of Coimbra by the establishment of units for protection of intellectual property, entrepreneurship and business incubation. There are nonetheless financial limitations imposed to the public health and social care sector. The close interaction and physical proximity of the academic, health and innovation sector could contribute to overcome barriers and deliver innovative products and services.

Transferable elements:

The technology transfer is the basis of innovation and business ventures. Beyond IPN, this philosophy has been followed also in Tagus Park, in Lisbon, where the interaction between companies, Institutions of R&D and Universities has been promoted and encouraged. In centre of Portugal, the Business Incubator of the University of Aveiro is another example of development and sustained growth of innovative business with technological basis which provides a range of services and a network of partners oriented towards the creation of value.

A practical example of transferability is addressed to IPN incubator which since 2010 has received dozens of international visits from authorities, incubators, commissioners and ambassadors, in order to replicate the awarded model for transaction of products and services.

Only in 2012, IPN received about 70 visits, establishing relationships with, for example, ambassadors from Luxemburg and Chile. From Angola, IPN created network with ISPTEC delegation and MAPESS Republic of Angola. Beyond that, IPN received as well the Education Ministry of Sao Tome and Prinotec incubator from Brazil. In the same period, IPN has also participated in several events (about 80 activities), enclosing multiple areas such as: health care, entrepreneurship, sustainability, smart cities and technological innovation.

Lesson learnt and recommendations for others:

It is proven that with focus on all actors involved in the innovation cycle (private sector, public sector and citizens) and with multidisciplinary teams it is possible to increase the value obtained with research and innovation activities. The business models applied in the Ageing@Coimbra region are built based on the experience of previous partnerships in health (XHMS, DHMS), which already used a model of open innovation to bridge the gap between research and market, and generate added value and sustainability to activities. These activities have been implemented with success and proven results, not only to the direct beneficiaries, but also to the general public by raising awareness of these topics.
Key data:

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<tr>
<th>Portugal</th>
<th>S1 - Beveridge</th>
<th>(public provision and public insurance)</th>
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<tr>
<td><strong>health system</strong></td>
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<td><strong>level of development</strong></td>
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<td>Public expenditure on health, 2010 (% of GDP)</td>
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<td>highest</td>
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Good Practice:

Andalusian Strategy on Active Ageing (GP1)

Reference Site:

Regional Ministry of Equality, Health and Social Policies of Andalusia

Contact information:

Aquilino Alonso / Ana Carriazo
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Short description of your good practice

The Andalusian Strategy on Active Ageing seeks an integrated design of the policies around the following four big areas, and at the same time, around its two cross-cutting aspects, Gender and Intergenerationality:

1. Living in safety (Ageing securely)
2. Healthy living (Ageing healthily)
3. Participation, contribution and innovation (Ageing while participating and contributing)
4. Lifelong learning (Ageing being trained and learning)

In other words, it is living with security, with the necessary social, legal and health support. It is living with health, having the resources necessary to lead a healthy life. It is living with a feeling that one is acknowledged, respected and needed to contribute to society. And it is living while training and learning throughout life.

Partners in the coalition:

The Andalusian Regional Government started this initiative preparing a framework document with the collaboration of the Andalusian Council of Elderly People (sectorial public body with the aim of making easy the participation of elderly people in the regional policies of Andalusia; it is integrated by Public Administration, elderly associations, Trade Unions, Provincial Council of Elderly People, etc). At the Regional Government level, these works have supposed the involvement and collaboration of all the institutions and organisms around the Active Ageing issue: General Directorate of Elderly People, General Directorate of Disabled People, General Directorate of Gender Violence and General Directorate of Social Services and Attention to Drugs Dependency of the Regional Minister of Equality and Social Welfare, Andalusian Women Institute, Andalusian Youth Institute, Regional Ministry of Health and Andalusian Health Service, Regional Ministry of Tourism, Commerce and Sport; of Environment; of Government and Justice; of Public Works and Housing; of Economy, Innovation and Science and the Andalusian Statistics Institute; Regional Ministry of Culture; of Education, Institute for Advanced Social Studies, Audiovisual Council of Andalusia. Beside the Regional Government, other institutions worked at the same level analyzing the document, such as Andalusian Universities, associations, members and directors of Day Centres for elderly people, trade unions, local and provincial councils, independent professionals from different sectors, and elderly people as direct beneficiaries themselves.

Start date: 2010

Project duration: In progress

How we did it:

The Good Practice:

The Andalusian Strategy on Active Ageing (ASAA) is based on the White Book on Active Ageing published in Andalusia in 2010, stating key points and recommendations and considering gender equality and relationship between generations. Its main goal is to allow older people to live in security, live a healthy life, participate and help build society and to offer them lifelong opportunities.

Political support:

The ASAA is fully supported by the Regional Ministry of Equality, Health and Social Policies, in charge of the
Deputy Regional Minister, and it is one of the core lines of the current Regional Ministry.

Financial support: The funding for the ASAA is included in the overall RMEHSP budget.

Stakeholder involvement: The 13th February 2013, the Andalusian Parliament passed a Private Member’s bill on active ageing to encourage the regional government to boost actions which promote the active ageing, the solidarity between generations, the integration of elderly in the society, and their participation in the social, educational and cultural life, as it is established in the Statute of Autonomy of Andalusia.

Implementation of the technical solution: The integration of technical solutions is one of the key points in the ASAA, at a regional and local level, and in the whole fields of actions: family, community, centres of active participation, primary health care, work centres, day centres, residential centres, hospitals.

Implementation of change management: The implementation of the ASAA in Andalusia is crucial for the development of actions on active ageing that require the involvement of all stakeholders in society: the government, families, associations, third sector as well as the contribution and participation from stakeholders, not only those from the health system or social services, but also those from education, housing, transport, urbanism, ITC.... All of them contribute to improve the quality of life and citizens’ wellbeing.

In this context, the driving role of the Public Administration is very important; in order to maximize the change of all the sectors and stakeholders, through joint actions and co-participation.

Our results:

The innovative services included in the strategy encompass a regional global population of approximately 8.5 M inhabitants, that is, 100% of the population. However, older people in the population require more services, so we can refer to the group over 65 years old (1,320,168 inhabitants) as a particular target of the strategy. Thus, even in the case the target is restricted in certain services, such as those connected to Junta 65 Card (the consumer’s card for people over 65); the strategy exceeds 10% of the local target population: 80% of people over 65 benefit from the card. Furthermore, a routine health check-up is established for the same group and citizens’ wellbeing.

In 2007, 43.6% of the population was in good perceived health status, 2009 44.8%, 2011 47.2% (positive increment) (positive increment) (positive increment) (positive increment) (positive increment).

Andalusia has one of the lowest health expenditure per inhabitant in Spain with the highest healthcare services offer (for the year 2013 the budget per inhabitant is €985.56, about 10% lower than for the rest of the regions in Spain, and an evolution for the public health expenditure that has been below the average of the National Healthy System).

There are currently over 490 establishments that offer their services at advantageous conditions. It is expected that these companies have achieved a higher turnover than other companies not adhering to the discount programme.

Added value:

This strategy gathers together a large number of stakeholders: primary care centres, centres of active participation, private companies, public administrations, universities, associations, sport and leisure businesses, etc. The person is the centre of the strategy and his/her immediate benefit is a more-lasting quality of life-expectancy and a better welfare. Active ageing means a most efficient and effective health system, with a proven reduction of long-term care in the last five years of life.

Finally, the merging of the former Regional Ministries of Health and Social Welfare, plus the assumption of the competences of Equality, in the Regional Ministry of Equality, Health and Social Policies enables a more intense integration of services and a better coordination of social and health resources, coping with the challenge of the territorial coverage in a country-size region thanks to a vast network of centres seeking proximity to citizens (924 centres of active participation, 1,500 primary care-centres with an integrated social and healthcare approach).

Success factors:

Close and continuous collaboration of all relevant stakeholders from all sectors (health, social services and others) as well as the participation of the civil society is vital for success. Implication at work centres and daily life activities help to support the Strategy. An active involvement of elderly people supporting the implementation and continuity of the ASAA is mandatory for its success.

Transferable elements:

The White Book on Active Ageing was published during 2010, but its dissemination strategy began in July 2009, with the presentation of the Framework Document on Active Ageing in Andalusia, with an audience of 1,100 persons approximately. When the final document was ended, dissemination sessions were celebrated throughout the region during the 1st semester of 2010, concluding at the International Conference on Active Ageing: the White Book on Active Ageing of Andalusia (Seville; June 2010, http://www.e-seniors.asso.fr/EN_seville_active_aging_white_book_june10.html).

The White Paper was also presented by the then Regional Minister of Equality and Social Welfare in the Andalusian Parliament. It counted with the participation of a Polish delegation made up of 15 representatives.
(high level delegates) on social, inclusion and equality policies of the Malopolska region.

**Lesson learnt and recommendations for others:**
Collaboration among different sectors in the design and implementation of the strategy.

**More information:**
www.juntadeandalucia.es/salud

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**Good Practice:**

**Andalusian e-Health Strategy (AeHS) (GP2)**

**Reference Site:**
Regional Ministry of Equality, Health and Social Policies of Andalusia

**Contact information:**
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**Short description of your good practice:**

The Andalusian Public Healthcare System has adopted corporate information systems, accessible to all health professionals, as a strategy to cater for the ever-increasing mobility of citizens and the participation of many complex multidisciplinary teams of professionals involved in the healthcare processes. All this, together with the integrated concept of health and the leading role of the citizen in democratic societies, leads to the concept of the Single Health Record and the use of unified procedures.

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**Partners in the coalition:**
Stakeholders and partners in the AEHS include a wide range of individuals and entities: patients, informal caregivers and other people, health services teams, the Andalusian Healthcare Service (SAS), and the RMEHSP. Technological companies such as INDRA, Everis, Tecnova, Telvent or Accenture and the participation of scientific societies such as the Andalusian Society of Family and Communitarian Medicine (Samfyc) and the Andalusian Council of Official Colleges of Pharmacists (CACOF).

**Start date:** 1995  
**Project duration:** 14 years  
**How we did it:**
The Good Practice: The project required a progressive work of analysis, test and improvement that integrated previous steps since 1995, when the health card and a common ICT solution for the primary healthcare network was implemented. In 1998 the single EHR was created; its first modules functioning locally in 2002. Two years later, the roll-out of the e-prescription started along with centralized services such as the appointment module and hospital inpatient services. Diraya was completed in 2009.
Political support:
The AeHS is fully supported by the RMEHSP, in charge of the Deputy Regional Minister. It is included as one of the commitments of the Andalusian Health Plan, approved by the Regional Government, as well as in the Quality Plan of the Andalusian Public Healthcare System.

Financial support:
The RMEHSP guarantees the sustainability, maintenance and scaling-up of the Strategy within its annual budget. Moreover, the system is supported technologically by the Centre of Management of Systems and Technology (CEGES) of the Andalusian Healthcare Service (SAS).

Based on an independent study about the AeHS (Diraya and Receta XXI) that was carried out by two external consultancies in 2009, the total value of socio-economic investment over the first 12 years reached 245 million euros, half of them were the IT costs, the other half are the organisational costs: design, learning, development, implementation.

The overall results showed that by 2010, the cumulative net benefit to cost ratio reached 1.77, meaning that for every 100 euros in costs, there are 277 euros worth of socio-economic benefits.

Stakeholder involvement:
The AEHS was set up as a policy landmark and guide. It broke up with the old vision of individual management of centers and boosted from above: It was regulated by Decree 72/2003 and included in the Andalusian Health Plan currently in force till 2020.

Implementation of the technical solution:
The AEHS helps health professionals in their daily work and activities, integrating all health information for each patient in one single record. Reduction of administrative tasks has contributed to its use, particularly the e-prescription module, as well as the e-lab and the x-ray ones. Patients also benefits from the AeHS, thanks to the use of the centralised appointment systems, and the use of electronic prescription, avoiding unnecessary visits to the health centre just to ask for repeated medication (of special interest for long term conditions).

Implementation of change management:
All relevant stakeholders were involved in the implementation of the AeHS. Scientific societies of primary health care professionals contributed as well as professionals Colleges of Pharmacists. Training sessions were designed for all professionals starting to use the system. Several overall objectives of the Andalusian Healthcare Service were achievable more easily when using the IT solution, helping to manage the change.

Our results:
Nowadays, the system covers the entire population and the EHR is available at all levels of care and all hospital emergency episodes are reflected in Diraya.
The Laboratory tests Module covers 78.79% of the population (2012).
Mobility access to the EHR is now available in all mobile intensive care units.
Patients requiring primary care appointments benefit from booking procedures through phone (20.36% in 2012) or internet (23.33% in 2012).

One of the most important benefits for the patients relates his/her safety. Thanks to the e-prescription, the pharmacists can detect situations in which the patient is taking medication prescribed by a private doctor or is showing an adverse reaction to the prescribed medicine. Since 2003, 71633 prescriptions have been precautionary cancelled by pharmacists and 92% of them were confirmed by the patient’s doctor.

About the electronic prescription, there is a yearly saving of €7.5 million due to the fact that prescriptions are not printed anymore and €3.2 million due to data management. Likewise, the prescription by active principle supposed a saving of more than €500 million since 2001 (€91.1 million in 2011).

Since July 2012 copayment for drugs by retired people was introduced in Spain with a reimbursement system. Using the electronic prescription in Andalusia, pensioners have not have to pay 42.9 M€ in advance since the new rules came into force.

After the introduction of the e-Lab, the Id errors have been reduced from 6% to 0%, and laboratory results obtained in a shorter time, passing from 23 hours to 5 hours (-76.32%).
The number of hospital admissions decreased steadily from an average stay of 7.50 days in 2008 to 7.16 in 2012. The shift is even greater when referred to patients over 64: from an average stay of 9.90 in 2008 to 8.90 in 2012.

An IT research and development centre for health issues was established by Indra S.A. in Seville in 2010, with 190 employees.

Added value:
The AeHS has contribute to a better life of patients and citizens in Andalusia, thanks to avoiding unnecessary trips to health centres, benefits from a more accurate, accessible and interactive health information system, continuity of care or the elimination of errors when dealing with patients data. These benefits are extremely important but more difficult to assess than other ones that can be measure, such as savings due to not printing prescription, or number of visits avoided.

Success factors:
Close and continuous collaboration of all relevant stakeholders is vital for success. Strong political support can overcome difficulties that may arise during the implementation phase.

Evidence and results supporting corporate strategies and initiatives, as well as adaptation to change since these type of strategies take a long time to implement.

Transferable elements:
The overall information of the strategy and technical requirements are systematized and ready to be transferred. Transfer time would depend on the recipient’s departure status in terms of information systems already implemented and degree of integration among them.

The AEHS, particularly Diraya, was presented in several international fora. 2009: Empirica Communication &
Technology Research and TanJen Consultancy included Diraya in general and particularly its e-Prescribing system into the study EHR IMPACT commissioned by DG INFSO and Media improving awareness of the benefits and new empirical evidence on successful systems. It has also been presented in different international e-Health Conferences focussing on different contents: Gotenburg (2009); Barcelona (2010, e-prescription); Budapest (2011, e-health strategy); Copenhagen (2012, Diraya), Dublin (2013, e-prescription), Trondheim (2013, e-health strategy), Edinburgh (2013, e-health strategy). The INTERREG IV-C Project PEOPLE (2009-2011), led by the former regional Ministry of Equality and Social Welfare, selected it as a good practice, what gave the opportunity to inform local and international stakeholders about some of its features. Currently participating in CASA project (also INTERREG IV-C), and leading a CIP project (PALANTE)

**Lesson learnt and recommendations for others:**

It takes a long time to implement an integrated and comprehensive healthcare information and management system. Close collaboration among all relevant stakeholders is needed as well as a strong political support and commitment. Alignment with the overall health plan and strategy is vital for success.

**More information:**

[www.juntadeandalucia.es/salud](http://www.juntadeandalucia.es/salud)
[www.juntadeandalucia.es/servicioandaluzdesalud](http://www.juntadeandalucia.es/servicioandaluzdesalud)

**Key data:**

![Image of data table]
Good Practice:

Basque Strategy for tackling the challenge of chronicity (GP1)

Reference Site:

Basque Country Region

Contact information:

Joana Mora Amengual
Kronikgune
+34 688876812
jmora@kronikgune.org

Short description of your good practice:

Within a context of a population with different needs (more chronic patients than acute patients) receiving suboptimal care and within a context of economic crisis and ever-increasing demands on healthcare resources due to the rising number of chronically ill patients, the decision was taken to begin a process of profound transformation in the Basque health system.

The transformation focused on the transition from a model centered on acute medical care to a model adapted to the needs of chronic patients enabling proactivity, patient-centered care, continuum of care, patient empowerment and payment for outcomes.

Integrative new tools, processes and figures are being introduced into the system in the shape of 14 strategic projects and as part of the organised process of transformation. These tools can be seen as leverage mechanisms, working together to impact the system on a top-down and bottom-up basis and helping to drive it towards the delivery of the three strategic objectives of the Health System: improved health and social outcomes, focused on the population and optimum efficiency.

Partners in the coalition:

The Basque Department of Health. To implement the Strategy, it has collaborated with Departments of Employment and Social Affairs and Industry, Trade and Tourism. Osakidetza. Osatek, Matia, Beti On, Clínica Asunción. The Department of Health, Kronikgune, Bioef, Etorbizi, Ingema and other local institutions. The technological development has been convened with Tecnalia, IK4 and other local SMEs. More than 50 NGO and Patient associations have been involved in the new strategy and also, 20 local Professional Colleges and Scientific Associations (Pharmacists, Physicians and others).

How we did it:

In 2009 a thorough analysis of the problems of the Basque health system was initiated driven by the evidence of emerging initiatives that were showing good results.

The healthcare organization was enabled to support, drive and monitor 14 defined strategic projects:

1. Stratification and targeting of the population
2. Interventions aimed at the principal risk factors (e.g. giving up tobacco, prescribing a healthy life, care for the elderly
4. Setting up a network of activated patients, connected through the adoption of new Web 2.0 technologies by the Chronic Patients Associations
5. Unified Medical record
6. Integrated medical care
7. Development of sub-acute hospitals
8. Advanced nursing responsibilities
9. Socio-health collaboration
10. Financing and Contracting
11. OSAREAN: Multi-channel communication service
12. e-prescription
13. Chronic illness research centre: Kronikgune
14. Innovation on the part of the medical professionals

Population Intervention Plans, (PIPs) were drawn up in the clinical field on how best to provide healthcare in a coordinated and efficient manner among all players involved for each target population. The subgroups of patients to be included in each PIP were selected by the use of a Risk Stratification Tool.
The principal promoter of the Strategy was the former Health Minister of the Basque Country, Rafael Bengoa.

The budget of the Department of Health (2500 M) is assigned through a Contract-Program (CP) to Local Health Organizations. A 2% of it was bundled to the achievement of the objectives of the Population Intervention Plans. Amount of conditioned budget and expected evolution: 2012=50M (2%CP); 2013=75M (3%CP); 2014=125 M (5%CP); 2015=250 M (10%CP). Bottom Up Innovation Programs covering projects in ageing, chronicity, disability and dependence were funded with 4.5 M euros.

Managing of change was difficult. First of all, the need of a profound change in the system was made evident to all the stakeholders involved. The 14 strategic projects were introduced to the stakeholders as part of the solution to the needs. Working teams were created for the management of the projects.

The transition was successful as a result of making the transformation of the healthcare model a priority health policy, with a clear vision and defined objectives. A culture change is being delivered through distributed leadership (bottom up and top down leadership) and a different, less hierarchical management style focused on decentralisation and greater autonomy of decision and action at the local level. This approach enables local healthcare professionals and managers to set up bottom-up, thus creating a capacity for leadership at a local level.

**Our results:**

Figures in year 2012 show that 16% of the people identified as a target for case management has been actively treated (high complexity patients, for which 74 case management nurses have been displayed each managing 100 patients). 26% of the population identified as disease management (medium complexity patients) have been treated. 2% of the population is currently participating in self-management programs.

The citizens of the Basque Country have expressed their satisfaction and positive perception of their health system, with various studies and surveys revealing their satisfaction levels to be generally higher than average values.

According to a report published in June 2012 by the Basque Government Office for Sociological Research (Presidency Department), 76% of citizens of the Basque Country consider the Basque public health system to be better than the system in the rest of Spain, a 13% increase on the results achieved in 2008.

As for efficiency/effectiveness on performance and sustainability of your care systems, the first results are not yet conclusive enough due to the short tracking time but they are promising.

The final objective of the Chronicity Strategy is to keep stabilized chronic patients in their home and improve their quality of life. New technologies play a crucial role in this field and the importance of it takes shape by the fact that 3 of the 14 strategic projects are technological. These projects, together with the bottom up innovation projects including any type of technology, have helped to boost the local competitiveness, market growth, employment.

**Added value:**

The patient obtains better health outcomes, reflected in better quality of life. The patient has new channels (telephone, home care, sub-acute hospitals, etc.) to communicate and engage with the health system, increasing accessibility and often saving them a trip to the health center and taking on a greater role and responsibility in terms of managing their own illness and collaborating with healthcare professionals.

**Success factors:**

Create a “narrative” beyond “cost containment”, provide a vision and structure which needs to be attractive, as well as a cohesive common understanding on where the main problems are, what are the key issues to tackle and how to do it.

A very relevant aspect to consider is that one can pull off advances in a non-aligned context but system-wide transformative change will only happen when many policy levers are aligned and activated in the same direction.

Alignment is important but also the right balance between top down and bottom up levers and the inclusion of right incentives as well as common objectives in health outcomes.

Continuous evaluations of the advances of the strategy are critical to the scaling up process, because they provide the results and lessons learned during the implementation process.

Research projects, thereby generating a network of improved scientific evidence concerning the treatment and care for chronicity are also important. The setting up of a Centre of International Excellence in Chronicity (Kronikgune) is enabling research and evaluation of innovative practices has had a major impact.

**Barriers to innovation:**

- Change management has many problem areas: organizational changes and staff behaviour changes are difficult to achieve and take time. Change management is a long process and time needs to be booked for it.
- Lack of evaluation and innovation culture in the organization are persistent barriers to innovation.

**Transferable elements:**

- The knowledge acquired during the implementation process of the projects
- Implementation methodology of the innovative projects

**Lesson learnt and recommendations for others:**

- Strategies that have only a top down approach should be avoided.
• Lack of alignment of the activities, policy and incentives leads also to problems.
• Lack of or poor communication between different governance and health care levels (or amongst health care levels) should be avoided.
• A strong political leadership with a very clear idea of objectives.
• A time and space for bottom up innovation.
• Empowerment of health care professionals (clinical and management) and patients.

More information:

http://cronicidad.blog.euskadi.net/descargas/plan/ChronicityBasqueCountry.pdf

Good Practice:

ETXEAN ONDO (GP2)

Reference Site:

Basque Country Region

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Short description of your good practice:

Etxean Ondo is a pilot project which aims to implement the model of person-centred care, focused on “achieving improvements in all areas of quality of life and well-being of the persons”.

The specific aims of this project are to promote that older people who live in homes or nursing homes and their family and caregivers receive the support and care needed by means of the provision of an integrated model of attention.

The key elements of this model are to gain knowledge about the effectiveness and efficiency of the model implemented and about methodologies such as case management, and person-centred care. This model has significant differences comparing with the traditional attention model. In the traditional attention model there was a lack of integration and fragmentation of health and social systems among others as well as a significant overlap in the care services required by elderly and their caregivers.

Partners in the coalition:

Regarding the public institutions, there are partnerships with 3 Provincial Councils, 16 municipalities, telecare services (such as: Telecare service Osatek Basque Government) and the Primary Care Health Centers of the Health Service. Furthermore, there are ongoing alliances with different stakeholders such as foundations, centres for the innovation, foundations for older and disabled people, associations, health providers, documentation and studies centres, adapted sports centre, home care service suppliers, training centres. Finally there is direct involvement of the older and disabled people’s homes and residential centres.


Start date: July 2011  

Project duration: 36 months  

How we did it:

Given the interest highlighted in a large number of studies about the importance to consider the older people's preferences to grow old in their usual life environment, that is, at their own home and community, The Etxean Ondo Project has been designed. This project includes the objectives, methodology and intervention programs (Methodological and Support Document and Intervention Framework programs).

During the project, Information and Socialization Actions were planned and developed in the municipalities involved in the project; five municipalities in Gipuzkoa (Donostia, Irun, Tolosa, Oiartzun and Zarautz), in Ermua (province of Bizkaia) and in Cuadrilla de Añana (province of Álava). The purpose of these activities was firstly to inform about the project and secondly the incorporation and definition of the commitments of stakeholders and groups of interest related to the project (Public Administration, Service Providers, Associations and other stakeholders involved in the aging process and in the dependency care).

For a success development of the project, an alliances and partnerships network was established involving the city council, the basic social services, the health system and health centres of the five municipalities in Gipuzkoa, Ermua and the 10 municipalities in Cuadrilla de Añana. In addition, agreements were established with Home Care and telecare service providers, voluntary associations, local proximity services providers and community participation agents.

As project promoter and funder, the Employment and Social Policy Department of the Basque Country Government was the political support.

The economic support was ensured through a financing Agreement between a non-profit private institution (Matia Instituto Gerontológico) and the Employment and Social Policy Department of the Basque Country Government.  

The engagement of stakeholders was achieved through an exhaustive explanation of the project, its objectives and the obvious interest to progress in the health care services' improvement in relation to the Social Policy planning and adding the most advanced trends and approaches in a future vision. This means, the important role that represents the incorporation of the usual living environments as a suitable place for the services' provision and supports in the aging process. This involves a Model transformation.

The engagement was also achieved thanks to the fact of the payment of the social and health professional figures involved in the project.

Project implementation was performed through:

1. Territories selection and delimitation
2. Development of the situation diagnosis of each area and identification of the needs in order to adjust the planning.
3. Development of Methodological and Support Document and Intervention Framework programs, life stories, assessment and not standardized information gathering tools, assessment tools to apply in each of the sample cases, evaluation system definition as well as the definition of data collection protocols (before-during-post) and support document for the development of personalized care and life plans.
4. Sample design, profiles and inclusion criteria
5. Software Design for the data collection and processing, related to the assessment, and with previous appropriate training sessions for use.
6. Partnerships and agreements with municipal social services and county health services
7. Training activities and conferences: with the involved actors, training programs with case managers, Homecare services' workers and family members and socio-sanitary workshops.
8. Implementation and follow up: Assessment, care and life plan development, proximity services, social participation and accessibility.
9. Regular progress reports.
10. Midterm review
11. Review and final report.

Our results:

The size of the samples finally selected according to the different provinces was: 290 participants in the five municipalities of Gipuzkoa, 50 participants in Ermua and 176 participants in Cuadrilla de Añana. Afterwards these samples have been randomly subdivided into two sub-samples with the same profile characteristics and inclusion criteria (control group and intervention group). The aim of this division was to assess the results achieved with the better guarantees.

Identified benefits:

1. Residents: increase in the independence, quality of life and a high degree of satisfaction with the changes associated to the new model.
3. Families: Increase on satisfaction related to the previous model

Certainly the contribution of both the project and the Person-Centred Model of Care is to go further in the process of transformation of the Services for the Dependency Attention. The guarantee of the rights, the promotion of the autonomy, the participation of the people and the identification of strengths - even in situations of frailty, vulnerability and dependence - assumes the recognition of the fact that each person is a unique person and s/he is the protagonist of her/his project of life.

This experience brings to the research team, even without finishing the project, an increment in the satisfaction of the people, the approach to an integral intervention based on the socio-sanitary coordination, the possibility of giving response to the wishes and preferences of the people. Flexibility of the service...
portfolio and the concrete way of providing these services are two fundamental issues.

This project has been funded and promoted by the department of employment and social policies of the Basque Government. After a period of implementation of the model, presumably more expensive than after the model will be finally implemented and running, the expected results are in line for a similar cost of development, and reduction in acute hospitalizations, expenditure on drugs and in nursing home care costs.

The main aim of the project is not to generate employment. However, one of the hypothesis is that generalization of the Project and the Model to the care services would imply an increment in the activity of these services because more services would be offer. This job creation would be characterized for being local and stable.

**Added value:**

Meet the wishes, preferences and interests of the people by giving them the opportunity to stay in their community as long as they are in the best conditions for their well-being and quality of life. The case management methodology applied in the project represents a qualitative advance in professional interaction and for the people receiving the services.

**Success factors:**

The following factors can be highlighted:
1. Clear political willingness and leadership to transform the planning of the services and the Model of Attention.
2. Changes on the regulation and on the policy development of the services.
3. Promotion of the professional qualification and training. That means that the new models require new professional competences.
5. Deep reflection about the reorganization of the care and proximity services to be provided at home.

**Barriers to innovation:**

1. Distribution of competencies at an institutional level of the services portfolio
2. Limited socio-sanitary coordination.
3. Limited support to the informal care.
4. Resistances to the changes in the sector, providers, professional, institutions
5. Current situation of economic crisis

**Transferable elements:**

The main transferable element is the general approach of the project. Specifically, the methodology of the case-management is a suitable and effective working procedure which makes a crucial contribution to the social intervention.

**Lesson learnt and recommendations for others:**

Taking into account that this is a pilot project, one of the most important issues is to guarantee the collaboration and the commitments of all the stakeholders from the beginning. One of the issues observed in this experience is the complexity of the collaborative work. Hence the fact that the professionals and the stakeholders can identify the change and the transformation of the services and the care model is a key for the success.

The use of the life history, as a first step for the personalization, as well as the design and the subsequent agreement of the Care and Life Plan for each person are very meaningful.

In order to develop the process of attention the methodology of the case-management and the reference professional are two things worth mentioning.

**More information:**

https://www.irekia.euskadi.net/en/tags/proyectoetxeando
**Good Practice:**

**Euskadi, an Age Friendly Region (GP3)**

**Reference Site:**

Basque Country Region

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**Short description of your good practice:**

Our effort of making Euskadi an Age Friendly Region consists of the partnership of one city (Donostia-San Sebastian), one Province (Provincial Government of Biscay), and one University (The University of Deusto) who have committed to promote and develop age friendly environments in the Basque Country.

This good practice draws from the experiences of two cities (San Sebastian and Bilbao) that have taken part in the WHO Network of Age Friendly Cities, and encompasses two complementary experiences in terms of governance and systems to further develop age-friendly environments within the Region.

Euskadi, an Age Friendly Region entails:

- Promoting, coordinating, developing, and implementing the action plan for AFEs in Biscay through the compilation of information and notable practices, and the coordination of all actors working on the matter.
- Replicating San Sebastian’s and Bilbao’s experience of turning localities into AFE in any other Basque town whose actors are willing to do so
- Raising awareness -among politicians and other actors- about the need to coordinate existing efforts in order to obtain better, measurable and assessable results.
- Consolidating the active and healthy ageing paradigm within the Basque society as a whole.

**Partners in the coalition:**

The Municipality of the City of Donostia-San Sebastian, the Regional Government of Biscay, and the University of Deusto

**Start date:** 2012

**Project duration** Permanent

**How we did it:**

The Project on Age-Friendly Environments is not new to the Basque Country. Two of the three Basque Capital Cities; Donostia-San Sebastian, and Bilbao, are already part of the WHO Network for Age-Friendly Cities. In fact, Donostia-San Sebastian was the first city to become so in the whole of Spain.

This good practice was put together; on the one hand, with the precedent of San Sebastian’s action plan for an AFC and its 2020 Strategy and, on the other, with the Government of Biscay which has partnered with the University of Deusto to develop a project, encompassing the whole Region, which aims at promoting the participation of Biscay’s 112 Municipalities. The Region also draws from Bilbao’s experience as an age-friendly city.

In terms of funding, regional and local governments, along with other actors, already invest on AHA, therefore it is important to map these resources, co-use them and make them more efficient in face of the current economic downturn.

Political lobbying has been bidirectional. On the one hand, participating in the (re) design of policies to make AFE, stakeholders will have a voice, and secondly being target groups of such policies, participants will empower themselves and others.

Together with other stakeholders, Biscay’s Government has proposed several innovative actions for the development of age friendly environments. These actions are in line with HLY standards and meet the three goals set up by the Commission: a) Improving health via the Action Plan for active ageing (2010), for leisure (organising travelling for elderly people: since 1999), for social participation (Council of Elderly People, since 1982; voluntary service); promoting healthy habits (Green Belts), studying age friendly workplaces. b) Promoting active ageing in its four dimensions (health, participation, security and lifelong learning); support to caregivers; 150 nursing homes; 20 day centres for the elderly; a well-balanced taxation system for the Welfare State in the Basque Country. c) Enhancing the use of ICT among the elderly (courses, design web portals together with Nagusiak- Federation of elderly people in Biscay), research on ICT solutions like TV platforms, Apps, etc.

