



# *eHealth* *EU perspectives*

*conférence HIT*  
*27 May 2008, Paris*

Gérard Comyn,  
Head of Unit, ICT for Health,  
European Commission  
[gerard.comyn@ec.europa.eu](mailto:gerard.comyn@ec.europa.eu)





# Some Facts



## Some relevant information on Health sector in EU

- 9.3 % of workforce, > 15 M people (retail 13.0 M)
- Health expenditure > 8,5 % of GDP, growing 4% a year (faster than EU economic growth), can reach 16% of GDP by 2020
- eHealth currently fastest growing health sector industry estimated at 20 Billion Euro (EU 15), representing 2% of Health expenditure, potential to rise to 5% in 5-10 years
- ICT penetration is low compared to other sectors. Great potential for productivity gains in health delivery sector if technology, leadership and skills come together
- eHealth has demonstrated improvements in quality of care, access to care and even economic benefits – “eHealth is Worth it”.



# ICT for Health

## Some examples

### SWEDEN, County Councils

- Prescriptions in Sweden transferred from doctor to pharmacy electronically via a health extranet, Sjunet, or through web-based prescribing.
- increased security and quality of prescriptions, reduction of prescription errors, saving time for health provider organisations.
- **The cumulative benefits by 2008 are estimated at € 330 million, distributed between citizens (20%) and hospitals (80%).**

### Västernorrlands län, Västra Götalands län and Barcelona

- Radiology consultations between Sweden and Spain
- Thanks to regular tele-consultation, Swedish patients can get advice from specialists in Spain.
- **Reduction of waiting times by up to half, and similar cost savings. The cumulative benefit by 2008 is estimated at ~ €5 million.**



# ICT for Health

## Some examples

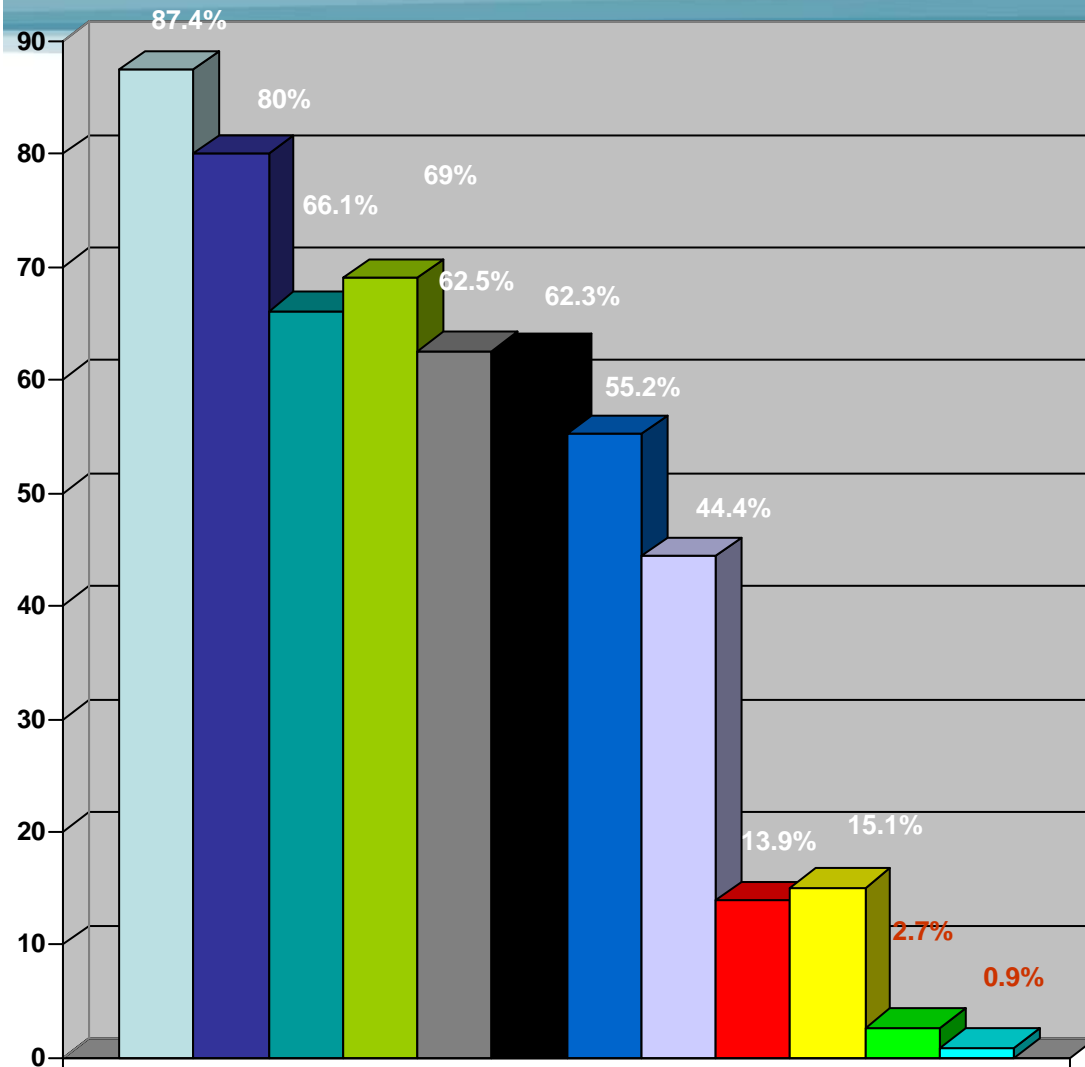
- **CZECH REPUBLIC, various regions – Webbased health records: empowered citizens, better informed health-care practitioners, continuity of care.**

