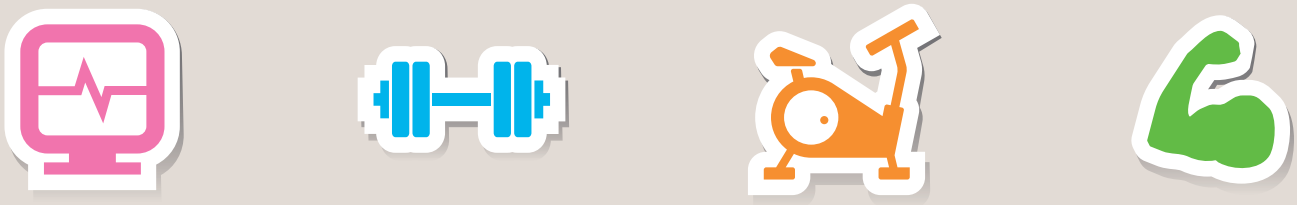
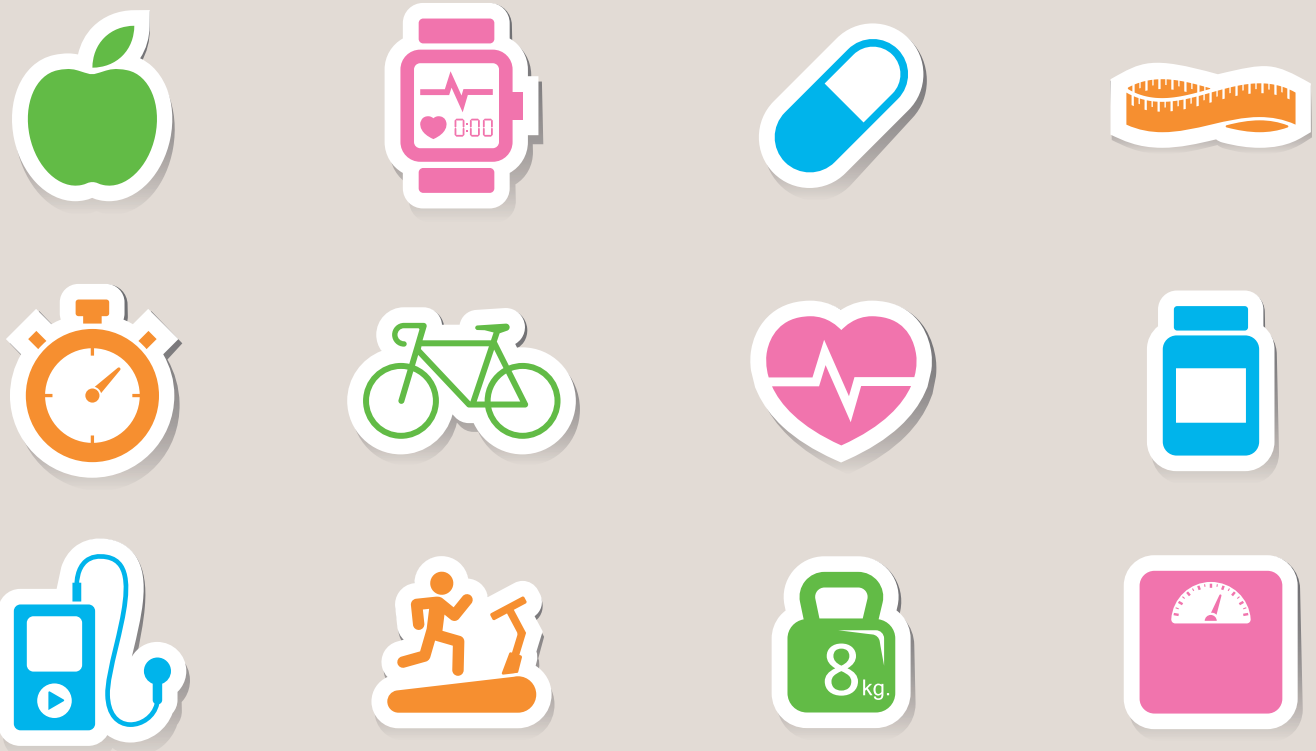
European Commission



eHealth projects

Research and Innovation in the field of ICT for Health and Wellbeing: an overview



Last updated: June 2016

Digital Agenda for Europe

European Commission

DG CONNECT

Unit H1 – Health & Wellbeing
BU25 3/122
B-1049 Brussels/Belgium

CNECT-EHEALTH@ec.europa.eu
Website: http://bit.ly/ECeHealth/

Please follow us:

Twitter: https://twitter.com/EU_eHealth
Facebook: http://www.facebook.com/EU.eHealth?ref=hl

Health and Wellbeing is part of the Digital Single Market.

Publications Office of the European Union - Luxembourg, 2016

EUROPEAN COMMISSION
Directorate-General for Communications Networks, Content and Technology

Digital Society, Trust and Cybersecurity

eHealth projects - Research and Innovation in the field of ICT for Health and Wellbeing: an overview

INTRODUCTION

Introduction

Better health and wellbeing through ICT:
Our research and innovation turns the future of health into the present.

What have the best brains of Europe come up with to improve health and wellbeing with the help of Information and Communication Technology (ICT)? This report offers an overview of the most current (on-going or recently finished) European funded projects in the field of ICT for health and wellbeing ('eHealth').

The research and innovation projects listed here have been divided in three types:

- Managing your health and care projects: These projects help patients and healthcare professionals to manage a certain condition. Or they preventively help people to stay healthy.

- Projects that innovate the healthcare system and the way we work. This includes projects which are related to interoperability - meaning the ability of systems and organizations to work together ('inter-operate'). It also includes projects that innovate through innovation procurement.

- International eHealth and mHealth projects that are active in low and middle income countries.

At the end of this report you will find an overview of the programs used to fund these projects in order to enable them.

For more detailed information on each project, please visit the project website mentioned herein or visit cordis.europa.eu. And for a selection of successful projects that are currently being used in healthcare, please visit bit.ly/fromLab2Market.

To be further informed on exciting results of these projects, new projects and other eHealth news, you can subscribe to the newsletter *eHealth in Focus*: bit.ly/eHealthinFocus.

Pēteris Zilgalvis

Head of Unit ICT for Health and Wellbeing, DG Connect
CNECT-eHealth@ec.europa.eu

1. MANAGING YOUR HEALTH & CARE

1.1 Projects related to mental health

NYMPHA-MD

NYMPHA (Next Generation Mobile Platform for Health in Mental Disorders) aims to identify new care models for patients with **mood disorders**, such as bipolar disorder or depression. They will experiment with next generation services advocated for mental health treatment based on new digital technologies, open standards and open platforms.

To achieve this, the project will adopt public/private partnership according to the Pre-Commercial Procurement (PCP) model; NYMPHA-MD (www.nympha-md-project.eu) intends to launch a European wide published PCP call for tender for the value of around €1,6M.

Project partners are the Autonomous Province of Trento as main procurer, Parc Tauli Health Foundation of Barcelona, Copenhagen Region and the scientific coordinator CREATE-NET (Italy).

