D. Riaño, F. Campana, R. Annicchiarico, S. Ercolani, A. Federici, P. Mecocci. K4care: a new intelligent system for home care. Gerontechnology 2008; 7(2):195. The project K4CARE (Knowledge-Based HomeCare eServices for an Ageing Europe: FP6-IST-2004-026968) is a European Community project about the development, integration and use of several Information and Communication Technologies (ICT) and intelligent Computer Science (CS) technologies in the framework of Home Care (HC). Since no medical act can be appropriately performed without reliable information, appropriate sharing of patient's information and patient monitoring are basic pre-requisites in delivering effective continuous care in home care environments. K4CARE proposes a 'patient focused' approach, designed to be translated to a pan-European level, with respect to the principles proposed by WHO to face the chronic disease epidemic. The use of KDD (knowledge discovery in database) techniques connected to DSS (decision support systems) based on existing guide lines (GL) and interacting with large databases of real patients (sources of evidence and knowledge), will develop a system of producing Evidence Based Practice (EBP) and Formal Intervention Plans (FIPs). **Project objectives** The K4CARE project is meant to improve the capabilities of the EU society to manage and respond to the needs of the senior population requiring a personalized HC assistance. The project will capture and integrate information, skills, expertise, and experience of specialised centres and professionals of several EU countries, and will incorporate them in an intelligent web platform in order to provide e-services to health professionals, patients, and citizens. To achieve this goal, we will provide scientific and technical knowledge, develop intelligent technologies to manage that knowledge, supply an ICT infrastructure for anticipating and hastening medical assistance, implement a web-based platform for healthcare professionals, patients, and citizens, and assess the platform services in a scenario of healthcare institutions. K4CARE is developing: (i) A model for HC service to be shared by EU countries. It indicates the actors involved in the care of the patient (physicians, nurses, social workers, rehabilitative professionals, patient relatives, patients, citizens); their professional liabilities; services provided; procedures for service performance and delivering; means, instruments, and modalities of multidimensional evaluation; method for organizing services accessory to basic HC. (ii) An electronic health record (EHCR), designed and realized for HC settings. It will integrate different data types (text, numerical values, multimedia parts) and documents coming from different sources (hospital services, laboratories, consultations, specialists, relatives and patients at home). (iii) A telematic and knowledge-based CS platform that implements the above model. It assists human actors involved in the care of HCPs. The platform is tested in west and east EU societies through pilot tests, contributing to a unique European HC ICT approach. A multi-agent system will allow users to access the EHCR, edit, adapt, and merge ontologies, and introduce and induce FIPs and will provide e-services to care-givers, patients and citizens (scheduling of prolonged clinical treatments, intelligent decision support, intelligent distribution of data among users). Service delivery is through the Internet and mobile telephony. (iv) An Actor Profile Ontologies (APO) for representing profiles of subjects involved in the K4CARE model. APOs contain skills, concerns, aspirations of people that they represent, together with healthcare services that those people offer or receive from K4CARE. (v) A Case Profile Ontologies (CPO) for representing symptoms, diseases, syndromes, case mix. Developed technologies for merging prototypic CPOs are used to adjust to the individual condition of the patient. Formal Intervention Plans for a number of diseases and syndromes. These FIPs originate from the available evidence-based guidelines, and will guide services to professional users. FIPs will be inductively learned from the EHCR with the use of new machine learning techniques. These techniques must be developed and tested in the domain of HCPs, and learned from the procedures regarding past patients stored in the system.

References
1. www.ehealthnews.eu/content/view/880/66/