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Conference Abstract

**PITES: Innovation platform in new telemedicine and e-health services for chronic and dependent patients**

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**Abstract**

PITES platform is a research infrastructure made of a technological platform and an interdisciplinary team of researchers oriented to research teams, entities and public or private organizations with the aim to offer support to the collections of evidences on the new care provisioning models based on ICTs in scenarios related to chronic illnesses and dependency. Specifically PITES platform gives support to the deployment and evaluation through experimental studies and e-services based on telemedicine that implement new care delivery models.

PITES project is under development with the participation of the Aragon Institute of Social Services and the center in charge of the coordination of the Public Health Research in Spain (the Health Institute Carlos III ).

**Introduction:** The project aims to design an integrated health and social-care service for frail elderly chronically dependents. The project scenario is the Barbastro health sector belonging to Aragon Health Service. Study participants age is over 65 with at least one of the following conditions: heart failure, heart schematic disease, COPD, DM or receiving social care by the Red Cross Organization. The technology platform manages vital constants collected through monitoring devices and sends them to the health organization clinical information systems.

**Objectives:** This project is aligned with the National RnD and Innovation Plan (2008-2011) to promote the Research in Public Health and health services to enhance the quality of life of the Spanish elder population.

The main goal is to create a technological innovation node group based in technological innovation in clinical units to develop an application environment, tools and ICT infrastructures that are secure, accessible and interoperable that allow the implementation of personal mobile telemedicine and e-health solutions for the new care delivery models with special focus on people suffering from chronic conditions, fragile or dependent.

As specific objectives the project aims to:

- Design the monitoring service social and medical protocol for the dependent chronic elder.
- Piloting the new benefit, comparing it with the nowadays assistance
- Evaluate the performance of the assistance from a clinical point of view, social economic and user's satisfaction.
- Improve the quality of life of elderly chronically dependent.

**Methodology:** A randomized case trial study has been performed (RCT) with participants of the area of Barbastro (Aragon); the Servicio Aragones de Salud as healthcare provider and the Huesca Red Cross as partner providing social care services.

Potential participants were evaluated by a Evaluation Team and the group was randomized taking into consideration several inclusion and exclusion criteria as the age, medication, clinical stability or suffering from a chronic disease in study (ischemic heart disease or heart failure, COPD, CVA, diabetes mellitus) . Once the medical protocol has been established the monitoring phase and follow up run by social and healthcare agents start for a period of 12 months.

Several evaluation reports will be performed at the beginning, mid and end of the trial, measuring clinical, economic and quality of life indicators and user and professional satisfaction.

The project will fulfil at all times with the current national and European legislation.

Red Cross agents will be in charge of collecting the vital constants through biomedical devices at the patient's homes. These will be forwarded to the technological platform that will integrate them onto the personal patient's electronic health record. A software will filter the information and will generate alarms in case the measurement is over the normal thresholds. Alarms can be either very urgent that need an immediate need of attention or medium risk. A contacting center will be in charge of handling the emergencies produced mobilizing the care provider needed; primary care, specialized care, social care or emergency units.

**Results:** The project is now in testing phase, heading its final phase of elder monitoring.

**Conclusions:** ICTs permit to develop new technological telemedicine solutions that will permit to change the social and health attention to chronics and dependents.

The health and social services will be supported on three pillars;

- 1) monitoring and control by the healthcare services
- 2) proper management by both providers – social and health- of the patients home-generated information
- 3) adoption of a new role by socialcare professionals that are currently conducting home visits.

## **Keywords:**

**chronic, telemedicine, innovative-services, platform, e-health**

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