The PGB is seeking cooperation among its 112 municipalities so that they get involved in this project. In addition, all the stakeholders will be trained and guided during the implementation phase. This will also be the case for the different institutions for the elderly and for anyone who wants to participate actively.

The bid posed by Biscay’s Government and the University of Deusto entails the participation of the different actors and agents who have been promoting and working towards the autonomy of the ageing population; *inter alia*, associations and federations, enterprises in charge of promoting the participation of the target group, etc. An important task will be to achieve support from Municipal actors and agencies to join the project.
This strategy has been made possible due to a comprehensive perspective of wellbeing in which health is not considered just as the absence of disease, but covers a much broader concept, including the balance between physical, mental, environmental and social conditions. Thus, ageing is not seen as a problem but rather an opportunity, and the elder population as an enormous asset to the community, society and the economy.

Turning cities or municipalities into AFE necessitates knowledge of the needs of the elderly population and thereby involves the elderly in the definition of the services and policies aimed at enhancing their quality of life.

Our results:

The scope of this good practice is the entire population of both, the City of San Sebastian, and Biscay’s province. In order to reach 100% of the target population, Euskadi has undertaken the following actions:

- Enhancement of the associability of senior citizens and centres
- Promotion of peer-companion programmes
- Improvement of physical activation/activities programmes
- Expansion of Tele-care, In-house assistance
- Advancement of Technical Help Centres
- Operation of Socio-health Centres (Intermediate Health Centres)
- Operation of temporary and permanent care centres
- Operation of day-care centres

Regarding horizontal actions, the ongoing work aims to mainstream the principles of active and healthy ageing by inscribing AHA in public policy, and in the local strategies.

Added value:

Euskadi offers exceptional conditions regarding demographic characteristics and governance structures for the development and testing of age friendly environments. Elderly population in Euskadi is the largest in the world and its birth rate one of the lowest; therefore, the sociological, political and administrative implications provide a superb setting to launch experiences like the ones proposed by the EIP-AHA. Furthermore, the culture of association and innovation amongst the Basque private and productive sectors might be yet another important contribution to that of the public authorities and social agents who have embraced the active ageing paradigm for more than a decade.

Success factors:

One remarkable aspect of this good practice is its connectedness with the pillars of active ageing: the social dimension of health, participation, security and lifelong learning. Also the fact that it promotes intergenerational actions facilitates the endeavor of turning localities into age friendly environments.

This is made possible due to the particular social characteristics of the region; on the one hand the important role played by families in Basque society e.g. 85% of senior citizens live within a 5-KM radius from their children and 90% have daily contact with their families (Basque Government, 2010), and secondly, due to the associability of senior citizens. In the case of Biscay, for instance, each of the 112 municipalities has at least one association of seniors that contributes to the objectives of active and healthy ageing set forth by each of the municipalities. Furthermore, both local and regional governments have developed intervention programmes in the fields of detection, prevention and assistance (e.g. in-house attention, tele-care, care for care givers, etc.).

Both, San Sebastian and Biscay, have a variety of programmes that adhere to the principles and criteria of AHA, and actions aimed at the sustainability of independent living and the advancement of active participation at all levels and in all dimensions.

To mention a few, these programmes include: in-house assistance services; tele-care services; centres for technical assistance and funding; day care centres and nursing homes (both temporary and permanent); socio-sanitary centres; senior citizen participation councils; programmes for care givers; volunteer programmes for keeping seniors company (peer-company); programmes for a better use of medication (San Sebastian); leisure and culture programmes aiming at enhancing seniors’ participation; adapted and discounted transport for 65+ (Biscay), and active ageing plans.

Barriers to innovation:

One of the possible barriers for the implementation of AHA initiatives might be posed by the structure of Euskadi’s government and its multiplicity of agencies. We trust that this good practice might help trigger the coordinated development, implementation, and consolidation of active and healthy ageing policies in the region.

The availability of funds is another challenge that we aim at surmounting via social participation, and then involvement of many private stakeholders.

Transferable elements:

A triple-helix approach as a working strategy might be transferable to other regions.

Our good practice itself is a coalition of governments, regions, and academic institutions. The fact that two different localities posit this proposal necessitates and ensures coordinated teamwork with the current actors that are already playing a relevant role in the development of policies and initiatives of AHA in each locality. This synergy also aims at identifying and socializing the initiatives/actions that are being developed at the moment by private actors, and those which could be enriched by private sector participation.

The fact that the University of Deusto is coordinating the work of several actions, brings forth a number of stakeholders in the academic and business sectors.

In terms of education and training, an Interdisciplinary Group working in AHA at the University Of Deusto (UDEUSTO) is carrying out the plans and studies
needed. Additionally, UDEUSTO is working towards mainstreaming AHA in its research lines and academic programmes.

The proposal draws from a local tradition of social innovation and triple helix approaches; the proposal is led by Biscay’s Government, incentivising municipal governments to join the initiative, UDEUSTO coordinates and makes scientific contributions; the third sector and private sector are active actors: both as producers and consumers. Since the involvement of stakeholders is high, the outcomes of the initiative might be consensual resulting in a multifocal evaluation, assessment and monitoring process by a wide range of stakeholders.

Lesson learnt and recommendations for others:

We have learned that the coordination of different stakeholders is paramount to the strategy. Likewise, that the participation of seniors themselves, via associations and other channels is of utmost importance.

Key data:

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Good Practice:

**Colorectal Cancer Early Detection Programme (PDPCCR) (GP1)**

Reference Site:

TicSalut/InnohealthHub Catalunya

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Short description of your good practice:

The Colorectal Cancer Early Detection Programme (PDPCCR) started in 2009 with the objective to reduce the incidence and mortality of colorectal cancer, representing the second cause of death by cancer in Catalonia, both in men and women, with 2,600 deaths per year. The key elements in the programme are effective screening and early diagnosis in order to detect and treat colorectal adenomas and cancer during initial stages. The programme has been progressively expanded to the health care regions of Barcelona, Camp de Tarragona, Terres d’Ebre, Girona, Central Catalonia and Lleida. The aim is to cover 100% of the target population of Catalonia by 2015.

Partners in the coalition:

The programme in Barcelona is being carried out at the basic health care areas of Hospital Clinic and Hospital del Mar. The two hospitals have created the Clinic-Mar technical screening office.

Start date: 2009  
Project duration: 5 years

How we did it:

The Government of Catalonia’s Ministry of Health started the Colorectal Cancer Early Detection Programme in the year 2000. The programme’s initiation followed these steps:

- The 2001–2004 Oncology Master Plan established a pilot programme for the early detection of colorectal cancer at Hospital de Llobregat, which was extended in 2004 to include Vilafranca del Penedès, and then in 2007, to the remainder of the Alt Penedès region.
- During the 2005–2008 period, the Oncology Master Plan established that it would conduct extensive screening for colorectal cancer in specific basic health care areas (BHAs) of the city of Barcelona.
- The programme began in 2009 and has been progressively expanded to the health care regions of Barcelona, Camp de Tarragona, Terres d’Ebre, Girona, Central Catalonia and Lleida.

Since its beginning the programme has been supported by the Oncology Master Plan, created by Catalonia’s Ministry of Health.

The programme is a public initiative. Catalonia’s Ministry of Health has committed to provide funding to run the programme, which currently costs €1M per year. Full coverage of Catalonia’s population aged 50-69 will require about €10M per year.

The programme built on the partners’ existing expertise in public health and gastroenterology. Experience from the pilot programme was easily extended to setup the logistics required to invite the population to participate in screening, to deliver and process the tests, to perform confirmatory colonoscopies and follow-up with patients with identified lesions.

Pharmacies and primary health care professionals were integrated in the process, playing a central role in informing the population, distributing the screening kit and delivering it to the central laboratory for analysis.

Our results:

Coverage: 83,670 - total number of people participating in external screening, 45.66% of eligible population. Currently this is about 50% of the population living in Barcelona city. Overall, the programme currently covers about 15% of the Catalonia population, but it is planned to be extended to all by 2015.
Thanks to the PDPCCR programme early diagnosis of patients with colorectal cancer (27,000 patients living in Catalonia) and tumorous cancer (6,000 cases yearly) improved. The program identifies an adenoma in the colon that requires removal in about 3% of screened population. In addition, the programme identifies cancer in 4‰ of participants.

The in vitro diagnostics (IVD) market expanded following the ageing society increasing demands for laboratory tests.

**Added value:**

Using the pilot test conducted in the town of Hospitalet de Llobregat as basis, the 2005–2008 Oncology Master Plan was drafted to conduct extensive screening for colorectal cancer in the whole population. Implementation at a population level at determined BHAs in the city of Barcelona was then initiated.

The main objective was to achieve a participation rate of 30% in the at-risk age group of between 50 and 69, who were invited to participate in the programme. Three years on, this objective was amply exceeded and reached a participating population of 45.6%, with good detection rates for cancers and adenomas.

The screening strategy used [faecal occult blood test (FOBT), conducted on a biennial basis] has proven its viability and has obtained good results in terms of the detection of neoplasm and high-risk lesions. In the first round (2009–2011), the screening led to the early detection and treatment of 393 patients with cancer and nearly 1,500 high-risk adenomas.

**Success factors:**

- The collaboration between hospitals, pharmacies and primary health care centres is a key factor in the success of the PDPCCR.
- The communication and strategic promotion of the programme increases participation rates and helps achieve the main objective of reducing the incidence of colorectal cancer and the mortality rate associated with it.

**Barriers to innovation:**

Intrinsic difficulties of the programme derived from sociological reluctance to participate, because the screening test involves stool manipulation and there is a fear of colonoscopy. These barriers can be overcome by intensive information campaign about the potential benefits of early detection.

Participation would also increase if there were breakthroughs in research developing new blood-based diagnostic tests.

**Transferable elements:**

The standardized process (see above) and implication of pharmacies and primary health care professionals in the logistics of the programme are key elements that may be transferable to other health promotion programmes.

**Lessons learnt and recommendations for others:**

The experience gained in the pilot programme was essential to setup the logistics.

**More information:**

http://www.prevenciocolonbcn.org/
Good Practice:
NEXES: Supporting Healthier and Independent Living for Chronic Patients and Elderly (GP2)

Reference Site:
TicSalut/InnohealthHub Catalunya

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Short description of your good practice:
The NEXES project conducted large scale trials of four ICT-enabled integrated care services – well-being and rehabilitation, enhanced care for frail patients, home hospitalization and early discharge, remote support for diagnostic and/or therapeutic procedures - and identified strategies for extensive regional deployment. The focus was on highly prevalent chronic conditions (COPD, chronic heart failure and diabetes). The study conducted in Barcelona was deployed in the area of Barcelona-Esquerra (540.000 inhabitants) with the aim to be extended to the rest of the region.

Partners in the coalition:
Hospital Clinic, a tertiary public hospital, two general hospitals, 18 primary care centres run by different providers, one mental health centre, one convalescence centre and health transportation systems/organisations.
The NEXES program has been developed in close coordination with the Department of Health through TIC-SALUT (project partner) and the Catalan Agency for Health Information, Assessment and Quality (AIAQS).

Start date: May 2008

Project duration: 48 months

How we did it:
In 2000, the need for diminishing the impact of severe exacerbations of patients with chronic conditions prompted Hospital Clinic to develop a line of work in the area of integrated care with a focus on specific conditions (COPD, HF). The goal was to keep patients stable and out of the hospital. The initial small scale pilot projects provided the required understanding on aspects of service design and sensible use of technology along with evidence on the clinical, organisational and economic benefits. This led to the creation of the Integrated Care Unit (IC-Unit) in 2007 in order to manage chronic patients through their adscription to integrated care pathways and in collaboration with other healthcare providers in the area. The limited portfolio of services provided by the IC-Unit in 2007, needed to be expanded to be able to transfer complex patient cases from hospital to primary care and to patients’ home. This implied additional challenges with regard to proper integration with community services and organisational issues that required investigation on barriers and facilitators for such collaboration.

This investigation was undertaken under the NEXES project (CIP-PSP program, grant agreement 225025) with a focus on four main services within this portfolio: wellness and rehabilitation (W&R), enhanced care (EC), home hospitalization (HH) and remote support to primary care for diagnosis and therapy (Support).

The project examined strategies for future extensive regional deployment and adoption of Integrated Care Services, particularly when delivered with supporting Information and Communication Technologies (ICS-ICT). The underlying hypothesis was that these services lead to better patients’ experience and clinical outcomes provided that optimal articulation of tasks across providers is achieved, notably by the sharing of redesigned care pathways. Additionally, by reducing the use of complex care resources, Integrated Care Services promote cost-effectiveness.

The participation of TICSalut, the governmental institutional caring for the deployment of technologies in the health domain in Catalonia, as a regular partner in the NEXES consortium testif ied the political support originally given to the project by the Catalan Department of Health. This was further strengthened by the collaboration obtained from the Catalan Agency for Health Information, Assessment and Quality (AIAQS) to support part of the evaluative and analytical work.

The fact that the investigation was deployed in the Eixample Esquerre area was also of relevance from the perspective of the Catalan Health Administration because this has traditionally been an area for piloting innovative health practices, to be later deployed at a larger scale.

Professionals from different providers were involved in the study and it was possible to allocate professionals’ time for the activities of the research. The local financial contribution to the project was 250.000 € per year during 4 years (1.0 million €).

The first pilot studies developed prior to the start of the NEXES project had created a small critical mass of relevant actors that were in favour of further developing the range of services available. This was the starting point for the creation of the network of stakeholders endorsed by the Catalan Health Authorities. Since the approach adopted in the investigation was a pre-commercial deployment one, the participating
stakeholders experienced real-life deployment of services. This experience and the positive results obtained became a powerful argument for their commitment towards a full deployment of the services in the area.

Again, a preceding technical solution had provided some experience in the supportive role of technology to enable integrated care services. Therefore, professionals’ attitude was already positive. However, there was a clear need to enrich many of the functionalities available along with rethinking the specifics of the care processes. This was addressed in parallel to the investigation following an incremental pace that proved to be sensible to accommodate the learning process of both professionals and patients. Additionally, during the investigation, the technological developments were consolidated in a complete commercial product currently being marketed under the brand Linkcare®.

The project collected valuable insights about the interplay between proprietary corporate HIS solutions and the need for information sharing / exchange to support integrated care. Neutral repositories (such as the Shared Medical Record in Catalonia) constitute interesting developments that trigger large scale adoption. Much of the seminal work to introduce the core concept around integrated care had been already carried out before the start of the project. This means that a set of champions already existed in most of the locations of the study. This facilitated a snowball effect for the larger deployment of services that the NEXES project contemplated in these locations.

At Hospital Clinic the favourable conditions in terms of support from political entities and other stakeholders have translated in the creation of a Directorate on Chronic Conditions that aims at developing and deploying integrated care services in collaboration with the local stakeholders.

**Our results:**

Coverage: Urban district of Barcelona known as Eixample Esquerre with a population of approximately 535,000 inhabitants.

Well-being and rehabilitation service: This ICS focused on ICT-ICS pulmonary rehabilitation targeting patients with COPD (173 patients) demonstrating long-term persistence of training-induced effects, enhanced health-related quality of life (SGRQ) and daily physical activity, not seen in controls after 22 months follow-up. These changes were not seen in the controls.

Home hospitalization service: Patients treated under this modality (2,500 patients) show similar/better clinical outcomes than those on conventional care but they have fewer emergency room visits during the 30 days-period after discharge (6% vs. 13%, for HH and controls respectively) and lower mortality during the episode of exacerbation (0.3 vs. 7%).

Enhanced care services: Main outcomes of the studies carried out in 950 chronic patients were: i) clinical efficacy and potential for cost-saving of the ICS-ICT for prevention of hospitalization in severely frail patients; ii) design of a family of four ICS-ICT covering the needs of frail patients (prevention of hospitalization; transitional care post-discharge; support of complex/frail patients in the community; and, palliative care); and, iii) identification of key factors determining success of the transfer of complexity to the community that is, workforce preparation and patient-stratification.

Support service: The availability of this service means that spirometries done in Primary Care reach a level of quality (75%) only slightly lower than the one observed in specialized laboratories. As a result patients’ follow-up at primary care achieves higher standards. The successful results of moving spirometry into pharmacy offices are a formidable step forward towards early detection of COPD at community level. A total of 7,000 patients were studied. Regional deployment is on-going in the Basque Country and being launched in Catalunya. The service shows high potential for transferability to other diagnostic procedures.

The combined effect of the Enhanced Care and Home Hospitalisation Services has been a decrease in the demand of beds for patients with severe episodes of exacerbation. This meant a decrease of 30% in the number of beds (8 beds) available at ward of the Pulmonary Medicine Department Ward for this type of patients.

The wellness & rehab service exemplifies the potential of this type of offering for physiotherapists or other actors in the sport & fitness sector. New business propositions, possibly under some type of public-private partnership, will be a reality in coming months. Similarly, the demonstration that pharmacy offices can incorporate spirometry in their commercial offer brings benefits to both patients (greater accessibility to early screening of respiratory conditions) and pharmacists (added value to their role as health actors, communication with primary / specialised care, attraction of new customers, etc.).

The greater importance of primary care and its leading role in ICS will favour the creation of new positions with specific skills in integrated care. Whereas, most of them will be covered by reallocating old staff, new contracts will be needed to face the growing demand. A comparable trend might be seen at hospital level form home hospitalisation type of services.
Of particular interest is the case of Linkcare®, the spin-off created on the grounds of the research work on integrated care at Hospital Clinic. Following the entry of a new investor in autumn 2012, the company is getting consolidated.

**Added value:**

The NEXES project was designed to explore the five factors classically recognized as barriers for deployment of ICS-ICT, namely: (1) lack of evidence of clinical benefits; (2) technological issues; (3) service reimbursement; (4) regulatory and ethical aspects; and (5) organizational factors.

The project consolidated the evidence on the clinical benefits of home hospitalisation and enhanced care when they were provided as mainstream integrated care services documenting the potential cost-effectiveness of ICS-ICT for the management of chronic patients with a wide spectrum of severity and co-morbidities. For the other two services investigated, wellness & rehab and support, the project generated new evidence at pilot level. The project emphasised the role of the ICT platform to support the delivery of care and the extensive deployment at regional/country level. The benefits of adopting an open source Health Information Sharing approach were recognized in contrast with a Health Information Exchange option, albeit a degree of coexistence could be a practical intermediate point in sites that are less mature from the organisational/legal perspective.

**Success factors:**

Challenges faced by the project were similar to those observed among European regions, despite the heterogeneities.

The effort must be set in deployment and validation of novel integrated care services (ICS) for chronic patients should be the core activity.

Information and Communication Technologies (ICT) play a pivotal role as enabling tool for the change but it is not the main driving force. Simple and robust technological solutions are preferable to ensure extensive adoption.

Collaboration among regions was considered a key element to analyse heterogeneities for efficient deployment.

**Barriers to innovation:**

Poor interoperability among providers’ Health Information Systems constituted a clear barrier for full deployment of ICS. The ICT approach adopted in the project established the basis for the change.

Slow implementation of changes in the reimbursement system to foster adoption. The business model proposed has triggered pilot experiences in this field.

Coexistence of competing dynamics: following the mandate of the health administration, the health sector where the services were deployed and investigated was undergoing important reorganisation during the study. This was a competing situation with the set-up and validation of the ICS by the highly motivated research team of professionals that were part of the project. Progressive convergence between these two dynamics was needed to get ready for extensive deployment scalability.

**Transferable elements:**

Professional role redesign: case manager as the lead for the different programmes. Train participants in the adequate skills.

Sustained leadership was crucial in our model; first, from a more scientific/clinical perspective; later from a managerial one.

Flexible pace of adoption is a sensible strategy to overcome contextual factors beyond our control.

An open ICT platform supporting organizational interoperability and collaborative work was an important – but not determinant – enabler of our implementation (no need to replace pre-existing proprietary Electronic Health Record / HIS).

Specific logistics must be in place to support the tasks involved in the program. In our case, the use of business process notation models was of help to identify and correct deficiencies.

**Lesson learnt and recommendations for others:**

Need to focus on efficiencies of novel integrated healthcare services rather than on implementation of ICT into traditional approaches.

Prioritize organizational and cultural aspects of the change taking into account that healthcare is a complex system. A building blocks strategy is highly advised. They may be need for novel and flexible bodies that could be more effective in promoting the change and fostering deployment of ICS.

Use simple and robust technologies with particular attention on interoperability at health system level.

Implement/develop appropriate tools for continuous assessment of the deployment experience.

Support and incentive the change consolidating an appropriate business model.
**Good Practice:**

**MECASS – Collaborative model between health and social care (GP3)**

**Reference Site:**

TicSalut/InnohealthHub, Catalunya

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**Short description of your good practice:**

MECASS is a project that seeks to put in place an integrated, patient-centred, care model, based on coordination, collaboration and continuity of care. It is developing collaborative model between health and social care for chronic diseases patients, which will be deployed for selected areas/patients.

**Partners in the coalition:**

Department of Health (Government of Catalonia), TicSalut Foundation, IBM, Catalan Health Institute (ICS)

**Start date:** 2013  
**Project duration:** 4 years

**How we did it:**

The public healthcare provider in Catalonia, which manages 80% of primary care and 20% of acute care, needed an integration model to enhance collaboration among primary, acute and social care. According to the clinical needs a technological solution was searched, looking for a patient centred solution.

The initial pilot started in 2013 and it has allowed the Health ICT coordinator to identify the model created under MECASS as a service to scale up at regional level.

A shared risk model (PPP) was established between the healthcare provider (ICS) and the IT provider (IBM). Both organisations facilitated human resources to develop the platform that allowed the objectives. An approximate amount of 500,000€ have been invested to generate the platform during a year of work.
The technical integration between the IT systems from different healthcare providers (Primary & Acute care) has been achieved during the first stage pilot.

**Our results:**

Coverage: since October 2013, 400 complex chronic patients have been involved in the program, defining a common intervention plan, with the aim to cover the whole population of complex chronic patients in Catalunya by 2016.

An initial assessment of the data collected during the initial pilot phase is being performed at the moment. Therefore, no final data is available:
- Expected results: 5% decrease in avoidable admissions, 15% decrease in readmissions.
- Expected results: 25% decrease in costs, 30% increase in resource efficiency.
- Further inputs are needed to obtain proper outcomes in this area.

**Added value:**

Through standardizing care processes and integrated care organization, the project is expected to achieve a better quality of life for the patients and better health outcomes. In addition, sharing information will allow improved efficiency making the system more sustainable by avoiding duplication of tests.

The main innovations are:
- Common functioning model for chronic disease patients, both functional and technical
- Transversal clinical pathways through different healthcare levels and global patient treatment
- Putting in place IT tools that will allow for a holistic vision of the patient throughout the healthcare organizations; to implement a case management tool that supports the model; and to include interoperability and analytic capabilities within the solution.

**Success factors:**

- Clinician collaboration, a bottom-up approach
- System interoperability and standardisation
- Organisational processes, both clinical and administrative, have to be clearly defined and shared among stakeholders

**Barriers to innovation:**

- Cultural bottlenecks: the different organizational levels are not used to working in collaborative network.
- Technological bottlenecks: organizations working with different medical records.

To overcome the bottlenecks the project has worked on a strategy based on the following elements:
- Defining a common functioning model for chronic disease patients
- Select the deployment of the new model (target territories, type of patient, etc.)
- Create alternative units to treat the patient instead of the traditional units (A&E units)
- Transversal clinical pathways through different healthcare levels and global patient treatment.
- Put in place the needed ICT tools.

**Transferable elements:**

- Common intervention plan, shared among all the health and social care professionals;
- Definition of both, clinical and technical standards, to share relevant information among all the players;
- The platform developed that allows the holistic vision on patients.

**Lesson learnt and recommendations for others:**

- All providers’ infrastructures should be integrated in a transparent manner, allowing the professionals to work with all the information on a platform.
- Organizational strategies should be aligned to permit a collaborative approach.
- When a patient-centric approach was taken, the expected barriers for collaboration, or to reach agreements among all involved clinical and social professionals were in the end not experienced.
**Key data:**

### Beveridge

(public provision and public insurance)

no gate-keeping and ample choice of providers for users

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Good Practice:
IANUS: electronical medical records (GP1)

Reference Site:
Galicia

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Short description of your good practice:
The implementation of an electronic medical history system is one of the strategic axes which has been agreed upon by the Health Ministry and the autonomous communities in general. IANUS is a powerful and effective tool for managing clinical information through a web application. Thanks to a single shared medical history, the quality of integrated primary and specialised care in any SERGA centre has improved and a minimisation of tests observed. The clinical information, including images, is available in an integrated, simple way by bundling the clinical information. This information is completely accessible to authorized healthcare professionals. As a result, the implementation of this system improves patient safety, allows for better diagnosis and for tailored and individualized treatments.

Partners in the coalition:
Collaboration between the health service and the EMR with external agents of the National Health System allows them to receive information from other regions. At a local level, the cooperation with services like 061 (emergency response service) and diverse residential centres that focus on socio-sanitary care or private centres, allow the collection of a large amount of information about patient care processes.

Start date: 2003
Project duration: Ongoing

How we did it:
Good Practice:
The advantage of having an electronic clinical history is that it substitutes paper. It started its implementation in the Galician Health Service hospital network and then moved on to primary care. The ease of implementation is due to the existence of a well-defined IT policy since 1995 that promoted homogenous information systems throughout the organization. All hospitals have deployed the same Hospital Information System, Radiology Information System, etc, and these systems are bind to the Unique Identifier for Patients. It was also necessary to incorporate policies for medical equipment purchase processes that would allow the integration of information in a digital medical record system as certain aspects and processes of the EMR were not directly related to patient care.

Political support:
IANUS, the Electronic clinical history full deployment is one of the strategic objectives that the Health Public Service in Galicia should achieve to improve communication within its health system. It is an essential patient information communication tool to achieve an optimal and necessary cooperation between the different levels of health services and patient-centred teams. This objective is included in the document entitled “SERGAS 2014 strategy, the Public Health service centres in the patient”, that addresses health policy from the SERGAS board and is supported by the Galician Government.

Financial support:
The estimated investment on EMR (including ePrescription and health card patient ID Systems) is 17,7 M€
ERDF Co-funded investment: 18%
There is buy-in from required stakeholders.

The process for implementing the EMR relies on a large number of partners who are interested in joining this initiative as it eases the work and will improve patient care and assistance. The work of more than 20.000 internal and external professionals has been affected, leading to a certain number of improvements which will facilitate their daily tasks. These professionals, from all
over the region, will benefit themselves because their work will be expedited.

Regarding citizens, all the Galician population will benefit from these advancements. They will be facilitated with access to their medical records; they can have a consultation without having to go to a medical centre. Investments have been made in order to adapt the structures, homogenize the system, and train the users (16,000 hours of training) and structure communication processes and management.

Implementation of the technical solution
Implementing the EMR system has required profound changes in the way professionals work. Furthermore, it was technologically challenging to provide the information efficiently because of the number of connections and integrations with other systems. To solve these barriers, integration standards such as HL7 or IHE, and other technologies such as XML, Web Services and SOA have been used. Speech recognition has also been included as an additional way to incorporate clinical information in a user-friendly way. Information security has been a critical issue, and it has been addressed from the beginning of the project. From its initial design, IANUS incorporates a digital signature for each professional based on a smartcard with a personal digital certificate. Another security key feature is the ability to control and monitor the relationship between the professional and the patient being accessed, whereby the relationship is verified before the professional can access any data related to a patient. Furthermore, registration of all accesses of each user to any patient data is made. This registration allows an exhaustive tracking of all security issues regarding privacy. Another basic function of IANUS is its file on information regarding medical history. The information has been improved by using coded information. Diagnosis, symptoms and treatments are introduced using a CIAP-2 coding which allows the exploitation of information. For example, information analysis can be performed on prescriptions and to identify incorrect treatments.

Given the technology dependence of all these final users, a star-shaped network was created, which is linking major hospitals with the SERGAS hub in Santiago de Compostela and health care centres with a hospital. Continuous investment in computers and network infrastructure and software will be essential to allow for scale up. A monitoring system platform has been put into action in order to supervise the entire system and prevent system failures or slow performance.

In order to give a patient access to IANUS from their home, the use of mobile devices through the hospitals’ home services is being used.

Implementation of change management
IANUS has changed a huge number of processes in the entire healthcare chain and has acquired new tools and new ways of working. To ease the introduction of new technologies, user training and a strong helpdesk to provide user support was provided. In return, the users obtained a number of advantages vis-a-vis quality, safety and care efficiency, and the preservation and use of data, which has favoured the receptivity from professionals and patients to change. To govern the process, managers were informed monthly on the progress of deployment and system use through meaningful indicators.

Our results:
In 2012, out of a population of 2,781,498 people in Galicia, IANUS is accessible by internet to 18,000 Galician Health Service System users, 2,700,000 patients and indirectly 5,000 pharmacists in pharmacies. Currently 100% of health centres and hospitals of Galicia and 100% of pharmacies are connected.

• It is easier for practitioners to request diagnostic tests.
• Availability of a larger amount of information which is relevant for decision making.
• Greater integration of the care processes, specifically, improving the continuity of patient care between primary care and specialized hospital care also when different hospitals are involved.
• Better information to citizens and access of citizens to the basic information in their own medical records by using their national identification number on the internet.
• Elimination of errors in the interpretation of medication or the applicable doses since the information is mechanized and perfectly legible.
• A 19% reduction in the number of patients waiting for their first appointment.

The electronic prescription reduced primary care consultations by 10% of 2,500,000 consultations as well as a 4% reduction in ER visits in the last year for all of SERGAS. A 75% saving in costs associated with the elimination of the film used in medical imaging and a reduction in the risk of fire in electronic devices has been achieved.

The total investment from directly hiring publicly for development and implementation was 17 M€ (2005-2012), SERGAS has also invested another 2 M€ in the health care system. Indirect investment was generated for connecting 1,300 pharmacy offices to the network. New business models and services have been opened. Paper records have been digitalized.

Added value:
Through IANUS, electronic prescriptions and dispensation of all medication throughout all of the Galician Public Health System is guaranteed. All the community pharmacies are connected to IANUS for dispensations. This is a major benefit for the population, mainly for the elderly population, as this allows a unique
and extraordinary comprehensive amount of information on pharmacotherapy resource consumption, adherence to treatment, drug interactions and even gives the possibility to stratify the population. In addition, IANUS covers the supply and the pharmacotherapeutic care to over 8,000 patients in nursing homes, which is done from the hospital pharmacy service. Moreover, IANUS allows effective and efficient management of the patient care program for poly-pharmacy patients of Galicia.

**Success factors:**

Steps have been taken in order to expand the EMR relations with different systems and professional fields. Electronic health records permit pharmacotherapeutic care to patients from different socio-sanitary residences in the system; it works with 061 emergency services information response systems, and; it serves as a support platform for pharmaceutical professionals. Furthermore, the EMR is connected to the National Health System, which receives information from different Spanish regions. Earlier this year (2013) autonomous communities will proceed to be able to access medical records via the Ministry of Health’s platform and the information generated by Galicia will be sent to other regions. The electronic management of tele-consultations and diagnostic tests will be implemented in the next stages, facilitating non-face-to-face consultation and it will proceed to complete the digitization of existing paper records.

**Barriers to innovation:**

- Rejection from users due to network failures or a slow system
- Difficulty for users to enter information into the system in a simple way
- Need to have medical equipment that allows the integration of information in a digital medical record system

**Transferable elements:**

- Primary, secondary and tertiary care using the same EMR system
- Electronic prescription fully integrated with Pharmacies
- Patients accessing EMR information

**Lesson learnt and recommendations for others:**

Let users participate in the definition and development of the solution.

Continuously provide information about the global priorities through roadmaps and next steps in the project.

In order to ensure success of the implementation, it is necessary to have political support and to involve the user. Therefore, it is important that they understand the benefits to be obtained with the change.

