



European Commission
Information Society



20 Years of European Commission's support to the development of eHealth

**eHealth week 2010
15 – 18 March 2010**

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The European Commission (EC) has been supporting eHealth research and development (R&D) through Framework Programmes (FP) for over 20 years now and contributed to the emergence of new generations of technologies in several fields of healthcare. With the support of the Member States, industries and users it has elaborated a strategy of deployment of these technologies to ensure ever improving and sustainable health services.

The research programmes detailed below, together with the national eHealth research and deployment activities, have put Europe in a leading position in the use of eHealth solutions. ICT infrastructures, eHealth applications and telemedicine services have shown to improve the quality and efficiency of health services, while providing us with economic opportunities such as jobs, innovation and growth of the emerging European eHealth industry, currently estimated to be worth ca €15 billion.

❖ **Research and Deployment: Preparing future generations of technologies**

For two decades now the European Commission has supported about 450 collaborative R&D projects in eHealth with a Community contribution of over €1 billion.

▪ **Early Years: Tools for health professionals - making health delivery systems more efficient**

The potential of what was then referred to as the 'health telematics' industry was first identified by the European Community as early as 1985 when a planning exercise called 'Bio-Informatics Collaborative European Programme and Strategy' was launched. An Exploratory Action was adopted by the Council of Ministers on November 4th, 1988 with a Community contribution worth €20 million. The Exploratory Action was followed in July 1991 by the 'Advance Informatics in Medicine' programme, with a Community contribution worth €111 million.

▪ **1990-1999: Connectivity and health information networks**

Building on this foundation, EC R&D projects during the 90s focused mainly on development of electronic health records and connectivity among all the points of care of a health delivery system at regional and national levels. The aim was to enable infrastructures that could allow fast access to vital information and sharing of information among health professionals to improve access, quality, and efficiency of care. The results of Research and Development in Electronic Health Records carried out in the Third and Fourth¹ R&D Framework Programmes can be seen today in many European countries (e.g. MEDCOM² in Denmark) and regions (e.g. Lombardia in Italy and Catalonia in Spain) as well as hospitals -e.g. the George Pompidou hospital in Paris with its COHERENCE system that won the eEurope for eHealth Award³ in 2003, the Gemelli hospital in Rome, and Geneva's University Hospital in Switzerland.

Currently many countries cooperate on making their systems interoperable to support patient mobility and to create a single European eHealth market (e.g. via the epSOS and Calliope projects⁴).

▪ **1999–today: Tools for patients – Improving Prevention and Personalisation of Healthcare**

Following the initial focus on infrastructures for health professionals, activities over the last decade have focused more on an intelligent patient-centered environment supporting personalised healthcare (ambient environment for patients). Wearable and portable personal health systems have been developed providing better information regarding a person's health status directly to patients and health professionals. These systems support health monitoring (homecare), chronic disease management and disease prevention.

Today, building on previous achievements under the Sixth R&D Framework Programme (FP6), dozens of

¹ <http://cordis.europa.eu/ist/ist-fp4.htm>

² <http://www.medcom.dk/wm109991>

³ <http://www.epractice.eu/ehealth2003>

⁴ <http://www.epsos.eu>, www.calliope-network.eu

large projects (IPs) resulting from FP7-Call 1 are running to show the benefits of patient-centered care on a larger scale. The projects cover the whole system of patient monitoring at home or on the move - from medical sensors to intelligent processing of the bio-signals, alerts and medical (tele)services back to patients. Another project area looks at the use of information and communication technologies (ICT) to prevent medical errors in prescribing drugs and in optimizing decision making for treatments⁵.

A new Large Scale Pilot project (new approach to developing cross-border interoperable solutions for complex areas where many initiatives are already underway) funded by the Competitiveness and Innovation framework programme - ICT Policy Support Programme⁶ (CIP ICT PSP)- which aims at deploying and assessing the effectiveness of telemedicine services based on past Research and Development activities - is expected to start in the Spring of 2010.⁷

- **The next step: ICT for predictive medicine - Towards the Virtual Physiological Human**

The convergence of ICT, biomedical sciences and nanotechnologies, as well as synergies among IT fields - such as medical informatics, bioinformatics and neuroinformatics (Biomedical Informatics) - and their impact on medicine, have been recognised and promoted by the EC since 2001⁸. The International Physiome project provided the basis for launching a new initiative - Virtual Physiological Human in the EU - in 2005. The VPH concept and R&D roadmap has been published by the EC project STEP⁹. Patient specific models will be developed to assist in safer medical operations, development of personalised treatments and safer drugs. The disease and knowledge of physiology will be integrated from the level of molecule and cell to the levels of organs and systems. VPH is intended to constitute a global "scaffold" of medical knowledge and "toolbox" for researchers. There is a provision in the VPH Network of Excellence¹⁰ to coordinate the actors internationally¹¹.

- ❖ **Policy Support to deployment (2003-today)**

At the turn of the millennium it had become clear that plenty of framework programmes and other worldwide research had resulted in some excellent conceptual applications for doctors and health professionals, but that policy initiatives were necessary to overcome barriers to deployment of these systems and tools.