Duration: 2014-2017

MASTERMIND

MASTERMIND offers e-services for better management of **depression**:

1. Guided, computerised Cognitive Behavioural Therapy (cCBT) for depression treatment;
2. Collaborative care for depression facilitated by video conference.

More info: mastermind-project.eu

Duration: 2014-2017

m-RESIST

With a €4 Million budget, the m-RESIST Project (Mobile Therapeutic Attention for Patients with **Treatment Resistant Schizophrenia**) aims to develop a therapeutic program that draws on the support of mobile devices and actively involves patients with treatment-resistant schizophrenia. This will make them capable of self-managing their illness, as well as support their carers.

www.mresist.eu

Duration: 2015-2018

NEVERMIND

NEVERMIND sets out to empower people who suffer from symptoms of **depression** related to a serious somatic disease.

The envisaged system works via a smartphone and a lightweight sensitized shirt. It predicts the severity and onset of depressive symptoms by collecting and processing physiological data, body movement, speech, and the recurrence of social interactions.

The data will trigger a response encouraging the patient to conduct or alter activities or lifestyle to reduce the occurrence and severity of depressive symptoms.

The final aim is to bring this system to the market, giving people the tools to control their depression and unburden their minds.

No website yet

Duration: 2016-2019

1.2 Projects related to pain

RELIEF

With a budget of nearly € 2 million, the Horizon 2020 RELIEF project will use pre-commercial procurement to help improve **chronic pain** relief through innovative ICT self-management solutions.

In its first phase, the RELIEF experts will conduct a pre-study or 'solution exploration' where several different solutions are explored.

A second phase will include prototype development of the solutions that are judged most promising. This will be followed by the development of a small test-batch of some of the remaining solutions. Eventually one or few of the remaining solutions will be selected for commercial roll-out.

relief-chronicpain.eu

Duration: 2016- 2019

SELFBACK

A decision support system for self-management of **low back pain**.

The core component in the self-management of non-specific low back pain (LBP) is physical activity and strength/stretching exercises. However, adherence to this is challenging due to lack of feedback and reinforcement. The SELFBACK project will develop a decision support system that, through a smartphone app, will assist the patient in deciding and reinforcing the appropriate actions to manage own LBP after consulting a health care professional in primary care.

The advice will be tailored to each patient based on the symptom state, symptom progression, the patients goal-setting, and a range of patient characteristics including information from a physical activity-detecting wristband worn by the patient.

No website yet.

Duration: 2016-2020

1.3 Projects related to neurological disorders like Parkinson's and Alzheimer's disease

Dem@Care

Development of a complete system providing personal health services to people with **dementia**, as well as medical professionals and caregivers by using a multitude of sensors (context-awareness, lifestyle monitoring, health parameters…).

www.demcare.eu

Duration: 2011-2015

NeuroTREMOR

NeuroTREMOR (www.g-nec.com/project_Neurotremor.html) aims at technically, functionally and clinically validating a novel system for understanding **tremors**, giving support to diagnosis, and remotely managing tremors.

Duration: 2012-2015

NoTremor

NoTremor is working to create new tools to predict how **Parkinson's disease** (PD) develops. The project will develop patient specific virtual, physiological and computational neuromuscular models of the coupled brain and neuromuscular systems. These will be subsequently used to improve the quality of analysis, prediction and progression of PD.

In particular, it aspires to establish the neglected link between brain modelling and neuromuscular systems. This will result in a holistic representation of the physiology for PD patients. More info: notremor.eu

Duration: 2014-2016

PD_manager

This project will allow people with **Parkinson's Disease** to be followed by a multidisciplinary team, with the use of easy and accessible technologies: A smart watch, an insole to measure gait and balance, an electronic pillbox and a set of applications for smartphone and/or tablet.

With these tools and the support of a powerful server and online data collection system, it will be possible to provide each patient the specific therapeutic changes necessary to ensure the best treatment and develop a rehabilitation focused home-care system that will improve quality of life and reduce the risk of complications including falls.

www.parkinson-manager.eu

Duration: 2015-2018

PredictND

The research project PredictND is taking an important step towards better prediction, diagnostics and management of **memory disorders** such as Alzheimer's. This project aims to predict these disorders even before the symptoms start. The PredictND project is a VPH-project, so it will use biomedical computer models to simulate the human brain.

On top of that, clinicians experience an overload of information: They need to combine information from multiple tests and biomarkers for finding the correct reason and name for the disease. PredictND will provide tools that help clinicians to form a holistic view of the patient by combining information from several sources, such as clinical tests, imaging and blood samples, and by comparing these measurements to previously diagnosed cases available in hospital databases.

www.predictnd.eu

Duration: 2014-2018

REMPARK

Goal was to develop a Personal Health System for the management of **Parkinson's disease** (PFD) patients at two levels: wearable monitoring system able to identify in real time the motor status of the PFD patients; intelligent analysis of data provided by the first level, supported with the disease management system. The tool will be tested on 60 patients in real life. More info: www.rempark.eu

Duration: 2011-2015

VPH-DARE-at-IT

A clinical decision support platform for early differential diagnosis of **dementias** and their evolution. This is being based on models of the ageing brain and taking into account biochemical, metabolic and biomechanical brain substrate, as well as for genetic, clinical, demographic and lifestyle determinants.

The VPH-DARE-at-IT project (www.eibir.org) covers part of the "Virtual Physiological Human" (VPH), which deals with biomedical modelling and simulation of the human body.

Duration: 2013-2017

1.4 Projects related to stroke

MAGIC

This project, entitled 'Mobile Assistance for Groups and Individuals in the Community' (MAGIC), aims to discover innovative approaches to post-stroke care with a view to improving the independence of stroke survivors. It will use Pre-Commercial Procurement to engage industry providers who will be required to compete through several phases of solution development and testing.

No website yet.

Duration: 2016-2020

STARR

You suffered a stroke and you want to avoid getting a second one? The 'Decision SupporT and self-mAnagement system for stRoke survivoRs' (STARR) project aims to enable the self-management of stroke risk factors.

Based on existing computational predictive models of stroke risk, the project will develop a modular, affordable, and easy-to-use system, which will inform stroke survivors about the relation between their daily activities (e.g. medication intake, physical and cognitive exercises, diet, social contacts) and the risk of having a secondary stroke.

This will better prevent and reduce the number of secondary stroke events, and will also increase patients' participation in medical decision-making.

No website yet.

Duration: 2016-2019

1.5 Projects related to the lungs

AirPROM

Creation of a validated **airway model** to predict disease progression and response to treatment. Also provided is a platform to translate these patient-specific tools, so as to pave the way to improved, personalised management of **airway diseases**.

The AirPROM project covers part of the "Virtual Physiological Human" (VPH), which deals with biomedical modelling and simulation of the human body. More info: www.europeanlung.org

Duration: 2011-2016

myAirCoach

myAirCoach aims to create a user-friendly tool for **asthmatic patients** to monitor and self-control their disease. This tool, a holistic mHealth personalised asthma monitoring system, will increase the patients' awareness of their clinical state and effectiveness of medical treatment.