The EMR is a horizontal application, so it affects many aspects and processes not directly related to patient care. One notable example is the need for medical equipment that enables the integration of a digital form. For this reason, by using IANUS, information can be downloaded even if the equipment is not integrated.
**Good Practice:**

Innovation Programmes “Innova Saude” and “Hospital 2050” based on precommercial procurement practices (GP2)

**Reference Site:**

Galicia

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**Short description of your good practice:**

Main objectives of these Innovation Plans are:
- **PATIENT-CENTRED** Healthcare: Developing new off-shore tools (i.e. tele-health, tele-monitoring, 2.0 websites for patients etc.) in order to avoid unnecessary admissions and overwhelming of hospital services while at the same time favouring fast communication and access.
- **SAFE AND FAST** Healthcare: Reduce professional human mistakes as much as possible by developing intelligent information and communication systems.
- **INTELLIGENT** Healthcare: Changes in healthcare structure in order to ensure an optimal delivery of quality and safe services.
- **PROMOTE** INNOVATION IN HEALTHCARE. Projects aimed to transform health service models. NEEDS -> SOLUTIONS -> RESULTS
- **LEVERAGE** INDUSTRIAL COMPETITIVENESS by using regional healthcare potentials
- **INTERNATIONALIZATION** of new models and products
- **PROMOTE AND CONSOLIDATE** INNOVATIVE PUBLIC PROCUREMENT

**Partners in the coalition:**

These two Innovation Plans go hand in hand with innovation European Union policies (Europe 2020: smart, sustainable and inclusive growth) and with national ones promoted by the Ministry of Economy and Competitiveness (formerly Ministry of Science and Innovation). The Plans are fully aligned with the Spanish National Innovation Strategy (e2i), whose second priority hub called 'fostering innovation from the side of public demand' identifies health and healthcare economy, including healthcare and wellness social services as the main innovative market. In Galicia, the Plans also support the Galician Research, R&D and Growth Plan 2011-2015 (I2C).

These two Plans have been conceived from the start on the internationalization of the solutions generated focusing the European and international market and are being promoted in several EU initiatives and forums (EIP, EHTEL, DG SANCO collaboration, DG Connect Collaboration).

SERGAS is engaged in the European Commission’s European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) in the B3 Action Group on Integrated Care as well as the A3 Action Group on Prevention of Frailty.

We collaborate with several European regions through the project United4health (ICT-PSP 2012) and we try to collaborate in the rest of the projects submitted and other initiatives linked to FP7 and CIP projects.

**Start date:** 2011

**Project duration:** 2015

**How we did it:**

The H2050 and Innova-saúde are two strategic actions of the Galician Government. These two Health Care Innovation Plans contain, respectively, 9 and 14 strategic innovation projects. The 23 lines that will be developed inside “Innova Saúde” and “Hospital 2050” are changing the way services are provided in a network of hospitals.

The development of Hospital 2050 and Innova-saúde projects is to achieve innovation in health around the ‘hospital of the future’ vis-a-vis a new structural and functional design. ERDF funding and introducing Public Purchase of Innovation models to foster the development and demonstration of new solutions is being deployed.

H2050 project’s aim is to develop a future hospital that is efficient in the management of its resources; safe for patients, professionals and citizens; respectful with the environment, and; and adapted to new technologies with a patient-focus.

Innova-saúde project’s aim is to transform the healthcare model towards a new model that is patient-centred taking into account his/her needs, safe and easy, smart and making the health sector an engine of socioeconomic development.

The SERGAS innovation model has been approved and supported by the Spanish Health Ministry through the "national health innovation platform” initiative, in which SERGAS has been a former participant and is actively
collaborating. Also the Spanish “Economy and Competitiveness Ministry” is promoting Innová Saúde and H2050 projects as a reference in the innovation public purchase model.

An investment of over 90M€, to be implemented from November 2011 to 2015 and co-funded by ERDF, has been made. They are included in the OP R&D and Innovation, by and for the benefit of businesses and the Technology Fund 2007-2013 promoted by the Spanish National Ministry of Economy and Competitiveness.

Such huge initiatives require a high number of stakeholders to be engaged and aligned around the objectives and to be concerned on the risks and key points of success. The projects are built on the direct collaboration of professionals from Primary Care and Hospitals. SERGAS’ main board is the prime supporter of these two innovation projects. Managers of hospitals were also promptly informed and involved while their support was required to be able to incorporate up to 224 health professionals and several patients to the working groups that defined and lead the innovative solutions.

Legal, Human Resources, and Economical departments have also been engaged by incorporating representatives of these units to the steering board of the projects.

External stakeholders were continuously informed of the initiatives through the SERGAS web-site and by participating in meetings and workshops. A technical dialogue was implemented through an open call for innovative solutions that could be incorporated into the projects. More than 100 companies and R&D centres sent their proposals and ideas to collaborate.

Finally, direct collaboration from companies is reached through public procurement purchase: investments in equipment and infrastructure supply and development of technological developments and process improvements.

The Galician Healthcare Service has been incorporating new models, mainly by introducing technologies and tools to support organizational changes: Electronic Health record, ePrescription or Digital imaging provide successful experiences that have provided and are currently providing benefits for quality and sustainability of health services.

Innovation processes and systems of health services are based on 3 stages: R&D and innovation Projects, Pilot Projects that are directly deployed into the hospitals for evaluation and finally, after innovation projects have developed successful solutions, a full deployment will be carried out in the whole organization.

SERGAS defined a new model for the exploitation of developments’ results and obtained within the H2050 and Innová Saúde projects that include all or some of the following possibilities: demonstration Centre within SERGAS, IP of the enterprise, possibility of commercialization of the solution for the enterprise, rights of free use for SERGAS, rights of further development and improvement within SERGAS and return for SERGAS as a function of commercialization.

The projects are defined in an agreement with the Ministry of Economy funded with Regional Development Funds, within the Operational R&D Plan – Technological Fund 2007-2013. Management was implemented by designing a specific model for projects, twenty-three technical working groups and a specific management group involving all departments (finance, procurement, human resources) of the organization in the execution of the projects.

Our results:

In Galicia, the population over 65 years old reaches 23%, and is expected to reach 33% by 2050, so the new model of social and health system is focused on active and healthy ageing and independent living.

The acute-ill patients’ model of medicine has gone further in the last decades towards a model of medicine focused on ageing and chronic patients, who need continuum of care. INNOVA-Saúde healthcare services will follow this trend developing new offshore tools (tele-health, tele-monitoring, 2.0 websites for patients, etc.) in order to avoid overwhelming hospital services while ensuring fast communication and access.

These plans have been approved by SERGAS and the Regional Government’s main board as the strategic tools to move forward to a sustainable model and they are fully supported by Government policies.

Furthermore, SERGAS has reached a great deployment level on information and communication systems (ICT). The SERGAS web-site receives more than 6 million annual visits. It has developed an universal digital health card, its own medical history digital system (IÁNUS) to provide service to more than 96% of professionals. The electronic prescription system (e-receita) is used in 97% of prescriptions. 19,857 professionals have participated in the 722 courses offered by the e-learning platform. A virtual library consists of 103,583 entries and a tele-medicine platform had 382 consultations in 2009. More than 14 network services for citizens (i.e. primary and specialised healthcare appointments, checking of waiting lists and clinical history) are available.

Due to the above-mentioned actions, the quality of healthcare will improve and more than 2,700,000 citizens’ will benefit in the near future. By the end of 2015, 15% of the Galician population over 65 years old will benefit.

Benefits to the health status and quality of life of the local population will be achieved through enhanced patient training and education. Patients will be empowered and motivated and fewer adverse reactions
or complications will be observed as will fewer unnecessary doctor's appointments and re-admissions.

In order to maintain high quality health services in a context of economic austerity, health organizations must manage the introduction of new models to achieve useful results, promote prevention of illness and healthy lifestyles, and adopt services focused on the user that ease self-care activities and empowerment.

The projects in question will have a positive direct impact on the quality, effectiveness and efficiency of the healthcare sector. This impact is linked to the capacity of the healthcare system to add and manage the successful results of its Innovation Plans towards a more efficient model geared for an ageing population and an increasing number of chronic patients. Including an users-centred integral management system of these innovative initiatives will change professionals' and patients' role.

Under the H2050 projects, the “Self-sustainable Hospital” is oriented towards efficient energy supply and consumption. Hospital 2050 will be environmentally friendly by using clean energies to develop the new model of the Self-sustainable Hospital.

Control and management of energy in hospitals is one of the main goals of H2050. The objective of the project is to define the ideal energy model among a wide range of technologies in the market in order to select the most advantageous one for a hospital. In particular, it will be important to know the ideal energy model for a hospital, optimize the return on market investment and add the latest technological innovations in the market.

Health sector revitalization and promotion is expected through technological and market value generation and the management of innovative solutions by means of innovative purchase. Collaborative framework and participation of consortiums will make participants more competitive.

Healthcare administration, contrary to other administrations, also represents the healthcare sector. Like this, it plays a double role in relation with the business sector - as administrator and client. This means that INNOVA-Saúde promoted by the Galician Healthcare System (Servizo Galego de Saúde - SERGAS) will be a much greater business “driving” force than any other actions of the public administration. Furthermore, the fact that these innovation plans focus on solving real problems of the healthcare sector ensures its value generation.

The healthcare market is a global one since all the developed healthcare systems in the world share the same problems and needs for a model change. The results obtained in these Plans will allow participants to compete worldwide with cutting-edge products and services.

Economic impact and generation of employment in Galicia will be two of the priorities of the Projects that enable retaining and attracting talent of different profiles to several locations. The Projects’ challenge is to turn the Galician healthcare sector into a socio-economic engine for the Region of Galicia.

Added value:

The main added value is the cultural change in the public sector establishing an open innovation model among the different healthcare agents of the Region of Galicia. Practitioners and patients are the key elements, participating in the definition of plans in their development and evaluation.

A new model is achieved between the public administration, private companies and research centers to foster innovation and competitiveness, through the Public Procurement of Innovation (PPI).

The process of Innovative Public Procurement within the framework of H2050 and Innova Saúde projects was instrumentalized through an open call for proposals for innovative solutions. These innovative solutions are the basis of the model change.

Success factors:

The promotion of an innovative culture in the organization and a relationship with innovation agents allowing for input from technology centers, innovative companies and professionals.

Commitment of the management team in the process and project coordination by an organism with capacity to take decisions on behalf of all stakeholders.

A multidisciplinary team in the organization specialized in the innovation projects’ management that involves all departments (finance, procurement, technical) in the execution of the projects.

The existence of mechanisms to identify needs, opportunities and knowledge of agents in the system (Health Innovation Platform). The Health Innovation Platform is the unit managing the process of innovation of the organization and the model of open innovation that guarantees the fluent relation with all actors of health innovation: R&D Centers, Clusters of private companies, etc. This unit intends to implement across the organization local experiences with great impact on the efficiency and sustainability of the Health System Galician.

Support for health research foundations through the PCP (pre-commercial procurement) to value R&D results for transfer to market.
Barriers to innovation:

Initial resistance to change in some departments of the organization were observed. The solution was to create teams and involve them in the preparation and execution of the projects encouraging process change, and giving mechanisms to system professionals to generate ideas for innovation projects.

Distrust of companies to co-design with the SERGAS and implement the Public Procurement of Innovation. The solution was to facilitate citizen co-innovation through celebration of technical seminars of the Innovative Public Procurement.

Lack of cooperation and communication between the different actors involved in the innovation chain (academia, industry, technology centers and administrations). The solution was to provide a forum where all the actors involved in the innovation cycle are represented and can cooperate.

Users are not sufficiently engaged in the development of innovative solutions. In this model, patients and professionals are the key players, participating in the planning, execution and evaluation phase of the projects.

Difficulty in accessing innovative financing. The solution was to use ERDF funds for innovation projects through Innovation Public Procurement.

Difficulty in using appropriate methodologies for evaluating health impact and cost and legislation (i.e. data protection, intellectual property, patents). The solution was to ask for help from external companies specialized in health evaluation and analysis of the legal framework in Spain (State Innovation Strategy E2I, Sustainable Economy Law, National strategy for science and technology (enacyt), Law on Science, Technology and Innovation Agreement of July 8, 2011).

Transferable elements:

The main strengths of Innova Saúde/H2050 plans towards a scaling-up strategy are:

Target ERDF funds for innovation projects and generate value from the public sector.

Establish an open innovation model among the different healthcare agents of our Region that will enable knowledge enhancement, capacities and potentials.

Define a new relationship between the public administration, private companies and research centers to foster innovation and competitiveness.

Consolidate, through the Public Innovative Purchase, an Innovation Policy tool focused on bolstering the innovation and the internationalization by the coordination and strengthening of the technological demand. The PPI will be the engine which will push the health innovation and the generation of new goods and services with which the entrepreneurial sector will be able to compete in on an international level.

Find systematically and plan carefully innovative solutions to respond to challenges: current and future requirements of healthcare systems.

Manage results from the beginning of the project in order to ensure its final implementation and guarantee that solutions will benefit the greatest number of patients, not ending with a pilot test.

Develop business models to make the best use of generated products and services in the frame of collaborative projects being carried out. Bring together complementary companies from different fields around high-valued health innovation Plans which allow the opening of new business lines and the entry into new markets. Positive results of these projects will be promoted to all 450 primary care and 14 Healthcare secondary and tertiary centres of the SERGAS and other European Healthcare services, through participation in several EU initiatives like EIP on AHA, CIP projects for healthcare (United4Health).

Lesson learnt and recommendations for others:

- Mobilize resources and dedicate more time in the design phase of a project in order to ensure a faster implementation and execution.
- The importance of the project manager and results orientation.
- Model based on demand: the user’s characteristics, needs, requirements and ideas are used to steer the innovation process.
- Patient involvement in the planning, execution and evaluation phase of the projects.
- Foster willingness to collaborate and innovation capacity of companies. SERGAS acts as a reference client for local companies.
- Formal recognition of the professionals’ participation in the organization and linking the merits of Human Resources procedure.
- SERGAS acts as a reference client for local companies with this model.

More information:

Support for health research foundations through the CPP to value R & D results for transfer to market.
### Key data:

#### Spain health system

- **51 - Beveridge**  
- *(public provision and public insurance)*  
- *non-state keeping and ample choice of providers for users*

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Good Practice:

Program of comprehensive and coordinated care for older in- and outpatients (GP1)

Reference Site:

Region Madrid Consejera de sanidad Hospital Universitario de Getafe

Contact information:

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Short description of your good practice:

This comprehensive approach, centered in the patient not in the disease, put the focus in maintaining the highest autonomy of the patient and has two main components: for people admitted to the hospital and for people at home (after discharge or people at risk detected by Primary care or Social Services). 1) The first one is based on a) periodic meetings of the teams to assure that patient is allocated in the best place for care in each phase of the diseases/conditions and that he/she has full access to all the facilities provided in our Department, b) These meetings are scheduled and are both face (to coordinate care of patients at our Hospital) or virtual (by means of Telemedicine, to coordinate care with other Hospital that attend patients living in our area). c) Before discharge, we make a last assessment about the conditions of the patient to assure a safe come back to his/her usual setting, giving the needed information to Primary care team. This part of the process works like a bridge between in-hospital care and out-hospital care. 2) Follow-up of the patient at home or residential care: we have developed several strategies, including direct follow-up of the patient (patients at risk are identified during their admission), follow-up in close collaboration with Primary Care, scheduled visits to all the Health Centers and Nursing Homes of the area where the professionals could ask about patients, open line of phone calls with the patients. Recently, we have incorporated technological and ICT devices to improved monitoring of the patients: Access by WiFi to the clinical record of the patient, Apps based follow-up of patients with Heart failure

Partners in the coalition:

Our “good practice” is based on the coalition of local stakeholders, as one of the major achievements of our model is the proximity of the care provided. Our local coalition is composed by public health facilities (hospital-based and Primary Care), social care (both public and private), local authorities and representatives of older people. Actually, we have established collaboration with The Universidad Politécnica de Madrid and Universidad de Coimbra, Hewlett Packard Ireland, NetSmart SA and three other hospitals from UK, Italy and Germany with the aim of improving this continuity of care.

Start date:

This is a practice implemented ten years ago. During this period it has been adjusted and modified little by little according to the new standards of care and new clinical research findings. With all these developments, it is still used as a general practice in our setting.

Project duration:

Not applicable. This “Best Practice” is a model of care and its duration is not restricted to a temporal framework, as it has changed along the time to adapt to the changing needs and conditions of the context

How we did it:

It started as a way of proceeding to ensure the continuum of care and the coordination between all partners included in the medical assistance of elderly people. Gradually small adjustments were made for covering all needs of care.
This procedure is included in the service program offered by the Public Health System in Region de Madrid.

It is an official procedure included in the general budget of the Hospitals at the Region de Madrid.

Although initially designed by the Department of Geriatrics, several parts of the program have been developed in agreement with other stakeholders, including Social services and Primary care. Maintaining the cooperation with these other stakeholders is of outstanding relevance to provide a timely and sensible service. For implementing technical solutions, we have used several sources of funding (including those coming from research projects).

The main changes were implemented after a discussion in-depth with the members of the Department of Geriatrics and with the agreement of other stakeholders. A permanent assessment of the results and the procedures is needed because this practice is in permanent evolution along the time.

**Our results:**

We have a reduced length of stay in the Acute Care Unit as compared with other Departments attending patients with a similar case-mix (6.8 days vs 9.1) without increasing mortality or re-admissions but decreasing their functional impairment during the stay, we have decreased the time to surgery, decreased the need for transfusion and the surgical complications in patients with hip fracture and increase the rehabilitation and the secondary prevention for new fractures in these same patients, we have increased the number of patients attended at Day Hospital and the number of sessions/patient by the implementation of programs fitted to the needs of the patient and a better coordination with other levels of care, increasing the percentage of the patients showing functional gaining after their stay, we have decreased the number of inappropriate admissions (around 400 per year) thanks to the coordination between the Emergency Room, liaison team, Community Care team, Primary care and Residential Homes, we have provided at home long-term care (giving them support to stay at home instead of living in institutions) to more than 1,500 patients/yr.

Reducing length of stay for patients with similar case-mix in 2 days per admission episode means around 1,000 €/patient; in this same regard to avoid 400 inappropriate admissions means to avoid near 3000 hospital stays, saving 1.5 M€, put the focus in reducing disability means a reduction of the annual costs of patient surrounding 4000-9000 € (Oliva et al., 2010), to avoid delays in surgery of the hip fracture save costs (Shabath et al., 2003), to increase the rehabilitation sessions in patients after the hip fracture during hospitalization means a better functional status at discharge that means a lower rate of utilization of health and social resources.

Impact on employment: several new jobs have directly created. In detail, 2 new geriatricians are working at our Department, 1 Nurse, 1 Clinical Pharmacologist, and 1 Occupational Therapist have been also newly employed. Additionally 4 new indirect full employments have been created at the Research Foundation, to support research activities related to this initiative.

Impact on competitiveness: Our competitiveness is illustrated by the data shown about increased efficiency of this model as compared with other models of care. In addition, we have developed several initiatives of innovation that have attracted to other potential partners, including Private Companies from different sector (ICTs, biotechnology, innovation, mass media), located in Madrid region, other Spanish Regions and in other countries of the European Union (SMEs like Saludnova, LifeLength, IDETRA, Genomic Systems, Everycte, YouHealth, Mosaiques, etc, but also big enterprises like Hewlett Packard Ireland).

**Added value:**

Main beneficiaries of this action are the elderly. This action is really innovative because of the implementation of the products, tools, services and processes needed to improve the care provided to the older people with falls and fractures leading to a true social innovation. The complete evaluation is made systematically in the same day by health practitioners specially trained in this assessment. This improves the quality of the intervention with a most accuracy results in a really short period of time.

**Success factors:**

The collaboration between different stakeholders is essential for getting an outstanding level of care. Specially trained personnel in continuity care and geriatric medicine also is needed.

**Transferable elements:**

The structure of the system consists in five core organizational principles with additional “optional” components. Being the core component a “way to do the things” instead of instruments or devices allows to expand the model to different settings. This core component is composed by the practice of Comprehensive Geriatric Assessment (CGA) that includes an evaluation of frailty, coordination with Primary and Social care, integrated and continued care, access to rehabilitation facilities, and management of drug treatment avoiding poly-pharmacy and stressing adherence. Saving its core component, you can select the components best fitted to your needs or to your budget. Although the whole system embraces several parts, you can decide of implement a few of them. You can also introduce some functional changes according to the characteristics of your organization. This has been the case inside our region, where the way to provide “at home” care vary among different hospitals. Similarly the use of telemedicine and ICTs vary among different teams in the region.
Lesson learnt and recommendations for others:

It is of main importance to work jointly with the main stakeholders involved to avoid delays due to misunderstanding or a lack of coordination.

Good Practice:

The Falls and Fractures Clinic (an integrated care for older people with or at risk of falls and fractures) (GP2)

Reference Site:

Region Madrid Consejera de sanidad Hospital Universitario de Getafe

Contact information:

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28905-GETAFE, MADRID SPAIN
Leocadio.rodriguez@salud.madrid.org

Short description of your good practice:

The objectives of the Falls and Fractures Clinic are:
1- Assess the risk of falls and fractures by a systematic approach in all subjects at risk for developing personal multicomponent strategies, for preventing falls and fractures in a sustainable way (Objective 3 & 5 of A2 Action Plan).
2- Treat the patients with falls and fractures requiring or not hospital care ensuring appropriate rehabilitation programs in a sustainable way (Objective 4 & 5 of A2 Action Plan).
3- To became the ideal setting for researching (to develop and validate assessment tools, intervention models of care, pharmacological treatments, etc) and for providing specialized training in falls and fractures for health workers (Objective 6 of A2 Action Plan).

Partners in the coalition:

Different stakeholders are already involved. In first term doctors (geriatricians, orthopedics, neurologists...), nurses and occupational therapists collaborate daily in the clinic work. Some industrial sectors like pharmaceuticals, exercise devices and measure machines (posturography, dynamometer, gaitRite...) are involved with us in this moment. We are working actually with some pharmaceuticals (MSD, Lilly...) for establishing a stronger relationship because of our capability to participate in RCTs (In the Geriatrics Department some colleagues are leading a Center for Clinical Research in Older People). We work with Universidad Publica de Navarra, especially with Prof. Mikel Izquierdo, Full Professor of Physiotherapy and Biomechanics in Physical Activity.

Start date: 2009
Project duration: Not applicable. This “Best Practice” is a model of care and its duration is not restricted to a temporal framework, as it has grown along the time for covering all needs of patients with falls and fractures.

How we did it:

We started with the Orthogeriatric Unit, where hip fracture patients are admitted; the aim of this unit is to reduce medical complications and get a full functional recovery. This component of the Falls and fractures clinic is the easiest to be implemented in our setting. After that (1 year and a half), we launched the Falls clinic, integrated with a previous resource (the Day Hospital), where patients are included in exercise programs designed to improve strength, balance and gait. All the clinical procedures are performed by protocols adjusted to the evidence. Currently, falls unit performs clinical activity, clinical research and training in assessment of falls risk of health personnel.

It is now part of the facilities provided by the Hospital Universitario de Getafe (Madrid).

It is an official procedure included in the general budget of the Hospitals at the Region de Madrid. To get it going, we redistributed the available resources (human and material) in the Geriatrics Department. The technology required for the development of this unit was achieved with research fund.

After a careful study of other Falls and Fractures Clinic (especially Nepean Geriatric Department), we designed the procedures and proceedings. Technical solution (dynamometer, posturography, gait rite, DEXA) is integrated in routine procedures for diagnosis and monitoring the risk of falling. We have used several sources of funding (including those coming from research projects) to buy the different diagnostic and therapeutic instruments.

Up to now, the main changes are the continued implementation of services to reach a “continuum” in the diagnosis and treatment of patients with falls and fractures. After this, we remain rather stable although we have had some minimal adjustments based on our own experience. For improving this action, actually, we are assessing the database of the orthogeriatrics unit and in the next month we will assess the first set of data from 500 patients attended at the Falls Clinic.

Our results:

About 500 patients a year was evaluated since 2010 (125 in the orthogeriatric unit and 375 at the falls clinic).

In Orthogeriatric Unit, since its implementation, the average of stay of patients over 75 years with proximal femur neck fracture has become from 12.4 days in 2009 to 9.7 in 2012. The waiting time to surgery (important prognostic marker) has become from 5.1 days to 3.2. The mayor complications rate, responsible of these times has decreased. All patients received during admission a nutritional evaluation and all of them are discharged with antosteoporosis treatment and with a personal plan of recovery function.

Orthogeriatric Unit: it has decreased the average stay more than two days per patient. Considering that the cost of hospital stay is over 400 Euros per day, we calculate (underestimating): 2days x 400euros x 150 patients per year = 120000euros minus.

Impact on employment: the launching of the Falls and Fractures Unit has generated 1 half-time geriatrician job.

Impact on competitiveness: Our competitiveness is illustrated by the data shown about increased efficiency of this model as compared with other models of care. The reduction in the time waiting for surgery in the patients with hip fracture, the decrease in length-stay, the improvement in functional status at discharge are good examples of improved quality, that it is to say improved competitiveness. In addition, we have developed several initiatives of innovation, including the implementation of new protocols that have attracted other partners.

Impact on market growth: Our Falls and Fracture Clinics has attracted the attention of both Public Hospitals (Hospital de Albacete) and private Health services provider (SANITAS), that, after visiting our Clinic and knowing our protocols of working and the impact on the patients, have decided to prepare a Plan of Implementation under our tutorial.

Added value:

Main benefactors of this action are the elderly. This action is really innovative because of the implementation of the products, tools, services and processes needed to improve the care provided to the older people with falls and fractures leading to a true social innovation. The complete evaluation is made systematically in the same day by health practitioners specially trained in this assessment. This improves the quality of the intervention with a most accuracy results in a really short period of time.

Success factors:

For Orthogeriatric Unit collaboration is essential the collaboration between geriatricians, orthopedists, anesthetists, physiotherapists, occupational therapists and nurses. It is this collaboration that differentiates the care provided in these units and conventional care of patients with neck femur fracture in orthopedist departments.

For the implementation of the falls clinic is required specially trained personnel. This training is for getting a more accuracy detection of fall risk factors and designing multimodal interventions. The technology helps improve this detection but it is not essential. To start this clinic only the own material of a regular geriatric clinic is needed, included an usual stopwatch and dynamometer.

Barriers to innovation:

The main difficulty was the commissioning of the unit because of the great change in the way of working. We
overcome this with specific training for all workers involved.

**Transferable elements:**

Beside our habitual teaching activity with the junior doctors from Hospital Universitario de Getafe, geriatrics in training and senior geriatricians from other hospitals and regions (Hospital del Norte, Madrid; Hospital de Coslada, Madrid; Hospital Virgen del Valle, Toledo) have asked for spending two or three month with us for getting specific training in falls and fractures management. The objective of these stays is to take contact with this model of care for translating this way of work, evidence based, to their own place of work. Additionally, one of the consultants was required for advising the commissioning of Falls and fractures clinics in other countries like Costa Rica and Mexico.

**Key data:**

![Key data table]

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**Good Practice:**

**Holistic health and social services at home programme (GP1)**

**Reference Site:**

Departamento de Salud Valencia-La Fe

**Contact information:**

Dr. Bernardo Valdivieso  
Valencia-La Fe Health Department  
Hospital Universitari i Politècnic La Fe  
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+34 961245712  
VLCRefSite@upvnet.upv.es

**Short description of your good practice:**

The *integrated care at home* programme provides patients and informal care givers with comprehensive care at home, favouring transition from hospitalization to home care. The programme includes several services particularly valuable for the older population: a specific home based training for patients and caregivers to empower self-patient’s management and increase adherence to treatment; a specific score for the stratification of the risk of falls and a set of intervention guidelines to prevent the occurrence of falls; mental health and cognitive decline assessment test for early diagnosis and prevention; multidisciplinary integrated care teams supporting patients and informal care givers at home. The service includes specific IT support: home monitoring devices, electronic health and social care records both in primary care and hospital and mobility support for professionals while doing home visits.

**Partners in the coalition:**

The programme is based on a coalition of local and regional stakeholders. The *regional Ministries of Health and of Social Affairs* are involved at political level.

From the health operations point of view, the services involve directly primary, secondary and tertiary care and they link with social services. From the final user perspective the programme has agreement with CARENA, one of the *regional patients associations* on the topic of social and psychological support to patients and care givers.

From a scientific point of view, there is collaboration with the *Spanish Society of Home Care (SEHAD)* and the programme is also supported by the *Public Health Research Centre of the region* and by the two public universities of the city (*Universitat de València* and *Univeritat Politècnica de València*). The programme has also the support of the *National Network of Health Services and Chronic Conditions Research (REDISSEC)* funded by the Ministry of Health.

From the industrial point of view, the programme has received support of different companies, either in funding innovations, piloting them or for collaboration in development of new technologies or processes: *Fundación La Caixa*, *Encamina*, *TSB*, *Everis*, *IMEX*, *DextroMedica*.

**Start date:** 1990

**Project duration:** Currently included in regular clinical practice

**How we did it:**

The programme was started in the Health Department in 1990, together with other 3 locations. Since then, it has been extended to other 20 locations within the region, by transferring the good practices coming from the initial units.

In addition, the Health Department has been pioneer in the usage of IT technologies for specifically supporting the unit work, including a specific healthcare record, before the corporate health information systems were deployed. This software and the related guidelines and processes, designed, developed and validated in the unit in collaboration with the Universitat Politècnica de València, was firstly upgraded and scaled-up in a pilot experience in 2002-2003 in the Hospital of Alcoy (in Valencia Region, province of Alicante) within the digital city initiative. As a result of this pilot, a second upgrade was done to include specificities of other locations and the solution was transferred to the Valencia Health Agency, which adopted it as part of the corporate solution. This solution has been scaled up to all the units in the Region following the deployment of the corporate information system.

Finally, the technological solution developed in the unit was selected as a reference by the Hospital Marqués de
Valdecilla in Santander (another region of Spain) for the development of the IT tools (ORCONERA) for their home hospitalization unit in 2004-2005, which was developed by the same technical team based in the best practices of the Hospital La Fe. The tool was deployed, tailored, validated and it is currently in use.

The programme is based on a coalition of local and regional stakeholders. From the political level, the Regional Ministries of Health and of Social Affairs are involved and supportive. The Regional Health Agency (AVS) has developed a supporting strategy in the past years to create and improve the coverage of patients in the region with home hospitalization services (at different levels). Thus, there’s a clear commitment in this domain both from the political level (Regional Ministry) and from the operational one (Valencia Health Agency).

The regional government has committed to fund and maintain the current structures (implying an annual cost of around 26.6 M€ as per 2010) as well as developing supporting mechanisms for ensuring quality and contributing to sustainability. The unit has also received extra funding for innovation of technologies, processes and for evaluation from different private and public sources accounting for around 50.000€ in 2012-2013.

Regional Government is supporting and maintaining the initiative due to the achieved figures and the Return of Investment. Therefore, nowadays this is a regular practice that replaced/complemented expensive and less efficient ones.

The programme is coordinated by the home hospitalization (UHD) unit of the Hospital La Fe of Valencia. The activities of the unit have been improving along the years, including new innovations and consolidating them into good practices in a continuous evolution.

The present programme is the result of this innovation process evolving from a basic hospital at home unit.

Health Department La Fe has been supporting the implementation of the practice through a Strategic Plan. This practice is linked to three objectives included in the Strategic Plan of the Health Department: transforming healthcare delivery, innovation in the chronic conditions management, and boosting ICT usage and safety.

The Strategic Plan of the Health Department is implemented through specific objectives and a corresponding list of indicators for each objective. Each objective and the list of related indicators are transferred to each actor involved in this practice for the implementation. In addition, indicators are monitored in order to assess the performance, and identify barriers or deviations, applying corrective actions.

Our results:

Coverage: 219,000 inhabitants (the whole population of health department).

- In the context of the integrated care at home programme, about 7,000 patients were treated in the last 3 years with a global index of satisfaction of 92.7% in 2012 (target: 90%);
- The service includes a specific home training programme for patients and care givers to empower patient’s self-management, improve medication adherence and support the deployment of complex therapies or medical procedures at home.
- The service incorporates a specific score for the stratification of the risk of falls and a set of intervention guidelines to prevent the occurrence of falls.
- The service includes a mental health and cognitive decline personalized assessment test aiming at early diagnosis and prevention. Care givers are also included in the risk assessment.
- The service contributes to integration of care between primary care, acute care and social care providing continuity of care for patients after an acute event or with a complex condition that requires chronic hospitalizations.

The system reduces marginal costs per process (154€ saving per stay are estimated) and the length of stay at hospital is 30% less than Spanish expected value. The programme facilitates the access to acute care resources to the patients really needing them, increasing the rotation patient-bed and thus reducing waiting lists. It also serves as a connection between the hospital and the other care levels facilitating inter-professional communication and continuity of care.

