9 Regions joining forces for revolutionising chronic patient care thanks to telemedicine

Renewing Health is partially funded under the ICT Policy Support Programme (ICT PSP) as part of the Competitiveness and Innovation Framework Programme of the European Union
Citizens' well-being through mobile care: Efficient personal health services - the silent health revolution -
Tuesday, 8 October 2013, 11:15 - 13:00 h
Thon Hotel EU, Rue de la Loi 75, 1040 Brussels, Belgium
Workshop 08C10 - Organised by the RENEWING HeALTH Regional Partnership

Regional Partnership - Workshop Agenda

Rationale:
Ageing populations are one of the biggest challenges in Europe. High numbers of people with chronic conditions, like diabetes and chronic heart or lung diseases, imply an increase in healthcare utilisation, hospitalisation and health expenditure. At the same time, a silent health revolution is enabled by Personal Health Services that provide new opportunities to cope with these challenges:

The Regions hosting this workshop have joined forces to establish evidence and decision support for EU health policies regarding the widespread deployment of personal health services. They have implemented 21 large-scale trials, all with a patient-centred approach and using one common, rigorous assessment model. Outcomes and lessons learned from care provided to some 7000 patients will trigger a fruitful debate with all European stakeholders.

Moderator: Claus Duedal Pedersen, Region of South Denmark, RH Co-ordinator

11:15 – 11:20 Introduction by the Moderator: RENEWING HeALTH – Mission and Partnership

11:20 – 11:35 RENEWING HeALTH – Building Evidence and Assessing the Impact of the Services
Panagiotis Stafylas, RH Medical Coordinator - H1M SA, Brussels
Abstract: Rationale and scientific background of the telemedicine services; organisation of the project at pilot, cluster and domain level; MAST evaluation methodology; Patient recruitment; timeline for expected results.

11:35 – 12:35 Presentations: Outcomes and Lessons Learned for Personal Health Services in Europe
Abstract: Presentations of the telemedicine services follow a uniform and well-structured template to highlight the disease-specific background, the provided services and the trial design. Results will include the first available clinical and other outcomes (e.g., economic) as well as user experience and organisational issues.
Health Coaching for Diabetic Patients, Tuula Karhula, EKSOTE, South Karelia, Finland
Telenursing for COPD Patients, Anne Sorknas, OUH, Region South Denmark
Telemonitoring for Chronic Heart Failure, Claudio Saccavini, Arsenal.IT, Veneto Region, Italy

12:35 – 13:00 Stakeholder Statements and Interactive Debate with the Auditorium

www.renewinghealth.eu

RENEWING HeALTH is co-funded by the European Commission, DG Information Society and Media in the Competitiveness and Innovation Framework Programme (CIP), organised under the Information and Communication Technologies (ICT) Policy Support Programme (ICT PSP) [Grant Agreement N° 250487]
Dear Participant

It is our pleasure welcoming you at this session of the Open Days 2013 dedicated to eHealth and to the impact assessment results of Renewing Health. This session is one of the first occasions that are offered to get access to the results of the projects, but there will be more in 2014 and beyond.

Before detailing this, let us first report that for the purpose of assessing the impact of telehealth or remote monitoring services, Renewing Health has recruited more than 7,000 patients over 21 pilot sites in 9 Regions of Europe. Renewing Health is therefore now the largest randomised control trial of telehealth in the world. This is however not yet the end of the story since the results of Renewing Health are now being taken over by a new EU funded project United4Health which has the ambition to recruit 13,000 patients over 14 countries in Europe (www.united4health.eu).

To perform impact assessment studies over all the 21 pilots, Renewing Health has applied MAST (Model for Assessment of Telemedicine) as a common method that includes scientific trial protocols. You will learn more about this during the session.

Some of these studies are ready to share their results and this is the menu of today's session. However, most of them will only be in position to publish their results in the course of 2014. This is particularly true for the studies which will be submitted for publication in scientific journals because they only accept for publication unpublished data and because the publication procedure demands several weeks to months before one manuscript is finally published.

The project will therefore make available most of the results of the studies in 2014, one by one and as soon as they are released. To be more precise: you can expect indeed results from 50% of the piloted services to be available in spring 2014 and from the remaining ones after the summer period until the end of 2014.

As participant to this session, you will personally be informed about their publication. We also invite you and your colleagues to visit the Renewing Health web site on a regular basis to check the publication status of these results.

Furthermore, over 2014, the members of the consortium - and EHTEL in particular, in its capacity of eHealth Think Tank - will endeavour supporting you in getting access to this studies.