With the consent of the patient, the IZIP system enables doctors to access the central information at the time and point of care. IZIP is supported by the largest health insurer in the Czech Republic, which serves two-thirds of the Czech population. **Cumulative benefits should reach approx. €180 million by 2008. Estimated productivity gains, measured in a decrease in eHealth costs per record, amount to 74%.**

- **DENMARK, various regions – Danish Health Data Network -** This system offers faster, more efficient communication between patients, general practitioners and social care professionals. The benefits include cost savings on secretarial work and on electronic prescriptions. It generates considerable **net economic benefits estimated to exceed €75 million on an annual basis by 2008.**



# EU World Leader in deployment in primary care (EC Study 2007)



- Using PC
- Using electronic patient data storage
- Routinely using PC in consultation
- Internet access
- Connecting with broadband
- Using decision support software for prescribing or diagnosis
- Accessing other health institutions networks
- Occasionally using PC to illustrate to patient
- Regularly using PC to illustrate to patient
- Exchanging administrative data with reimbursing organisations
- Occasionally using Internet and electronic health networks to provide telemonitoring to home-patients
- Routinely using Internet and electronic health networks to provide telemonitoring to home-patients





# eHealth Strategy



# Challenges for European Health Systems

- **Pressure on healthcare systems**
  - Citizens' expectations for high-quality care
  - Increased prevalence of chronic diseases
    - More resources for chronic diseases than for acute events
      - Around 70% of healthcare expenditure in developed countries
      - Introducing a shift in healthcare practice and focus
  - Demographic changes
    - more people will require prolonged care
  - Rising healthcare costs
    - faster than the economic growth itself
- **Require changes in the way:**
  - healthcare is delivered
  - medical knowledge is managed & transferred in clinical practice

# Overall Strategy

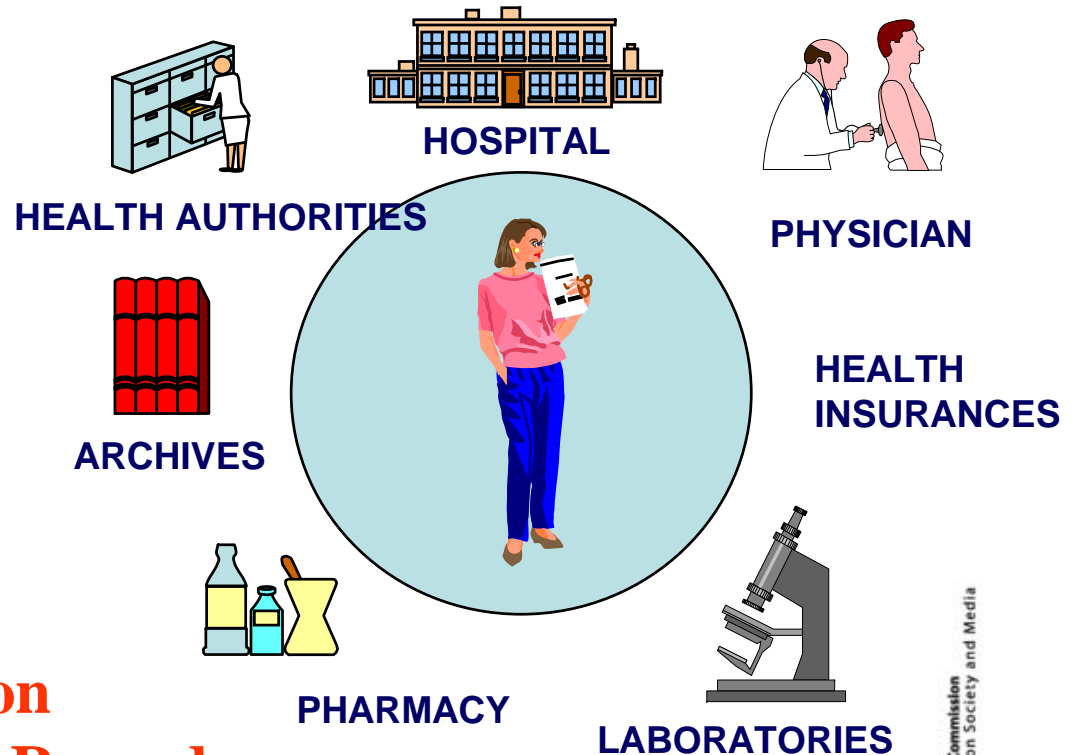
- **From 'late disease' to 'early health'**
- From 'hospital-based' to 'patient-centred'
- Two main areas:
  - Preventive medicine
    - Chronic disease management
    - Empowering the patient
  - Predictive medicine
    - Molecular medicine
- Increasing multidisciplinary
- Sustainability of healthcare systems