Since 2004 the EC has played an official role in policy support to eHealth deployment, with the adoption of the **eHealth Action Plan**¹² to facilitate a more harmonious and complementary European approach to eHealth. Through this approach, health authorities and stakeholders have begun to work together closely to improve the provision of healthcare to European citizens. The eHealth Action Plan has provided a tool to promote core ideas, organise *fora* for discussion, raise awareness of the importance of eHealth among users, patients and health care professionals, and to foster collaboration among industry players by addressing technical issues, interoperability, and benchmarking.

The political cooperation between Member States and with stakeholders led to cooperation on implementation and deployment of interoperable eHealth systems. The Large Scale Pilot project **epSOS**¹³ is the first example of cooperation in which representatives of 12 Member States are working together to deploy and validate in a real life setting interoperable patient summaries and ePrescription. epSOS also includes a group of over 31 ICT industry representatives and benefits from the input of users' organisations.

⁵ ICT for Health unit website: http://ec.europa.eu/information_society/ehealth

⁶ http://ec.europa.eu/information_society/activities/health/cip_ict_psp/index_en.htm

⁷ description will be published on http://ec.europa.eu/information_society/activities/health/cip_ict_psp/index_en.htm when the contract is signed

⁸ <http://bioinfomed.iscii.es> , www.symbiomatics.org,

⁹ STEP project: Roadmap for Virtual Physiological Human www.europphysiome.org

¹⁰ VPH-NoE project <http://www.vph-noe.eu/>

¹¹ VPH petition http://www.biomedtown.org/town/biomed_town/VPH/petitions/institute/

¹² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52004DC0356:EN:NOT>

¹³ www.epsos.eu

More specific policy support has followed in the last 2 years, namely:

1. The **Recommendation on Cross-border Interoperability of Electronic Health Record Systems**¹⁴, based on the premise that connecting people, systems and services is vital for the provision of good healthcare in Europe. It defines actions at four levels: political, organisational, technical and semantic. It also addresses issues relevant to monitoring, evaluation and awareness raising.
2. The **Communication on Telemedicine for the Benefit of Patients, Healthcare Systems and Society**¹⁵ which proposes actions for supporting and improving access to telemedicine for EU citizens and healthcare professionals across Europe. This initiative aims to: increase confidence and acceptance of telemedicine services among users by encouraging provision and dissemination of scientific evidence of its effectiveness and cost benefits; bring legal clarity on existing EU legislation regarding telemedicine services and encourage Member States to improve provision of telemedicine services; solve technical problems such as the lack of an adequate community-wide broadband infrastructure and of interoperability of telemedicine devices.
3. The **eHealth Lead Market Initiative**, which is part of a Commission Communication¹⁶ and policy support programme to accelerate market development by removing barriers such as market fragmentation, lack of legal clarity and funding issues. A three-year eHealth Action Plan is currently ongoing aiming at: reducing market fragmentation and lack of interoperability through standardisation, certification, and CIP-funded pilots; improving legal certainty and consumer acceptance by disseminating information, best practice and guidelines; facilitating access to funding through training workshops, improved cooperation and guidance on financing and procurement.

European Commission, Member States¹⁷, industry and users have contributed together to a deployment strategy. By joining their efforts, they developed an attitude of trust which led to a better understanding of the existing barriers and of the ways to remove them. New interaction mechanisms between all these actors are emerging, leading to a new eHealth Governance Initiative involving all of them. The recently adopted Council Conclusions on eHealth¹⁸ built on the achievements reached so far and outlined the new cooperation mechanism.

The 20 Years of the European Commission for eHealth will be celebrated at the eHealth Week 2010 in Barcelona, during the Forum of Regions on March 15th:

eHealth and Regions of Europe: leading innovations

The EU has invested and guided Research in eHealth for the past 20 years. The regional level is where innovation happens, bringing benefits to people, society and the economy. This is also where the results are most deployed and used.

For additional information on the events: www.ehealthweek2010.org

For more information on the European Commission's activities in the domain of eHealth:

http://ec.europa.eu/information_society/ehealth

RSS feed:

http://ec.europa.eu/information_society/newsroom/cf/news.cfm?redirection=1&item_type=news&tpa_id=23

¹⁴ 2 July 2008 (Com (2008) 3282) http://ec.europa.eu/information_society/activities/health/docs/policy/20080702-interop_recom.pdf

¹⁵ 4 November 2008 (COM (2008) 689) http://ec.europa.eu/information_society/activities/health/docs/policy/telemedicine/2008telemed-comm_citizen-summary.pdf

¹⁶ 21 December 2007 - "A lead market initiative for Europe" - COM(2007)860 <http://ec.europa.eu/enterprise/leadmarket/leadmarket.htm> -

Specific page eHealth http://ec.europa.eu/information_society/activities/health/policy/lmi_ehealth/index_en.htm

¹⁷ http://www.se2009.eu/en/meetings_news/2009/10/22/broad_consensus_at_high-level_meeting_on_ehealth

¹⁸ <http://register.consilium.europa.eu/pdf/en/09/st16/st16048.en09.pdf>