This will be achieved through a multi-disciplinary approach aiming at the development of an ergonomic, compact and efficient sensor-based inhaler that will be in continuous communication with a mobile device. This sensing infrastructure will have the capability of automated monitoring of several clinical, behavioural and environmental factors in realistic conditions.

www.myaircoach.eu

Duration: 2015-2018

MyCyFAPP

The MyCyFAPP project will help **Cystic Fibrosis** patients and caregivers to manage the disease with an innovative app.

Cystic fibrosis (CF) is a genetic disease, causing severe damage to the lungs and the digestive system. The affected people suffer from insufficient activity of their pancreas, often resulting in maldigestion and malabsorption, thus leading to malnutrition and growth disturbances. In Europe, about 4% of the population carry the genetic mutation, and ca. 0.3% of the European population suffer from this severe illness, which cannot be cured.

An individualized therapy with enzyme replacement could relieve many of the life-shortening side effects of CF. Within the MyCyFAPP project, such a therapy will be realized in terms of an innovative information and communication technology (ICT) tool, i.e. an app and a software program. This will encourage the patient's adherence to the treatment and the best outcome of nutritional intervention, especially important for young patients.

www.mycyfapp.eu

Duration: 2015-2019

WELCOME

To help **COPD** patients with comorbidities and to reduce the burden on our health systems, the FP7 WELCOME project aims to create innovative solutions such as an integrated care management tool and a monitoring vest.

Great attention will be paid to the small-scale validation of the project and its impact on healthcare in five countries (Greece, UK, Ireland, Germany and the Netherlands). www.welcome-project.eu

Duration: 2013-2017

1.6 Projects related to cardiovascular disorders

CARDIOPROOF

CARDIOPROOF is a project to determine the applicability and effectiveness of predictive modelling and simulation tools for **cardiology**. It supports and is part of the "Virtual Physiological Human" (VPH) community. More info: www.cardioproof.eu

Duration: 2013-2016

CARRE

To help patients manage their **chronic heart and kidney disease**, CARRE will develop personalised alerting, planning and educational services. This will empower patients, and both professionals and patients will be able to make shared informed decisions on the disease.

The CARRE consortium consists of 6 partners from 4 countries (Greece, United Kingdom, Lithuania and Poland) and is coordinated by the Democritus University of Thrace in Alexandroupoli, Greece.

More info: www.carre-project.eu

Duration: 2013 - 2016

Do CHANGE

According to research, 90% of people who are advised to **change their lifestyle** after a serious medical event such as a heart attack, fail to do so. To help them, experts from the UK, Belgium, the Netherlands, Spain and a hospital in Taiwan will link inputs from medical devices, nutritional sensors, doctors and consultants, thus creating a new health ecosystem that puts the user at the centre.

Participating patients will monitor their condition and what they eat at home with the new devices that feed into the 'Do Change' system. This will inform the kind of lifestyle changes required, which in turn will help to shape a personalised programme in near real-time.

The patient will receive 'Do's' designed by the project's psychologists to encourage him or her to make the changes the cardiology team suggests they need to make for their long-term health.

www.do-change.eu

Duration: 2015-2018

EurValve

EurValve will look at **Valvular Heart Disease**. By combining multiple complex modelling components developed in recent EU-funded research projects, a comprehensive, clinically-compliant decision-support system will be developed to meet this challenge, by quantifying individualised disease severity and patient impairment, predicting disease progression, ranking the effectiveness of alternative candidate procedures, and optimising the patient-specific intervention plan.

This algorithmically-driven process will dramatically improve outcomes and consistency across Europe in this fast-growing patient group, maximising individual, societal and economic outcomes.

Duration: 2016-2019

HEARTEN

The HEARTEN project wants to prevent **Heart Failure** (HF). The project researchers are developing biosensors that detect and quantify novel breath and saliva HF biomarkers that can reflect the health status of the patient and also identify whether the patient adheres to the administered drugs. A new platform will send smartphone alerts to HF patients every time they find themselves in a critical situation.

www.hearten.eu

Duration: 2015-2018

HeartMan

HeartMan is designing a personal health system to help patients with **Congestive Heart Failure** to manage their condition. The system will involve medication management, monitoring of fluid intake and weight, exercise and lifestyle changes. The system will also feature mindfulness exercises, methods to understand the patients' physical and psychological state, and standard-based data management for wide interoperability.

heartman-project.eu

Duration: 2016-2018

PATHway

PATHway is working on a novel approach to **cardiac rehabilitation**. The PATHway experts are developing an individualized programme including an internet- enabled, sensor-based home exercise platform that manages exercise or other physical activity, smoking, diet, stress management, alcohol use etc. This enables patients to both better understand and deal with their own condition and to lead a healthier lifestyle.

The system will allow remote participation in specially designed exercise programs at any time, either individual or together with a small number of patients, from the comfort of their own living room.

www.pathway2health.eu

Duration: 2015-2018

SMARTool

This project aims at predicting coronary artery disease through simulation modelling, and at supporting clinicians in early diagnosis, prevention and treatment of heart disease.

The project experts will develop computer models that, based on non-invasive diagnostic imaging techniques, simulate the formation and growth over time of coronary plaques (fatty deposits responsible for the narrowing of the coronary arteries at the base of atherosclerosis). A software platform based on cloud computing technology will integrate all clinical data of the individual patient including genetic factors, medical history, risk factors and environmental factors.

Using these solutions, clinicians will be able to predict the individual evolution of heart disease, diagnose it early and assess any future risks.

Duration: 2016-2019

VP2HF

Heart failure (HF) is one of the major health issues in Europe affecting 6 million patients and growing substantially. Existing therapies are ineffective in up to 50% of the treated patients and involve significant morbidity and substantial cost.

The primary aim of VP2HF is to bring together image and data processing tools with statistical and integrated biophysical models mainly developed in previous VPH projects, into a single clinical workflow to improve therapy selection and treatment optimisation in HF. The tools are tested and validated in 200 patients (including 50 historical datasets) across 3 clinical sites in Europe. vp2hf.eu

Duration: 2013-2016

1.7 Projects related to diabetes

MISSION-T2D

A patient-specific model for the simulation and prediction of metabolic and inflammatory processes in the onset and progress of the **Type 2 Diabetes** (T2D); A diagnostic tool to estimate the risk of developing T2D and to predict its progression in response to possible therapies. More info: www.iac.rm.cnr.it

Duration: 2013-2016

MOSAIC

Development of mathematical models and algorithms that can enhance the current tools and standards for the diagnosis of **T2DM, IGT, IFG** and **GDM**; This can improve the characterization of patients suffering from those metabolic disorders and can help evaluating the risk of developing T2DM and GDM and their related complications. More info: www.mosaicproject.eu

Duration: 2013-2016

PAL

PAL is devoted to the development of a Personal Assistant for healthy Lifestyle (PAL) for **type 1 diabetes** patients aged 7-14.

The personalized assistant (PA) will assist children, health professionals and parents to advance the self-management of the **diabetic child**, so that an adequate level is established before adolescence. Severe episodes and complications can be prevented by performing self-management. For example, the monitoring carbohydrate intake, physical activity, and blood glucose, recognizing symptoms of hypoglycemia and hyperglycemia, and injecting insulin, can help regulate glucose levels and help minimizing the impact of the illness on the patient's health. More info: www.pal4u.eu

Duration: 2015-2019

PEPPER

A unique **diabetes self-management system** - that's the aim of PEPPER. This project will develop a personalised decision support system for **type 1 diabetes** management that will make predictions based on real-time data in order to empower individuals to improve self-management.