# eHealth Vision: Enable Continuity of care

Through all the stages

Across all the points of care



**How: Sharing information**

**Tools: Electronic Health Records**

**Regional Information Networks**

**Portable Health Systems**



# Commission's Instruments

- **Mix of policy and research actions:**
  - Research instrument:
    - **Seventh Framework Programme for Research (FP7)**
      - Personal Health Systems, Patient Safety, Virtual Physiological Human (~100M€/year)
  - Implementation, support to policies
    - **Competitiveness Innovation Programme (CIP): Large Scale Pilot on Interoperability**
  - Policy instrument:
    - Action Plan for a European eHealth Area (April 2004)
    - Communication on lead market (21/12/2008)
    - Upcoming communication on 'telemedicine and ICT innovative technologies for chronic disease management'



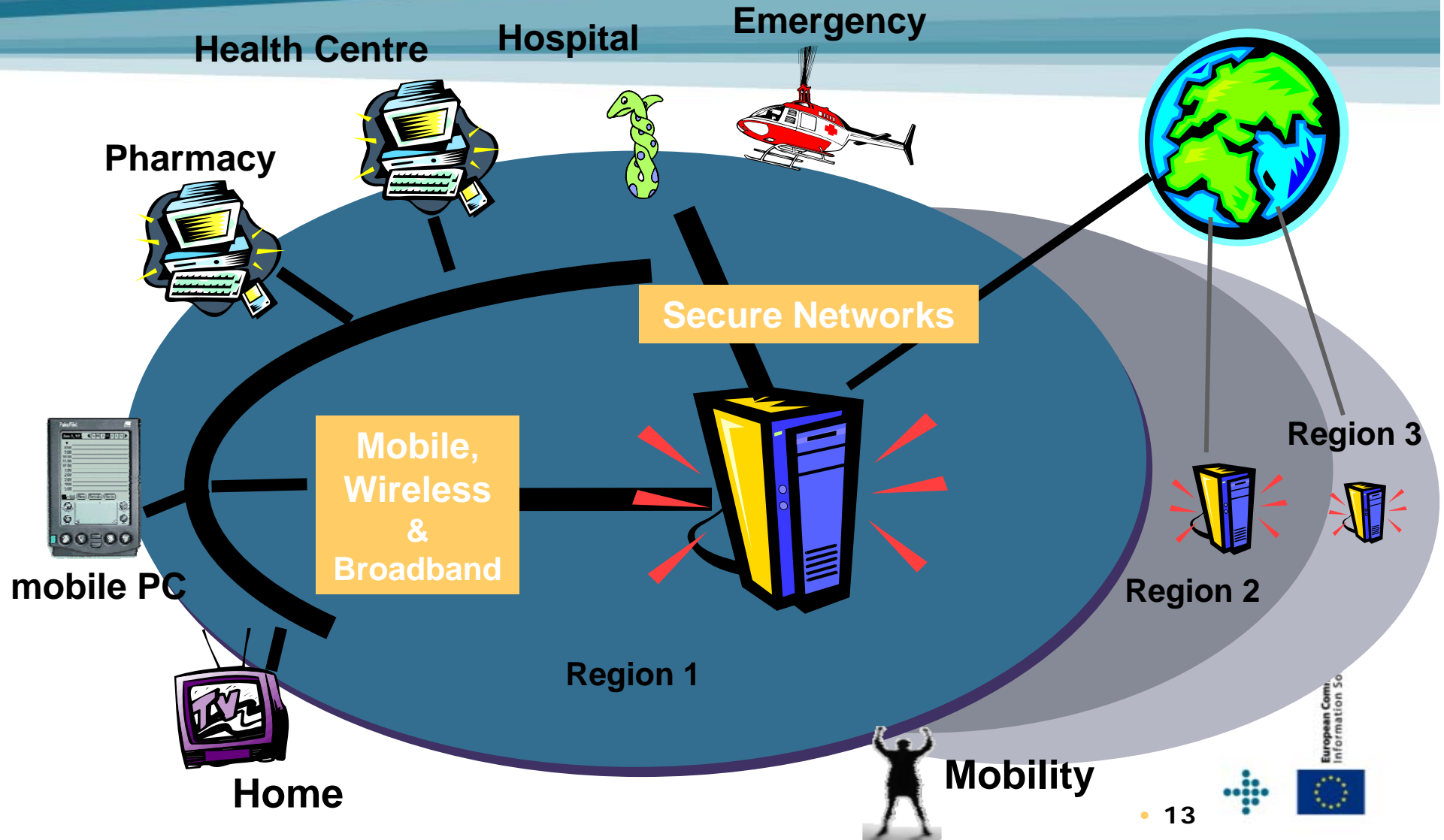


# From Research to Deployment Support to Policies

## Creating a European Information Space for eHealth

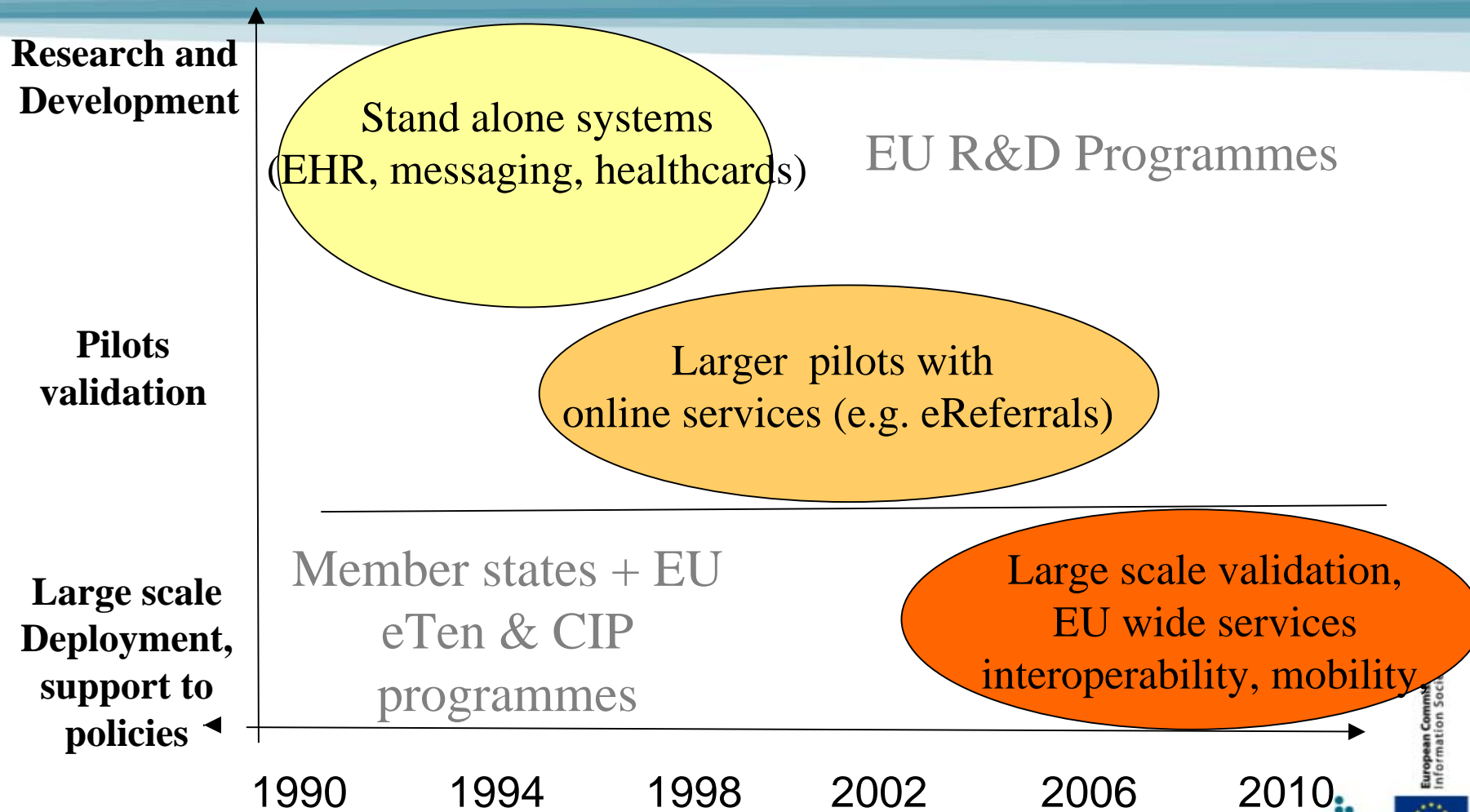


# Connecting healthcare institutions Building Health Information Networks, EHR Systems



# EC support to Regional Health Information Networks and EHR From Research to Support to Policy

## Market: Health Information Systems



# Policy Action: Towards a European eHealth Area 2004 Communication and Action Plan

- Increasing mobility of patients and professionals; cross-boarder cooperations
- Borderless European Health Information Space for individual care, public health and research
- Bringing the benefits of eHealth to EU citizens faster (Quality of care, patient safety)
- To facilitate growth and transparency of eHealth Market
- To decrease Market Fragmentation



## eHealth action plan: WHAT

- National/regional roadmaps (MS, 2005)