The experience acquired by the unit in the home care programme has supported the design and validation of technologies developed in various research projects in collaboration with research institutions and industry. The successful results of these research activities have been transferred to the industry and are being commercialized at the moment. The benefits generated by the programme (quality of care, efficiency) have enabled the employment of more professionals, both directly in the hospital and indirectly in the other units created. In the period between 2007 and 2011, the increase of employment of professionals in the UHD units and related services in the region went up to 152 professionals.

On the side of the technology, the inclusion of the specific software in the corporate solution of the region and the deployment of other similar reference solutions in other regions (Santander) are directly related to the creation of more than 20 employments in the last years and the empowerment of local SMEs that have increased their competitiveness (Encamina, TSB), creating new business opportunities.

Added value:

The development of a holistic health and social care programme based on the home environment benefits the stakeholders from different points of view:
- Scientific
  - absence of nosocomial infections
  - reduction of depression and confusion episodes among the elderly
  - avoidance of “hospitalism” phenomena

- Psycho-social
  - improvement of relations patient-professional
  - increased comfort, privacy and intimacy of the patients and their relatives
  - better integration of the family in the care process
  - the programme provides also social support, including facilitating access to social resources or mediation between family members on behalf of the elderly's interests.
  - Promotion of health education.

- Resource management
  - Increased efficiency and effectiveness of the system (see previous section).

**Success factors:**

The unit has put a strong emphasis in the standardization of its processes and in the maintenance of high quality services. This way, the unit has obtained the ISO 9001 certification. The availability of said processes in a written standard format has and will facilitate the transference and scaling-up of the generated best practices.

**Barriers to innovation:**

The reengineering of health care processes within an established healthcare organization requires an adaptation period for professionals to interiorize and optimize their new tasks. The early involvement of the direct professionals can support the adaptation process.

**Transferable elements:**

- standardized and validates processes (see above).
- clinical good practices
- usage of IT technologies specifically supporting the unit work, including a specific healthcare record.

**Lesson learnt and recommendations for others:**

Deployment timing was too much as little time was allocated to technical integration, regional policies, and organizational issues. That created initially a sense of frustration and no advance due to some delays.

A key point for the successful deployment was the early involvement of all the stakeholders in the initiative.

**Good Practice:**

**Integrated Chronic Disease Management Model (GECHRONIC) (GP2)**

**Reference Site:**

Departamento de Salud Valencia-LaFe

**Contact information:**

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**Short description of your good practice:**

The Integrated Chronic Disease Management Model (GECHRONIC) aims to improve the care of complex chronic patients in the health department with the support of an organizational change and remote monitoring technologies. The complexity of the patient is based on the results of a stratification analysis identifying those consuming the greatest portions of the healthcare resources dedicated to chronic conditions. The programme, whose outcomes are under evaluation, currently covers around 750 patients (with the aim to reach 3000 by 2015).

**Partners in the coalition:**

The programme is the result of a public-private partnership between the following organizations:

- Valencia-La Fe Health Department and La Fe Health Research Institute (ISS La Fe) – Health service provider and main designer of the care model and the specific guidelines.
- Center for Public Health Research (CSISP), belonging to the Valencia Health Ministry – in charge of the evaluation of the programme.
- TSB, a regional SME developing innovative ehealth solutions – in charge of the remote monitoring solution.
- ACCENTURE, an international consultancy supporting reengineering of health processes – responsible of the stratification tool.
- VITAL-AIRE, an international company of home care and home care technologies – responsible for supporting the interventions at the home of the patient and the deployment of the technology.

Additionally, other entities have directly collaborated or supported the activities of the partnership: Universidad Politècnica de València, MEDTRONIC, ESTEVE pharmaceuticals.
Start date: 2011

Project duration: Currently included in regular clinical practice

How we did it:

The innovation character of the health department has enabled the creation of a Telemedicine Area, aiming at fostering innovations in the use of technology for supporting ambulatory care. The present programme is the first initiative of this area and has been created in collaboration with the different clinical departments involved in the care of chronic patients.

Key decision makers at the Valencia Health Ministry have been following the initiative since its beginning.

The GECHRONIC partnership has mobilized resources for around €3M for the design, development and deployment of the programme as well as for the realization of a clinical trial that will finish in 2014. Additionally 300,000 € more have been devoted to research and innovation of new upgrades of the programme towards less complex patients, higher inclusion of caregivers and addition of other pathologies (ie. Crohn’s disease).

The Valencia-La Fe Health Department is directly involving and supporting the expenses related to the practice due to the clear Return of Investment. Currently, conversations are happening among the partnership, other big players and the Valencia Health Ministry for a massive deployment within the whole region.

In order to start the implementation of the practice, high complexity patients were included first. Patients with higher risk to have non-programmed health resources consumption were identified.

The innovative technical solution is being transferred following the same mode to the medium and low chronic patients, focusing on the specific needs of these patients and adapting the resources involved according to the care requirements for each complexity level.

Our results:

Coverage: The programme currently covers around 1900 patients. 980 of them are currently monitored in the regular clinical practice.

Health outcomes, including health status, health related quality of life and satisfaction has been assessed in a randomized clinical trial still ongoing. In the RCT, 495 patients -recruited from the 980 active patients- have been randomized in three groups: control group (regular clinical practice), telemonitoring through liaison nurse by phone, telemonitoring through IT platform. The main objective is to assess the impact of the interventions in effectiveness. In addition, an economic evaluation is being implemented in order to assess the impact on health resources consumptions. Also a business model for the inclusion of the intervention in the regular clinical practice in a sustainable way is being developed by the partners involved in the consortium. Preliminary results of the RCT will be available early 2014.

A continuous evaluation of the impact on the use of health resources has been implemented. Relative risk for non planned resources consumption has been analyzed before and after the patient was included in the intervention for all 1900 patients involved in the program during the last years. These patients, has been followed during 208 days. These patients were diagnosed by 6 diseases on average, had 9 drugs prescribed and they were 75.7 years old (on average). Results show a 79% reduction on resources consumption in these patients comparing after and before the intervention. Additional analysis shows a reduction of 69% for palliative patients and 84% for chronic patients.

The partnership is in the process of signing an exploitation agreement in order to support the joint initiatives for commercialization of the integrated solution in other settings.

The programme has also contributed to employment growth, including around 12 professionals directly hired in the last years to work in activities dealing with the project.

Added value:

GECHRONIC model provides a significant advancement from the former situation in relation to the management of the chronic patients in the area, specifically in the following domains:

- The stratification of patients enables the optimization of the available resources and the prevention of potentially complex situations.
- The process reengineering developed within the health department has increased the communication between healthcare levels.
- The creation of specific and multidisciplinary guidelines for multimorbid and complex patients will enable more personalized treatments.
- The deployment of a remote monitoring solution connected to the health information systems of the health department will contribute to the integration of information across care levels and to the efficiency of the care process.
- The deployment of specific incentives for the involved health professionals has contributed to their motivation.

Success factors:

A predictive model should be used in order to identify patients’ risk to have non-programmed health resources consumption. That will help to adapt the care resources to the care requirement of the patient. In our initiative, the model is updated daily for the resources...
consumption (dependent variable) and weekly for independent variables involved in the model.

It’s relevant to plan and coordinate care across all care resources, using the methodology of case management. It includes organizational changes in the healthcare organization including new professional roles as the liaison nurse.

It’s important to maintain a holistic approach, defining the care process and building clinical guidelines, specifically for each pathology. In our initiative, a holistic approach to the patient is specifically constructed for each patient integrating his specific diseases. A nurse model NANDA-NOC-NIC was used in order to create algorithms to be included in the technology platform. For each disease, objectives were established and relevant variables were defined in order to monitor each objective. These variables allow us to create potential alerts and establish specific interventions for each alert.

IT solutions should be adapted to each of the population section (tablet, mobile, web) providing continuous monitoring of the patient (measurements, questionnaires, adherence to treatment, specific training, motivation ...).

It should be integrated with: processes defined and with clinical history. It should be configurable to grouping variables, alert levels (general and per patient), and in the workstation. Finally, in order to help as a decision-aid system, it’s decisive to include intelligence about care process, clinical process, and suggested interventions.

**Transferable elements:**
- Predictive model for population stratification
- Standardized and validates processes (see above).
- Organizational changes
- Clinical guidelines for best clinical practices
- IT platform
- Evaluation framework for impact assessment

**Lesson learnt and recommendations for others:**
Initial schedule was too much optimistic with regard to interoperability, technical integration, regional policies, funds availability, educational activities and organizational issues were not properly addressed. That created initially a sense of frustration and no advance due to some delays.

As recommendation, it is worth mentioning the public-private partnership created around the practice. That should be the way to do, always focused on the citizen but involving all the stakeholders and defining from the beginning clearly the roles of each partners and how exploitation of practices will be managed by each organization.

**Barriers to innovation:**

The deployment of innovative IT solutions is difficult due to the connectivity with legacy systems but this could be used as an opportunity for fostering interoperability between levels.

Technological innovations have fewer possibilities to translate into real impact if not accompanied by organizational changes.

The reengineering of health care processes within an established healthcare organization requires an adaptation period for professionals to interiorize and optimize their new tasks. The early involvement of the direct professionals can support the adaptation process.

The designed systems only focusing on monitoring have less potential impact and can cause increases in the consumption of clinical resources. Guidelines need to be created in order to include new interventions able to react appropriately to the new situations that will be detected with the monitoring system.
Good Practice:

Electronic Health Care Record and Integrated Information Systems (GP3)

Reference Site:

Departamento de Salud Valencia-LaFe

Contact information:

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Short description of your good practice:

The Electronic Health Care Record and Integrated Information Systems is an initiative of the Valencian Health Agency in application to the whole region. The objectives are to enhance integration and interoperability of all systems, to ensure their sustainability with improved efficiency and quality of service, having a citizen-focused approach.

Partners in the coalition:

More than 107 companies have been involved in this initiative through different competitive contests arranged mainly by the Valencia Health Agency following an IT plan for the Valencia Ministry of Health designed years ago.

Start date: This initiative started in the early 90’s, growing and being refined iteratively.

Project duration: Currently, the Electronic Health Care Record and Integrated Information Systems is used by all the health staff involved in care processes.

How we did it:

Deployment of the Electronic Health Care Record and Integrated Information Systems was a key goal defined within the strategic IT plan within the Valencian Health Ministry in the early nineties. New IT plans have been developed since then but always having EHR as one of the pillars of the system.

Valencia Health Agency is aware of the importance of EHR for integrated care processes, which benefits patient, medical staff and organisations. This is a public agency that will maintain and improve the service continuously as Return of Investment is clear from different perspectives.

This practice is funded through public funds. A big investment was done for the main infrastructure and pillars of the system and now, every year, a considerable amount of money is devoted for improvement.

The programme has received an investment of 169M€ in the last 4 years.

The Valencia Health Agency is the owner of the technology behind the EHR but has arrived to different agreements with relevant stakeholders and technical partners to facilitate the exploitation, transferability and scaling-up of the developed solutions, for the mutual benefits of all the parties.

Different committees were established in each one of the different projects that have consolidated this EHR. Through those committees, where all the stakeholders were involved, a set of key performance indicators (balanced scoreboard) was defined to know the status of each project at any moment. A deployment plan to extend the different pilot bedsites was also available, promoting the coordination of initiatives in a centralised way from the Valencia Health Agency.

Our results:

Coverage: 5.100.000 inhabitants of the region.

Improving patients’ safety and the reliability of healthcare processes via:
- Control of treatment interactions
- Control of drugs administration
- Support decisions of professionals

Additionally, the availability of telemedicine and ehealth services avoids unnecessary trips providing access to diagnostic services, information, appointments and remote assistance.

More than 5 million Patient Summaries are made available. 43 million of clinical documents, registered in real time.

Approximately 150.000 daily hits searching the national health record

The system also reduces the use of paper and logistics needed for communication and planning.

The development of the system has created a boost for the IT industry present in the region: 1.320 IT specialists and 107 companies were involved.

Added value:

The current solution includes different modules for the different needs (primary care, hospital care, medications, population information, management, etc)
and supports a high degree of interoperability between them.

The primary care application has been practically fully deployed in the whole region, while the hospital system is following a progressive deployment process that has started with the main centres. The Valencia-La Fe health department is responsible for the full deployment of the two systems. Additionally, the e-prescription and e-dispensation services have been fully deployed in the whole Valencia region. The unique identifier provided by the population information systems enables traceability and identification of citizens within the whole regions and facilitates interactions with the other regions. The programme has also been extended to support interoperability of health information between regions within the country (project HCDSNS) and within Europe (project EPSOS).

**Success factors:**

Several issues can be considered as key factors for the successful deployment of the Electronic Health Care Record and Integrated Information Systems.

- Deployment within a strategic plan, with a well-defined roadmap and budget for reaching the goals. It was not only the existence of the strategic plan but the use of committees that review projects and the plan itself, being always aware of the context and societal demands.
- The use of standards that assure scalability and interoperability.
- The high skilled IT people from the Valencia Health Agency involved in each of the initiatives to assure a proper deployment with medium-large term view.
- A permanent interaction with other national or international stakeholders in the field to learn from others’ experiences.

**Barriers to innovation:**

Main barrier for the deployment was that IT companies developing the system put the focus on the functionalities but not on the proper use of the platform by professional staff. That was overcome by investments on training and new contests where part of the money was only paid to the companies when the new deployed tools were used by most of the medical staff.

**Transferable elements:**

- IT platform fully compliant with the Patient Summary Report defined within EPSOS, that means 5.1 million patient records are available from any European EPSOS point of care.
- ABUCASIS - Primary Health Care Record
- ORION-CLINIC - Hospital Health Care Record
- Citizen’s Health folder, that combine data from both Primary and Hospital Health Care Record

**Lesson learnt and recommendations for others:**

Some elements to be considered to produce meaningful Electronic Health Care Record and Integrated Information Systems:

- A permanent interaction with other national or international stakeholders in the field to learn from others’ experiences. To achieve that, congresses and participation in EU projects are great tools.
- Creation since the beginning of functional groups where GPs, nurses and any stakeholder involved in any care process could take the chance to express his/her specific requirements to be covered by the platform.

**Key data:**

- Balanced Scoreboard
- Business Intelligence Systems
Good Practice:

Better life for the most sick elderly (GP1)

Reference Site:

Region Skåne, Skåne, Sweden

Contact information:

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maria.antonsson-anderberg@skane.se

Short description of your good practice:

Main objectives:
To encourage, strengthen and intensify cooperation between home care, old people’s home care, primary care and hospital care to better coordinate care of the most ill elderly people. Streamline the use of resources so that health and social care is based to a greater extent on the needs of the patients.

Goals:
Good pharmacological treatment
Good palliative care
Good care of people with dementia
Coordinated health and social care for elderly
Preventative care

Areas:
New ways of working – structured and based on evidence
Quality assured welfare
Develop knowledge, quality and skills
Develop leadership and management systems
Active and well-informed senior citizens

Activities:
The practice of leadership and the development of improvement leaders
Statistics and analysis
Web-based qualitative monitoring
Using quality registers
Performance based funding

Economic incentives have been introduced in order to encourage, strengthen and intensify cooperation between home care, old people’s home care, primary care and hospital care. By using national quality registers, individualised data concerning patient problems, medical interventions and outcomes after treatment are being monitored, and thus function as a means for prevention and early diagnosis.

The established indicators ‘avoidable in-patient care’ and ‘re-admission within 30 days’ are used to measure developments.

Malnutrition, falls and pressure sores are all interrelated and crucial to preventive care. Funding is given to the divisions that register, make risk assessments and use the national quality register, Senior Alert. Funding is also provided to special service homes for the elderly that make risk assessments of their residents in the same quality register.

A further goal of our good practice is good pharmacological treatment. Region Skåne’s goal for 2013 is that at least 40% of all patients, 75 years or older with more than 5 types of prescribed medicines, should have received a cross-professional medication review according to a specific Skåne model. To ensure good quality in the medication therapy for the elderly, primary care units share responsibility for medication reviews. Primary care units also have the responsibility to map for patients 75 years and older, or older patients with at least 5 types of prescribed medicines, the type of medication prescribed and the reason for the prescription. This mapping takes place during visits to the primary care units, during home care visits or when a patient is moved to special housing.

Performance-based funding is also provided to the services that register in the quality registers, for example the Swedish Dementia Register (SveDem) and Senior Alert.

In order to implement the procedure, regional Improvement leaders have been appointed to support the processes. The role of the development leaders is to serve as focal points of knowledge between home care, old people’s home care, primary care and hospital care.
Partners in the coalition:

Cooperation between the 9 regional hospitals and 33 municipalities, primary care centres as well as the regional health authority.

How we did it:

The project is initiated by the central government that has signed an agreement with the Swedish Association of Local Authorities and Regions (SALAR). This means that there is involvement on three political levels: national, regional and local level.

In order to achieve the objectives of the project, an agreement has been made and an Action plan has been developed between Region Skåne and the 33 municipalities in the region. The model has been approved by the highest decision-making at political level between the regional and local level authorities.

Other stakeholders involved are appointed improvement leaders from home care, old people's home care, primary care and hospital care units.

Resources are linked to performance-based funding provided at the national and regional level.

Political mobilisation has been achieved through agreement between the highest political level decision-making between the regional and local level authorities.

Improvement leaders have been appointed to support the processes. The role of the development leaders is to serve as focal points of knowledge between home care, old people's home care, primary care and hospital care. An additional objective is to contribute to the promotion of best practices, as well as spreading practice of quality registers, teaching improvement work and monitoring results.

Added value:

The introduction of a new management and leadership system. By implementing the system of improvement leaders, the cooperation between home care, old people’s home care, primary care and hospital care are strengthened and intensified.

Success factors:

Success factors include: National and regional funding, performance based funding, political will and the system of appointed improvement leaders.

Barriers to innovation:

The main bottleneck lies in the integrated pathway between regional and local level authorities. There are different responsible authorities between the health care system and the care system (nursing and old age care). This results in difficulties to find cooperation models between the municipal and regional level.

Transferable elements:

What? Region Skåne intends to scale up the organisational model of an integrated care pathway using economic incentives and improvement leaders.

How? By coaching other regions in workshop type settings, organising conferences to present the model and its beneficiary results as well as publishing academic type papers explaining the integrated pathway model.

A ”trainer of trainers” workshop will focus on:
Collecting of data
Management system
Our model of performance based funding

In addition, we also intend to share our experience through the development of a webpage and printed material for dissemination.

Lesson learnt and recommendations for others:

Results have been achieved by registering and recording in quality registers. This relates specifically to: good pharmacological treatment, good palliative care, good care of people with dementia as well as preventive care.

Furthermore, an introduction of a new organisational model takes time to be properly implemented; one important challenge is to ensure that everyone involved is positive to the changes required. It is therefore essential to anchor the changes and to show the benefits to all the actors in the care chain before the model is introduced.
Key data:

<table>
<thead>
<tr>
<th>Sweden</th>
<th>Health system</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(public provision and public insurance)</td>
</tr>
<tr>
<td></td>
<td>no gate-keeping and ample choice of providers for users</td>
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**Level of development**

<table>
<thead>
<tr>
<th></th>
<th>lowest</th>
<th>Sweden</th>
<th>highest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public expenditure on health, 2010 (% of GDP)</td>
<td>3.3%</td>
<td>0.07%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Health care expenditure, €PPS per inhabitant 2010</td>
<td>659.66</td>
<td>2822.84</td>
<td>4678.93</td>
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<tr>
<td>Amenable mortality rates</td>
<td>461.4</td>
<td>151.9</td>
<td>89.2</td>
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**Level of concentration**

<table>
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<tr>
<th></th>
<th>lowest</th>
<th>Sweden</th>
<th>highest</th>
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<tbody>
<tr>
<td>Local and state health expenditure as % of total health government expenditure</td>
<td>0.0%</td>
<td>0.97%</td>
<td>98.8%</td>
</tr>
<tr>
<td>Hospital expenditure as % of current health expenditure, 2010</td>
<td>25.7%</td>
<td>0.457439</td>
<td>53.5%</td>
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</table>

**eHealth readiness**

<table>
<thead>
<tr>
<th></th>
<th>lowest</th>
<th>Sweden</th>
<th>highest</th>
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</thead>
<tbody>
<tr>
<td>Capital formation expenditure, €PPS per inhabitant, 2010</td>
<td>7.05</td>
<td>250.92</td>
<td>290.30</td>
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<tr>
<td>Hospitals' eHealth Deployment Composite Index</td>
<td>0.18</td>
<td>0.96</td>
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**Impact of ageing**

<table>
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<th></th>
<th>lowest</th>
<th>Sweden</th>
<th>highest</th>
</tr>
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<tbody>
<tr>
<td>Reference scenario</td>
<td>-3.80%</td>
<td>0.03%</td>
<td>12.00%</td>
</tr>
<tr>
<td>Ris scenario</td>
<td>-3.30%</td>
<td>0.04%</td>
<td>12.30%</td>
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</table>
THE NETHERLANDS

Province of South Holland/ Medical Delta

Good Practice:

Walcheren Integrated Care Model (WICM) (GP3)

Reference Site:

Province of South Holland, NL: Medical Delta

Contact information:

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Short description of your good practice:

The WICM is a comprehensive integrated model for the detection and assessment of needs and the assignment and evaluation of care for independently living frail elderly. It encompasses the entire chain of care, from detection to care provision, in the fields of prevention, cure, care, welfare and residence, in primary, secondary and tertiary care. Approximately 900 elderly aged 75+ were contacted to participate in both the experimental and control practices (86% response rate). The results of the evaluation showed high satisfaction in terms of quality of care and improved quality of life for the elderly, a decreased subjective burden of informal caregivers, an enhanced integration and continuity of care, while the professionals perceived an improvement in their working environment and were more satisfied with the integration and continuity in the care processes.

Partners in the coalition:

- The institute for Health Policy and Management (Erasmus University Rotterdam) Huisartsencoöperatie Zorggroep Walcheren
- Veersche Huisartsen Coöperatie u.a.
- Stichting Werk voor Ouderen
- Zorgstroom
- Stichting voor Regionale Zorgverlening
- Emergis centrum voor geestelijke gezondheidszorg
- Coöperatie voor fysiotherapie u.a.
- Ziekenhuis Walcheren, vakgroep geriatrie
- POSO Zeeland

Start date: January 2010

Project duration: initially 3 years for the implementation and evaluation in parts of Walcheren (completed), further dissemination is still going on.

How we did it

The starting point for the best practice dates from 2008 when patients’ organization and health care providers in Walcheren started conferring on the future of the elderly care. The elderly indicated to have a need for greater coherence in care, suited to their integral requirements and being coordinated via a single portal in the vicinity of their homes. In the same period the Dutch Health Council (Gezondheidsraad) issued a report in which they proclaimed that integrated care in primary care should be the backbone of reforms in elderly care. The National Organization for General Practitioners (NHG) underlined the advice. As a result of the consensus on these views by the elderly perspectives, Dutch policymakers and health professionals, the development of the so-called ‘structured care of the elderly’ has been declared a spearhead for the following years in Walcheren. All the parties involved signed a declaration of intent related to setting up a Geriatric Care-Chain and started developing an integrated model. This resulted in the Walcheren Integrated Care model.

The bases for collaboration have been laid down in the formalization of agreements on the regional policy level and involve integrated care for all elderly: the so-called ‘structured care of the elderly module.’ The involved professionals and patient organizations are all
represented in a steering group that forms the umbrella under which the model is developed and disseminated. The steering group forms a Joint Governing Board that provides the necessary provider network. All partners from Walcheren are affiliated with Genero (Geriatric Network Rotterdam and surroundings).

The development and evaluation of the model are part of the National Care for the Elderly Program (NPO), which is funded by the Netherlands Organization for Health Research and Development (ZonMW).

The health insurer CZ Zorgverzekeraar has issued a special module ‘integrated frail elderly care’ to finance the care provided through this model.

An electronic chain computerisation system was developed by Protopics in collaboration with the health professionals. Elderly were asked for a written consent for the use of information on their health by the involved professionals.

From a functional point of view, the Walcheren Geriatric Care-Chain project falls under the guidance of the Walcheren Steering Group and executive responsibility rests upon the Walcheren G.P. Co-operation Care Group. A project group was set up to further develop and implement the model. The project group’s tasks were: safeguarding the agreements made between the parties, promoting multi-disciplinary collaboration that transcends organizations, detecting bottlenecks and possibilities for improvement within structured care of the elderly within the Walcheren G.P. Co-operation Care Group, responsibility for the project’s finance, responsibility for the bilateral communication of activities with the Steering Group, the organizations for the elderly, the Welfare Foundation and the WMO-desks/municipalities. The project group has set up a supervisory committee in order to provide the project group and the Walcheren Steering Group of the Geriatric Care-Chain with solicited and unsolicited advice about the development of activities. Participants in the supervisory committee include the project leader, the manager of the Walcheren G.P. Co-operation, health insurer CZ, POSO, the Welfare Foundations and the WMO-desks/municipalities.

The care-providers concerned attended the following courses in order to be able to work according to the integrated model:

- The G.P.s completed the executive a training in geriatric care, a course in G.P. consults and an EASYcare training
- the geriatric nurse practitioners in the GP Practices and secondary care geriatric nursing specialists followed a course in the use of EASYcare and case management

Our results:

Elderly patients:
- no effects were found on the ability to cope, perceived health, social and physical functioning and mental wellbeing
- an increased quality of life was found in the experimental group
- the health care use did not differ between the experimental and the control group. This is seen as a positive effect as the needs of elderly are assessed and pro-actively addressed
- elderly in the experimental group were more satisfied with every aspect of care delivery than elderly in the control group

Informal caregivers:
- no effects were found on the perceived health, quality of life and satisfaction with care
- objective burden: more informal caregivers took up tasks in the experimental groups than in the control group, although the hours spent on informal caregiving did not differ
- a positive effect was found on subjective burden: caregivers in the experimental group felt less burdened

Care-providers:
- no effects were found on knowledge and subjective burden
- care providers in the experimental group were more satisfied with their working environment
- objective burden: the total number of hours spent on the patient did not differ between the experimental and control group, but the hours spent on non-patient related tasks (e.g. multidisciplinary meetings) was higher in the experimental group
- positive effects were found on the experienced quality and process of care: care providers in the experimental group were more satisfied with the quality and process than care providers in the control group

Organization and society:
- the model showed to lead to more coherence and continuity of care and higher levels of integration than care as usual
- the model is not cost-effective yet

Increased quality of care leads to competitive advantages. The new functions and training possibilities give health professionals more room for specialization, the development of their skills and career perspectives.

Added value:

The model focuses on the entire chain, from detection to the provision of care, in the fields of prevention, cure, care, welfare and residence, in primary, secondary and tertiary care. The Walcheren Integrated Care Model is in accordance with scientific evidence on elements of integrated care and addresses all the design elements that affect the quality of care. All elements are embedded in the model. Model has an umbrella organizational structure involving case management, multidisciplinary teams, protocols,
consultations, and patient files. It is an organized provider network with evidence-based needs assessments. Also more types of health professionals participate in the model than other studies have previously investigated and models have incorporated. General practitioners, geriatricians, home care workers, paramedics, social workers, pharmacists, and mental health care professionals all take part in the designed model. In contrast with other models, this model also contains a preventive element: a screening tool to detect frailty in the elderly. Finally, the model is being evaluated on a broader range to obtain a comprehensive evaluation and determine possible trade-offs between effects.

**Success factors:**

Factors for success are the involvement of all parties in the development, implementation, and dissemination of the model, the formalization of agreements between parties, a Joint Governing Board that provides the necessary provider network, central steering from a steering group in which all parties are represented, a project group to guide and monitor the implementation, a strong project leader and finances to implement and work according to the model. Also, embedding the model in other projects is essential over the long term. A project never stands alone. In this best practice area a dementia care-chain and CVA care-chain are also being developed in Walcheren. The steering group will ensure coherence between the various projects. The GPs in this project are also involved with developing the dementia care-chain. Their personal involvement in both projects will guarantee harmonization. Laying down the basis for collaboration in the formalization of agreements on the regional policy is also a factor of success. In this case it involved agreements of the so-called 'structured care of the elderly module.' The project followed from these structures and was able to make use of them. The success of the project was also enhanced by knowledge obtained in the region regarding instruments and collaboration that includes the elderly. Knowledge about using the GFI instrument was obtained during a pilot with the GFI instrument among elderly persons aged 85+ years. Consultations with elderly patients aged 65+ years had already started in three practices. Broad involvement and experiences of health professionals are important. Finally the pressures on providing care may increase for GPs because the use of the GFI instrument will provide them with information about the frail elderly who were previously unknown. This additional work pressure must be calculated in advance to prepare the GPs for the workload.

**Barriers to innovation:**

Developing integrated care arrangements is as much a process of social and cultural integration as it is structural integration. The success of implementation is shaped by the interests and cultures of the health professionals and the social relationships between them. Integration involves aligning the work of health professionals and convincing them to work together from a patient-centered viewpoint. Several activities have been deployed to ensure that these challenges are overcome. The involved professionals are, as said, represented in a steering group, a Joint Governing Board and a project group. Guidelines and protocol-led agreements are made and in concordance with regional policy. All patient representatives support the project, and the health insurer CZ is supporting the project financially. Though administratively secure, the project is affected by the willingness of the partners to review tasks and delegate and accept new responsibilities thrust upon them. Acceptance of the role of a GP as coordinator is an essential aspect of this. GPs cannot claim this coordinating role for themselves. It will have to be given to them based on the confidence of all ‘players’ and by an agreement that a coordinating role for the GP is a suitable mechanism for improving the care for the frail elderly. Another potential obstacle is the willingness of the elderly and their caregivers to participate in this project over the longer term. To increase willingness, a request to participate was sent via the target group’s own GPs and other motivational tactics are employed.

**Transferable elements:**

Care-providers can become acquainted with the model. They can make use of the instruments and protocols and they can attend studies in order to work according to the model. Various strategies can be used in order to transfer of knowledge and implementation:

1) a manual with a description of the Walcheren Integral Care Model, the conditions for putting the model into practice, the instruments used, protocols and function descriptions for the new functions (in Ditch)
2) conferences and presentations on the model and evaluation of the model
3) national and international publications
4) newsletters to care-providers, organizations for the elderly and interested parties (in Dutch);
5) presentations of the results on the web-site, meetings and the newsletters of Genero and the NPO [Network for Public Research Programming]
6) personal discussions with interested parties
7) each year the executive G.P.s will provide a course for their colleagues, with input from a nursing home doctor and a clinical geriatrist
8) training of geriatric nurse practitioners: this can take place twice yearly

**Lesson learnt and recommendations for others:**

See success factors and barriers for integration. In addition;
- implementing a computerized chain system takes a lot of time. Building a system should start at least one year before implementation.
-Implementation is an organic process. Flexibility, creativity, timely communication and mutual responsibility for problem-solving are necessary.

**More information:**

http://www.biomedcentral.com/1471-2318/13/31

http://www.nationaalprogrammaouderenzorg.nl/projecten/transitie-experimenten/ketenzorg-ouderen-walcheren/

**Key data:**

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Good Practice:
The Nijmegen Model of Networking for Active and Healthy Aging (GP1)

Reference Site:
Nijmegen, NL: Health Valley

Contact information:
“100” Welfare and Care-Network for older citizens, Nijmegen, the Netherlands
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www.health-valley.nl

Short description of your good practice:
The good practice fosters the collaboration between healthcare providers and professionals through innovative networks based on the Nijmegen Network Model of healthcare improvement ["ParkinsonNet", the Frail Elderly Network ("100 Your care & welfare network") and "PalliativeCareNet"]. These networks are then integrated and coordinated through "EASYcare", a European assessment system, which aims at innovation and integration of healthcare and welfare systems, bringing all relevant actors together. The model leads to important improvements for the elderly population in prevention screening and diagnosis, care and cure and active aging and independent living.

Partners in the coalition:
The networks are based on collaboration between healthcare providers and professionals. They connect individual organizations and professionals on the basis of strict commitment to quality criteria, regular professional education, increase of the volume of older patients per professional by referral agreements and active interaction of older patients with professionals.

Start date: The first network- ParkinsonNet - was implemented in 2004

Project duration: permanent initiative

How we did it:
The first ParkinsonNet was implemented in 2004. At the end of 2010 national coverage was achieved with a total of 65 networks and more than 2,000 care providers. These care providers are supported by a national coordination centre, which facilitates their improved collaboration. From 2008 onwards the Frail Elderly Network and Palliative Care Network are also running, they have been created applying the Nijmegen Network Model of health care improvement.

