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ICT for Societal Challenges – addressing concerns of citizens and society

Health, demographic change and wellbeing:

European and global perspectives

The area of personalized health and care in general, and the ageing population in particular, represent key challenges to the economy and welfare of Europe. ICT offer solutions for addressing these challenges while at the same time constituting important sources of innovation and revenues for European industry. All over the world different *models of future healthcare* are being explored. Europe is uniquely situated to tackle the global challenge of an ageing population with an increasing incidence of multiple chronic conditions. For one thing, Europe is already experiencing and addressing this grand social challenge. For another thing, the welfare systems of Europe have a long tradition of providing *universal public health care*, increasingly including Private Public Partnerships. In a future perspective, European research and industry are in a strategic position to develop and market innovative solutions regarding personalized eHealth systems.

Research need and content

There is a strong need for interdisciplinary research that facilitates the integration of technical, medical, social, and human aspects of eHealth systems. On the one hand, the need is for research infrastructures that support multidisciplinary collaboration and participation in design processes – for stakeholders such as medical doctors, social workers, programmers and interaction designers. On the other hand, there is a need for research into ICT decision support systems that enable participation in clinical processes by all actors allowing them access to *information*, facilitating *communication* between patients and carers and among patients themselves (patient empowerment), and thus provide an informed basis for *action* by professionals and patients alike. A strengthening of the patient empowerment relates to the *measuring of the user experience*. Participation in a cross-cultural, digital European society requires active means for assessment, feedback and self-improvement, which can empower patients with louder voices and optimization of capabilities in their digital user experience.

The research content in this area should give priority to the complex relationship between digital technologies and their social and human context of application. The implications of technological innovations in health care, such as eco-systems of integrated welfare-services, telemedicine, and wearable and mobile sensors for self-control and monitoring of chronic diseases need to be studied. Firstly, detailed quantitative as well as qualitative studies of the everyday context in which eHealth systems are implemented and used are required. Secondly, iterative and action research involving different stakeholders and practitioners – from medical experts to patient organizations to innovative companies – is necessary to ensure the development and adaptation of eHealth systems to both professional and public needs. Thirdly, evaluation research over time is needed to assess eHealth systems and technologies to ensure their optimal use and to identify potentials for improvements.