We hope you will enjoy the session and we remain at your disposal for any information you may be looking for.

Claus Duedal Pedersen
Coordinator of Renewing Health
Objectives of the project

Empowering Patients – Empowering Regions

The European Union currently has to cope with demographic decline, low natural growth and the ageing of part of its population. The health system is under pressure with increasing numbers of patients with chronic conditions and decreasing supply of human resources. It is estimated that a third of the population in EU suffers from one or several chronic diseases. This development leads to an increased need for resources, and new ways are required to accommodate the challenges.

In order to respond to the challenges, new innovative services are needed in the health and social care sector. Citizens with a chronic condition have to be empowered in order to manage their condition and to reduce the resources needed. The Regions that provide the health and social care services also need to be empowered in making the right decisions in the implementation of telemedicine services.

To respond to this challenge, the Renewing Health Project sets out to implement a number telemedicine services and assess these, thus providing a powerful tool in the decision making process of whether or not telemedicine services should be implemented in other Regions in Europe.

Project Description

RENEWING HEALTH aims to implement large-scale real-life test beds for the validation and subsequent evaluation of innovative telemedicine services using a patient-centred approach and a common rigorous assessment methodology.

In nine of the most advanced regions in the implementation of health-related ICT services, belonging to nine different Member States or Associated Countries, service solutions are already operational at local level for the telemonitoring and treatment of chronic patients suffering from diabetes, Chronic Obstructive Pulmonary Disease (COPD) or cardio vascular diseases (CVD).

Patients monitored from comfort of their own home

In one of the Danish pilots, patients suffering from COPD receive a patient briefcase upon discharge from hospital. The briefcase includes a display for video-communication with the hospital nurses. In addition, the briefcase contains the equipment for the measurement of pulse, blood oxygen saturation and spirometry. Daily scheduled tele-consultations are held with a specialised nurse for two weeks after hospitalisation. Here the primary outcome in the study with 266 patients is the number of readmissions.
Results, Impacts & Preliminary Results Expected

In this European Year of Citizens 2013, it is expected that Renewing Health will be a good illustration of how working together across Europe can be beneficial for European citizens in their daily life, their comfort and their health.

Based on the randomised controlled trials, Renewing Health will be able to identify which ones of the tested telemedicine applications are able to have a positive impact with regard to safety, clinical impact, patient perception, economic aspects and organisational aspects.

Because caring for hundreds of patients in each of the service sites (21 in total) requires adaptations to the health care delivery organisations, it is expected that these organisational changes will be maintained beyond the project and the services will continue to be provided.

With 7100 patients, it is considered that a sufficient critical mass has been included with statistical evidence to demonstrate that healthcare services and coaching at a distance works. Therefore, it is also expected that other Regional Health Authorities will take advantage of this experience and apply one of the innovative Renewing Health service models in their regions.

Also, with all the scientific papers due to be released in 2014, it is expected that decision makers and health professionals will find the necessary evidence and guidance they are looking for to revolutionise their healthcare system by introducing new ways of delivering health and social care.

6 examples of remote monitoring services to be discovered

More at www.renewinghealth.eu/services
Diabetes 2 and heart disease patients receive measuring kit from health coach at the starting visit.

2. Patient measures blood pressure level with blood pressure meter.

3. Blood pressure meter transfers data automatically to mobile phone by Bluetooth.

4. Patient adds blood glucose, weight, and steps manually on the mobile phone application.

5. Mobile phone application transfers data to the personal health record.

6. Patient can see all her/his measuring data in personal health record.

Parallel activities to this registration process:

Patient will have contact by phone with the health coach in parallel where relevant health-related questions and results are discussed. Health coaches have access to the PHR and they are able to see patient measuring data.
1. A COPD patient admitted with exacerbation is discharged from hospital and a Patient Briefcase with video interface is installed in the patient’s home.

2. Daily for 1-2 weeks, a specialised nurse will make a scheduled tele-consultation with the patient, who is at home.

3. Through her computer at the hospital, the nurse can connect to the patient via video. Beside the video screen, she has access to the patient’s electronic patient record on a second screen.

4. During the video consultation, the patient is asked to use the two measurement devices (spirometry and pulse-oximetry), which they received along with the Patient Briefcase.

5. The data from the devices are transmitted through the Briefcase to a separate system at the hospital. The nurse can view the measurements on a third screen in her office. Based the conversation, observations and measurements, the nurse is able to assess the patient’s condition and take appropriate actions.