The Dutch Ministry of Health, Welfare and Sports strongly supports the initiative and it has committed itself to address innovation aspects in the development of its policy, and will contribute with the removal of hurdles that hamper implementation of innovations developed within the reference sites. This however does not mean direct financial commitment.

The Parkinson-, Frail elderly- and palliative care-networks were launched thanks to grants from a variety of sources, ranging from the Ministry of Health, the Dutch Research Council/Health Care Research Council to disease oriented philanthropic societies. For each of the Networks the start-up cost studies ranged from 1 to 6 million EUR. The Dutch National Care for the Elderly Programme is currently releasing grants towards further implementation and scaling up of the Networks. Public-private partnerships are a part of all of the Networks as the contribution and participation of health care providers across the whole care pathway of the patient are a condition sine qua non.

After the start-up grant investments results were presented to health care insurers and to the boards of directors of the involved health care providers. Convinced by the positive results, they came together to create stakeholder partnerships ranging from five to 20 partners per each of the three Networks.

Several technical aids were implemented across the Networks, but the cornerstone in each Network was a digital communication system. As such, the Care and welfare information portal (ZWIP; see www.ZWIP.nl) was developed. This online e-health backbone of the elderly care network supports centralisation of care, by connecting all health care providers involved in the patients' treatment plan.
Through a joined venture with Topicus™ and Protopics™ ZWIP is now being expanded across the Netherlands (see www.Protopics.nl)

Our results:

Coverage:
- Parkinson Net: 90% coverage in the Nijmegen area, and 60% coverage nationally. It is also largely implemented in Germany.
- Frail Elderly Network: 80% coverage in the Nijmegen area. Similar networks cover other regions across the Netherlands, so that altogether at the moment 10% of the frail elderly are a part of the National Data Base for Frail older Subjects, coordinated in Nijmegen.
- Network for Palliative care: 80% coverage of the palliative care in the Nijmegen area. Similar networks cover other areas in the Netherlands and are coordinated by the Nijmegen Network. Overall the coverage is approx. 20-30% of all palliative care.

Research has shown that in regions with a ParkinsonNet the risk of a hip fracture among the elderly is 50% lower.

- The care model employed has improved functional performance and mental wellbeing.
- A study showed that general practitioners together with their practice nurse substantially improve their diagnostic capacity in dementia, and their subsequent quality of care.
- ParkinsonNet resulted in an improved quality of care against notably lower costs; it has led to savings of 15 to 20 million EUR per year.
- Frailty assessment based on EASYCare is as valid as more complex and laborious frailty screening tests in selecting the most vulnerable population that for example should not directly receive invasive treatments. In this model only 30% of elderly patients need to be screened by their GP.
- Health care insurers are buying and utilizing the services developed by the Parkinson, Elderly Care and Palliative care Networks.
- Within all the three Networks this has already resulted in job creation along the lines of ongoing network development, for example nurse practitioners’ jobs focusing on elderly and palliative care per general practice have been created.

Added value:

- Parkinson’s disease is highly prevalent, and in the Netherlands some 30,000 to 50,000 patients suffer from Parkinson’s disease. Just as the Palliative Care Net, ParkinsonNet serves the entire number of patients.
- Once involvement of relevant users was ensured, the Network of care and welfare providers proved that it can offer effective, safe and qualitatively improved and efficient care for frail elderly with complex problems. Care and welfare providers are also better suited to provide complex solutions.
- The network has been set into motion with a state-of-the-art innovation agenda accompanied by appropriate evaluation procedures. Strong network leadership provided important support, particularly in terms of dealing with initial differences in interests and helping to put in place rules for cooperation avoiding the need for corporate institutionalisation.
- The supply of care and welfare is composed of a coherent complex care organisation with a triage instrument efficiently selecting frail elderly who benefit from integral care; a first- and second line intervention component; varying connections between these components and outcome measurements, which allow for evaluation of effectiveness and efficiency of care organisation from the patient’s perspective.
- Development, evaluation and subsequent implementation and dissemination of care innovations are significantly facilitated through the Nijmegen Network model.
- The evaluations, which have taken into account gained knowledge and expertise and efficiency and cost-effectiveness of the innovations, resulted in business plans. The plans are now available to the Network and were successfully utilized in the case of the three existing Networks on frail elderly, Parkinson’s and palliative care.

Success factors:

The Nijmegen Network Approach with EASYcare as its integral part can be readily and widely implemented via exploitation activities and the EASYCare network. In addition, the Network model is designed to address important unanswered scientific questions about ageing and trajectories of functional decline, next to the detection of early warning signals for critical transitions towards dependency among the elderly and develop indicators of resilience and vitality in aging.
Barriers to innovation:

Several bottlenecks existed among the Dutch elderly people and Parkinson’s care, one being the lack of specific expertise among care providers. Also, care providers with expertise were often not well-known by either specialists and GPs or by the patients themselves. Therefore, many patients were not specifically addressed to these experts. Also, many care providers only treated limited numbers of patients thus not gaining enough experience in treatment of frail elderly and Parkinson’s disease. Finally, communication between care providers and harmonization of the care they provided was often inadequate. These were all addressed in the Parkinson and Elderly care network model and overcome by an integrated network approach and introduction of EASYcare assessment across health and social care.

Transferable elements:

The Nijmegen Model of Networking, first developed for Parkinson’s disease, has been successfully transferred to care for the elderly and palliative care. This expertise will be then transferred to the areas of chronic obstructive pulmonary disease, oncology and rheumatology.

EASYcare was originally developed for health care, but has now been transferred to the fields of social care, welfare, and housing companies. This supports its strength as single assessment instrument with high validity and cost-effectiveness. The transferability is underlined by the availability of EASYcare in 25 languages.

Lesson learnt and recommendations for others:

It has observed as a part of this Good Practice that the frail older people rely on the opinions and experience of others they know. If their GP and/or nurses promote the Network applications such as ZWIP, modern living arrangements, etc., they are more likely to use them. If there is a high percentage of frail elderly among a GP’s patient population, the use of the e-health solutions is also more prevalent. This shows that the patients rely on experience of their fellow patients.

Additionally, with the presence of an informal caregiver the elderly are more likely to use of these innovations. For example, the informal caregivers can help the elderly overcome common problems of low computer literacy.

These innovations also showed that future active older persons are probably still more interested in managing their own care, but also should be supporting in articulating their needs and priorities regarding their actual issues around health and welfare. To our experience The EASYcare system can greatly help with this.

More information:

Additional information on the EASYcare Approach (see also www.easycare.org.uk)

Key articles on effectiveness Nijmegen Networks:
**Good Practice:**

Innovation Living and Care Programme (GP2)

**Reference Site:**

Nijmegen, NL: Health Valley

**Contact information:**

“100” Welfare and Care-Network for older citizens. Nijmegen, the Netherlands
Ms. Nora Devries-Jonker
nora.devries-jonker@radboudumc.nl
www.netwerk100.nl
or communicatie@health-valley.nl
www.health-valley.nl

**Short description of your good practice:**

The Innovation Living and Care Programme is run by the ZZG Caregroup, which combines small scale living groups located in different neighbourhoods in the city to provide a proximity service to the elderly. The core principle of the model is independent living: the Caregroup supports the seniors and the people with chronic conditions to live their lives where and how they want to and delivers care services only when necessary.

**Partners in the coalition:**

The good practice is based on the involvement of local stakeholders. Traditionally these are the care providers, district nurse, family doctor, municipalities and housing corporations.

**Start date:** 2010

**Project duration:** Ongoing

**How we did it:**

This Good Practice was initiated in 2010 as a stand-alone innovation by the ZZG caregroup, which felt the need to transform its provision of long term care for the elderly.

The first stage of the Good Practice was funded through private investment.

Later the model became part of the Dutch National Care for the Elderly Programme, which now enables and stimulates further implementation and scaling up.

In terms of practical implementation, the involved elderly people use IT tools, self-diagnostic tools and self-medication tools. Assessments and checks of drug intake on individual level, for example, can be carried out remotely, while professionals are available if necessary.

The living arrangements of the elderly have also been changing thanks to this good practice. Traditional living arrangements are being replaced by better fitting living units where seniors can live together in small groups. These units are also increasingly located in neighbourhoods, where the seniors lived originally.

**Our results:**

Coverage: The programme reaches 7042 people.

- In the target area there are currently 95% of people aged 65+ and 85% of people aged 80+ living independently.
- Health insurers have seen a drop in health care costs.
- The number of unnecessary hospitalizations has dramatically decreased. In 2010 there were 1561 people unnecessarily hospitalized, in 2011 this number dropped to 365 people.
- The number of emergency calls has also decreased. Previously there was approximately 100 000 calls received annually, this number has decreased to 18000 thanks to telemonitoring services.
- The municipality sees the rise of new small scale economic ecosystems based on the increasing demand of health care in neighbourhoods.

**Added value:**

Independent living of clients is extended and the living arrangements are sustainable no matter how much care is needed by the individual client.

**Success factors:**

ZZG Caregroup operates regionally. However their concept/approach is being transferred to other regions within The Netherlands and within the Euregion Rhein-Waal through active knowledge transfer. Furthermore, ZZG applies Domotica and centres its care around the EASYcare approach, through which it can be readily and widely implemented via exploitation activities and the EASYcare network.

**Barriers to innovation:**

Main barrier for further implementation is the rapidly changing (and still uncertain) organisation and reimbursement of long term health care arrangements across The Netherlands, as the national government wants to spend less on these budgets.

**Transferable elements:**
The Nijmegen Approach, designed around patients’ needs and around their families, friends and informal caregivers, embedded in a network of care and welfare organisations, is easily transferable.

EASYcare supports the Nijmegen Approach as it connects the fields of social care, welfare, and housing companies. Its transferability is underlined by the availability of EASYcare in 25 languages.

Lesson learnt and recommendations for others:

The frail elderly people rely on the opinions and experience of others they know. If their GP and/or nurses promote the Network applications such as ZWIP, modern living arrangements, etc., they are more likely to use them.

More information:

http://www.zzgzorggroep.nl/wonenmetzorg or http://www.zzgpartners.nl/Partners.html.
In case of specific questions, you can contact: info@zzgzorggroep.nl

Good Practice:

AchterhoekConnect (GP3)

Reference Site:

Nijmegen, NL: Health Valley

Contact information:

“100” Welfare and Care-Network for older citizens, Nijmegen, the Netherlands
Ms. Nora Devries-Jonker
nora.devries-jonker@radboudumc.nl
www.netwerk100.nl
or communicatie@health-valley.nl
www.health-valley.nl

Short description of your good practice:

AchterhoekConnect is a system consisting of a set of iOS WebApp and the Medical Call Centre “MooiZo”, which together provides a ‘window to the outer world’ for the elderly (the majority aged 80+) staying at home alone. The functionalities of the system prevent loneliness, give access to care immediately (using video communication and/or wireless sensors) and facilitate community building and healthcare monitoring.

Partners in the coalition:

At the centre of this model stands the district nurse who plays a key role in getting the seniors to adapt the new technology and assesses together with the users, which care they wish to receive at home and which care may be delivered remotely. Other stakeholders such as home care organisations, homing corporations, hospitals, family doctors etc. are then involved in the process. The core technological solutions, logistics and marketing are provided by lead partners MooiZo and the Focus Cura Healthcare Innovation company.

Start date: 2006 began piloting

Project duration: Ongoing

How we did it:

Piloting of projects using PC technology for remote care began in 2006. Scaling up has been taking place since 2012.
This Good Practice was initiated as a stand-alone system by an innovative company Focus Cura that felt the need to transform its provision of long term care for the elderly.

Since 2012 remote care is financed in the same manner as traditional care by national health care insurance and private insurance companies.
Large home care organisations first bought the innovative e-health applications. This resulted in critical mass for further development and expansion. Positive experiences, net added value and the urgency to be more efficient fuelled further scaling up.

AterhoekConnect is powered by PAL4 (Personal Assistant for Life), a platform enabling collaborative mainstream infrastructure/service development. The vision of PAL4 is to support participation of older people in local communities and the society more generally while enabling the individual user to determine his/her own pace, thereby relieving the workload of health and social care staff as well. More specifically in this case the system allows the elderly to maintain contact with a health care centre as well as their families and friends. They can also for example play games on their own or remotely with others thanks to this solution. Throughout the project lifetime there has been continuous effort put into providing the elderly with necessary infrastructure (iPads, Internet). Adoption is rapidly increasing.

**Our results:**
- Improved customization of care
- People with dementia can remain at home for approx. 6 months longer. The patients may be at risk of a burn out or high stress because they cannot leave the house. With PAL4 the care centre MooiZo can monitor the patient and give direct support to the caretaker.
- Cut down on hospital admissions by about 20-30% on average. Traditionally terminal cancer patients stay in the hospital till their last weeks. With PAL4 and monitoring by MooiZo it is possible to let them go home 3 months earlier than usual, while the GP and anaesthesiologist provide remote care and the homecare nurse is delivering care at home.
- Overall the users are happier, less lonely while able to remain at home longer.
- More efficient use of home care (possible to save up to 20 hours per nurse while quality of care increases)
- Health care insurers are buying the e-health services developed by Focus Cura. The solutions also found their way into the Parkinson, Elderly Care and Palliative care Networks, having been recognized for their effectiveness and efficiency.
- These e-health innovations have resulted in job creation, as start-ups are being created due to the need for expansion of the products. The start-ups include Pal-4, Facetalk, Medido or Clavisio.

**Added value:**
- Thanks to this solution caregivers can do their work far more efficiently (more contact possible in less time and/or care is substituted to care call centers, such as medication control and/or monitoring). The effect is now that caregivers are saving about 20 hours per nurse each month when the infrastructure is implemented.
- The users (most 80+) seem to become less lonely and can stay in their homes longer and/or can be dismissed out of the hospital earlier. This is especially applicable for patient groups with dementia, terminal cancer and heart diseases.

**Success factors:**
- The initiative is not only transferable from a geographical point of view but also from a target group perspective. In the best practice area, piloting of telemonitoring of patients suffering from Chronic obstructive pulmonary disease and heart failure will be initiated soon.
- A Network such as the one described here can be developed elsewhere if these conditions are in place: willingness to participate among the elderly, shared interest and leadership between academia and business, investments from participating health care providers (both in kind and by buying partnership shares).
- Know-how on implementation and about the kinds of remotely deliverable care are accessible from the consortium. The infrastructure includes normal consumer electronics (e.g. iPad) and its Apps are easily transferable to other countries and also easily scalable.

**Barriers to innovation:**
- It was a challenge to convince the care and medical staff that remote care benefits the elderly person as much as personal care. This is still an on-going process.
- Required technical infrastructure (Tablets, Internet etc.) need to be available for personal use by the participating elderly person, who must also be able to use the equipment.

**More information:**
http://www.focuscura.nl/website/
http://www.pal4.nl/website/index.php
http://www.facetalk.nl/
http://www.futurelabvoordezorg.nl/
### Key data:

**Netherlands**

**health system**

54 - Bismarck
(reliance on market mechanisms in service provision)
private insurance for basic coverage

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Good Practice:

EurSafety Health-net: Euregional Network for Patient Safety and Infection Prevention (GP 1)

Reference Site:

Northern Netherlands Provinces Alliance

Contact information:

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Short description of your good practice:

EurSafety Health-net seeks to overcome the most striking difference in quality of healthcare between the two healthcare systems in the Dutch-German border region: healthcare associated infection (HCAI) and prevalence of antimicrobial resistant microorganisms. This difference is an important obstacle for cross-border transfer of patients and healthcare workers.

EurSafety Health-net aims to foster cross border healthcare by harmonizing the quality of care and the efforts of healthcare providers alongside the border. This is achieved by building Euregional networks of healthcare providers implementing Euregional Transparency & Quality Certificates (EQS) for hospitals and long-term care facilities, training healthcare workers, informing the public and transferring knowledge and e-Health technology to improve infection prevention.

Partners in the coalition:

- University Medical Center Groningen (UMCG; leadpartner of the project since 2011)
- University Hospital Münster (UKM; leadpartner 2009-2011)
- European-wide known experts in the field and/or keypersons to the national authority in the field of prevention and patient safety (as project coordinators)
- The 5 euregional EurSafety Health-net networks comprises important stakeholders of healthcare and research. Up to date hospitals, GP’s, Laboratories, public health services, important insurance companies (e.g. AOK) as well as patient’s interest groups (www.epecs.org) participate actively.
- Local and regional companies (to provide the needed (E)-technology).
- 8 Universities and university hospitals of the border region (for research&development)
- National and regional public health authorities (to harmonize the benchmarking indicators).
- Public health offices (as external quality control authority).
- Dutch, German and European stakeholders, such as the RIVM, The Robert Koch Institute and the ECDC.
- Other border regions, such as Dutch-Belgium, Germany-Poland (Pomerania), Germany-Chech Republic and Austria-Chech Republic are interested in collaborating with EurSafety Health-net.

Start date: July 2009

Project duration: From 2009 to 2015

How we did it:

The initial analysis of patients’ transfer data between hospitals led to the creation of the Euregional Networks of healthcare providers alongside the Dutch-German border region built on the real-life healthcare clusters. Here, next to continuous communication and harmonization of guidelines, benchmarking indicators for early diagnostic and prevention have been developed and introduced by the project partners themselves.

Through an external audit, healthcare providers (beginning with acute care hospitals, long term care facilities and larger specialized practices) can achieve the
Euregional Quality and Transparency Certificates (ETQC).

Data for healthcare-associated infections due to MRSA were analysed in 40 hospitals with the ETQC and compared to those of the hospitals in other Regions. The results showed a significant reduction of MRSA-infection.

Provinces and Länder in the border region directly supported the project bringing the topic “patient safety and infection prevention” on top of the political agenda following here the EU-priority of this topic. In 2012 Nordrhein Westfalia awarded the project with the “State Health Award” for the project’s innovative character for sustainably improving healthcare in the border region.

EurSafety Health-net is financially supported from 2009 to 2015 with 8.1 Mio Euro by the Interreg-IVa program (No: III-1-02+75) of the European Commission, the Ministries of Economics of the German federal States of Nordrhein-Westfalen and Niedersachsen, the Dutch Provinces Overijssel, Gelderland and Limburg and The University Medical Center Groningen, the Province of Groningen, the University Hospital Münster and the other project partners. The implementation of the preventive measures is paid by the national healthcare systems, to ensure that screening, early diagnostic and prevention of infections are sustainably done.

To reduce healthcare associated infections caused by MRSA, personalized infection control diagnostics were implemented in all participating hospitals of the regions. This led to necessity of using modern typing technology (spa typin) that had been developed by some of the project partners

The implementation of personalized infection control diagnostics was achieved through making this step part of the ETQC-certificate. This allowed im parallel the implementation of regional infection control strategy of the healthcare providers in hospitals and in GP’s called “search&follow”-strategy.

The success of the project results on the German side of the border allowed to reach the Dutch low infection rate. This lead to adapting this Euregional “search&follow”-strategy for the whole country followed by the decision by the Bundestag in 2012 to finance the personalized infection control diagnostics (screening) also for patients in the primary healthcare sector.

Our results:

Coverage: about 700.000 patients are reached at the moment with EurSafety health-net.

EurSafety Health-net is a growing network of up to date 129 acute care hospitals, 8 universities, 2956 GP’s, 12 revalidation clinics 75 nursing homes, 12 regional laboratories and 35 public health services on both sides of the Dutch-German border region.

Medical care is improved by enhancing patient safety, strengthening quality of healthcare and creating need for diagnostic and infection prevention technology.

Harmonization of quality of healthcare is reached by commonly used indicators for the prevention of MRSA. Euregional Transparency and Quality Certificates on both sides of the border make this harmonized quality visible for patients and health insurances across the border.

The search&follow strategy implemented in the first region resulted in a 5-fold increase of screening and a significant reduction of healthcare associated MRSA-infections by 40%. Jurke et al. 2013 Eurosurveillance

Within Eursafe Health-net, the regional healthcare cluster that started firstly to achieve ETQC reduced significantly the regional MRSA infection rate. The rate remains low since then.

In 2012 the project was awarded with the “State Health Award of Nordrhein-Westfalia” for the project’s innovative character for sustainable improvement of healthcare for citizens in the border region.

Hospitals, laboratories, diagnostic companies, companies selling hygiene products and medical devices for infection prevention gain competitiveness within the border region, as they can procure and sell their products to the healthcare providers seeking higher quality in healthcare due to the project activities and the necessity of the ETQC. Furthermore, the market is equally harmonized for products and services across the border. As example a Dutch hospital bought innovative “WIFI”-hand disinfectant dispensers from a German company and vice-versa a German private laboratory established a Dutch diagnostic test from a Dutch company.

Jobs created: 14 full time equivalents employed by the EurSafety Health-net, plus about 50 people working whole and part-time for the project within their own organizations whose extended due to needs created by the project activities. In 5 of these organizations new positions have been created due to the project- triggered activities.

Added value:

The most innovative activity is the identification of real-life healthcare clusters and the subsequent creation of the Euregional Network of Healthcare Services alongside the whole Dutch-German border euregions, in order to protect patients from infections while seeking healthcare.

The Euregional Transparency & Quality Certificate (ETQC) makes patient safety and quality of healthcare transparent on both sides of the border. This facilitates crossborder patient care and leads to benefits for all
Euregios, providing an advantage of location for hospitals and ambulatory services.

- The EurSafety Health-net principle of the Euregional Transparency & Quality Certificate (ETQC) has already been adopted by other regions in the Netherlands, Germany and Belgium.

**Barriers to innovation:**

Language barriers reduce for some professions the possibility of working closely together on a daily or weekly basis, which is required for cross border project work.

As for administrative barriers, single Euregions are not participating in funding frameworks for Interreg. This is an obstacle for the implementation of projects along side the whole border that has to be overcome in order to guarantee to all patients along this very border region the achievements of the project.

**Transferable elements:**

- The decolonizing tool for the GP's.
- The preventive "search&follow" strategy for early detection and decolonisation of infection carriers.
- The personalized infection control diagnostic
- The analysis of regional healthcare clusters by using next-generation network analysis
- The six-stage decolonisation scheme for the Training of doctors in the regional networks on the cure and care of underlying chronic diseases.
- Diagnostic tests strategies followed by the development of products by IVD-companies
- EurSafety Health-net protocols (published via MRSA-net)

Other Regions are welcome to implement this quality assessment within their regional healthcare clusters. EurSafety Health-net will provide service to all interested (cross border) healthcare regions in Europe to acquire the ETQC.

**Lesson learnt and recommendations for others:**

In the beginning, health projects are sometimes not considered to be important enough for co-financing of cross border projects by national authorities. We have learned that cross border collaboration in healthcare links separated systems, leading to creative problem solutions, fostering quality of healthcare and boosting productivity of SME's providing healthcare technology and goods.

**More information:**

www.eursafety.eu
www.mrsa-net.nl
Good Practice:

EMBRACE, a new Dutch Integrated elderly care program (GP2)

Reference Site:

Northern Netherlands Provinces Alliance

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Email: info@hannn.eu

Start date: January 2012

Project duration: Pilot phase from January 2012 to April 2013 and an extended intervention period until July 2014 and expected continuation afterwards (as a bridge towards structural financing of Embrace).

How we did it:

Embrace was initiated by the Department of Health sciences (University Medical Center Groningen, University of Groningen), the health insurance company Menzis, and the health care organization Meander.

From the political side, local municipalities participate in the project.

During the pilot phase Embrace was funded by governmental funds. Now the local health insurance company Menzis and the participating municipalities intend to find additional financing sources to keep the project ongoing and make it permanent. The financial investment for the pilot-phase (for development, implementation of Embrace, and for experimental research) was about €1.2 million and for the one year intervention period on 750 elderly €0.6 million. For the one year extension: €0.3 million for project and research and €1.2 million for the intervention (double number of participants, 2x750) was needed.

The business case calculated that average costs for Embrace amount to €649 per person and range from €68 (Robust profile, 64%) to €1,365 (Frail profile, 16%) and €1,937 (Complex needs profile, 20%).

Stakeholders were involved in the development, financing, implementation and evaluation of Embrace.

Our results:

Coverage: Embrace is currently put into practice in fifteen general practitioner practices in Eastern part of the province Groningen. In total 1,474 elderly people (75+) living at home are participating.

As a result from the experimental study there is expectation for improved patient outcomes, quality of care and reduced service use and costs for Embrace compared to care as usual. Results will become available in 2014.

The qualitative study among elderly participants indicated that the elderly people feel secure and safe and have the confidence to be able to continue to live at home independently for longer thanks to Embrace services.

Embrace is meant to deliver effective and efficient service use and reduce hospitalisation as shown by the results of a dedicated business case. For the development of this business case the participating elderly people gave their consent to acquire financial data from their insurance companies and the municipalities. It showed that average savings for the total population of elderly people living in the community were €274,- during one year.

Short description of your good practice:

Embrace – (SamenOud in Dutch) is a redesign of the care delivery system for people of 75 years and older living in the community. Embrace is an integrated care model based on the Chronic Care model and targeted to all elderly people living in the community.

Annual screening and triage provides risk profiles (Robust, Frail or Complex needs) for elderly people as an indication for a suitable care intensity level. Next, a multi-disciplinary Elderly Care Team (ECT) provides personalised, pro-active and preventive care delivery and support to match the desired care intensity level.

Expected outcomes of Embrace are improved patient outcomes and quality of care, and reduced service use and costs.

Partners in the coalition:

Embrace connects community organisations (welfare organizations and municipalities) with health care organisations (general practitioner practices home health care organisations, homes for the elderly, nursing homes and hospitals, and elderly associations.

The collaboration between these organisations is laid down in a formal cooperation agreement signed by all stakeholders.
year for each elderly person, ranging from €599 (Complex needs profile, 64%) and €285 (Frail profile, 16%) to €169 (Robust profile, 64%). Included in these savings are the costs for Embrace.

Professionals in the Elderly Care Teams report more satisfaction because of the patient-centred, proactive and preventive methods of working.

Managers experience a better targeted and more efficient use of their workforce and efforts because of the triage results.

Healthcare insurers are happy with integrated and cheaper treatment of multimorbidity and polypharmacy in the general practitioner practices instead of fragmented treatment by medical specialists in hospitals.

Embrace may offer (also) a solution for lack of quality care personnel in a rural area with a relatively high percentage of elderly people.

**Added value:**

Embrace is an integrated care project. The integration of the various policies, approaches and resources, present in the care for the elderly, is the essence of the project.

Embrace is based on the Chronic Care Model and uses the Kaiser Permanente (KP)-triangle to provide a suitable level of care and support for all elderly people based on 3 profiles: Robust (healthy, 64% of the population), Frail (vulnerable but healthy, 16%) and Complex needs (multimorbidity, 20% of the population).

**Success factors:**

The implementation of a self-management- and support program for the robust elderly people and individual support of frail elderly and elderly people with complex care needs over 75 years old in the pilot area. The program was run by a multidisciplinary team, led by the general practitioner, with an elderly care physician, a district nurse and a social worker.

The annual screening and triage provided risk profiles (Robust, Frail or Complex needs) for participating elderly people as an indication for a suitable care intensity level.

Provision of personalised care and support organized by the Elderly care team to match the desired care intensity level.

**Barriers to innovation:**

An important and rather fundamental barrier to the structural embedding of Embrace is the fragmented financing: integrated care needs integrated financing.

**Transferable elements:**

As a result from the Embrace study specific tools will be available as soon as possible so that Embrace can start in other regions, municipalities and general practitioner practices. These tools are: the web-based electronic elderly dossier, the self-management support and prevention program, the training program for the elderly care teams, the decision support tools like the screening and triage instruments, and the anamneses based on the International Classification of Functioning, disability and health (ICF), the standardized (preventive) care plans for the most important health problems (falling, malnutrition, immobility, loneliness, etc.), Goal Attainment Scoring methods, communication and information materials, etc.

Currently, initiatives for valorisation of Embrace into larger Regions are in preparation so that within a few years, at least 10% of the local target population will receive Embrace care and support from the elderly care teams.

**Lessons learnt and recommendations for others:**

Local policies recognize Embrace as a generic population health management model that can be transferred to other vulnerable groups in the community, like chronically ill and youth.

**More information:**

Good Practice:

Groningen Active Living Model (GALM) (GP3)

Reference Site:

Northern Netherlands Provinces Alliance

Contact information:

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Prunusstraat 41
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www.galm.nl

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Northern Netherlands
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P.O.box 1047
9701 BA Groningen
The Netherlands
info@hannn.eu

Short description of your good practice:

The Groningen Active Living Model (GALM) is dedicated to the promotion of the active ageing, particularly regarding regular physical activity to improve elderly people’s functional capacity and quality of life, and decrease their risk of some illnesses and debilitating conditions, like coronary heart disease, diabetes mellitus type 2, and hypertension.

Phase 1 is the neighbourhood oriented recruitment phase. The elderly are approached through a door-to-door campaign. Phase 2 concerns intake testing and early diagnosis and phase 3 is the recreational sports activity program.

Partners in the coalition:

The GALM initiative was launched by a coalition formed by the University of Groningen, a national association for the promotion of physical activity of older people and the provinces of Drenthe and Groningen.

Start date: in 1997 the start pilot

Project duration: GALM and its spin offs are still running as standing practice

How we did it:

The GALM initiative was launched by the above mentioned coalition. After a successful pilot phase, a national implementation plan was developed, submitted and accepted. The national implementation was organized and carried out through training, and coaching of regional sports coordinators.

From the start of the pilot phase, political support was ensured through the participation of the regional authorities, i.e. the provinces of Groningen and Drenthe. Later, after the successful start of the project, also political support of the Ministry of Health was received.

Funding for scaling up was provided by a number of organisations among which the Ministry of Health, the Dutch Heart Foundation and the Dutch Netherlands Organisation for Health Research and Development (ZonMw).

A local committee of relevant stakeholder from the field of sport, health, welfare etc was formed. The local committee had the task to recruit volunteers to be trained by the regional project coordinators.

Our results

- Coverage: Between 1997 and 2010 more than 1.060.330 older adults were visited door-to-door, over 101.542 were tested, and 67.899 participated in the GALM program. Of the 12.3% of older adults who were included, 79.4% could be indeed considered sedentary or underactive.
- The participation in the GALM increased leisure-time physical recreational sports activities and generated positive changes in performance-based fitness outcomes. Cardiovascular functioning improved significantly from baseline to 18 months.
- The economic effects of the project are small but the 815 projects in the Netherlands implied the employment of over 700 part-time trainers, over 1.630 local professionals from municipals, local health services etc. Furthermore, the total exploitation of these 815 projects ranges between 16.300.000 and 24.450.000 million Euro.

Added value:

Integrated approach, combining prevention, screening and early diagnosis, care and cure and active ageing/independent living.

End-user involvement from the beginning.

Success factors:

- The pro-active and personal door-to-door recruitment phase.
- The versatility of the program, offering softball, dance, self-defence, swimming, athletics etc. (more appealing for older adults, and covering more components of motor fitness (e.g. strength, flexibility, endurance and coordination).
- The programme is based on recreational sports (as opposed to exercise-based), offered within a framework of theories on behavioural change and evolutionary-biological play.
- The costs per participant are only € 84,-.
- The unique way of training and coaching the regional project managers.

**Transferable elements:**

The GALM-formula has turned out to be transferable 'as a whole'. It has been implemented in all provinces of the Netherlands (815 projects). Five projects have been started in Belgium and in Australia the Canberra Active Living Model (CALM), based on GALM principles, has been implemented successfully implemented in Australia.

**More information:**

[www.galm.nl](http://www.galm.nl)

**Key data:**

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Good Practice:

Care Site: Collaboration model / toolbox for digital support of informal care (GP1)

Reference Site:

Cooperation 'Slimmer Leven 2020'; Innovation network for Active and Healthy Ageing / Noord-Brabant Region

Contact information:

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Marieke van Beurden (project manager/contact person), Email: m.vanbeurden@slimmerleven2020.org

Short description of your good practice:

The 'Care site' Helmond initiative focuses on independent living and active ageing, while also influencing prevention and early diagnosis, and care and cure. It helps people to self-organize, and extend their informal support system, allowing them to stay independent and maintain their role in society.

The Care Site is there for people who encounter ageing and health issues as well as the primary informal caregivers of people with chronic diseases (family members and volunteers).