No website yet.

Duration: 2016-2019

1.8 Projects related to cancer

BD2Decide

Big Data and models for personalized Head and Neck Cancer Decision support - The BD2Decide Integrated Decision Support System links population-specific epidemiology and behavioural data, patient-specific genomic, pathology, clinical and imaging data with big data techniques, multiscale prognostic models. Advanced graphical visualization tools are developed for prognostic data disclosure and patient co-participation to the selected treatment.

BD2Decide will improve the clinical decision process, uncover new patient-specific patterns that can improve care, and create a virtuous circle of learning. A multicentric clinical study with more than 1.000 patients will be used to validate the system.

No website yet.

Duration: 2016-2019

CHIC

Computational Horizons In Cancer (CHIC): Developing Meta- and Hyper-Multiscale Models and Repositories for **In Silico Oncology**.

The CHIC project (chic-vph.eu) covers part of the "Virtual Physiological Human" (VPH), which deals with biomedical modelling and simulation of the human body.

Duration: 2013-2017

ClinicIMPPACT

The main objective of this project is to bring the existing radio frequency ablation (RFA) model for **liver cancer** treatment (developed by its predecessor, the IMPPACT project, completed in February 2012) into clinical practice. More info: www.clinicimppact.eu

Duration: 2014-2017

DESIREE

eHealth system for support in diagnosis and treatment of **breast cancer**. The DESIREE project is working on a decision support system that predicts the evolution of breast cancer case by case. A web-based collaborative system will bring together all available information of breast cancer cases, will provide a more customised and holistic view of the patient, will obtain new evidence (based on accumulated and collaborative experiences), and will provide agile, intuitive and visual tools for clinical decision support.

If successful, it will be used in Breast Units to apply specific therapies for each patient depending on the diagnosis. More info: www.desiree-project.eu

Duration: 2016-2019

DR THERAPAT

DR THERAPAT's aim is to create the Digital Radiation Therapy Patient platform. This **platform** will integrate available knowledge on tumour imaging, image analysis and interpretation, radiobiological models and radiation therapy planning into a coherent, reusable, multi-scale digital representation. More info: drtherapat.eu

Duration: 2013-2016

GoSmart

Minimally Invasive Cancer Treatment. More info: www.gosmart-project.eu

Duration: 2013-2016

iManageCancer

How can you manage your own care? The iManageCancer project will find out how mobile healthcare (mHealth) and serious games help people with **chronic illnesses** and in particular **cancer**.

The iManageCancer project will provide a cancer disease self-management platform designed according to the specific needs of patients and focusing on their wellbeing. 8 partners from 5 European countries are creating intelligent, informative and fun ways to let those with chronic illnesses manage their health in a new way, all from their smart phone.

imanagecancer.eu

Duration: 2015-2018

OraMod

This project deals with **oral cavity cancer**. To improve early prediction of reoccurrence of this disease, OraMod intends to develop and translate innovative methods, tools, virtual models and predictive markers for risk of reoccurrence from the lab into the clinic and into the usual care delivery practice.

OraMod (oramod.eu) covers part of the "Virtual Physiological Human" (VPH) aimed at personalised healthcare and disease prevention.

Duration: 2013-2016

PICTURE

PICTURE, also part of the VPH, has created an ICT tool for modelling the outcome of women **breast surgery** after breast cancer diagnosis. More info: www.vph-picture.eu

Duration: 2013-2016

TRANS-FUSIMO

Removing a tumour without a scalpel or x-rays? This is possible thanks to a certain type of ultrasound: Strong, concentrated ultrasonic waves are directed at the patient's body in such a way that they heat and kill individual cancer cells.The follow-up of FUSIMO: The new Trans-Fusimo project will use the ultrasound technique for treating cancer in moving organs, especially the **liver**.

Currently, FUS therapy is not yet approved for liver tumours: The motion of the organ caused by respiratory movement complicates pointing the concentrated ultrasonic wave on the tumour. The first step is to obtain 3D images from magnetic resonance tomography (MRT) that show the inside of the patient's abdomen and simultaneously register the respiratory movements. Based on this data, experts can perform computer simulations of ultrasound treatment on the liver. More info: www.trans-fusimo.eu

Duration: 2014-2018

VPH-PRISM

Goal: A multidisciplinary model of the breast to improve the treatment of **breast cancer**. This model will give insight in environment-tissue interactions and will be the basis for quantitative drug efficacy assessment, surgery planning and treatment outcome prediction at both early and advanced stages of breast cancer.

The VPH-PRISM project (www.vph-prism.eu) covers part of the "Virtual Physiological Human" (VPH), which deals with biomedical modelling and simulation of the human body.

Duration: 2013-2016

1.9 Projects related to paediatrics

Digi-NewB

This project wants to reduce mortality and morbidity of hospitalised new-borns through a new class of monitoring and a new decision support system (DSS).

The DSS will assist the clinician in his decision-making through non-invasive monitoring of sepsis risk and of cardio-respiratory and neurobehavioral maturations. The monitoring will result in i) a decrease in sepsis related death and morbidity through early and personalized prescription of antibiotics, ii) a decrease in the risks of severe cardio-respiratory events and inadequate prolongation of hospitalization iii) a decrease in health costs.

No website yet.

Duration: 2016-2020

MD Paedigree

Worldwide advanced **paediatric digital repository**. In the fight against childhood obesity and other child diseases, this medical research project uses mathematical models, the cloud and big data to improve the treatment of children. Article: "EU awards 12 million euros to supercompute a healthier future for Europe's children".

Project website: www.md-paedigree.eu

Duration: 2013-2017

1.10 Projects related to sight and hearing

EMBalance

Balance disorders (e.g. vertigo, Ménière's Disease, migraine-related dizziness etc.) affect more than a third of the EU population at some point in their lives and falls are the most common cause of accidental death in those aged 75+. However, diagnosis of balance disorders is rarely straightforward and can often take months, or even years.

EMBalance is developing a new, online Decision Support System that will aid clinical decision-making in the evaluation and management of balance disorders. General Practitioners and other doctors will be equipped with this system to help diagnose and treat dizzy patients. More info: www.embalance.eu

Duration: 2013-2016

PRO4VIP

PRO4VIP (www.pro4vip.eu) is a European Pre-Commercial Public Procurement (PCP) and Innovative Public Procurement (IPP) project that is part of the European Vision 2020 strategy to combat **preventable blindness**, especially due to old age.

The aims of this project are:

- The creation and consolidation of a pan-European network of procurers;
- The definition of a common innovation procurement roadmap both in the short term and in the long term;
- The definition of cross-border and joint public procurement of innovation procedure(s) that best meet(s) PRO4VIP procuring authorities' needs (that could be either a PCP or a PPI or both) and that in line with Vision 2020 would either support the early detection and treatment of functional low vision conditions or would support the provision for low vision services.

Duration: 2015-2016

SIFEM

This project helps research on **hearing** impairment and loss as well as **ear surgery** by improving personalised 3D ear visualisation. The SIFEM project (sifem.ubitech.eu) also covers part of the VPH.

