

## CONFERENCE ABSTRACT

### ICT4Life Integrated Care Platform

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**Introduction:** Almost 10 million Europeans live with Dementia or Parkinson's disease today. As a result of ageing and life expectancy, the number of persons affected by one of those conditions is forecasted to double by 2030, making them major health challenges. Those persons want to live in their own homes but because of the symptoms they face difficulties in their daily life both in managing their own care and living independently.

ICT4Life is a three-year project financed under Horizon2020, with the ambition of supporting independent life for people suffering of Parkinson's, Alzheimer's and other dementias. ICT4Life's objective consists in implementing a platform that connects patients, families, health/social professionals and care-givers through user-friendly tools.

It relies, from a general perspective, on: New training models for the health and social care workforce as well as formal and informal caregivers; advanced multisensory-based analytics and integration with biomedical devices to patient activity and health status information; Feedback-based decision-making engine to integrate patients' and care providers' data; Improve natural interaction mechanisms with patients with interfaces through SmartTV, smartphones and desktop applications.

ICT4Life has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N<sup>o</sup> 690090.

**Research Methods:** End-User requirements have followed a research methodology from a multidisciplinary approach using recorded personal diaries of patients during their daily life, personal interviews with their care-givers and with health professionals and social workers in order to collect their respective needs and expected requirements. Early feedback tests have been carried out testing service mockups and sensor-based technology in order to address disease and end-user groups specific needs.

A research methodology has been developed in order to collect the data around the whole project and provide final evidences.

**Results:** ICT4Life platform incorporate end-user specific requirements acquired during the first year of the project and have implemented a set of technologies that conforms the ICT4Life platform. Integrates several levels of support for end-users: first friendly tools with

services for patients and caregivers based on empowerment, personalised training, information sharing and communication with their care professionals; second sensor-based tracking platform to support patient independence at home with sensors that detect patient state in order to support health data acquisition and improve home security by warning carers of risky situations; and finally artificial intelligence modules embedded in ICT4Life platform technologies to support service personalisation to the concrete needs of each patient and decision support for professionals based on a deeper understanding of patient situation by fusion of sensor data and patient's Health and Social Electronic Records.

**Research Conclusions:** ICT4Life validation will be done in real use case scenarios in 3 European countries in order to validate ICT4Life services to support end-users in Integrated Care processes, measure the effects of treatment and evaluate project developments.

Among the conclusions we want to analyse how ICT platforms could support Integrated Care processes by facilitating coordination and cooperation among professionals, caregivers and patients and what other barriers must be overcome to scale up Integrated Care, such as organizational, economic or cultural barriers.

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**Keywords:** dementia; parkinson; empowerment; integratedcare; ict; h2020

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