The ‘Care site’ enhances the communication with other informal caregivers, and between formal caregivers and the family, by sharing information and problems, keeping everyone involved and up to date, by adding tasks and request to the patient-specific ‘Care Site’-calendar.

Partners in the coalition:

- The City of Helmond (initiator and director) is partner/member in the Cooperative 'Slimmer Leven 2020', which is formed by healthcare, welfare, government, and business partners across
  - the 21 municipalities of the Brainport Region.
- Participants include 40+ healthcare, welfare, and elderly organizations in Helmond
- An IT company - Simac delivered the ‘Care site’ product, and provided updates, local adaptations and new functionalities.

Start date: 2011

Project duration: 2014

How we did it:

A grant and support from the provincial government enabled the City of Helmond to start the initiative. The owner of the ‘Care site’ product, IT company Simac, accommodated the financial and regional structure in their licensing scheme, provided local adaptations of the product, and proposed/arranged improvements and new functionalities.

Recently, the Cooperative 'Slimmer Leven 2020' has decided that the ‘Care site’ initiative will be one of the key projects for scaling-up, to be widely implemented in the Brainport region Eindhoven.

The City of Helmond has presented the ‘Care site’ initiative to various other municipalities over the last two years. Also, they are finishing an Action Plan that will help other cities with the step-by-step implementation of ‘Care site’.

Some of the organizations involved have opted to buy a license for all their clients, including the ones not living in Helmond. Those organisations and the City of Helmond equally share the licence costs for those living in Helmond, creating a win-win situation.

Writing down all the step-by-step activities and dissemination throughout the region is organised and financed by the Cooperative 'Slimmer Leven 2020' and their members

Direct costs: The financial investment is less then 0,50 Euro per inhabitant for the municipality. Every Care Organisation will pay for their own migration. For the other indirect costs: The City of Helmond has provided information folders, door-to-door leaflets, advertising in
local newspapers, a broadcast item on the local TV station, attended an information market, and has given over 20 workshops and lectures.

This project geared municipalities in their responsibility for implementation of the Public Health Act and the Social Support Act by supporting local health and social support and participation strategies. All the Care Organisations that participate see the benefits of this application bridging the gap between the informal and formal care.

‘Care site’ is accessible to everyone with a computer/notebook/tablet/smartphone, and an internet connection, and works with all regular browsers and browser versions. Broadband penetration (cable, DSL) in Helmond is well over 90%. There were no real technical obstacles. If a person is not able to work with the ‘Care site’, a webmaster from the network can be appoint it to arrange the necessities for them.

Our results:
- Coverage: In the 1.5 years since ‘Care site’ was launched in Helmond (population: 89,000), 465 private sites were launched, with around 1,850 members.
- Patients can remain in control of their informal care process.
- Informal care givers and patients can mobilize ‘helping hands’ much easier than before, thus reducing stress, insecurity, and time and effort needed.
- Informal care givers and patients can increase the amount of potential assistants and also of tasks an individual assistant is willing to perform.
- Sharing of information and updates between patients, informal and formal carers becomes much easier and more efficient.
- Care at home is about five times more cost effective than institutional care.
- When site owners grant access to formal caregivers, the communication between formal caregivers and the family can be greatly improved. Now, everyone gets the same information, and that information can be shared at any time, and questions can be asked without the need for physical presence.
- Ageing and rejuvenation make it more important to reduce the quantity of jobs needed, so that you can create resources there, where they are really needed.
- The ‘Care site’ offers a lot of opportunities in the rest of Europe, looking at the European challenge of Ageing and rejuvenation.

Added value:
- Informal caregivers or patients can use the ‘Care site’ calendar to request help or assistance or share relevant updates or changes. They reach all ‘their’ registered users in one go.
- By giving people that offer help access to their calendar, they can easily expand the ‘pool’ of potential helpers.
- The ‘Care site’ calendars offer volunteers the option to actively choose and plan tasks and dates/times to suit their likings, as well as their personal calendar. There is much less of a feeling of obligation, while seeing the sheer volume of tasks for which help is required, will stimulate them to actually take action.
- Healthcare, welfare and volunteer organizations can offer their members/clients free access to a tool that will support them in organizing informal care.

Success factors:
- Thanks to continuity of efforts to maintain involvement, it is possible to consistently secure commitment and attention for the ‘Care site’. Strategic contacts are maintained at decision making levels, whereas practical/executive contacts are organized through workshops and trainings.
- Online product owner Simac has accommodated the financial and regional structure in their licensing scheme, provided local adaptations of the product, as well as improvements and new functionalities.
- ‘Care site’ is available free of charge to all 89,000 inhabitants of Helmond.

Barriers to innovation:
The ‘not invented here’-syndrome is an obstacle. All actors prefer to make their own choices and there are so many solutions to choose from, adoption of a unified solution will take a long time (feeling of insecurity), while fragmentation will cause less effectiveness.

Transferable elements:
As ‘Care site’ is an online product, scaling-up is merely a matter of implementing a tailored copy of the ‘Helmond environment’ to any new municipality. The Cooperative ‘Slimmer Leven 2020’ has decided that the ‘Care site’ initiative will be one of the key projects for scaling-up, to be widely implemented in the Brainport region Eindhoven. The ‘Care site’ product was originally aimed at health institutions to offer to their clients. ‘Care site’ has already been in use by dozens of healthcare providers in other parts of the country. An Action Plan to help other cities with the step-by-step implementation of ‘Care site’ is being developed.
Lessons learnt and recommendations for others:
If you know upfront that there will be a process of scaling up, then it is better to try to work together from the start. Because it takes a lot of time to get all involved to the same level. If you work on your own, you will be faster. If you work together, you will achieve more!

More information:

Good Practice:
"Zorgcirkels" (English translation: Circles of Care)

Reference Site:
Cooperation ’Slimmer Leven 2020’; Innovation network for Active and Healthy Ageing / Noord-Brabant Region

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Short description of your good practice:
20 care providers in Brainport Region Eindhoven work together to deliver a higher quality of care and extra security during the night for people in need of care or assistance.

They share facilities like a joint health call centre and night teams who provide care during the night for citizens in the area irrespective of the care-organization they belong to.

Electronic equipment like (movement-) sensors, door switches, mat alarms, and GPS transmitters is used for telemonitoring and alarming call centre and emergency services.

Care teams can be at clients’ home in ten to twenty minutes without major extra costs for society. This is reassuring for independent living elderly people, and supports them with active and independent living.

The over 70 participating member organisations of Slimmer Leven 2020 contribute to the development of a shared services facility for communication and networking infrastructure among the whole chain of care-providing.

Partners in the coalition:
- The Slimmer Leven 2020 Cooperative has more than 70 founding members in eight domains:
  o local and regional governments,
  o care providers,
  o hospitals,
  o housing corporations,
More specifically, the following care organisations and educational institutes participate: Archipel, Joriszorg, Lunetzorg, RSZK, Brabant Zorg, Fontys, Summa College, SRE, ORO, SWZ, Diomage, Neos, Savant Zorg, Valkenhof, Vitalis, Zorgboog, Zorggroep St Maarten, Land van Horne, Amaliazorg, St Annaklooster

Start date: 2009
Project duration: 2009-2015
How we did it:

In 2009 three care organizations launched the initiative in region De Kempen (near Eindhoven). Further development with more care providers by funding of the province of Noord-Brabant was established in 2010/2011. In 2012 the social business case was elaborated. In 2013 extension to more regions around Eindhoven took place. The involved partners formulated their joint ambition for a regional care communication central.

Funding was ensured by the care providers (70%), and by the province (30%). The total amount of funding was:
Private 1 million
Public 0,5 million

The initiative came from the stakeholders. After the positive evaluation of the first projects a positive attitude developed for further dissemination.

Our results:

- Coverage: in 2013 12 care circles in the region active, in 2014 26 care circles in the wider Eindhoven region active.
- Remote surveillance and the availability of staff in few minutes creates more confidence, more safety, less stress for the elderly person and family, positively influencing sleep and thereby quality of life.
- Small scale care houses in rural areas become better financially sustainable because of Circles for Care, which is beneficial for quality of life for people living in rural areas.
- Care at home is about five times more cost effective than intramural care.

Development of remote surveillance creates a need for the development of remote surveillance services specialised in care. Circles of care helps the competitiveness of technical companies in the health industry (eHealth). Because the large number of cooperating care organizations, they have clearly defined needs concerning standardization and interoperability. Vendor lock-in is prevented, resulting in more competitive market conditions.

Added value:

Circles of care offers three aspects of added value: (a) care is organized among several care institutions, sharing resources and assets; (b) technical infrastructure is organized as a shared service (tools) and (c) the technical solutions actually deployed (products).

People who live at home need constant monitoring and if an event occurs they need immediate support. Individual care institutions are not able to organize this in a cost effective manner, but cooperation among different actors can represent a solution.

Circles of care help the competitiveness of technical companies in the life science industry (eHealth). Because of the large number of care organizations involved, they have clearly defined needs concerning standardization and interoperability. Because of this, vendor lock-in is prevented, resulting in more competitive market conditions.

Success factors:

Because of the cooperation among many different parties and stakeholders, special emphasis is given to interoperability as a conditio sine qua non for implementing shared services in a sustainable way.

Barriers to innovation:

The circles of care faces several barriers: - Barriers concerning government safety regulations e.g. firecode demands and internal safety procedures; - Lack of interoperability between technological solutions used by different care institutions involved; - Because different branches of care (eg Elderly care, care for mentally disabled) are involved financial incentives are different; - Electronic Patient information is needed to provide high quality care not sharable between organisations; - Staff in a care circle requires additional training

Transferable elements:

- Dissemination of “Sharing staff for care”
The experience gained form the first 5 circles of care, with 7 organisations involved, is documented in a Toolkit, to facilitate transfer to new communities. Currently twenty organizations are involved.

For a small fee the Toolkit is made available to interested organisations outside the region of South East Brabant, including presentations and visits. The toolkit is
available both hardcopy and on internet, and is updated regularly, based on practical experience.

- Dissemination of "Remote surveillance for care"
The organizations within Circles of Care specialized in remote surveillance support dissemination activities and recently decided to cooperate to pool expertise and funding for the development of services for the whole region and outside the region. A commercial partner is looked for to support the development.

**Lesson learnt and recommendations for others:**

In South East Brabant a steering group is available to work on questions that cannot be answered on community level. This steering group consists of Members of Boards. Other regions are advised to work with a steering group on board level to answer challenges.

The use of remote surveillance has become part of the curriculum of schools for staff of care organizations. The schools also arranged that remote surveillance is part of the national education standard. By doing so new staff will have experience with remote care.

**More information:**


**Good Practice:**

“Slimmer met Zorg” (English translation: Smarter with Care) (GP3)

**Reference Site:**

Cooperation ‘Slimmer Leven 2020’; Innovation network for Active and Healthy Ageing / Noord-Brabant Region

**Contact information:**

Coöperatie Slimmer Leven 2020 U.A. Emmasingel 11, 5611 AZ EINDHOVEN

Peter Portheine (director), Email: p.portheine@slimmerleven2020.org

Marieke van Beurden (project manager/ contact person), Email: m.vanbeurden@slimmerleven2020.org

**Short description of your good practice:**

The Smarter with Care programme aims to reduce the costs of some 300,000 health insurance policyholders and maintain or even boost the expected health of the population, through the health management and quality of care lines, Smarter with Care in the Eindhoven region.

The first cornerstone of the programme is a business model established in a new contract, comprising amongst others a cooperative structure, cost, quality and health analyses, a data infrastructure structure and administrative alignment within and between organisations.

The second cornerstone is a collaboration scheme, based on seven care themes and 22 care projects that are co-defined and implemented by patients and primary, secondary and home care providers, with a focus on collaboration, facilitating self management and own responsibility in handling one’s own conditions), sense and efficiency, and customised care.

**Partners in the coalition:**

Smarter with Care concerns a partnership between two health insurance companies, 1st line care providers, patients and municipalities in the Eindhoven region.

**Start date:** November 2012

**Project duration:** 2013-2018
How we did it:

The initiative of Smarter with Care came from two first line care providers, two of the biggest health insurance companies and a patient interest organization.

The Ministry of Health appointed Smarter with Care to be an experimental zone for new cost models in care.

The project has a yearly budget of €500k to execute the programme and to cover specific costs. The health insurers finance the expected shared savings beforehand. The costs for care which are part of the programme and projects are covered by the former contracts between the care providers and the health insurers. There are several technical solutions implemented as a part of the project most of them based on eHealth technologies.

Our results:

Coverage: In the beginning of the project there were over 300,000 citizens. With the extension of the coalition by another health provider SGE the target population has increased to almost 400,000 citizens, reaching >50% of our local target population.

All patients/citizens (> 300,000) of GPs taking part in the coalition will benefit. This covers 80% of the health insurance policyholders and participating GPs in the Brainport region Eindhoven.

Medical care is improved by enhancing patient safety, strengthening quality of healthcare and creating a need for diagnostic and infection prevention technology.

The search&follow strategy implemented in the first region resulted in a 5-fold increase of screening and a significant reduction of healthcare associated MRSA-infections.

The aim is to reduce the expected rise in care costs by 2% per year. This is contained in the contract and amounts to €15 million annually for five years.

The Cooperative Slimmer Leven 2020 offers economic opportunities for the technologies and ICT-products and services, which are crucial in the project.

As Smarter with Care works on all levels and with the whole integrated care model, a sustainable labour market is being created.

Added value:

- The systematic way of working has triple aim: reducing costs, high quality of care and improvement of health of patients
- On a structural basis patient perspective is central

Success factors:

- Commitment of many stakeholders on a non-committal basis
- The shared savings agreements are an important basis

Barriers to innovation:

There has to be a constant balance between the focus of the project and the many opportunities proposed by the coalition partners and organizations on the side-line parallel to the project. The change capability in terms of time to integrate new working methods and use of (new) technology is limited for the professionals working in the first line, especially GP’s.

Transferable elements:

The proceedings of this initiative are fully monitored by the national Ministry of Health in order to decide about upscaling of this model to the national level. The Smarter with Care model contains no propriety elements which might hamper leverage to other regions in the country.

More information:

Key data:

<table>
<thead>
<tr>
<th>Health system</th>
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### Netherlands

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</table>
**Good Practice:**

Technology supported social innovation for our elderly in their neighbourhood (GP1)

**Reference Site:**

Region Twente (Municipality of Enschede)

**Contact information:**

Hans Haveman
Postbus 20 7500AA Enschede Netherlands
h.haveman@enschede.nl

**Short description of your good practice:**

Looking at health, exercise and safety in and around the house and watch limiting factors in vitality.

- **Implementing effective screening** using web based services and envisaging a holistic approach in monitoring health and wellbeing.
- **Implementing effective support and treatment**, individually tailored services provided in the daily environment of the elderly person.
- **Realizing social innovation**: using **home visits to the elderly** looking at safety in and around the house and limiting factors in vitality. Offer meaning transition from fragmented reactive disease management into preventive personalized services offered through local community services, supported by a proactive team of caregivers and health professionals. As such, new ways of working among formal and informal care givers will be introduced

**Partners in the coalition:**

The partners being involved in this good practice consist of end users being patients and health care institutes (general practitioners, hospitals, home care sector, nursing homes, and rehabilitation centres), knowledge institutes (Roessingh Research and Development, University of Twente, Saxion), Insurance companies (Menzis), local government (Municipality of Enschede) and industry (KennisPark Twente, foundation VVVS). This coalition of partners will bring together the outcome indicators in reach.

**Start Date:** Q2 2013

**Project duration:** There are several projects combined to the good practice.

**How we did it:**

Starting from the experience of the municipality of Enschede with integrated neighbourhoods approach to further develop, evaluate and implement we combined this approach with technology, to support healthy aging for our elderly population. In this way we aim to combine social innovation with supportive technology. For this purpose we searched and search enthusiastic partners with efficient applications.

There is commitment from the core group; other parties will be involved on concrete project.

In principal the sources of funding are existing budgets. The good practice is cost-effective. The close collaboration between the financers: health insurer and municipality facilitates this process.

There is public private partnership in the investment. For the effective screening additional European money is available. There is an existing close collaboration between health insurer and municipality. Challenges for market and research/development exist.

Solution use simple – often existing- IT-applications (PC, laptop, tablet) with clear instructions to the users

**Our results:**

The good practice will during the the first year encompass 1-3 neighbourhoods in the Enschede, and will reach around 1000 elderly people and include 4 innovative health services. The goal is to actively spread out to other neighbourhoods, municipalities, regions and countries within the next two years.

Realised: 700 house visits looking at safety in and around the house. 350 elderly during a one-year activity
of the program. This should lead to a minimum of 20% reduction of falls.

The goal is high quality support and care resulting in safer home environments, less falls, less medication intake and hospitalization and longer living independent in their own environment. This definitely improves their quality of life even as 350 elderly are in a one-year activity program. The results should underlie this assumption in 2014.

The good practice is a prevention action.

The Twente Region has a great number of small SME's focused on the development of health care products. The care environment that is being created provides an excellent opportunity to test new services and products in a realistic setting. Also the consumer market will get a boost through the attention for housing and prevention of elderly.

We will use as indicator the growth of active enterprise in the health domain by:
- testing and evaluate at least 10 innovative application with clients and end users
- implementation of at least 5 innovative applications with a positive business case.

**Added value:**

The main added value is the value for the elderly as they will gain on their vitality and independency, through the support and treatment services. For the elderly persons with chronic disorders, these services as well as the social innovation, will in addition contribute to a higher quality of care, a decrease of medical consumption and less hospital stays.

**Success factors:**

The integrated approach is the main factor for success.

**Barriers to innovation:**

The time to market: piloting and waiting for the (positive) results takes time.

**Transferable elements:**

The good practice is a simple approach an can be transferred to all regions. The innovative services are also wide transferable.

**Lesson learnt and recommendations for others:**

Start with cases where clear positive gains for participating partners can be identified.
More information:

See [http://www.enschede.nl/repository/09509/](http://www.enschede.nl/repository/09509/) for the report: Technology supported social innovation for care of the elderly in Twente. See also Condition Coach as good practice in A3 Action Group Good Practice.

The region Twente in the eastern part of the Netherlands has approximately 630,000 inhabitants.

**Key data:**

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Good Practice:
Ageing Well in Wales

Reference Site:
The Ageing Well in Wales Programme, hosted by the Older People’s Commissioner for Wales

Contact information:
Bev Reategui / Kay Hennessy
Office of the Older People’s Commissioner for Wales
Cambrian Buildings, Mount Stuart Square
Cardiff CF10 5FL
Tel: + 44 (0) 29 2044 5030
Email: kay.hennessy@olderpeoplewales.com

Short description of your good practice:
The Welsh Government Strategy for Older People in Wales 2003-13 adopted a holistic approach to older people's health and well-being, through a series of initiatives such as those on increasing physical activity, (free swimming, Nordic walking, exercise referral schemes) falls prevention (the Multiagency Falls Collaborative), chronic conditions (Chronic Conditions Management Programme), patients’ education (Education Programme for Patients course), as well as supporting the development of age-friendly communities through inter-generational schemes (Generations together Cymru) arts initiatives (the Gwanwyn festival) and increasing the engagement and representation of older people at local and national government levels.

During the third phase of the Strategy 2013-23 the focus will be to:
- Create a Wales where full participation is in reach of all older people,
- Develop communities that are age-friendly whilst ensuring people have the resources they need to live,
- Ensure that future generations of older people are well equipped for later life by encouraging recognition of the changes and demands that may be faced and taking action early in preparation.

The Ageing Well in Wales programme (2012-17) is integrated into the 3rd phase of the Strategy.

The programme aims to promote positive attitudes and improve the wellbeing of people aged 50 and over through collaborative targeted action that adopts best practice, evidence and innovation from other parts of the UK and Europe. Underpinning this are 4 specific objectives:
1. Support and champion positive changes to attitudes to an ageing society,
2. Increase the opportunities for older people to access services and support and take action that will enable them to age well,
3. Contribute to preventative action to reduce the pressure on health and social care and reduce inequalities across Wales,
4. Provide support and advice to public sector organisations and partners to enable them to adapt their policies and practices to ensure that they better support people at a local level to age well.

Partners in the coalition:
The Ageing Well in Wales Programme works in partnership with:
- The Welsh Government;
- Local governments (local authorities)
- The National Health Service, (NHS)
- Public Health Wales
- Age Alliance, an alliance of third sector organisations


Project duration: The Strategy for Older People will continue until 2023. Ageing Well in Wales is aligned to the Strategy and will continue to 2017.
How we did it:

The Welsh Government developed its Strategy for Older People through a partnership approach, consulting with a wide-ranging stakeholder group in the year 2000. The group consisted of members from Welsh Government, the third sector, private care providers, local government, academia, the NHS, social services, and older people’s representatives.

The Strategy is wide-ranging, addressing the wider determinants of health (e.g. income, housing and life-long learning) as well as health services. It was launched in 2003 and gave rise to a number of related policy documents including the ‘National Service Framework for Older People’. This set 10 national standards designed to ensure that as people grew older they would be enabled to maintain their health, wellbeing and independence for as long as possible, and receive prompt, seamless, quality treatment and support when needed. Local Health, Social Care and Wellbeing partnership groups consisting of the NHS, local authorities and third sector partners in every county were required to deliver on key actions relating to each standard.

A strong commitment from the local authorities, the establishment in every county of Older People’s Champions (local councillors, senior politicians), Strategy Coordinators and 50+ Forums helped drive forward delivery of the Strategy at local level.

The Strategy is a national Welsh Government initiative; thus it has full political support. The establishment of an Older People’s Commissioner is a clear sign of this support.

The Welsh Government developed and supported the implementation of the Strategy with €11.9 million over the last 10 years, while the Chronic Conditions Management Programme was supported with €17.5 million over a three-year period. An additional investment of €11.7 million was provided for telecare. Approximately €2 million was provided for Rural Health initiatives.

The Strategy was communicated and disseminated through Ministerial statements, speeches and official launches. There was wide coverage in the national and local media. In particular, the Welsh Government worked closely with local authorities, health boards and the third sector to develop the Strategy, communicate it widely, and implement its action plans.

In local authorities funding was provided to support the establishment of Older People’s Champions and Strategy Co-ordinators who took forward implementation of the national strategy at local level. These also have their own networks and meet as all Wales groups.

Workshops, training days and a conference have been held for the Older People’s Champions and Coordinators to enable them to fulfill their important role of representing older people’s interests in their local councils.

Our results:

All 22 local authorities have an older people’s Champion, Strategy Co-ordinator and 50+ Forum.

All local authority areas offer free swims for those aged 60+.

All local authority areas have a National Exercise Referral Scheme.

Nordic walking has been taken up in every county, and LIFT (another national exercise programme) in 12 of the 22.

All Counties have been involved with Gwanwyn, Wales festival to celebrate creativity in older age, at some stage since its inception in 2007.

All counties offer the Education Programme for Patients.

All Health Boards are participating in the Falls Collaborative.

All Health Boards are involved in the Chronic Conditions Management programme.

About 70,000 older people are members of the 50+ forum of local councils

Telecare services are supporting 20,000 people

Participation in sport or any other physical activity for 50+ increased from 41% to 46% between 2002-2009.

Between 2006-7 and 2010-11 the number of free swims increased by 70,000.

In 2012 there were over 5,000 attendances at Nordic walks and 4,000 attendances at Low Impact Functional Training (exercise) sessions.

Wales’ National Exercise Referral scheme offers an exercise programme for clients who have fallen, had a stroke or heart attack, or who are at risk of a chronic condition which can be improved through exercise. The majority of clients are older people. In 2013 there were a total of 26,569 referrals to the scheme (for all conditions) of which 18,475 attended for consultations, and 9,185 entered and completed the 16 week programme. For citizens aged 65+ there was an increase of Disability free life expectancy by 2-3 years between 2001-2010.

Evaluation of the Education Programme for Patients, showed that 4-6 months after completing the course, General Practitioners’ visits had reduced by 7%, outpatient visits decreased by 10% and attendances at
Emergency Units decreased by 16%. Pharmacy visits increased by 18%.

Over a 3-year period the Chronic Conditions Management programme led to 18% reduction in total bed days in the Demonstrator sites resulting in about €2.04 million cost reduction. Emergency admissions for certain chronic conditions in the same areas decreased by 11%. Across Wales over 20 services have moved into the community from secondary care, including respiratory, diabetes, pain, heart failure and osteoporosis clinics.

All 22 local authorities in Wales have been invited to sign up to the Dublin Declaration to become age-friendly communities and to date 11 have done so.

The service improvements carried out within the Strategy framework have helped eliminate duplication, avoid waste, save money, and helped build a strong foundation of collaborative working across sectors. For impact on the NHS see above.

Workforce development is one of the main action areas; it includes:
- the equivalent of 118 whole time jobs in telecare
- An increase in the number of third sector ‘Care and Repair’ agencies to cover every county in Wales, increasing staff by R2.
- As a result of ‘Care and Repair’ activity in 2012, €15.2 million of services were commissioned from local businesses (e.g. heating improvements, insulation, installation of grab rails and safety devices in older people’s homes)

**Added value:**

The Falls Collaborative and Chronic Conditions Management programmes are innovative service improvement initiatives that show clear advantages over the systems that were previously followed. In place of a variety of clinical approaches which resulted in inequity for the patient, there is now more consistency and compliance with the best evidence based practice, ensuring solidarity across Wales.

More emphasis on health literacy and self-care is empowering the patients to manage their own condition, sometimes with the help of a Practice Nurse, reducing the need for doctors’ appointments.

Encouragement to think creatively has resulted in the development of innovative schemes whereby health, social care and third sector services are working together on shared strategies and workstreams to co-ordinate care around the patient.

For the third sector, the focus on partnership working with the public sector has distinct advantages, in that their contribution is valued, there is more clarity about their role and they are able to bid for resources.

Older people have a much greater ‘voice’ through their engagement with local and national government.

**Success factors:**

- The commitment of the national government of Wales, and creation of a ministerial portfolio with specific responsibility for older people
- Dedicated public funding for new developments
- An all Wales approach
- Strong partnership working between the public and third sectors at national and local level
- The representation and involvement of older people in all aspects of its development and implementation is a fundamental principle of the Strategy
- Ongoing political support and the establishment of a dedicated Commissioner for Older People

**Barriers to innovation:**

The strong drive from national government, dedicated funding and establishment of older people’s champions and representatives in every county were powerful enablers of the Strategy overall.

However, bringing about change in NHS systems takes time and concerted effort. Both the chronic conditions management programme and falls management programme have addressed barriers and resistance to change through taking a strong partnership and collaborative approach, whereby national government and NHS innovators have worked alongside local NHS services to develop new approaches and share learning.

In addition, there has been on-going support for workforce development through regular seminars and learning events. For example, the learning from the chronic conditions management Demonstrator sites was shared through the publication of over 80 learning papers, which were disseminated widely to help local health boards to implement change and develop new roles and ways of working.

**Transferable elements:**

- Development of national physical activity initiatives for older people
- The chronic conditions management programme
- The falls management programme
- Methodology for increasing the engagement of older people and developing age-friendly communities.

**Lesson learnt and recommendations for others:**

Key elements for success are a collaborative approach, high level support, funding, large scale change, and to allow time for change to become embedded.
### Key data:

#### UK health system

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Good Practice:

Yorkshire & the Humber Telehealth Hub (GP1)

Reference Site:
Yorkshire and the Humber Digital Health Community

Contact information:
Julia Coletta,
eHealth Programme Director,
Airedale NHS Foundation Trust, Skipton Road,
Skipton, West Yorkshire, BD20 6TD
Julia.coletta@anhst.nhs.uk

Short description of your good practice:
The aim of the Telehealth Hub was to offer a menu of clinical services to commissioners and providers within the Yorkshire and the Humber region to support patients with long term conditions.
The Hub had the general objectives of:
• Supporting patient care closer to home to avoid unnecessary hospitalisations and outpatient visits;
• Achieving better outcomes through motivational care planning and improved engagement with patients;
• Promoting self-care and support via information prescriptions, supporting behaviour change;
• Delivering cost efficiencies and return on investment

Partners in the coalition:
- Airedale NHS Foundation Trust*
- NHS Barnsley/South West Yorkshire Partnership NHS Foundation Trust*
- University of Hull*
- Hull and East Yorkshire Hospitals NHS Trust
- Yorkshire & Humber Health Innovation and Education Cluster
- NHS Yorkshire and the Humber

* Service delivery partners

Start date: 2011
Project duration: One year
How we did it:
The Yorkshire and the Humber Telehealth Hub initiative ran for twelve months in 2011/12 initiated by NHS Yorkshire and the Humber and the key delivery partners. A full evaluation of the project was published in January 2013.

This initiative and the innovative work now being undertaken within the region is supported by national bodies including the Department of Health, NHS England, NHS Confederation and the NHS European Office, as well as from Linda McAvan and Rebecca Taylor two of our local Members of the European Parliament.

Funding of £910,000 was provided in 2011/12 to establish the Y&tH Telehealth Hub from the Regional Innovation Funds administered by the NHS Yorkshire and the Humber (SHA).
A further £600,000 of funding was provided by the SHA in 2012/13 to maintain the infrastructure for the Telemedicine services.
An additional £350,000 of funding has been provided to explore European partnerships and funding until 2015.

Throughout the twelve month period the Hub was promoted through a variety of conferences, exhibitions and mail-out exercises as well as one-to-one meetings with senior management teams in local health organisations.

The SHA programme team also offered procurement support and business case development skills to organisations considering deployments.
To encourage take up of the services a subsidy was offered for an initial period.

Creating a Virtual Hub
The original objective of this initiative was to create a virtual, integrated hub, with the intention that The Yorkshire & the Humber Telehealth Hub would support transformational change across Health and Social Care, allowing the partners to work in a truly integrated way.
It soon became evident that this objective was too ambitious. The intent then became one of a step-up or step-down approach, enabling patients to seamlessly move from one service to another as their needs change.
This would be helped by an assessment and referral process for the patient (which could be reviewed over time). There would be one point of contact – and
contract – for the service, but services could be delivered by more than one partner.

**Our results:**

The target population for the Regional Telehealth Hub pilot 2011/12 was 2,100 patients and this target was achieved. See the Evaluation Report Page 4. However this target figure does not represent 10% of the population of the region that could benefit from the telehealth service.

University of Hull - During 2011 to 2012 The University of Hull delivered Telemonitoring services to 600 patients. An estimated 182 hospital admissions were averted during this period. Patient feedback was very positive and control was established by the patient very quickly in many cases.

Airedale Telemedicine – 404 patients received Telemedicine services from September 2011 to April 2012. During this time 124 hospital admissions were averted and 94 unnecessary face to face appointments were avoided. Patient quality feedback was very high with patients stating comments including ‘this is a life saver for me’ ‘it’s a godsend’.

Barnsley Telecoaching – 999 patients received telecoaching services during 2011 to 2012 which led to referral to a further 1353 other services being accessed through the nurse care navigation support. The established service was reported as achieving an increased number of people living independently, improved patient satisfaction (with Health and Social Care services), 20% fewer hospital admissions, increased patient compliance, 30% reduction in length of stay in hospital, average saving of £1000 per patient per annum.

In terms of the Telemedicine service the qualitative analysis found that in the first eleven months of operation, The Hub averted up to 124 admissions, yielding over £330k of gross savings. In addition, the need for face-to-face clinic appointments were avoided on 94 occasions. Whilst these efficiency gains are relatively small in their own right, they indicate the potential for significant improvements in efficiencies once the service is operating at scale. Particular as up to 50,000 patients a year within the region could benefit from telehealth services. This is important as the current system of healthcare provision is unsustainable.

The Y&tH Telehealth Hub has effectively created a new market in technology delivered healthcare services. The services provided by the original three delivery partners of the Y&tH Telehealth Hub are fully established and are still available to be commissioned in the region or beyond.

**Added value:**

The initiative provided learning that can inform the development and adoption of new services and promoted future opportunities for large-scale deployment that can deliver the level of efficiencies needed in our health economies at present.

The initiative demonstrated the potential benefits to be gained from the collaborative delivery of services to a region from a shared infrastructure and offered multiple health communities/organisations the opportunity to avoid the costs, effort and pitfalls involved in small local deployments.

**Success factors:**

The core aim of supporting patients closer to home was achieved for the target group of 2,100 patients - leading to fewer unnecessary admissions to hospital, healthier outcomes and lifestyles and cost savings. This aim was achieved.