Duration: 2013-2016

Sound of Vision

The Sound of Vision project aims to create and convey an auditory representation of the surrounding environment to assist **blind or visually impaired** people. This representation will be created, updated and delivered in real time without any a-priori knowledge of the environment – indoor/outdoor – and without the need for predefined sensors located in the surroundings.

The key aspect of this project is the emphasis placed on providing a high quality user experience; the system will exploit brain computer interfaces and AI algorithms for behaviour understanding, in order to avoid overwhelming the user with information. More info: www.isi.it

Duration: 2015-2018

1.11 Projects related to gastroenterology and incontinence

VIGOR++

This project created a personalised gastrointestinal tract model, which facilitates accurate detection and grading of **Crohn's disease**. The benefits are early diagnosis, improved therapy planning and a better quality of life for patient.

The technology builds on multiscale information from patients, including laboratory, MRI, colonoscopy and microscopy (histopathology) data. A novel integration of existing models is employed to predict features on the molecular to cellular scale (microscopy/colonoscopy) from descriptive properties at the organ to patient scales (MRI/laboratory).

The VIGOR++ project (www.vigorpp.eu) covered part of the "Virtual Physiological Human" (VPH), which deals with biomedical modelling and simulation of the human body.

Duration: 2011-2014

WOMEN-UP

WOMEN-UP will deliver a holistic and cost effective solution for the self-management of **urinary incontinence**, with a focus on European women. A home treatment including pelvic floor muscle training will be developed, allowing for self-management of urinary incontinence via a decision support system combined with remote medical supervision.

Recent studies show that about 56 million European citizens are affected by urinary incontinence. The WOMEN-UP project has the main objective of improving the quality of life of patients affected by this disease, which represents a serious impairment to their professional and personal lives.

www.women-up.eu

Duration: 2015-2018

1.12 Projects related to sexual health

EmERGE

EmERGE will develop an mHealth platform to enable self-management of **HIV** in patients with stable disease.

The platform will provide users with web based and mobile device applications which interface securely with relevant medical data and facilitate remote access to key healthcare providers. EATG, the European HIV patient organisation, is involved and will interact with representative patients and clinicians from 5 EU countries. The platform and interfaces will be validated in a large study of 3900 patients. Guidelines and policy briefs will be produced to prove the benefits and disseminate the lessons learned to support the uptake of mHealth for self-management of chronic diseases.

www.emergeproject.eu

Duration: 2015-2020

PAEON

PAEON (paeon.di.uniroma1.it) deals with **infertility**. It develops patient-specific models of the menstrual cycle and external influences. It helps to predict the outcome of a treatment on patients with infertility related disorders such as Polycystic Ovarian Syndrome, hyperprolactinemia or endometriosis.

The PAEON project covers part of the "Virtual Physiological Human" (VPH), which deals with biomedical modelling and simulation of the human body.

Duration: 2013-2016

1.13 Projects related to rehabilitation in general

REWIRE

REWIRE (www.rewire-project.eu) developed, integrated and field tested an innovative virtual reality based **rehabilitation platform**, which allows patients, discharged from the hospital, to continue intensive rehabilitation at home under remote monitoring by the hospital itself.

Duration: 2011-2014

1.14 Projects related to personal health in general, preventive healthcare, mobile health

BeatHealth

Better at sports while listening to music? BeatHealth wants to exploit this link between music and movement for boosting individual performance and **enhancing health and wellness**. It aims to create an intelligent portable tool and IT network for rhythmical stimulation adapted to the individual's skills.

The beneficial effects of BeatHealth will be evaluated both in patients with movement disorders (i.e., Parkinson's disease), and in healthy citizens of various ages with moderate physical activity.

www.euromov.eu/beathealth

Duration: 2013-2016

DAPHNE

With DAPHNE, researchers and businesses join forces to help people **manage their weight** and increase physical exercise using emerging technologies and information systems.

The project will use a new generation of sensors to detect how much energy a person expends - including how much time they have been sitting still, walking, standing, doing housework, etc - and can monitor their overall fitness.

More info: "€4.9 million project helps Europeans manage their weight" and www.daphne-fp7.eu

Duration: 2013-2016

eHealthMonitor

Development of a **platform** for individualized personal healthcare services, design of knowledge sharing methods which consider privacy protection requirements, and include all stakeholders in the decision making process. More info: www.ehealthmonitor.eu

Duration: 2011-2014

Mobiguide

The aim of the MobiGuide project (www.mobiguide-project.eu) is to develop an intelligent decision-support system for patients with chronic illnesses. The system accompanies the patients wherever they go and helps them and their care providers in **managing their illness**, whether they are at home, at work, out and about or travelling abroad on holiday or for business. The MobiGuide tool analyses bio signals from body-worn sensors and gives advice 24/7.

Duration: 2011-2015

MyHealth Avatar

Digital representation of a patient's **health status**. The research project has launched an app and an online platform that collects, and gives access to, your digital long-term health-status information.

This takes on the form of a life-long health companion ('avatar'). MyHealthAvatar also predicts your risk for stroke, diabetes, cardiovascular disease and hypertension.

www.myhealthavatar.eu

Duration: 2013-2016

NoHoW

Helping people to lose weight has been very much examined. The NoHoW project however focusses on keeping the weight off. By collecting evidence about what works and what doesn't, the NoHoW researchers will develop an innovative **weight loss maintenance** programme with, as its central part, a weight loss maintenance toolkit.

The toolkit will include mobile apps, web-based tools and inputs from other technologies, such as smart scales and activity trackers that will feed back information to participants based on personalised prediction models of what is most effective for them. Participants in Denmark, Portugal and the United Kingdom will test the programme.

nohow.eu

Duration: 2015-2020

p-Medicine

p-Medicine ('Personalised Medicine') is working on an **infrastructure** that will facilitate the translation from current practice to personalised medicine. More info: www.p-medicine.eu

Duration: 2011-2015

PEGASO Fit for Future

Promoting **healthy lifestyles and food awareness** among teenagers through games and technology - this is the goal of the "PEGASO Fit for Future" project.

More info: "9 million euros for healthier teens" and www.pegasof4f.eu

Duration: 2013-2017

SPLENDID

This project will develop hi-tech sensors aiming to **prevent obesity**: By measuring food intake and activity these sensors can assess obesity risks. In the fight against obesity, SPLENDID also developed special programs for guiding both school children and adults. More info: splendid-program.eu

Duration: 2013-2016

PRECIOUS

To maintain a **healthy lifestyle**, PRECIOUS aims to improve motivation using a combination of motivational interview and gamification principles, as well as creating a personalised system that adapts to the users' goals and preferences. The system will measure food intake, physical activity, stress levels and sleep patterns. More info: www.thepreciousproject.eu

Duration: 2013-2016

SEMEOTICONS

The central idea of SEMEOTICONS (SEMEiotic Oriented Technology for Individual's CardiOmetabolic risk self-assessmeNt and Self-monitoring), is to exploit the **face** as a major indicator of individual's **well-being** by tracing traits of physical and expressive status.

