

Elderly home care goes digital

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Credit: DECI

For the elderly with cognitive impairment, living alone can prove detrimental to their health. Assistance services can provide appropriate discreet support for independent living and a high life quality.

The DECI project has successfully defined an innovative environment for independent living of the elderly with [cognitive impairment](#). "The project revolved around a business [model](#) to supply assistance services in-house with a remote-based approach, allowing independent living for elderly people affected by [mild cognitive impairment](#) (MCI) and mild dementia (MD)," outlines project coordinator Prof. Paolo Locatelli.

Including an up-to-date modular, flexible and scalable organisational model, and the support of an IT platform based on innovative and easy-to-replicate technologies, the system enables a high level of independence with good quality of life.

Three solutions for supported independence at home

The technological solution includes an integrated care platform and a web-based interface. This enables professionals to share information about the [patients](#) as well as patients-to-professional communication (patients interact with the case manager and gain access to educational material). A smartwatch activity monitor records the number of steps and intensity of patient physical activity. There is also a coaching app where patients follow a computer-based cognitive simulation and physical activity programme.

The service and organisational model includes remote monitoring of patients' physical activities for adherence to cognitive and physical exercises and continuous communication among clinicians and patients/caregivers. The case manager follows the patient during his/her overall care path and accesses the DECI system. In Sweden, there is an additional innovation with a DECI mobile and multidisciplinary team that visit patients at home.

Support for an EU country or region in defining its own business model according to its specific needs is available within the general business model with the coherence matrix. The tool also underlines the common needs and technological functionalities among the different areas.

Four pilot sites and three groups for a wide range of test circumstances

Four very different sites were selected in Spain, Italy, Sweden and Israel. The goal was to provide individual, local instances for design and application of the business and organisational models, ICT tools and evaluate their impacts.

More than 500 patients took part in the trial for 6 months. At each site, a control group received care according to local guidelines and routines

(standard care). There were two different intervention groups – one that used the organisational approach and the DECI medical staff. The other (complete) accessed both the service and organisational model, and the overall technological solution (including the activity monitoring system and the coaching and training system).

Significant results

Patients who received the full intervention presented more stability in basic activities of daily living (BADL), as demonstrated by the statistically significant difference of the BADL scales. Moreover, in the two intervention groups, a reduction in caregiver burden was observed, in particular in the Spanish pilot site.

Testament to the success of the system, the enrolled patients and the involved professionals expressed their willingness to use DECI in the future.

Delays in patients' enrolment translated into hold-ups in the implementation of the DECI solution in the pilot sites. "However, to guarantee a full six months intervention for each patient involved in the project, we at DECI decided to go on with the experimentation after the project end until August 2018," explains Prof. Locatelli.

The DECI legacy

After completion of work at the pilot sites, full analysis and data will be published in peer-reviewed journals. Significantly, the DECI organisational models in Italy and in Sweden are already part of the offered home care services. The Fondazione Don Gnocchi (Italy) is going to integrate the DECI functionalities in the ICT tools of their institute to support the new service and organisational model.

The project coordinator sums up the success of the DECI initiative: "Each country has a different way to treat MCI and MD patients. This fact was crucial to the strength of the methodological approach of the project and a critical point in the application of the DECI models and services. For this reason the change in management processes in applying the DECI models and tools was a critical success factor in the project."

Provided by CORDIS

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