

S-10-1

Personal Health System and Research Activities on e-Health in the Sixth Framework program for R&D of the European Commission

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Major changes in society, technologies and medicine affect significantly healthcare and health delivery in Europe and world-wide. Information and Communication technologies (ICT) offer new solutions and could play a key role in re-organising the current hospital-centric healthcare and contribute to the achievement of the strategic objective of eHealth i.e. improve access, quality and cost efficiency of health care through new paradigm of “*Person-Centred health delivery systems*”.

This objective has driven significant research and development activities funded by the IST (Information Society Technologies) program of the European Commission, starting with the 5th Framework program (1998-2002). Continuity of care is one of the key issues in order to achieve an individual-centric approach to healthcare. For example, continuous monitoring of physiological parameters can significantly contribute to the reduction of healthcare cost by avoiding unnecessary hospitalisations and ensuring that those who need urgent care get it sooner. In this context intelligent personal health management systems and applications is a promising area offering new, cost effective solutions for prevention, early diagnosis and care-at-the-point-of-need but also for overall lifestyle management and well being.

During the 5th FP research and development has focused on IST applications supporting home based patients (chronic, post operative, rehabilitation), ambulatory monitoring anywhere (early detection, secondary prevention) and disease prevention and health promotion (personal risk management, quality of life). Smart wearable systems based on non-invasive sensor and embedded decision support have emerged as the most innovative and promising solutions. They seem to offer a minimally-obtrusive tele-medicine platform for individualised health services that are easily and timely accessible, of better quality for the patient and citizen than the today solutions, and hopefully cost-effective. The concept of Intelligent Biomedical Clothing (IBC) has been introduced at the end of the 5th FP and used as vehicle for new generation of personal health management systems in the 6th FP. IBC aims at the full integration of monitoring, diagnosis, treatment and communication functions into fabrics and requires a strong co-operation between engineers and scientists from fields including, mobile and wireless telecommunications, Microsystems and Nan-technologies, textile, biomedical engineering, Tele-medicine, as well as public health and healthcare. This activity is fully integrated in the vision of eHealth in the 6th FP in respect with “ambient intelligence supporting well being”.

The communication will describe the systems and applications that are under development in the new 6th FP projects, the challenges ahead and the considerations for the preparations of the next call of proposals of eHealth that will be launched end of 2004.

¹ The views developed in this paper are that of the author and do not reflect necessarily the position of the European Commission