- Common approaches for patient identifier (EC+MS, 2006)
- **Interoperability standards for EHR and messaging (EC+MS,2006)**
- Boosting investments in eHealth (MS, 2007)
- Conformity testing and accreditation (MS 2007)
- Deployment of health information networks (MS, 2004-2008)
- Legal framework, certification of qualifications (EC+MS,2009)



# Competitiveness and Innovation Programme: Large Scale Pilots Expected Approach and Outcome

- One large Scale Pilot
  - Patient summary for unexpected cases
  - Patient safety and medication continuity
- With a common architecture
- Built on Member States' solutions ('bottom up')
- Thought as long lasting solution at European level
- Scalable and sustainable, adaptable to new situations



# The S.O.S. Project Team

- The Project Team consists of 23 beneficiaries from 12 member states:
  - 6 national Ministries of Health
  - 15 national/regional Competence Centers with mandate to represent their country
  - IHE-Europe representing ICT industry team (31 members)
  - Empirica responsible for administrative management



# Strong team work within the Project

- **Examples of Work Package responsibilities:**
  - Sweden – project coordination.
  - the Netherlands – Analysis/comparison of national plans/solutions.
  - France – overall evaluation, system architecture, semantic services.
  - Austria – communication and dissemination, identity management.
  - Greece – Analysis and comparison of legal and regulatory issues.
  - Spain – definition of Patient Summary and ePrescribing services.
  - Germany – Technical management, common components spec.
  - Italy – Security Services, Pilot System, Proof of Concept
  - Denmark – Integration and Customisation
  - the Czech Republic – Pilot preparation, implementation and operation.
  - the United Kingdom – Quality Management.