To map and assess these face signs, SEMEOTICONS will design and construct a multi-sensory system integrated into a hardware platform having the exterior aspect of a mirror: the so-called "Wize Mirror". This will easily fit into users' home or other sites of their daily life. www.semeoticons.eu

Duration: 2013-2016

2. INNOVATING HEALTHCARE AND THE WAY WE WORK

2.1. Projects related to clinical trials and biomedical informatics

Avicenna

Clinical trials to test new drugs, devices or treatments are not only expensive, they are also risky for the test subjects; animals or humans. Solution: Perform the tests using high-quality and reliable computer simulations. Avicenna, part of the VPH community, created a roadmap to make this possible and to transform the entire biomedical industry.

Now the project has ended, the Avicenna Alliance is continuing the work: They are bringing all relevant stakeholders such as the biomedical industry, health researchers and policy makers together and they are promoting in silico medicine (predictive computer modelling).

avicenna-alliance.com

Duration: 2013-2016

GRANATUM

The GRANATUM project (www.granatum.org) has developed a kind of "Facebook for biomedical researchers": an innovative **social collaboration platform** which connects biomedical researchers and provides access to information about cancer research and established pharmaceutical agents from 83 global data sources in an integrated, semantically interlinked manner. Sophisticated GRANATUM applications, all integrated in the GRANATUM Portal, facilitate a new collaborative and integrative approach in cancer chemoprevention research. Article: 'Biomedical Facebook': New web portal for drug discovery.

Duration: 2011-2013

2.2. Projects related to anesthesia & patient safety

RASimAs

A better outlook for those about to undergo surgery or have a child: The RASimAs project is working on a virtual reality simulator for doctors performing regional anesthesia. This tool supports prediction and avoidance of possible complications during regional anesthesia providing a precise anatomy of every single patient.

More info: "EU awards 3.3 million to RASimAs for simulating anesthesia outcome" and www.rasimas.eu

Duration: 2013-2016

TRANSFoRm

TRANSFoRm (www.transformproject.eu) aims to develop a "rapid learning healthcare system" driven by advanced computational infrastructure that can improve both patient safety and the conduct and volume of clinical research in Europe.

Duration: 2010-2015

2.3. Knowledge sharing & infrastructure for eHealth experts and health professionals

CAMEI

CAMEI brought the EU-US Roadmap for eHealth into practice by addressing IT skills for healthcare workers in both the EU and the US. CAMEI coordinated research activities and policies towards the development of renewed educational material and programs, boosted new trends for acquiring new knowledge by the healthcare workforce, fostered trans-national access to research infrastructures from both EU and USA partners and established a network of best practices in Medical Education Informatics.

www.camei-project.eu

Duration: 2013-2015

ENS4Care

ENS4Care has developed five guidelines for European nurses and social workers on how to use eHealth for promoting a healthy lifestyle and prevention, clinical practice, skills development for advanced roles, integrated care and nurse ePrescribing.

www.ens4care.eu

Duration: 2013-2015

EPP-eHealth

The aim of the EPP-eHealth project is to transform the market for eHealth solutions through dialogue and innovation procurement. The project will create a network of procuring organisations that understand the opportunities that eHealth can offer and have competence in innovation procurement and the capacity to pioneer new approaches to collaborative procurement.

As well as stimulating demand for eHealth goods and services and creating a robust framework for practical procurement (public procurement of innovation – PPI –and pre-commercial procurement – PCP) outcomes within the period of the project, it will also serve as a leading procurers group for the wider population of some 15,000 hospitals in Europe.

innovationithospitals.com

Duration: 2015-2017

HAIVISIO

How do we get European research and innovation project results out of the lab? HAIVISIO helped EU-funded eHealth and ICT for active and healthy ageing projects to set a common strategy for jointly disseminating their results. The project will organise events and training courses and facilitate an online community.

More info: "Bridging the gap between EU research results and service provision" and www.haivisio.eu

Duration: 2013-2015

INSPIRE

An EU-network to bring together experts and procurers interested in developing and implementing innovative procurements in the eHealth, Active Aging and Independent Living areas. More info: www.nhg.fi

Duration: 2013 - 2015

VPH-Share

This was to be achieved: the infrastructure to (1) expose and share data and knowledge, (2) jointly develop multiscale models for the composition of new VPH workflows, (3) facilitate collaborations within the VPH community. More info: www.vph-share.eu

Duration: 2011-2015

2.4. Projects related to telemedicine

Telemedicine – the interaction between doctors and patients or among health professionals through electronic media – can help citizens receive personalized care, regardless of their location. This is especially helpful for patients suffering from chronic illnesses who have to see a doctor regularly.

ELECTOR

The internet is set to make big changes to the relationship between doctor and patient. Using the latest communications technology such as the technology of the EU-funded ELECTOR project, doctors can now diagnose and treat **arthritis** patients many miles from their consulting rooms. This saves patients hours of unnecessary travel time that they for example could use for healthy living and exercise.

Once perfected, the ELECTOR telemedicine technology for arthritis patients is expected to be rolled out across the Danish healthcare service and possibly in other EU countries as well.

More info: www.elector.eu Video: www.bbc.com/news/health-30527565

Duration: 2015-2018

MOMENTUM

A European telemedicine "Blueprint" to mainstream telemedicine into daily practice and make it sustainable. More info: www.telemedicine-momentum.eu

Duration: 2012-2014

THALEA & THALEA II

Through the THALEA project, five hospitals from Germany, Netherlands, Spain, Belgium and Finland will initiate a joint Pre-Commercial Procurement (PCP) focusing on getting a highly interoperable telemedicine and telemonitoring platform (a central 'monitoring cockpit') for improving the care of acutely live-threatened patients at intensive care units.

THALEA intends to launch a European wide published PCP call for tender for the value of around €1,55M.

More info: www.thalea-pcp.eu and THALEA factsheet

Duration: 2013 - 2019

United4Health

Through 14 large scale telemedicine pilots in Europe, this project has seeked to deliver telemedicine and personal health services to the many people suffering from Chronic Obstructive Pulmonary Diseases (COPD), diabetes and cardiovascular diseases.

The large scale real-life pilots validated and evaluated these services. A report about how the deployment sites embedded telehealth technology into their care pathways and what the results were has been published. The project experts also give policy recommendations.

www.united4health.eu

Duration: 2013-2015

2.5. Patient empowerment in general

PALANTE

PALANTE (www.palante-project.eu) focussed on patient empowerment: Maximize the potential of ICT technologies in health care by validating pilots that address mechanisms involved in patient empowerment.

There were 9 pilots: in Andalusia (Spain), Lombardy (Italy), Turkey, Norway, Austria, Czech Republic, Basque Country (Spain), France, Denmark. All of these pilots addressed the issue of patient's secure access to their own health information.

Duration: 2012-2015

SUSTAINS

To empower patients, SUSTAINS ("Support User Access to Information and Services") comprised a basket of services based on giving citizens online access to their Electronic Health Records (EHR). The services proposed have been distilled from the experience of regions which have already pioneered such access.