**Barriers to innovation:**

For us there was a significant barrier present in the wide scale organisational change that was taking place in the NHS at the time of our initiative. Other barriers we have experienced are:

- Behavioural factors, resistance to change
- Lack of former evidence of benefits – financial or patient related
- Tariffs disincentivise taking activity out of hospitals
- Economic and financial factors, including costs of implementation (equipment, software and training)
- Lack of organisational or political buy-in/leadership

**Transferable elements:**

All elements of our good practice are transferrable to other regions and health communities where patients are living with multiple Long Term Conditions but with relatively poor levels of self-management.

The bigger the scale of deployment embarked upon the greater economies and benefits can be achieved. Initiatives should ideally be initiated as a whole system approach to ensure that no one element of the health sector ‘loses out’ while another benefits, particularly financially.

**Lesson learnt and recommendations for others:**

Ideally we would have allowed ourselves more time to enable The Hub to have the intended impact. Our timeframe did not allow sufficient time for the all-important culture change. Moreover, while the University of Hull and SWYPFT were building on existing services, Airedale’s service to patients at home and in nursing and residential care homes was brand new. Although Airedale had a long established telemedicine capability with prisons, their ‘at home’
service had to be built from scratch, requiring a completely new infrastructure – technically, operationally and clinically. As a result, set-up required more time and in recognition of this the SHA agreed to give the Airedale service a six-month extension to October 2012 to achieve their patient target numbers.

It had been hoped that interoperability would be achieved between the three services through the development of minimum technical standards, the vision to ‘connect all’ and the strategy of a shared patient record. In practice, while individual partners worked to build a robust, locally interoperable service, it was a stretch too far to implement any form of technical linkage across the three services. Similarly, during the creation of the Hub, it became evident that having a single contracting mechanism was too complex and so separate contracts would be required. The ambition of having a common point of commissioning through SHA was explored but was again found to be unrealistic.

Procurement processes and cycles added more complexity and delay than expected. Each of the three providers had to set up their own legal and procurement service as they were fundamentally responsible for commercial liabilities. In Airedale’s case, this was eased because they were on the Buying Solutions Framework. Nevertheless, they found that the procurement process from initial interest to approved business case was currently averaging out at six months – 130 working days per contract.

For all three partners, the relatively short opportunity window led to difficulties in recruiting patients, even when the contracts with commissioners were agreed. The operational complexities of obtaining patient lists, running software to help select the right patients, gaining agreement with GPs on appropriate patients for the services and dealing with patient consent on either an opt-in or opt-out basis all took considerable time and effort. Patient numbers outside the local partner areas were therefore quite small in some cases.

**More information:**

Please click on the link to access the evaluation report on the Yorkshire and the Humber Telehealth Hub including key data on Return on Investment and outcome measures:

Good Practice:

The More Independent (Mi) programme

Reference Site:

Liverpool: Liverpool Clinical Commissioning Group on behalf of More Independent (Mi) partnership

Contact information:

Andy Hull, Mi Programme Director, Liverpool Clinical Commissioning Group, 1 Arthouse Square, 61-69 Seel Street, Liverpool, L1 4AZ. Tel: +44 151 296 7784. e: Andy.Hull@liverpoolccg.nhs.uk

Short description of your good practice:

Mi intends to mark a break from fragmented and small scale services to integrated service. It has the overarching agenda of transforming the lives of people by developing and using smart care, smart health and innovative technology products, systems and services to improve well-being and increase independence. Its actions include creating a consumer market for telecare, scaling up telehealth, developing “life enhancement plans”, tackling service design and interoperability, overcoming digital exclusion from the online world, ameliorating dementia and stimulating economic growth.

Partners in the coalition:

The Mi Partnership Board is a strategically forged partnership that comprises health partners (Liverpool Community Health), community, housing and social care partners (Riverside Group, Hft and PSS), economic regeneration (Liverpool Vision), leading technology companies (Philips, Tunstall Healthcare Group, Rescon) and Information Management specialists (iMerseyside). Importantly, Liverpool City Council is a strategic partner working with Mi to ensure joint working around common health and social care agendas.

The Partnership engages with and commissions expertise from a range of sub-contractors including community and voluntary sector organisations (Liverpool Charity and Voluntary Services, Local Solutions), cultural bodies (National Museums Liverpool), social marketing companies and evaluation consultants (GFK, Jon Dawson Associates) and numerous dynamic SME and micro technology companies that can provide rapid and innovative technology solutions. Mi is also working alongside the city’s football clubs to provide access to target communities.

Start date: mid-2012

Project duration: 3 years, initially

How we did it:

Mi is one of four “dallas” (delivering assisted living lifestyles at scale) projects or “seeds”, which, following an extensive competitive process that culminated in 2012, received financial backing from the UK Government’s Technology Strategy Board (TSB). Mi’s first year of activity has incorporated laying the foundations for the Mi programme: conducting insight research to understand fully people’s and professionals’ needs and preferences; developing and launching its brand; working on initial challenges of service and technological interoperability; developing community outreach capacity; building the infrastructure to support and promote a consumer market place; starting the process of scaling up the deployment and use of smart care and smart health solutions; setting up an integrated care approach that adopts a neighbourhood-based model (incorporating risk stratification, multi-disciplinary teams and systemised self-care and education); beginning to establish an eHealth cluster to stimulate economic growth and building on Mi in Europe and at home.

Mi has secured a total investment of €21 million: €9.2 million of funding from the TSB over 3 years. This investment has levered €5.9 million from Liverpool Clinical Commissioning Group and €6 million from delivery partners.

The programme board has secured vital buy-in to the Mi ethos from senior leaders in the city-region. The participation of the local Medical Committee, Public Health and Clinical Commissioning Groups combined with close collaboration and strategic alignment with city-region, economic development agencies and its Universities has led to wider strategic support and embedded the agenda in local policy priorities.
Mi is a complex programme, relying on multiple partners and encompassing numerous strands. It is also striving to implement innovative technologies and approaches in a systematic way and to create a wholly new consumer market for a raft of life enhancing technologies. It’s ability to do this depends, in large part, on winning the hearts and minds of stakeholders and front-line staff that have not been central to Mi and for whom Dallas Ideas and approaches are frequently new and challenging - often having to challenge deeply held, traditional views, amongst both professionals and the general population, about how care and health should be provided. Other technical complexities include service redesign and ensuring the interoperability of systems and devices.

Our results:

Coverage: 493,000 patients registered with GPs in Liverpool. About 143,000 people in Liverpool with long-term health conditions. 18,000 federated Mi members, 6,500 visitors to the Smart House, advice provided to 1,500 residents, 1,700 telecare users in the city, 50 users of telehealth, 25 community internet hubs, 250 community and digital champions.

Scaling up and integrating the deployment and use of telehealth and telecare and developing the concept for and rolling out life enhancement plans are central to Mi’s priorities. In its first year, Mi has conducted extensive insight research that has generated a deep knowledge of the approaches, interventions, services and products that will be most effective and how they can best be introduced. This valuable research is enabling Mi to refine its offer, target marketing and communication and inform the development of products and services.

Mi has made considerable strides during its first year in building an engaged community of individuals and organizations. The Mi brand and its marketing plan are key to expanding the Mi community. Other key strands have included building a membership base, linking with memberships of stakeholder organizations, an extensive programme of community outreach and exploiting the potential of the Mi website.

Mi has enabled people to become members through its website and has adopted a “federated membership” approach to reach people at scale. This approach has engaged 18,000 people. In its first year, Mi has rapidly boosted its community outreach capacity. It has recruited and trained over 180 volunteer community champions to talk pro-actively with and support local people about healthy living issues and to raise awareness about Mi.

The first year of the Mi programme has also focused on developing and putting in place the infrastructure to stimulate the creation of a consumer market in smart care/telecare solutions. It has also rolled out paid for telecare kit and services amongst over 100 social housing tenants for whom it could enhance their quality of life and help them to live independently. Within Liverpool, this adds to the 1,600 people in the city who have received telecare support from Liverpool City Council.

To stimulate the consumer market in telecare, Mi has, inter alia, developed and implemented:

- mobile and virtual Smart Houses that demonstrate and raise awareness about the use and potential of telecare products and services – over 6500 visitors in its first few months;
- an online shop to enable people to buy directly a wide range of Life Enhancing Technology devices;
- an advice line to provide advice and support for people purchasing or considering purchasing Life Enhancing Technology products and associated services.

The first year of the Mi programme has also focussed on developing this essential infrastructure for scaling up telehealth and beginning the process of recruiting people who would benefit from becoming users of telehealth. Although initial recruitment of users to telehealth was slow, bottlenecks have been tackled and good progress is now being made. With the support of Philips, there are now over 50 people using telehealth (Motiva) in Liverpool. It is intended to roll out telehealth to over 1000 people in Liverpool in the next 2 years.

Important progress has been achieved in redesigning services and has led to the setting up of neighbourhood-based multi-disciplinary teams - which will be a cornerstone for a wide range of professionals to refer people as potential beneficiaries of smart health interventions. 7 Neighbourhood Integrated Care Teams are already operational in Liverpool; a further 6 will go live during 2013. Each team has access to a risk stratification tool to proactively identify those at greatest need, and benefit from telehealth via the Mi programme.

The potential for online access to provide a catalyst for overcoming social isolation is also firmly on Mi’s agenda. Key actions to overcome digital exclusion focus on providing community internet access across the city via establishing 50 hubs, in areas identified as having low levels of online access, combined with the recruitment of local digital champions able to support each hub through training, coaching and building people’s confidence to get online and benefit from the many possibilities that this opens up. 25 community internet hubs have been provided and 70 digital Champions recruited.

During Mi’s first year, dementia has become the focus of a range of Mi-related activity. National Museums Liverpool developed and delivered to over 1200 carers an enhanced version of its existing House of Memories training programme. This included providing social care staff (in care home and home care settings) with new skills and resources to share with people living with dementia.
Although Mi is a multi-faceted programme, and began at a time of public sector restructuring and a tough economic climate, it has laid the essential foundations for, and resolved many of the bottlenecks to, scaling up telecare and telehealth and enabling people to self-care and to live more independent lives.

**Added value:**

Prior to Mi programme, there was a limited focus within Liverpool City Region on technology’s potential to enhance independent living, the sustainability of the health and social care sectors or economic development. Technology was underused in supporting people to live independently, demand for and awareness of how technology can support good health was low amongst both clinicians and the wider public. Equally, aspects of the programme that were in existence were small scale and did not support population-wide approaches. Progressing towards Mi’s goals has required partners, stakeholders and individuals to collaborate to overcome barriers and bottlenecks. It has and continues to involve working through service redesign, facilitating co-production, grappling with technologies and their interoperability.

In this context, examples of changes that have benefited stakeholders and have progressed the wider active and healthy ageing agenda, include: (1) new working and healthcare practices to support people to self-care and “own” their health and well-being; (2) moving to a consumer-led system for delivering health and social care services, including with life enhancing technologies; (3) scaling up the provision of smart care and smart health technologies and making them inter-operable; (4) getting diverse partners from the private, public and civil society sectors to work together more systematically and in a seamless way; (5) enhanced workforce and volunteer capabilities and competencies through training.

**Success factors:**

Key success factors include: the establishment by Liverpool Clinical Commissioning Group of a robust governance structure and process; a multi-partnership Board, involving all key stakeholders; a dedicated programme management team – the MI Hub; - together they are steering the programme, overseeing its implementation and, continuously developing Mi’s agenda - ensuring co-ordination and integration of services and the effective delivery of the programme.

Other success factors include: (1) insight research to ensure that needs, wishes, and attitudes of “end users” - including their carers - and health, social care and other professionals are reflected in service design and can enhance user experience. (2) market segmentation to effectively target key messages, marketing and actions.; (3) a firm foundation of community engagement “know-how” and extensive community networks to link with and to build on – enabling extensive awareness raising; (4) a comprehensive programme for boosting consumer demand; (5) neighbourhood-based multi-disciplinary teams that are a cornerstone for a wide range of professionals to refer people as potential beneficiaries of smart health interventions.

**Barriers to innovation:**

Complicating its initial ambitions, Mi’s work began during a flat-lining UK economy and in the midst of far-reaching upheaval in the health and social care sector that generated considerable uncertainty for many Mi partners at both individual and organisational levels. In particular, root and branch re-organisation of the NHS at national and local levels has had effects on Mi throughout its first year. Notwithstanding these additional burdens, Mi has successfully laid the foundations for its longer-term programme.

**Transferable elements:**

- user empowerment and building demand for innovative solutions to health and well-being;
- tackling service design and interoperability;
- developing a consumer market for Smart Care solutions;
- developing collaborative approaches to public sector procurement;
- scaling up Smart Health solutions;
- developing Life Enhancement Plans;
- overcoming digital exclusion from the online world;
- ameliorating dementia.

**Lessons learnt and recommendations for others:**

Initial experience has flagged up several areas where Mi’s programme can be enhanced to maximize its potential to deliver its ambitions to stimulate innovation, improve people’s health and well-being, support independent living and boost levels of self-care. These areas, which, will be addressed in Mi’s second year of action, include:

- more fully utilising innovations and technology to address social isolation – a key factor in people’s mental well-being and critical in its impact on the deterioration of older people’s health and capacity to live independently;
- integrating with wider public health prevention priorities in the city-region – as a vital element for securing longer-term health and well-being;
- enhanced working with the local municipality to support the transformation of Adult Social Care using technology;
- integrating the development and exploitation of apps with the Mi agenda and objectives;
- building the capacity of the Mi Hub - as the Mi programme moves to the scaling-up phase;
- the creation of an extensive and growing network of
community Champions and other community assets. This provides considerable potential to support efforts to raise awareness and demand for smart care and smart health solutions;

- putting in place the virtual and real infrastructure that is poised to drive demand, from individual consumers and service providers, for telecare and telehealth products and supporting services;
- a valuable body of robust insight research that is informing the development and implementation of Mi marketing, services and products.
- a well-specified marketing plan and a clear and powerful brand that helps to define, add value to and raise awareness of its offer and its wider goals.

**Key data:**

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**UK**

health system

- Beveridge (public provision and public insurance)
- gate-keeping and ample choice of providers for users and strict budget constraint

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Good Practice:

National Telecare Development Programme (TDP) (GP1)

Reference Site:
NHS24, Acting on behalf of the Scottish Government / NHSScotland

Contact information:
Professor George Crooks, OBE
Caledonia House, 140 Fifty Pitches Road, Cardonald, Glasgow, G51 4EB, Scotland, UK
George.Crooks@nhs24.scot.nhs.uk

Short description of your good practice:

The following objectives were established for the programme. These objectives were identified to contribute to high level health and care strategic priorities

- Increase the number of people receiving telecare services;
- Reduce avoidable admissions to care homes;
- Reduce unplanned admissions and readmissions to hospital;
- Reduce the need for more expensive forms of intervention;
- Reduce the pressure on informal carers;
- Improve the quality of life of health and care service users – mainly older people, but also others with physical disabilities, learning disabilities or long term health conditions.

Partners in the coalition:

All 32 health and social care partnership areas in Scotland (co-terminus with the Local Authority areas in Scotland); the Joint Improvement Team (JIT), CoSLA (Convention of Scottish Local Authorities), the Dementia Services Development Centre and the Reshaping Care Improvement Network.

Project duration: 5 years (2006 – 2011)

How we did it:

In August 2006, the Scottish Government launched a policy initiative to drive forward the use of new technologies within all 32 health and social care partnership areas in Scotland. The National Telecare Development Programme (TDP), overseen by the Joint Improvement Team, aimed to help more people live at home for longer, with safety and security, by promoting the use of telecare, and embedding it as an integral part of community based services in Scotland. It also set out to ensure long term sustainability and efficiency for our health and care services.

Politicians in Scotland have recognised the benefits of Telecare for a number of years. No Scottish Government programme can commence without the support of the Cabinet Secretary for Health & Wellbeing. Support of local politicians was achieved through a series of engagement events and training sessions held by each local partnership.

To support the initial stages of this telecare policy initiative, Scottish Government directly provided a development fund and associated programme management. Funding over £20.35 million (£23.8) was provided over a 5 year period (2006-2011). Of this total, £2.75 million (£3.2) (14%) was used for an innovation fund, evaluation and programme management costs, while £17.6 million (£20.5) (86%) was distributed directly to all 32 health and care partnerships to drive telecare development and expansion.

All 32 health and social care partnerships were eligible for a share of the programme funding although this was conditional on them meeting the following criteria:

- Proposal endorsed by high level strategic Community Planning Partners or other senior strategic partnership;
- Identifying a strategic approach that would demonstrate how Telecare complements the range of other local health and social care services;
- An indication of the scope and range of services to be introduced with explicit targets relating to impact on outcomes for service users;
- Evidence of how the services will be sustained and further developed through the partnership's own resources; and
- Evidence of the efficiency savings to be gained as a result of the introduction of a range of telecare services.
Although the development funding element of the programme came to an end in March 2011, the Scottish Government has continued its commitment to the further roll out of telecare technologies within the Scottish Centre for Telehealth and Telecare (SCTT). There are currently approximately 160,000 people in Scotland using a telecare service.

The exact technology used was a decision for local areas – at a national level, the Scottish Government did not specify what should or should not be used. In order to ensure that any problems encountered in one area were not replicated across other areas, collaboration between areas was encouraged via the Learning Network (see below).

Dedicated programme management at a local level was seen as essential.

Knowledge exchange and learning & sharing of good practice is crucial to the success of any programme. To help facilitate this, a Telecare Learning Network was established bringing together all the leads from each of the 32 areas on a regular basis to highlight any common issues, challenges and successes.

**Our results:**

The programme was for the whole of Scotland, across all client groups. However, the majority of recipients were the over 65s. Under the programme, the number of people to benefit was approximately 44,000. This has led to a significant increase in the numbers of people supported to remain at home through the use of telecare to approximately 160,000.

Telecare can enable those at risk of falling to maintain their independence and quality of life, or provide an alert in event of an epileptic fit requiring a response.

The TDP has evidenced that telecare can have a transformational effect on service user and carer quality of life and has the potential to play an important role in continuing efforts to shift the balance of care.

One partnership demonstrated that 27% of clients with dementia would otherwise have required admission to a care home and that telecare avoided or delayed admission for an average of 606 days, saving over £29,100 (€34,000) per event.

The average number of hospital bed days saved per reduced delayed discharge was 11.

The average number of hospital bed days saved per unplanned hospital admission avoided was 9.

The average number of care home bed days saved per care home admission avoided was 143 (or roughly 20 weeks).

This all added up to around 2,500 hospital discharges being expedited, 8,700 unplanned hospital admissions and over 3,900 care home admissions were also avoided.

By achieving the above outcomes, partnerships saved around:

- 546,000 care home bed days;
- 109,000 hospital bed days through facilitated discharges and unplanned admissions avoided;
- 48,000 nights of sleepover/wakened night care;
- 444,000 home check visits.

Most areas utilised the central funding allocation to directly employ programme management/support. This led to further growth opportunities locally through the increased need for installation of equipment, maintenance etc. Some areas also chose to recruit responder services to help support people at home.

**Added value:**

Prior to the launch of the TDP, telecare was a relatively unused (and, in some areas, unknown) concept in many areas of Scotland. However, by the end of the programme telecare was embedded in all 32 partnership areas, and almost 44,000 people had received a telecare service directly as a result of TDP. The overall programme resulted in an estimated gross value of efficiencies at £78.6m. This was associated with bed days saved, reduction in sleepover/wakened night care and home check visits (see above). The Telecare Strategy (2008-2010) and a national Telecare Action Plan (2010-2012) provided the strategic focus for the Telecare Development Programme.

**Success factors:**

Committed, national, support is crucial, as is central funding. In Scotland, we have also pushed for standardisation of procurement linked to interoperability via British Standard 8521. Although choice of systems used was a local decision, by creating the framework for choice we at least ensured that there was not too much variance from area to area.

The funding model used as well was one of reward – those doing well were given extra funding, whereas those who had not advanced as much as expected were provided with additional intensive support.

Also key was the Telecare Learning Network.

**Barriers to innovation:**

As with any large-scale change programme, initial set-up took longer than planned. There was still the issue on some areas that telecare was seen as a nice addition, rather than an integral part of their service redesign; senior buy in is critical to maintain momentum and to ensure that the use, and growth, of telecare is seen as a strategic priority locally.

Interoperability (at a peripheral level) remained an issue.
There was no real strategy locally to decommission services as a result of telecare, resulting in opportunity costs not being realised.

Awareness raising was an issue to begin with – the individuals doing the assessing, referrals etc. did not necessarily fully understand what telecare could bring therefore a significant amount of workforce development was required; this included the development of a Professional Development Award.

Transferable elements:

Procurement is key, as is common standards. Strong, committed leadership from both the centre and locally is a vital element.

Creating a Learning Network (or something similar) to support areas in their implementation should be seen as a resource that should definitely be invested in.

Robust performance monitoring and evaluation should be embedded from the start.

Lesson learnt and recommendations for others:

Clear advance planning should be carried out prior to starting. Although we recognised that senior buy-in was a vital part from the beginning, more effort should have been made to get local political support to ensure adequate strategic priority was assigned from day one.

A media campaign to raise public awareness of the benefits that telecare can, and does, bring would be greatly beneficial.

Ring-fenced financing that was reportable to ensure full accountability and commitment is recommended.

Ensure learning and sharing (of both what works and what doesn’t work) is embedded throughout.

Overall, the most important lesson learnt was the positive benefit to users and carers that telecare can bring as part of the overall service and support available, resulting in better outcomes for individuals.

More information:

www.jitscotland.org.uk/action-areas/telecare-in-scotland

Good Practice:

SPARRA - The National Risk Prediction Tool (GP2)

Reference Site:

NHS24, Acting on behalf of the Scottish Government / NHSScotland

Contact information:

Professor George Crooks, OBE
Caledonia House, 140 Fifty Pitches Road, Cardonald, Glasgow, G51 4EB, Scotland, UK
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Short description of your good practice:

The National Risk Prediction Tool (SPARRA) to support anticipatory care in Scotland is an innovation that is enabling better use of local data to design targeted interventions across the whole health and social care system. It is now being applied in every GP practice and in all 32 health and care partnerships in Scotland. Both social care and housing sectors have expressed interest in using the tool to target their respective supports within the integrated system. The innovation will:
- Implement and enhance the National Risk Prediction Tool - Scottish Patients at Risk of Readmission and Admission (SPARRA) - to support the implementation of anticipatory care in Scotland;
- Lever the adoption of risk prediction at scale through a new Quality and Productivity component of the GP contract introduced from April 2013;
- Increase by 80,000 the number of Anticipatory Care Plans (ACPs) and polypharmacy reviews completed by 2015;
- Enable practices to routinely share a summary of these ACPs with emergency care services by rolling out the use of the electronic Key Information Summary in every practice in Scotland.
- SPARRA identifies 95% of patients who will have an emergency hospital admission in the following year. Identification of the cohort at risk provides an opportunity for preventative interventions. The SPARRA model, first developed in 2006, has been continually refined and enhanced through feedback by users. Version 3 was launched in 2012 with:
  • increased range of datasets, including primary care prescribing, emergency department and out-patient attendances
  • increased proportion of Scottish population included; now over three million
• improved timeliness; data now updated monthly with increased potential for early intervention
• excellent correlation between predicted risk and actual outcome.

Partners in the coalition:

Key partnerships include:
- 14 regional Health Boards that provide local health care
- Special health boards that provide national services such as education, training, ICT, analytical and quality improvement support
- COSLA-convention of local government organisations
- The Health and Care ALLIANCE of over 300 Third sector voluntary organisations
- NHS24 / SCTT – NHS Scotland’s national technology enabled service provider
- Scottish Ambulance Service
- 32 local Reshaping Care partnerships between health, social care, housing, Third sector and independent sector organisations who are using a £300 (£350) million Change Fund for 2011-2015 to transform care and support
- All GP practices across Scotland
- Community pharmacists across Scotland
- Community nursing teams across Scotland
- National Falls programme and Allied Health professionals
- Dementia improvement programme


Project duration: Version 3 implemented. GP contract runs to 2015

How we did it:

- Before SPARRA was introduced we had no systematic method of identifying those at risk of future emergency admissions and were unable to reliably target our anticipatory interventions.
- The Long Term Conditions National Action Plan secured support from policy and delivery partners to develop and implement a national Risk Prediction Tool and anticipatory care.
- The ICT support for the risk prediction tool and to share the electronic Key Information Summary was commissioned by the special health board as a national priority.
- Stakeholder buy in was secured through the Long Term Conditions Collaborative 2008-2011, extended through the Reshaping Care Pathway and Change Fund programme from 2011.
- Spread to GP practices through inclusion in GP contract from 2013 allied with polypharmacy reviews.
- Data is provided to named leads in all Health Boards and GP practices
- Adoption driven by a range of multimedia learning resources and good practice examples, improvement events, digital stories, WebEx, Improving Lives DVD. Support for adoption levered through Change Fund and led by Joint Improvement Team and Network.

Our results:

In Scotland, SPARRA covers at the present:
- Over 3 million of the Scottish population (over 60%)
- 100% of GP practices
- 100% of area Health Boards

SPARRA enables targeted anticipatory care planning to enable people to adopt a ‘thinking ahead’ approach and to have greater control and choice by planning for what their preferred support and care interventions would be in the event of a future flare-up or deterioration in their condition, or a carer crisis.

Anticipatory care planning and polypharmacy reviews improve quality:
- Person centred care, dignity, choice and control
- Effective co-ordination and communication between the individual, their family and the health and social care professionals involved
- Care at home where appropriate, or care which is closer to home.
- Safer use of medicines and reduced harm from inappropriate interventions.

Evaluation of early implementers of risk prediction and intervention demonstrated:
- 42% fewer admissions compared to a 24% reduction in the control group;
- 52% fewer days in hospital compared to a 13% reduction in the control group;
- Reduced mean length of stay in hospital from 11.3 to 9.4 days compared to a slight increase in control;
- Reduced cost of unplanned hospitalisation by £161,944 (£189,063) compared to £50,163 (£58,558) for controls;
- Net savings compared to the control group of £18,545 (£21,647) - over £190 per patient (£221.784);
- A recent independent cost benefit analysis of risk prediction and Anticipatory care reports a productive opportunity of a 20% reduction in admissions; and a 10% reduction in lengths of stay;
- Total contribution of the ACP GP contract to bed-days released is estimated at 40,550 in 2013/14 and 81,090 in 2014/15.
Added value:

Scaling up risk prediction and anticipatory care interventions has made a significant contribution to the 10.7% reduction in emergency bed days achieved in Scotland for over 75s between 2010 and 2013 despite an increasing population over 75.

Success factors:

Initial prototype continually refined from learning by early adopters. Strong leadership and a network of champions for implementation across the country. Development of ICT solutions to exchange information across care settings (Key Information Summary). Leverage through Change Fund and GP quality contract.

Barriers to innovation:

Inability to share the anticipatory care plan across sectors delayed scaling up. This has now been overcome by the development of the Key Information Summary (KIS). 2500 summaries per week are now being shared electronically for access by emergency services.

Transferable elements:

The challenge of predicting risk of emergency admission is applicable to all chronic care systems. The anticipatory interventions can be locally contextualised. The learning and success factors we have identified are common to high performing organisations.

Lesson learnt and recommendations for others:

- Don’t accept the initial model – keep pushing the boundaries as ICT and service models and opportunities evolve!
- Take a long term view and scale up through use of all leadership, ICT, funding and quality levers!

More information:

www.isdscotland.org/sparra

Good Practice:

The National Falls Programme (GP3)

Reference Site:

NHS24, Acting on behalf of the Scottish Government / NHS Scotland

Contact information:

Professor George Crooks, OBE
Caledonia House, 140 Fifty Pitches Road, Cardonald, Glasgow, G51 4EB, Scotland, UK
George.Crooks@nhs24.scot.nhs.uk

Short description of your good practice:

Our National Falls Programme aims to reduce the personal and economic cost of falls in Scotland by supporting health and social care partnerships to implement local integrated, evidence-based falls and fragility fracture prevention and management pathways for older people by the end of 2014.

The main functions of the Programme include:

- To support local Falls Leads leading pathway development in health board areas across Scotland.
- Map pathway development and implementation and related outcomes and facilitate sharing and spreading of good practice.
- Lead national work streams to accelerate the pace of change in aspects of pathway development and implementation.
- Ensure alignment and integration with related national initiatives and programmes.

Falls prevention and management contributes to the Scottish Government’s ‘Reshaping Care for Older People Programme for Change’ by helping to enable older people to enjoy full and positive lives in their own home or in a homely setting.

Partners in the coalition:

All 14 regional Health Boards and 32 local health and social care partnership areas and other key partners including:

- National Telecare Development Programme
- NHS 24
- Scottish Ambulance Service
- NHS Education for Scotland
- NHS Health Scotland
• Healthcare Improvement Scotland
• Joint Improvement Team
• Information Services Division
• Scottish Qualifications Authority
• Care Inspectorate
• Scottish Care
• National Osteoporosis Society
• Age Scotland

Start date: December 2007

Project duration: 2007-2009

sponsored by Healthcare Improvement Scotland
2009 – 2014 as part of the Scottish Government’s
National Rehabilitation Programme

How we did it:

In 2007, the Scottish Executive (now Scottish
Government) issued a Health Department Letter
to all health board areas in Scotland which
outlined a number of specific actions to take in
relation to falls prevention and bone health. This
included developing local falls and fracture
prevention pathways and appointing a falls lead to
lead and co-ordinate pathway development. The
National Falls Programme was established to
support this work.

Phase One of the Programme focussed on
identifying lead officers within every Community
Health (and Care) Partnership (CH(C)P) in
Scotland with responsibility for local co-ordination
and delivery of fall prevention. Thereafter a series
of national learning sessions for these ‘Falls Leads’
aimed to provide development and networking
opportunities and peer support.

The network of locality Falls Leads from across
Scotland has been nurtured as a Community of
Practice.

In 2010, following wide consultation, the
Programme produced ‘Up and About’ to provide a
reference resource for Falls Leads and others
involved in the development of pathways which
aim to prevent and manage falls and fragility
fractures. Included was the ‘Up and About’
Pathway Model, which provides a blueprint for the
Programme.

The Up and About Pathway includes four stages,
which span the three pillars of the EIP on AHA:
• Stage 1 Supporting active ageing, health
improvement and self-management.
• Stage 2 Identifying individuals at high risk of
falls and fractures.
• Stage 3 Responding to an individual who has
fallen and requires immediate assistance.
• Stage 4 Co-ordinated management including
specialist assessment.

Working in partnership, the programme has led a
number of national work streams to accelerate the
pace of change in aspects of pathway development and
implementation. Work streams are identified through
mapping and consultation and aim to:
• improve awareness and understanding of falls
prevention and management amongst health and
social care staff,
• support a systematic approach to (a) identifying
older people at higher risk of falls who will benefit
from tailored intervention, and (b) delivering
evidence based strategies to prevent falls and
fragility fractures, and
• contribute to reducing unwanted variation in care,
and spreading good practice across Scotland.

The Programme’s work streams have included Telecare
Falls Referral and Care Pathways, Scottish Ambulance
Service Falls Referral and Care Pathways, Falls Care
Bundles for Secondary Prevention, and Managing Falls
and Fractures in Care Homes for Older People.

Knowledge transfer and sharing of learning and
experiences in pathway development have been
facilitated through learning events and Programme updates,
through an online Falls and Bone Health Community of
Practice and via regular contact between the Programme
Manager and the Falls Leads. Innovative practices have
been tested in self-selected localities and learning shared
with the wider network.

Resources to support pathway development and
implementation, and highlight examples of good
practice, have been co-produced with working groups
comprising the Falls Leads and other stakeholders

Since 2009 the programme has been sponsored by the
Scottish Government’s policy lead for falls and funded as
part of the Scottish Government’s National
Rehabilitation Programme.

The Scottish Government directly funds the Programme
Manager post, national events and publications.

The Scottish Government’s £300 million (€351.8)
Change Fund for 2011-15 has provided an opportunity
for local partnerships comprising health and social care,
housing, third sector and independent sector
organisations to accelerate and build on existing work to
develop a co-ordinated, integrated approach to falls and
fracture prevention.

By 2007 in Scotland, falls had been identified as an area
for attention at a number of levels: amongst
practitioners, strategically in some health boards and by
the Scottish Government. National and local stakeholder
events aimed to achieve further buy-in. The
Programme’s work streams were identified from these
events, along with findings from mapping activities,
ensuring improvement efforts were targeted
appropriately.