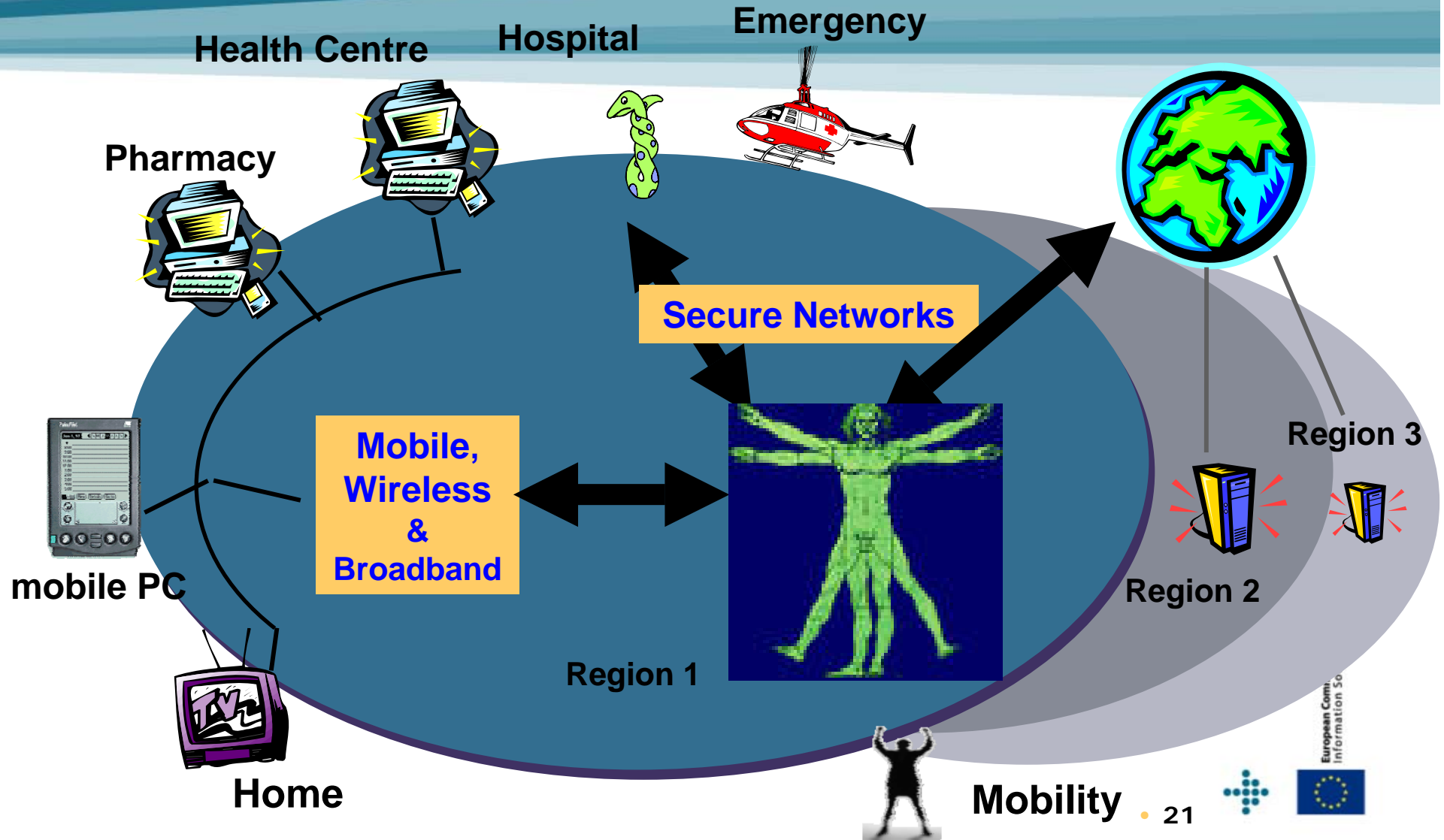


# **From Research to Deployment Support to Policies From Research**

## **The Example of Telemedicine**



# Health monitoring, Ambient Assisted Living Towards wide deployment



# Personal Health Systems - PHS

- **A relatively recent concept**
  - Introduced in the 1990s
  - Place the individual citizen in the centre of the healthcare delivery process
- **Key facilitators for:**
  - Continuity of care
  - Preventive & personalised care
  - Citizen-centred care
    - **citizen empowerment**
    - **preventive lifestyle & early diagnosis**
    - **disease management**
    - **independent living for ageing society**



# Personal Health Systems

## Mainly in the form of:

- Wearable, implantable, portable systems

## Non-/minimally-invasive monitoring

- Remote and continuous health status monitoring
- Personalised medical advice, recommendations and treatment as necessary



## Emphasis so far:

- Physiological monitoring (vital signs)
- Physical activity monitoring (body-kinematics)
- Functional stimulation (post-event rehabilitation)
- Molecular diagnostics for screening applications (e.g. cancer)