The regions of the SUSTAINS Consortium shared their experiences and achievements to speed up the implementation of the SUSTAINS outcomes. More info: sustainsproject.eu

Duration: 2012-2014

2.6. eHealth services in general: Interoperability & cross-border healthcare

Since cooperation across borders brings many advantages for our health and wellbeing, and as part of a Digital Single Market, we would like to see Europe and its healthcare providers connected. These projects are helping (or have helped) to make interoperability for health and wellbeing in Europe (and beyond) a reality.

Antilope

The Antilope project (www.antilope-project.eu) has set up a network of core European National organisations to achieve a common approach for testing and certification of eHealth solutions and services in Europe.

Duration: 2013-2015

ASSESS CT

To contribute to better semantic interoperability of eHealth services in Europe, ASSES CT will investigate the fitness of the international clinical terminology 'SNOMED CT' as a potential standard for EU-wide eHealth deployments.

The project experts will investigate concrete reasons for adoption/non adoption of SNOMED CT, lessons learned, success factors, type and purpose of use, multilingualism, cultural differences, strengths and weaknesses. They will analyse the impact of SNOMED CT adoption from a socio-economic viewpoint, encompassing management, business, organisational, and governance aspects.

www.assess-ct.eu

Duration: 2015-2016

epSOS

epSOS (www.epsos.eu) is short for European patient Smart Open Services. This large scale project provided:

- a Patient Summary: a digital summary of your medical status to make abroad care better and more efficient, especially helpful in an emergency situation.
- ePrescription: a digital drug prescription, so you can pick up your medication in a participating pharmacy abroad.

To make use of this service, please consult your doctor.

Duration: 2008-2014

eStandards

eStandards is advancing eHealth interoperability and global alignment of standards. The project experts are joining up with stakeholders all over Europe and globally to build consensus on eHealth standards, accelerate knowledge-sharing, and promote wide adoption of standards.

The proposal's ambition is to strengthen Europe's voice and impact, while reinforcing the bridges across the Atlantic and among Member States with epSOS, eSENS, Antilope, and EXPAND.

An eStandards Roadmap and associated evidence base, a white paper on the need for formal standards, and two guidelines addressing how to work with: (a) clinical content in profiles and (b) competing standards in large-scale eHealth deployments, will be pragmatic steps toward alignment and convergence.

www.estandards-project.eu

Duration: 2015-2017

EXPAND

How to get interoperability projects such as epSOS from pilot stage to actual deployment in Europe? The EXPAND project wanted to fill this gap. www.expandproject.eu

Duration: 2014-2015

openMedicine

Goal of the project: to contribute towards, and enhance the safety and continuity of cross border (and also national level) healthcare through interoperable **ePrescriptions**.

The project experts want to develop concrete solutions to communicate medicines in cross border settings. Whereas the epSOS project basically solved the electronic 'communication' or message transfer problem, it encountered a serious 'delivery' problem: No common data models, standards and a lack of common vocabulary – issues to be solved by openMedicine.

www.open-medicine.eu

Duration: 2015-2017

Trillium Bridge

What if you, while visiting the US, need urgent medical help and the doctor doesn't know your medical history? The Trillium Bridge project wants to align the use of standards between the EU and the US to share basic patient data between EU and US health professionals. Of course only when the patient has given his consent.

By helping to create a transatlantic interoperability bridge for health data, Trillium Bridge has been implementing the EU-US Roadmap on eHealth. www.trilliumbridge.eu

Duration: 2013-2015

VALUeHEALTH

VALUeHEALTH will establish how eHealth interoperability can create and deliver value for all stakeholders, for a sustainable market in scaling up cross-border services.

This project is a Coordination and Support Action. It will develop an evidence-based business plan for eHealth interoperability, beginning with financial support by the Connected Europe Facility (CEF) programme to member states, and then sustainable revenue streams for developing and operating self-funding priority pan-European eHealth Services beyond 2020.

www.valuehealth.eu

Duration: 2015-2017

2.7. Projects related to clinical research

Many interoperability projects focus on clinical research: By making Electronic Health Records (EHRs) and other clinical data interoperable, you can facilitate clinical research and hugely improve its outcome.

EURECA

The EURECA project (eurecaproject.eu) allows faster eligible patient identification and enrolment in clinical trials, providing access to the large amounts of patient data and enabling long term follow up of patients. avoid the current need for multiple data entry in the various clinical care, faster transfer of new research findings and guidelines to the clinical setting.

Duration: 2012-2015

Linked2Safety

Linked2Safety (www.linked2safety-project.eu) provided a secure medical information space for semantically interconnecting anonymous EHRs to advance clinical practice, to accelerate medical research, to improve the quality of healthcare, and to enhance patients' safety.

Duration: 2011-2014

Salus

The Salus project (www.salusproject.eu) provided a standard-based interoperability framework of EHRs that enables the execution of drug safety studies áfter the drugs have come out on the market.

Duration: 2012-2015

SemanticHealthNet

The purpose of this project was designing a semantic interoperability infrastructure of clinical and biomedical knowledge (a so called Network of excellence in semantic interoperability) and a roadmap for governments and other stakeholders. They want to help ensure that EHR systems are optimised for patient care, public health and clinical research across healthcare systems and institutions. More info: www.semantichealthnet.eu

Duration: 2011-2014

TRANSFoRm

TRANSFoRm (www.transformproject.eu) developed a "rapid learning healthcare system" driven by advanced computational infrastructure that can improve both patient safety and the conduct and volume of clinical research in Europe.

Duration: 2010-2015

2.8. Projects related to innovation procurement

EMPATTICS

EMpowering PAtients for a BeTTer Information and improvement of the Communication Systems

This pre commercial procurement project will research and define how health and care professionals and patients will use ICT technologies to plan interventions with patients and to monitor the progression of their physical and mental state.

It will investigate and document the requirements for Decision Support Tools that can be created, deployed and embedded into the daily routines of patients and Health and Care Professionals to deliver quality standardised care across a large population of chronic and elderly patients.

No website yet.

Duration: 2016- 2019

EPP-eHealth

The aim of the EPP-eHealth project is to transform the market for eHealth solutions through dialogue and innovation procurement. The project will create a network of procuring organisations that understand the opportunities that eHealth can offer and have competence in innovation procurement and the capacity to pioneer new approaches to collaborative procurement.

As well as stimulating demand for eHealth goods and services and creating a robust framework for practical procurement (public procurement of innovation – PPI –and pre-commercial procurement – PCP) outcomes within the period of the project, it will also serve as a leading procurers group for the wider population of some 15,000 hospitals in Europe.

innovationithospitals.com

Duration: 2015-2017

MAGIC

This project, entitled 'Mobile Assistance for Groups and Individuals in the Community' (MAGIC), aims to discover innovative approaches to post-stroke care with a view to improving the independence of stroke survivors. It will use Pre-Commercial Procurement to engage industry providers who will be required to compete through several phases of solution development and testing.

No website yet.

Duration: 2016-2020

NYMPHA-MD

NYMPHA (Next Generation Mobile Platform for Health in Mental Disorders) aims to identify new care models for patients with **mood disorders**, such as bipolar disorder or depression. They will experiment with next generation services advocated for mental health treatment based on new digital technologies, open standards and open platforms.