Our results:

The programme has used regular mapping activities to
identify progress in the development of both pathways
and the underpinning infrastructure required. In 2011, a mapping exercise found that 22 CH(C)Ps (58%) reported a falls and fracture prevention pathway was in place; the remaining 16 CH(C)Ps were actively working towards this. This is with the caution that not all components of the pathway were yet embedded. This compares to 9 CH(C)Ps (24%) reporting in January 2010 that a pathway was in place.

The targeted population is those aged 65 and above which is approximately 900,000 in Scotland. The pathway coverage equates to approximately two thirds of the Scottish population over 65 years, approximately 600,000 people, having access to a falls and fracture prevention and management pathways in late 2011.

Falls Prevention and Management Pathways as put in to effect in Scotland have a direct influence on the older populations’ ability to live independently and at home or close to home, avoid unnecessary harm as a result of falls and thus improve their quality of life and that of their families and carers.

The current annual cost of managing the consequences of falls in the community setting in Scotland is £471 million. Without further action to prevent falls this could rise to £666 million by 2020 (2011 prices). This estimate excludes underlying inflation.

**Success factors:**

Factors needed to replicate the programme include:
- Falls prevention identified as a national and local priority, with clear links to national policy.
- Co-production of a vision of the future state (national/regional and local).
- Leadership at all levels (national/regional and local).
- Partnership working at all levels (national/regional and local).
- A mechanism to share good practice, experience and learning.
- Funding to support innovation.

**Barriers to innovation:**

Absence of any of the factors listed above provided a barrier to success.

How some of these barriers were overcome is outlined below:
- Falls prevention not identified local priority: the use of data to highlight scale and nature of the challenge of falls and the financial and human cost.
- Absence of a vision of the future state: the Up and About Pathway provided a vision; it was co-produced by stakeholders and underpinned by evidence from research.
- Absence of mechanism to share good practice, experience and learning: a Community of Practice was established along with an online community of interest. Other existing, relevant networks were also used.
- Lack of funding to support innovation: the Scottish Government provided a Change Fund to accelerate the pace of change.

**Lesson learnt and recommendations for others:**

In a programme for change involving all key stakeholders is essential. The older person and his or her family and carers need to be central to this.

Introducing then embedding new practices at scale is a challenge. Small scale testing and refining of a change in a locality before moving to implementation and then spread has been more successful.

**Added value:**

Through collaboration with a national network of Falls Leads, the Programme has built capability around falls prevention within every Community Health (and Care) Partnerships (CH(C)Ps) across Scotland.

By promoting the concept of a journey or pathway, the Falls Programme has introduced a more systematic approach to identifying older people at risk of falls and implementing evidence based strategies for prevention.

Through regular mapping activities, co-ordinated by the Programme, CH(C)Ps and their local authority partners are able to identify the extent to which recommended practices to prevent and manage falls and fragility fractures are built-in to their wider systems of care for older people.

The mappings capture progress plus good and promising practice, which are shared. Common gaps or challenges in service organisation and delivery identified in the mapping help to determine topics for the Programme’s work streams or local improvement initiatives.

National work streams appear to accelerate the pace of change in aspects of pathway development and implementation.

**More information:**

http://www.scotland.gov.uk/Publications/2012/05/6979/2

### Key data:

#### UK health system

<table>
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<th>Level of development</th>
<th>lowest</th>
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<td>7.2%</td>
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<td>Health care expenditure, €PPS per inhabitant, 2010</td>
<td>609.65</td>
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<tr>
<td>Amenable mortality rates</td>
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#### Level of concentration

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<th>UK</th>
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<tr>
<td></td>
<td>0.0%</td>
<td>58.3%</td>
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| Hospital expenditure as % of current health expenditure, 2010                    | 25.7%  | 34.5%   |

#### eHealth readiness

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<td>Hospitals’ eHealth Deployment Composite Index</td>
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#### Impact of ageing

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<td>Risk scenario</td>
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Department of Health, Social Services and Public Safety, Northern Ireland

Good Practice:

Integrated Citizen Centred Health and Social Care for Older People (GP1)

Reference Site:

Department of Health, Social Services and Public Safety, Northern Ireland

Contact information:

Dr Marina Lupari
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Northern Health and Social Care Trust
Antrim Hospital, Antrim
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Short description of your good practice:

Northern Ireland adopts a citizen-centred integrated health and social care system for all patients, including older people. The elderly are put at the heart of the system. The objective is to value older citizens and improve the quality of their lives through improvement of their health conditions and support to their continued participation in social, economic, cultural, affairs of their communities. Key elements of this approach are the care system focused on citizens, whose health and social care needs are specifically assessed by the NI Single Assessment Tool (NISAT), and the adoption of integrated care models that maximise stakeholders' involvement.

Partners in the coalition:

Within the NI "Delivering Social Change" framework, the key actions are mainly coordinated across Government Departments. The multi-strand regional work is complemented by local-based actions.

Within the Good Practice area all relevant stakeholders across public, statutory, voluntary and charity sectors are involved. Outside the area, partnerships are active at international level with other Regions/States: Basque Region, Catalonia, Finland, Malta, Republic of Ireland, Greece, France, Spain, and Lithuania.

Start date: Northern Ireland has had an integrated health and social care system since 1973. The model of Integrated Citizen Centred Health and Social Care for Older People set out in the area of good practice was initiated in 2004 with the Northern Ireland Single Assessment Tool (NISAT) Project, launched in 2009.

Project duration: The implementation and embedding of the initiative is a long term commitment. The implementation of the eNISAT is expected to be completed by 2015.

How we did it:

In order to deliver an effective NISAT three elements were required: a fully researched validated tool, an electronic enabler and an operational integrated working environment for community health professionals supported by a regionally agreed training programme. In 2009 the researched validated NISAT was introduced in paper format; in 2013 the electronic version was introduced regionally.

In terms of political support, it must be noted that this is a governmental initiative. The Minister for Health has advocated a citizen-centred approach through the health and social care reform strategy set out in "Transforming your care".

Northern Ireland’s Department of Health, Social Services and Public Safety allocated funding for the development of the NISAT and provided a significant proportion of the funding for its implementation. Total funding for the implementation of the NISAT, including eNISAT, was approximately €6.9m.

The whole policy is built around stakeholders’ engagement and based on consultations. The government and the voluntary sector have worked together on the citizen-centred approach, with strong leadership on the voluntary side in engaging directly community, statutory and voluntary organisations as well as older people. Individuals were empowered to take an active role, e.g. direct care payments were
introduced to enable people to "buy their own care" and make decisions for themselves.

The NISAT was implemented through the establishment of a project team involving representatives from each Health and Social Care Trust. An implementation programme was agreed and rolled out on schedule. User groups were established, training needs identified and a regional training strategy developed and implemented. Support officers were funded in each of the Trusts and one of their key duties was to ensure that the system and associated processes were integrated into daily practice by local training, working alongside staff and providing frontline support.

In implementing the NISAT, change management was addressed through:
- adopting a recognised project management approach;
- agreeing strategic and operational objectives along with responsibilities;
- developing and implementing an agreed operational plan;
- establishing separate workstreams for different elements of the project with accountability to the project management board; and
- developing and executing a communications strategy and a regional training strategy.

**Our results:**

- Survey findings (2012) show that people are satisfied with the services provided by ExtraCare (not for profit company helping the elderly to stay longer at home). Over half a million hours of home care were delivered (2011/2012), supporting over 2000 users and their families.
- In the city of Belfast, through the Belfast healthy Ageing Strategic Partnership, several benefits are delivered to the elderly, such as: a University of 3rd Age programme; a project dedicated to older people’s employability (KESTREL); support and advice for "carers"; health, social and education services such as adherence to medications schemes.
- As a result of a first evaluation of the NI Single Assessment tool, all five Health Service Centres have made improvements, such as the modernisation of their management and operational processes and the establishment consultation for a with patients.
- From 2009 to 2012 Invest Northern Ireland, the regional business development Agency, has provided £18 million of assistance to life sciences companies to promote 850 new jobs, leveraging a total investment by companies of some £80 million.
- Through employability programmes, the economic activity of people aged 50+ has increased.
- The Arts and Older People’s Programme strengthen the voice of older people through engagement with the arts and provides opportunities for skills development.
- Age Concern NI provides essential services including day and domiciliary care, advice & information services, community development and health promotion programmes and provision of an effective lobbying voice.
- ExtraCare’s First Step Project provides short-term home support to older people, primarily to address social isolation experienced by older people.

**Added value:**

The combination of integrated care and citizen-centric approach responds specifically to NI’s context at different levels:
- Local, realising locally-tailored interventions that try to prevent older people’s isolation in rural areas.
- Regional, matching the citizens’ request to stay home/be cared for at home for as long as possible
- The "Unlocking Potential" project helped the elderly to act as volunteers and stay active and engaged in society
- The Age Friendly project in the Southern Health and Social Care Trust focuses on each decade over 50 years up to 80+ years. It assesses needs across housing, transport, healthcare and access, information, social inclusion and financial advice.
- Age NI established a Befriending scheme in Cookstown (small, rural town). Around 30 clients benefit each month

**Success factors:**

Key success factors for the delivery of the NISAT tool were a dedicated, representative project team; clear objectives and close working relationships between key stakeholders.

**Barriers to innovation:**

Barriers to implementation of the NISAT included resistance to further change in a constantly changing environment; the need to work with different processes/decision-making structures across the region’s 5 Trusts; and policies and protocols surrounding ICT security and data-sharing.

**Transferable elements:**

A person-centred approach should be central to delivering an effective service. Both service users and their carers were heavily involved in the development of the NISAT. This approach could be the template for developments in other key areas, for example person-centred planning.

Integrated working – to deliver a holistic, person-centred assessment it is essential that health and social care professionals work together effectively.

Project structure – the NISAT project office was based in and reported through health and social care structures. This ensured that the focus was on service
user and carer needs with direct input from health and social care professionals.

**Lesson learnt and recommendations for others:**

A key lesson learnt from the implementation of the NISAT is the importance of having dedicated local implementation officers to support the central implementation teams. This has the dual purpose of maintaining momentum during a period of change and conflicting priorities and providing local and regional support through knowledgeable ‘hands-on’ project management.

**Good Practice:**

**Medicines Management for Older Citizens (GP2)**

**Reference Site:**

Department of Health, Social Services and Public Safety, Northern Ireland

**Contact information:**

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Chief Pharmaceutical Officer  
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Email: mark.timoney@dhhpsni.gov.uk

Dr Mike Scott  
Northern Health and Social Care Trust  
Antrim Hospital, Antrim  
Email: drmichael.scott@northerntrust.hscni.net

**Short description of your good practice:**

The **Integrated Medicines Management (IMM)** service has redesigned clinical pharmacy service in Northern Ireland. The service ensures that, in accordance with their clinical needs, the elderly have access to timely, safe, quality assured medicines with appropriate advice and support to help them gain the best outcome from their treatments. The approach includes the greater utilisation of community pharmacists to deliver an adherence programme to targeted patient groups, their families and carers in primary care and a pharmacy redesign of secondary care services. The system is supported by advanced ICT-based solutions: a new integrated software for quicker and more efficient medical reconciliation with pharmacy and primary care/community professionals; intelligent alerts facilitating a rapid response to laboratory tests that need urgent action; an electronic clinical pharmacy intervention system for routine collection of significant social, medicines and clinical data.

**Partners in the coalition:**

The service is operated in close collaboration with the other Health and Social Care Trusts and also the School of Pharmacy, Queen’s University Belfast and University of Ulster. There is also along established link with the International Healthcare Institute (IHI) Boston USA.
approach to reach consensus on the most appropriate clinical products and achieve the ownership and the behavioural change necessary to operationalize decisions.

The technical solution was embedded into daily practice in the Northern Health and Social Care Trust Area over the three years of the initial phase of the programme. This was achieved by the development of a range of Standard Operating Procedures (SOPs) for both pharmacists and pharmacy technicians. In addition a comprehensive up-skilling and training programme was put in place to ensure that the team were able to competently undertake the new roles and responsibilities in management of medicines as part of the multidisciplinary team. There was extensive discussion with both medical and nursing staff in terms of explaining how the new system would work and what the expectations would be from the pharmacy team. There was also discussion and involvement with primary care specifically GPs and community pharmacists as they are key stakeholders in the medicines management process about how they would be engaged on a daily basis in the new system. This included details of the new documentation that would be used in the process from admission, inpatient phase and finally at discharge. In addition software was developed to record all of the data regarding the impact of the new system on the medicines process and this was utilised by all of the team. This facilitated data analysis related to both process and outcome measures. The system was then rolled out on a phased basis utilising the test of change model of improvement and further software developed to enable the process to be made more efficient including medicines reconciliation software.

Besides extensive communication and dissemination efforts since the initial stages of the programme, there was an oversight group comprising all of the key stakeholders who ensured that the project was delivering the expected outcomes as well as an operational group who undertook the day to day work. In this way the process could be modified and enhanced on an iterative and learning basis.

Our results:

Coverage: more than 150,000 patients, of which 97,500 are aged 65+.

- The IMM service ensure that the elderly have access to timely, safe, quality assured medicines with appropriate advice and support.
- The service is available to those admitted in hospital wards. It is estimated that, annually, 97,500 elderly (about 50% of those admitted) receive the service.
- The results of assessment of medication appropriateness showed a significant improvement in the appropriateness of the use of medicines for patients who received the service in comparison to those who did not. In addition, older people valued the service for increasing their knowledge of their medications and their
importance in terms of their ability to manage their own condition(s).
- The IMM resulted in reductions of the mean length of stays in hospital by 2 days and time to readmission was increased by twenty days. Communication to primary care was greatly improved.
- A major result is the way in which pharmacy is integrating across the hospital/community settings and coordinating care for older people in homecare settings.
- So far 211 pharmacists and technicians have undertaken an integrated medicines management training programme.
- The Northern Health and Social Care Trust has developed a multi-faceted medication adherence service which has been adopted within the whole system integrated care model as a key component and will support chronic conditions management.
- New integrated software has been developed to enable medicines reconciliation to be carried out more quickly and efficiently with pharmacy and primary care/community professionals.
- Intelligent alerts have been developed to enhance the quality and the safety of patient care.
- An electronic clinical pharmacy intervention system has been developed, too. It enables significant data to be routinely collecting with regard to medicines, demographics and social and clinical data.
- The engagement with the pharmaceutical industry has let to focused procurement approaches securing best value for money and achieving local economic progress.
- A return of £5 to £8 for each £1 invested as a consequence of the work done to reduce hospital stay has been estimated.
- Since 2005 the Pharmaceutical clinical effectiveness programme has delivered in excess of £140m cash, releasing efficiencies. The extension of the system to nursing homes and intermediate care settings has revealed efficiencies ranging from £64,000 to £144,000 per annum. In addition in both of these settings there has been improved medicines appropriateness and with regard to nursing homes a reduction in emergency department attendances.
- The development of an emergency care summary system has also improved the efficiency of the process.

Work in this area led to the development of a number of technologies enabling workstreams linked, for example, to procurement and to data recording and collection for both day to day use and analysis of outcome data. The former led to the development of STEPSSelect (Safe Therapeutic Economic Pharmaceutical Selection), which is an evidenced based clinician driven procurement process predicated on the principles that safety and quality will drive health gain and economy. This work was carried out in conjunction with a Dutch company based in Amsterdam namely Digitalis Ltd. The work has enabled them to develop and maintain their staffing in this area (now a team of five) and it is hoped that there will be further extension of this work as the programmes are further enhanced and utilised elsewhere in Europe.

The second company involved in this work is Yarra Software Ltd, based in Belfast, which has, on a partnership basis, helped to produce EPICS (electronic pharmacist intervention clinical system) used to record interventions and other medicines related information. This has now been enhanced to link to Trust incident systems to facilitate learning form adverse events related to medicines. Further over the last year medicines reconciliation software has been developed which provides a continuous correct record of a patient’s medication. In addition a novel surveillance system for antimicrobial and resistance pattern monitoring, namely LAMPS (Local Automated Microbiology Pharmacy Surveillance System) has been implemented. This has led to both increased and maintenance of staffing within the company and there are now considerable opportunities for further business development in this area in the EU.

**Added value:**

The pharmacy initiatives involve integrated working between healthcare professionals, pharmacies, community and the voluntary sector and enable tailored solutions to local issues. Traditional barriers have been broken down and communication is enhanced with the older person ultimately benefitting. Community pharmacists are now greatly involved in delivering an adherence programme to targeted patient groups, their families and cares in primary care.

**Success factors:**

The IMM system has been shown to be adaptable and generalisable as it has now been successfully implemented in Sweden, (Uppsala University Hospital) also in Tallaght and most recently in Drogheda hospitals (both in Southern Ireland). The system has been comprehensively replicated across a number of Trusts in England all based on the outcomes achieved from this work. Thus it has been proven to be useful in different healthcare systems in different countries. The key success factors are having a progressive pharmacy department, a willingness to review and modify the system components to meet local variations in arrangements and good working relationships with both medical and nursing staff who are both key stakeholders and beneficiaries from the system. The populations covered in some of the other countries have been larger demonstrating that the process is entirely scalable and not just applicable for relatively small numbers of patients.

The main additional success factor for replicating is that the robust evidence that has been amassed and which continues to be enhanced makes a very strong argument for introduction, and reduces the requirement for detailed analysis to justify the
investment needed to ensure the system will work well. The availability of the new software programmes that have been developed will also be an additional factor to further guarantee success.

**Barriers to innovation:**

The main barrier would be where there is a very underdeveloped pharmacy service, which is largely focussed on distribution and not on dealing with patients. In this scenario the changes needed to implement the system are much greater given the starting point. In addition it is likely that the views of other key healthcare professionals will be somewhat less supportive due to the inability to recognise the value that the pharmacy team can bring to the multidisciplinary team. The lack of availability particular of pharmacy technicians would be an important barrier as would be the inability to provide initial and on-going training and development opportunities. A key barrier to overcome was the involvement of general practitioners in primary care as their experience of pharmacy was essentially that of a supplier of medicines. Thus it was important to assure them of the benefits of the service and that there were robust governance arrangements around the access and use of patient medicines data. This was done both at a practice level in some instances and at an area and regional level to ensure comprehensive dissemination. There was also a challenge in terms of the procurement component of the system in discussing with medical colleagues regarding the new process and that this was not just about finance but rather about enhanced safety and quality of patient care with regard to their medicines. The key ways that these issues were managed was by extensive communication using a range of different formats and also ensuring that there was regular updates on the process and outcome measures at all levels in the health care system in Northern Ireland.

**Transferable elements:**

The processes and procedures for the system have proven transferable in a number of different settings which all demonstrated the reproducibility of the outcomes. The implementation process of involving key stakeholders at the very start is also transferrable with the appropriate minor adaptations to suit local circumstances. The intervention grading system is also transferrable as also would be the enhanced version with management tools built in to further optimise the process. The linkage to an organisation’s adverse incident reporting system may be more difficult but the procurement process could be relatively easily adapted to meet language requirements as needed.

**Lesson learnt and recommendations for others:**

It is very important to have a realistic timeline to undertake, as this tends to be underestimated especially with regard to the critical initial engagement and communication with the key stakeholders. The analysis of the process measures and outcome data was very robust as research methodology was used in order to ensure high quality evidence of the benefits of the process thereby enabling publication in high impact journals. The development of the software and the handheld devices in the initial phase took longer than expected due to having to identify an appropriate operating system for the PDAs. Using paper based methods initially was important as enabling technologies take time to develop which would have delayed implementation which was very important to avoid given the financial investment. In addition it is widely accepted that if a system cannot work in this manner no degree of information technology will make it do so.

**More information:**

The system has won two UK National awards and one Regional award. The data has been presented at numerous conferences in Europe, USA and South America with two major dissemination conferences having been held in Northern Ireland in 2008 and 2013. There is now on-going work with the International Healthcare Institute (IHI) based in Boston and a comparative workshop is being presented at their major US conference in December 2013. The technology that has been developed is still being enhanced and is now forming key parts of the eHealth strategy in Northern Ireland. Health care analytic work is also being carried out in order to formalise a predictive risk model to case find patients in the community who are at risk of having an adverse event due to their medication. Outreach work into nursing homes and intermediate care is taking place with similarly good results being produced. Adherence work is also taking place as this is another key problem related to sub optimal medicines use with potential enabling technologies. Further involvement of community pharmacists is also being developed in two pilot schemes.
Good Practice:

Integrated Long Term Conditions Management for Older Citizens (GP3)

Reference Site:

Department of Health, Social Services and Public Safety, Northern Ireland

Contact information:

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Short description of your good practice:

Northern Ireland’s integrated health and social care system is ideally placed to support people with long term conditions across all care settings in order to improve their health status and quality of life. The challenges presented by an ageing population and the increasing prevalence of long term (chronic) conditions requires that services are planned and delivered based on a collaborative approach between patients, carers and health and social care professionals, that will enable better management of patients with chronic conditions through more emphasis on prevention and management in the community, patient education, GP screening, monitoring, use of supportive technology and risk assessment and stratification.

Partners in the coalition:

Department of Health, Social Services & Public Safety; Health & Social Care Board (HSCB); Public Health Agency (PHA); Health and Social Care (HSC) Trusts; Long Term Conditions Alliance NI; Centre for Connected Health and Social Care; Family Practitioner Services (e.g. General Practitioners, community pharmacists)

The partners to the Telemonitoring NI service are five Health and Social Care Trusts, TF3 consortium (Tunstall - the provider, Fold Housing and S3) and the Public Health Agency.

Start date: The Telemonitoring NI contract was signed on 16 March 2011 and service operation commenced 8 December 2011.

Project duration: The contract is for 6 years from March 2011.

How we did it:

In 2008 the key issues for Health and Social care in NI were increasing demand for services, increasing pressure on supply side and higher public expectations. There was an initial feasibility study on remote telemonitoring carried out, which included the recommendation to deliver a major procurement (scale application) of remote monitoring of chronic disease, in line with policy directions to develop early intervention strategies; promoting and securing community alternatives to hospital referral and admission and the better use of ICT combined with reform of the care delivery system. Based on this a decision was made to specify and procure an end-to-end managed system for remote telemonitoring.

The reform and modernisation of long term condition management in NI was a key element of the Transforming Your Care (TYC) review of health & social care in NI. The recommendations arising from TYC complement the good practice set out in the Long Term Conditions (LTC) Policy Framework. Maximum engagement throughout the TYC review process was secured through the involvement of a range of key stakeholders, including political representatives, across a range of participatory meetings and events.

The decision to procure the Telemonitoring NI contract was made at Ministerial level.

A business case was developed outlining:
- definition the service to be delivered;
- the strategy for delivery of the remote telemonitoring service;
- key components, work strands and timelines;
- details of the procurement strategy;
- commencement and roll out plans;
- sources of external advice
- resources required

Funding of €21.44m (£18m) over 6 years has been provided by the Department of Health Social Services and Public Safety to the Public Health Agency to manage the Telemonitoring NI contract.

Prior to the development of the LTC Policy Framework, a conference for key stakeholders and interested parties was organised.

A Steering Group was established to develop the Policy Framework and included representatives from across the statutory, voluntary, independent, and community sector.

Participation mechanisms included the involvement of the Long Term Conditions Alliance, a regional umbrella group representing organizations supporting people with LTCs and the Patient & Client Council.
Following publication of the LTC Policy Framework, a NI Implementation Steering Group has been put in place to support the implementation of the framework. The Implementation Group is currently developing a 5 year Action Plan to facilitate this. The Implementation Group brings together representatives from the Department, Health & Social Care Board, Public Health Agency, Health & Social Care Trusts as well as voluntary and community representative members of the Long Term Conditions Alliance (NI) to ensure that the Action Plan will drive the reform and modernisation of services. For the Telemonitoring NI contract five Health and Social Care Trusts were closely involved in the specification and design of the service procured and in the selection of the contractor to deliver this service. Patients and carers opinions were also sought on a number of occasions throughout the process and they were involved in assessing the patient equipment being offered by various bidders for the contract.

The Long Term Conditions Policy Framework includes key actions to help people to self-manage their conditions through patient education programmes and the use of technology to support self-management. The Department is working closely with commissioners in the Health & Social Care Board (HSCB) & Public Health Agency (PHA) to ensure that patient education programmes are commissioned to meet population demand so that people who are diagnosed with a LTC will be offered access to a programme as soon after diagnosis as possible.

The technical solution closely reflected those outlined within the specification requirements documentation. During implementation phase various workshops were convened with key healthcare professionals to get their input in the detailed design of the solution and done on an iterative basis. Professionals were asked to reflect on their practice on the ground and build it into the solution; such as looking at existing information requirements to enhance screens and reports, setting up “virtual” clinics to replace face-to-face appointments and so on.

Other staff such as ICT personnel was also involved from the very onset to ensure that infrastructure issues were minimised whilst ensuring security all round. Regular clinical workshops with healthcare professionals ensured that any ongoing issues and service improvements were being heard and attended to.

In respect of Telemonitoring various project/service management arrangements were put in place at Trust level to secure senior management ownership and to plan for change management.

Telehealth Service Managers (TSM) were appointed in each Trust to engage with stakeholders, develop and lead the service; frequently meeting with clinicians to deploy and share knowledge. On the provider side, each Trust was also assigned a Business Account Officer who worked in partnership with the TSM to help with any stakeholder engagement activities and organise any demonstration/training of the service.

Clinical Forum comprising of senior nursing professionals was also convened to knowledge share and look at various best practice across the region.

The Telemonitoring NI service is continually being monitored and developed and there is a process of continual improvements at local as well as regional basis and ranging from operational to strategic stakeholders.

Since it became operational, there have been numerous enhancements made to the service including:
- Integration with Health and Care Index (NI unique patient identifier) to enable up-to-date patient demographic information;
- Using the service to monitor new conditions/clinical models such as renal disease, weight management and hypertension;
- Introduction of additional peripherals such as Class III weighing scales, and other glucose meters.

**Our results:**

Coverage: Telemonitoring NI service is targeting up to 20,000 patients over a six year period. The Integrated Care Partnerships will target the whole older people population among the long term conditions cases (between 400,000 and 600,000).

So far the Telemonitoring NI service has been made available to nearly 2,300 Telecare patients by the end of October 2013, and 1,775 Telecare clients have come onto the service since April 2013 when Telecare service became part of the contract.

- An important aspect of the integrated long term condition management is the access to telehealth and telecare services: 1,458 patients (data February 2013).
- General Practitioners play an important role in the delivery of the care to people with long term conditions through the Quality and Outcomes Framework, which has been a key element in, for example, reducing mortality rates and improving diabetes diagnosis.
- The ILTC management system has resulted in reduced hospital admissions and deaths from heart diseases, especially in deprived areas thereby addressing health inequalities.
- Improving access to patient education/self-management programmes is a key element of the implementation of the Long Term Conditions Policy Framework and one of the Department’s commitments under Programme for Government 2011-15. Work is ongoing to identify the need for patient education programmes and to commission programmes in line with this need to improve health outcomes and quality of life.

The development of more integrated community-based services can have positive impact on the effectiveness, efficiency and sustainability of the HSC, e.g. through helping avoid unnecessary hospitalisation.
Intellectual property derived from the work of HSC Trust employees is protected and exploited locally. A number of items of intellectual property have already delivered direct financial returns to Trusts.

**Added value:**

The main added value lies in the approach to long term conditions management, based on three pillars: self-management; disease management; case management. Improving access to patient education/self management programmes and remote telemonitoring will allow more people to effectively and more confidently manage their condition at home, reducing the risk of exacerbation of their condition which could lead to unnecessary admission to hospital.

**Success factors:**

Factors that are needed to replicate and scale up the Telemonitoring NI project elsewhere are as follows:
- Dedicated resource to manage and develop the service – Trust Telehealth Service Managers have been instrumental in engaging with staff as well as looking at opportunities to embed learning for the service;
- Senior management sponsorship – Trusts that have benefitted from the service have been those who have a clear view of how they wish the service to be deployed for the management of long term condition
- Sharing of best practice and knowledge across the different Trusts must be encouraged
- Partnership and collaborative working between the Trusts and the provider
- Flexibility within the service to support innovative use by healthcare professionals as well as suit the needs of the different profile of patients with long term conditions who may be at different stages of their disease.

**Barriers to innovation:**

One of the key barriers to innovation remains the lack of substantive and robust evidence sources on the benefit of telemonitoring. The absence of robust evidence can lead to difficulties in garnering greater clinician support.

A further barrier to innovation is the potential for change in working practice as well as change in workload and the implications this can bring for those delivering services.

Recognising this we will be undertaking a commissioned research evaluation on the current outcomes of the implementation of the Telemonitoring NI managed service.

It is envisaged that the research will provide useful information to improve the operation of the service as well as inform any future developments of the service. The outcomes from this research evaluation project will also be of interest to other Regions that are either considering the development of a telemonitoring service or are interested in understanding a research evaluation methodology.

**Transferable elements:**

The Telemonitoring NI service is an end-to-end clinically led managed service. Unlike other remote monitoring services in the past the contract is for the provision of a service, including clinical triage, and not simply a purchase of patient equipment and software.

The end-to-end Managed Service model is useful model for developing services which require innovation and flexibility. It provides for a collaborative approach with the provider as they have an overview and responsibility over greater aspects of the service including service delivery, technological (hardware, software and telemonitoring equipment) and clinical components. It also provides the capacity and capability to flexibly manage and grow the service be it during ad-hoc periods of increased demand or as growth develops over time. The end-to-end Managed Service model seeks to tap into any synergies and overall value adding to the service proposition.

**Lesson learnt and recommendations for others:**

The following lessons have been learned from Telemonitoring NI:
- Commence clinical engagement as early on as possible in the process of service design;
- Invest effort in the service design phase – problems will surface unless the service has been explicitly defined and designed;
- Plan for service growth and scale at the outset – if not it won’t happen;
- Put in place processes for reviewing parameter setting for patients and the use of default parameters;
- Expect higher alert activity at service start;
- Establish mechanisms to support clinical collaboration and encourage clinicians to champion their Telemonitoring success stories and disseminate good practice;
- Choose Service Levels with care and ensure they encourage the clinical practice that you want to see happen;
- Invest time to build relationships between the clinical triage team and the patient care team;
- Do not underestimate the time it takes to engage and achieve consensus on the Clinical Care Pathway Design;
- Do not expect that the requirement for clinical engagement to stop after operational service commencement. A time for bedding in and evaluating effectiveness is required to accommodate local experiences as they accumulate. It is a journey rather than a destination;
- Do not expect informal processes and practices built up in delivering pilots to directly translate into processes for large scale service delivery. Large scale, mainstream services need to be
UK health system

52 - Beveridge
(public provision and public insurance)
gate-keeping and ample choice of providers for users and strict budget constraint

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<th>Key data:</th>
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<td><strong>Level of development</strong></td>
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<td>Public expenditure on health, 2010 (% of GDP)</td>
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<td>Health care expenditure, € per inhabitant 2010</td>
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<td>Amenable mortality rates</td>
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| **Level of concentration**          | **Lowest** | **UK**, 0.0% | **Highest** |
| Local and state health expenditure as % of total health government expenditure | 0.7% | 0.7% | 98.5% |
| Hospital expenditure as % of current health expenditure, 2010 | 25.7% | 40.0% | 54.0% |

| eHealth readiness          | **Lowest** | **UK**, 7.6% | **Highest** |
| Capital formation expenditure, € per inhabitant, 2010 | 7.6% | 393.10 |
| Hospitals' eHealth Deployment Composite Index | 0.18 | 0.538 | 0.36 |

| Impact of ageing          | **Lowest** | **UK**, 3.3% | **Highest** |
| Reference scenario | -3.8% | 3.3% | 12.2% |
| Risk scenario | -3.3% | 4.00% | 12.3% |
European Innovation Partnership on Active and Healthy Ageing

Reference Sites

Excellent innovation for ageing

HOW TO GUIDE
European Innovation Partnership on Active and Healthy Ageing

Reference Sites

Excellent innovation for ageing

HOW TO GUIDE

Useful sources

European Innovation Partnership on Active and Healthy Ageing
http://ec.europa.eu/active-healthy-ageing
https://webgate.ec.europa.eu/eipaha/
@ActiveHealthyAgeing

ICT for Ageing Well
http://www.aal-europe.eu/

Health and Consumers
http://ec.europa.eu/dgs/health_consumer/index_en.htm
http://ec.europa.eu/health/ageing/innovation/index_en.htm
@EU_Health

Digital Agenda for Europe
https://ec.europa.eu/digital-agenda/
https://www.facebook.com/?ref=tn_tnmn#!/DigitalAgenda
@DigitalAgendaEU
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