6. If a patient experiences a worsening in their condition during the day, they can use an alarm button on the Briefcase and they are in direct contact with the hospital.
**Remote monitoring of Chronic Heart Failure**

**With integration of Telehealth and Telecare System**

**Tele-health Service**

1. The patient at his home uses the provided devices for the measurement of his heart rate, blood pressure, 1-lead ECG, pulse-oxymetry and weight.
2. The telemonitoring devices, used by the patient, collect the data and send them to the gateway device wirelessly.
3. The gateway device transmits data collected by the patient to the server of a Regional eHealth Centre, where a group of operators are in charge of data management.
4. The Centre's operator checks the data sent by the patient accessing them through the Home Care portal.
5. In case of clinical parameters out of normal range the Centre's software detects the alarm situation and the operator manages it following the standard protocol.
6. In case of alarm situation, the operator contacts the patient to verify the alarm.
7. Any time they need, not only in case of alarms, the clinicians can access the Home Care portal to monitor the patient's health conditions.

**Tele-care Service**

1. The patient, in case of emergency, uses the alarm device provided to trigger an alarm.
2. The alarm device sends the alarm signal to the gateway.
3. The gateway device transmits the alarm to the Regional eHealth Centre.
4. The Centre's operator checks the alarms sent by the patient accessing them through the Home Care portal.
5. The operator manages the alarm situation first contacting the patient to verify the alarm.
6. Second, if the alarm is verified and depending on the severity of the case, the operator contacts the patient's family and the Emergency Department and/or the Social Service.

The Centre's operators call periodically the patients to monitor their life conditions and quality of life.
Tele-health Service

1. Patient set goals for what kind of food intake and physical exercise that is wanted the next period.
2. Patient measure blood glucose level with glucose meter
3. Glucose meter transfer data automatic to mobile phone by Bluetooth
4. Patient adds food intake and activity manually on the phone application
5. Patient gets response from application on how the personal set goals are met within the defined period.

Parallel activities to this registration process:

- Patient will have contact with the health coach in parallel to using the application, where relevant health related questions and results are discussed.
- The patients will have regular consultations with their physician where they will be able to share their application data, if they choose to do so.
- Responsibility and control of their data lies 100% by the patient.
1. Patient get text, image and video instructions from Healthcare professionals. Patient and healthcare professionals interact through secure e-messages.

2-3. Patient report physical exercise (step meter and pulse watch), blood pressure and PK through national patient portal applications. Patient can view diagrams with reported values, reference values and get information if values generate alarms.

4. Healthcare professionals can configure automatic information of patient reported events. If patient report medical measurements that cause alarm, the healthcare professional that prescribed the diagnosis measurement is automatically informed about the alarm through his/her ordinary mail.

5. Nurses, GPs and Physiotherapists work in teams to initiate own measurement schedules, specify reference and alarm values. Follow-up results and manage alarms.

6. When applicable, nurse store measurement results in patient journal.

7. Each healthcare centre has an alarm receiver. He/she monitor alarms. If the healthcare professional that prescribed the measurement won’t manage the alarm on time, the alarm receiver reallocate the alarm to another healthcare professional able to manage the alarm on time. Patients have been informed that alarms shall be managed within 2 workdays.

8. ECG measurements are transferred to specific ECG database.

9. GP evaluate ECG measurements.

10. GP can initiate transfer/storage of ECG measurements to electronic patient record.

11. Researchers have access to statistical data from national patient portal regarding patient and professional usage of the system.

12. Researchers have access to statistical data from patient record system to evaluate health economic effects of the new method.
The participants are equipped with light-weight handheld devices and record their vital signs at home. Via Bluetooth the vital signs are sent to the mobile phone as a gateway.

2. The gateway sends the data via GPRS to the HIS Portal as a Healthcare Information server, the eHealth record.

3. The eHealth record handles the data and organizes the alarm management.

4. The responsible healthcare professionals (GP or hospital based expert or Home Care Services) access the data of the patient by using eHealth record and provides feedback.
Title of project
RENEWING HealTH
RegioNs of Europe WorkINg together for HEALTH

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Austria: Land Kärnten, Krankenanstalten Betriebsgesellschaft
Germany: Pflegewerk Managementgesellschaft

Advisory Board: European Patient’s Forum, European Health Telematics Association, Continua Health Alliance

Timetable: February 2010 – December 2013

Total cost: 14.1 million

EC funding: 6.9 million

Instrument: CIP-ICT-PSP.2009.1.1

Project Identifier: 250487

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