To achieve this, the project will adopt public/private partnership according to the Pre-Commercial Procurement (PCP) model; NYMPHA-MD (www.nympha-md-project.eu) intends to launch a European wide published PCP call for tender for the value of around €1,6M.

Project partners are the Autonomous Province of Trento as main procurer, Parc Tauli Health Foundation of Barcelona, Copenhagen Region and the scientific coordinator CREATE-NET (Italy).

Duration: 2014-2017

PRO4VIP

PRO4VIP (www.pro4vip.eu) is a European Pre-Commercial Public Procurement (PCP) and Innovative Public Procurement (IPP) project that is part of the European Vision 2020 strategy to combat **preventable blindness**, especially due to old age.

The aims of this project are:

- The creation and consolidation of a pan-European network of procurers;
- The definition of a common innovation procurement roadmap both in the short term and in the long term;
- The definition of cross-border and joint public procurement of innovation procedure(s) that best meet(s) PRO4VIP procuring authorities' needs (that could be either a PCP or a PPI or both) and that in line with Vision 2020 would either support the early detection and treatment of functional low vision conditions or would support the provision for low vision services.

Duration: 2015-2016

RELIEF

With a budget of nearly € 2 million, the Horizon 2020 RELIEF project will use pre-commercial procurement to help improve **chronic pain** relief through innovative ICT self-management solutions.

In its first phase, the RELIEF experts will conduct a pre-study or 'solution exploration' where several different solutions are explored.

A second phase will include prototype development of the solutions that are judged most promising. This will be followed by the development of a small test-batch of some of the remaining solutions. Eventually one or few of the remaining solutions will be selected for commercial roll-out.

relief-chronicpain.eu

Duration: 2016- 2019

SAEPP

A group of European ambulance services, academic healthcare research bodies, hospitals and other healthcare organisations have formed a consortium, called the Smart Ambulance European Procurers Platform (SAEPP). Their objective: Designing and building a 21st century prototype emergency ambulance vehicle which will allow frontline clinicians to provide more high-level patient care on-scene, and thus help reduce the number of unnecessary hospital transports currently made by ambulance services across the EU.

www.smartambulanceproject.eu

Duration: January 2015-August 2015

THALEA & THALEA II

Through the THALEA project, five hospitals from Germany, Netherlands, Spain, Belgium and Finland will initiate a joint Pre-Commercial Procurement (PCP) focusing on getting a highly interoperable telemedicine and telemonitoring platform (a central 'monitoring cockpit') for improving the care of acutely live-threatened patients at intensive care units.

THALEA intends to launch a European wide published PCP call for tender for the value of around €1,55M.

More info: www.thalea-pcp.eu and THALEA factsheet

Duration: 2013 – 2019

2.9. Projects focused on transforming healthcare via procurement of mobile health solutions

DECIPHER PCP

DECIPHER PCP (www.decipherpcp.eu) deals with mHealth procurement. It is developing a mobile solution which enables secure cross-border access to existing patient healthcare portals. Article: "1st Decipher PCP market consultation day"

Duration: 2012-2016

UNWIRED Health

UNWIRED Health also deals with mHealth procurement for the transformation of healthcare services. In this case, the Pre-Commercial Procurement (PCP) focuses on apps offering services…

(1) to improve **vaccination** coverage and adherence

(2) to coach patients with **heart failures** enabling education, motivation, remote monitoring and other functionalities, integrating and coordinating care provided by a hospital and the primary care physician.

Both of these apps will be innovative, fully integrating the apps in the regional public health systems and can be prescribed by GPs. These services will be implemented in open platform infrastructures that will make the apps platform-agnostic, suitable to any smartphone and any participating operator.

The consortium consists of three procurers introducing the innovation into their territories in Catalonia, Scotland and Southern Denmark and three vendor independent non-profit associations that will act as catalyst to foster the development of open platforms and interoperable solutions.

UNWIRED HEALTH intended to launch a European wide published PCP call for tender for the value of around €2,136M.

www.unwiredhealth.eu

Duration: 2014-2016

3. INTERNATIONAL PROJECTS ACTIVE IN LOW AND MIDDLE INCOME COUNTRIES

DMC-MALVEC

This European project wants to improve the control of **malaria**, a disease that yearly causes more than 500,000 deaths in sub-Saharan Africa. They will do this by automating the monitoring of mosquito vector populations – this monitoring is a prerequisite for effective insecticide interventions, currently the best way to prevent malaria.

The system, a platform called LabDisk, will monitor the mosquito species ID, the infection status of the mosquitoes and their insecticide resistance. A smart database called Disease Data Management System (DDMS) will collate and analyse malaria data. Third, serious gaming technology called GAME will communicate and teach operational end users the importance and use of data output.

www.dmc-malvec.eu

Duration: 2016-2020

mhealth4afrika

mHealth4Afrika addresses the quality of **maternal and newborn healthcare delivery** in Southern Africa (Malawi, South Africa), East Africa (Kenya) and Horn of Africa (Ethiopia). The project will research and evaluate the impact of co-designing an open source, multilingual mHealth platform on this topic.

Research and innovation actors from three European and four African countries aim to engage with local end-user communities (i.e. representatives of parents and local community leaders, Ministry of Health, healthcare professionals and volunteers, health oriented NGOs).

The consortium will integrate and adapt:

- Multilingual electronic health records to store patient history, associated tests and test results;
- Sensors to capture the results of a range of standardised tests for expectant and lactating mothers, unborn babies and infants;
- Analytical and visualisation tools to facilitate the interpretation and monitoring of the patient results; and
- Multi-lingual and multimodal mobile interfaces leveraging visualisation and speech synthesis to address literacy deficits and digitise data gathering through electronic forms.

By focusing on accessibility, usability and integrated training, this will facilitate urban, rural and deep rural healthcare workers to adopt and use a comprehensive system that integrates quality community based healthcare delivery with telemedicine. The expected outcome is a multi-region proof of concept that can make a significant contribution in accelerating exploitation of mHealth across Africa.

Duration: 2105-2018

4. FUNDING TOOLS

Horizon 2020 is the current EU funding instrument of research and innovation. It entered into force in 2014 and will run until 2020.

This EU Framework Programme for Research and Innovation replaces the 7th Framework Programme (FP7) 2007-2013 and CIP ICT Policy Support programme as a way of improving better coherence across different funding instruments. The final goal of Horizon 2020 is to add value to the entire innovation cycle, from research, to product development and market deployment.

Other funding sources are available through the EU Structural Funds, part of which is dedicated to the investment in ICT for public services, including eHealth.

Interested to propose a project? Visit the Horizon 2020 website for finding a call:
ec.europa.eu/programmes/horizon2020

5. INDEX

Explanation of acronyms:

CIP = Competitiveness and Innovation Programme
CSA = Coordination and Support Action
E-INCL = e-Inclusion
EHR = Electronic Health Records
FP7 = 7th Framework Programme
ICS = Integrated Care Services
NETW = Project related to networking
PCP = Pre-Commercial Procurement
PGS = Personal Guidance System
PH-AHA = Personalised health, active and healthy ageing
PHS = Personal Health System
PPI = Public Procurement of Innovation
RIA = Research and Innovation Action
SAF = Project related to patient safety
VPH = Virtual Physiological Human (in silico medicine, computational modelling)