# Prototype PHS for monitoring

## Examples

- Wrist-worn devices
- Body Sensor Networks
- Biomedical clothes

### MYHEART



### WEALTHY



### AMON

### MOBIHEALTH



# Sensors for healthcare applications

- **Remote and continuous monitoring**
  - Respiratory diseases (e.g. COPD, asthma)
    - Oximetry (SpO<sub>2</sub>) Sensors
  - Cardiovascular diseases (e.g. Heart failure)
    - Textile Electrodes to measure ECG and heart rate
  - Neurodegenerative diseases (e.g. Parkinson's)
    - Microsensors and microelectrode arrays
  - Diabetes
    - Transdermal sensors to measure blood analytes at the skin surface
  - Cancer
    - Lab-on-Chip, microfluidics, integrated biosensors
  - Daily activities and location
    - Motion (inertial) sensors, accelerometers, location sensors

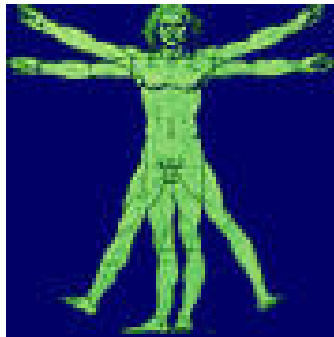
## For:

- Disease Management
- Rehabilitation
- Prevention



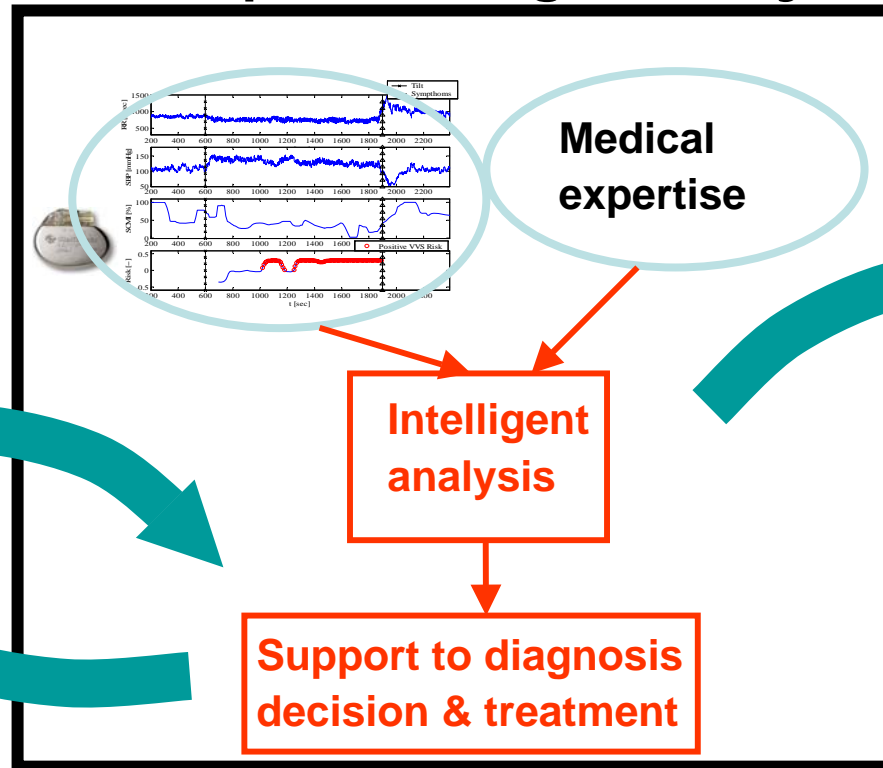
# HomeCare: Overall Scheme

Data acquisition



Sensors for multi-parametric monitoring

Data processing & analysis



Health / call Centre



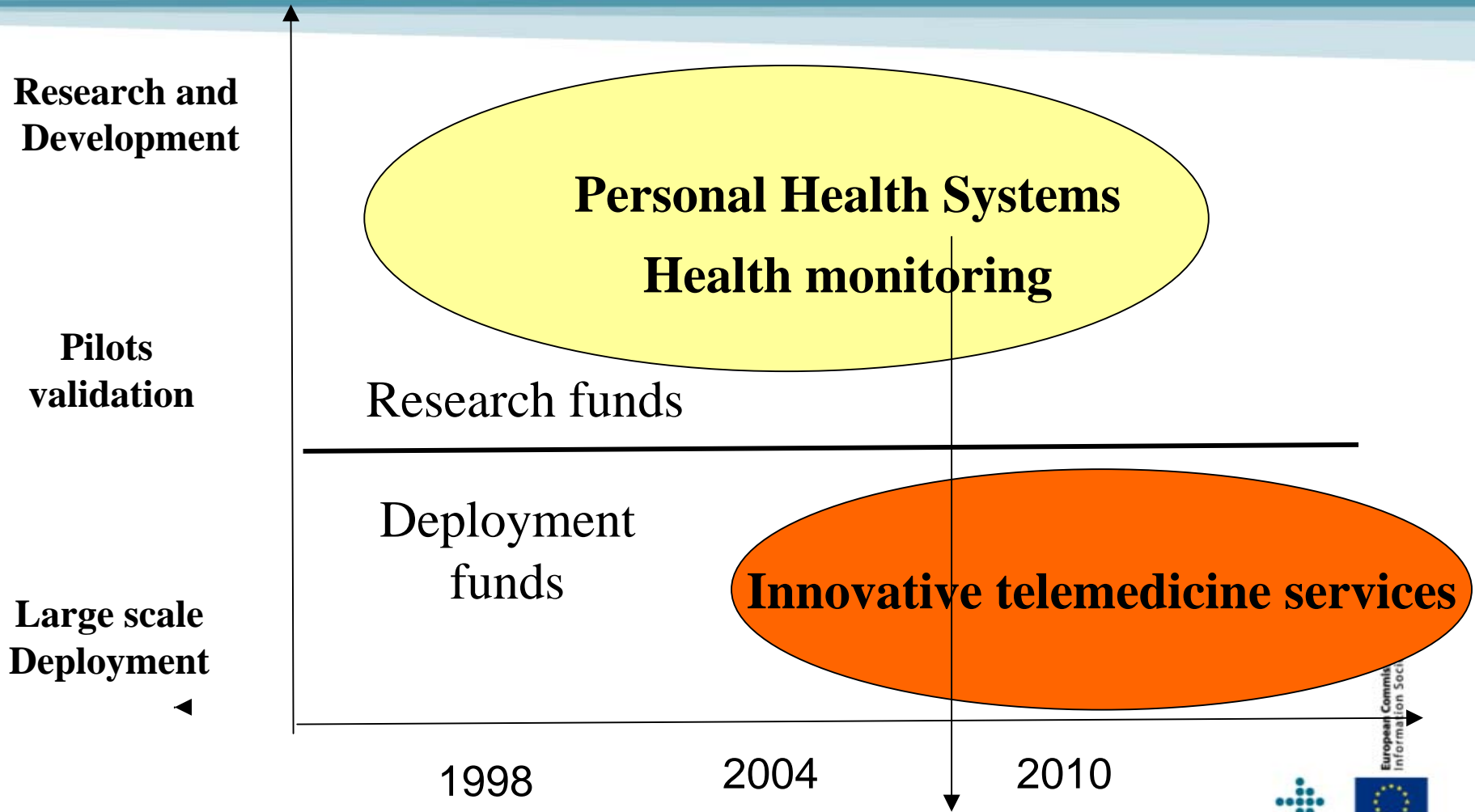
Hospital



Data communication and feedback



# EU in support of Telemedicine - from research to deployment



## A Future Action Plan on Telemedicine Expected Communication: Q4 2008

- Telemedicine experiences exist nation and Europe wide
- Increasing deployment due to:
  - Technical reasons: Telecommunication (broadband), personal health systems
  - Financial reasons: Moving patients from hospitals to home; solutions for chronic disease management
  - Other reasons:
    - Geographical
    - Patient empowerment
    - Involving family in care process
    - Elderly people
    - Skill shortage



# Telemedicine assisted home care – US survey of nearly 1000 homecare agencies

17.1 % agencies use some type of telehealth system

76.6% reduction in unplanned hospitalizations

77.2 percent report a reduction in emergency room visits

71.3% improved patient satisfaction

79.2% patients (or family) want to keep the telemedicine system

42.8% led to a reduction in cost

63.5% no impact on clinical caseloads

Clinical productivity measures may increase :

49.7% decreased on-site visits

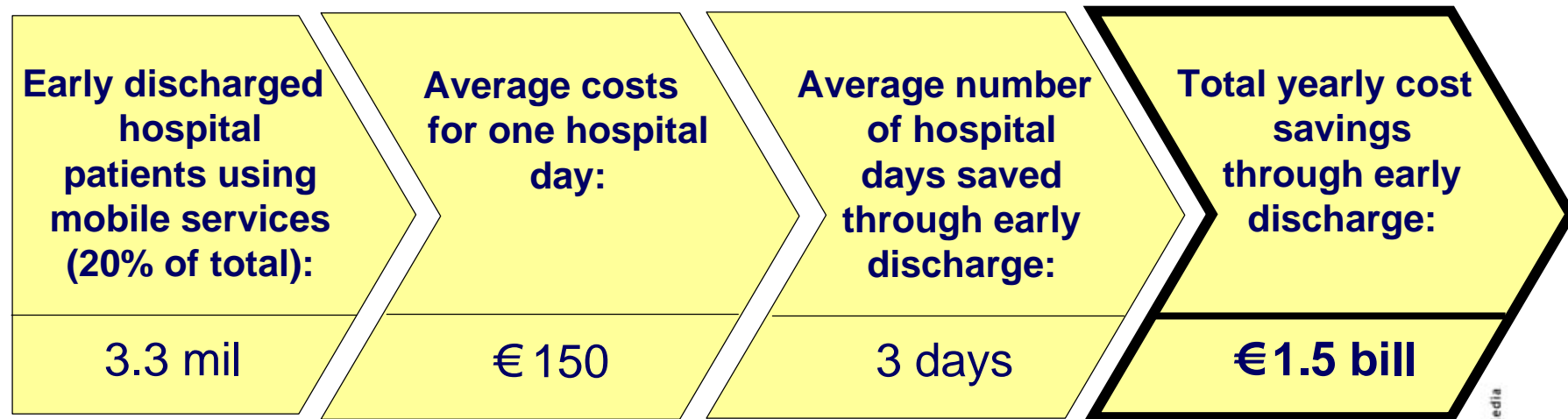
45.2% increased the number of referrals

56.9% nurses were receptive after 1 year, (36.3% at start)



## A need for evidence and tech. assessment e.g. Cost savings in patient care

- Hospitals in Germany can save up to € 1.5 bill per year through early discharge of patients made possible by mobile monitoring services



Source: GesundheitScout 24  
GmbH and Bayerisches  
Rotes Kreuz



## Why does the Commission need to act?

- **In the absence of Community action, possibly:**
  - **Lost opportunity for health systems and patients to take advantage of TM solutions to address specific challenges**
  - **Absence of common standards and solutions jeopardising future interoperability of systems**
  - **Lower market uptake and deployment of useful and technologically mature TM solutions**

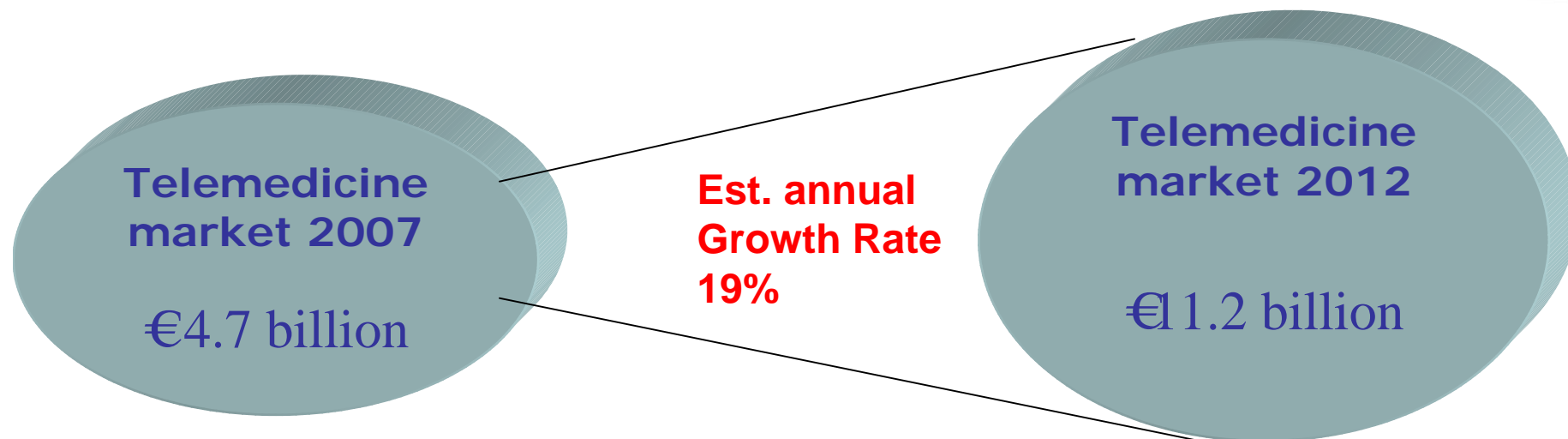


## Telemedicine (TM) and market perspectives

- Part of e-Health market, identified as one of the most promising sectors for growth (Lead Market Initiative)
- Market not developing as rapidly as could be anticipated
- Market is fragmented, lack of interoperability, legal and financing uncertainties
- Few proven, sustainable business models



## Telemedicine growth estimation 2007-2012



The global market for telemedicine is estimated to be worth €4.7 billion in 2008, increasing to over €11.2 billion by 2012, an average annual growth rate of 19%.



# Telemedicine (TM) and barriers for wider deployment

- **Technical**
  - infrastructure, interoperability, quality of transmission and encryption, identification and authentication
- **Organisational**
  - lack of awareness, training, acceptance by professionals and patients; lack of hard evidence of cost/benefits. quality standards; business models for procurement and reimbursement
- **Regulatory issues**
  - accreditation and autorisation of TM activities, liability, crossborder aspects, safeguarding security and privacy, reimbursement



# eHealth Conference 2008, Portorož, Slovenia, May 5-7 2008

## eHealth without frontiers Conference Review

Organised by  
The Health Ministry in Slovenia  
European Commission  
(DG INFSO and DG SANCO)



## Some Statistics

- ~600 attendees from 38 countries.
  - 157 attendees from Slovenia
  - Attendees from EU MS, EFTA, Balkan States, Australia, Canada, Russia, USA
- 6 plenary sessions
- 14 parallel sessions
- 72 speakers



# Conference programme I

## Tuesday 6 May

9:00 - 10:30	PARALLEL SESSIONS			
	<b>EUROPA SECTION A</b> <b>S1.1 eHealth without frontiers - Users view (Patients, Health professionals, hospitals etc.)</b>	<b>EUROPA SECTION B</b> <b>S1.2 eHealth without frontiers - From Promises to Sustainability - industry's view</b>	<b>EUROPA SECTION C</b> <b>S1.3 eHealth without frontiers - The role of health authorities: national and international perspectives</b>	<b>EUROPA SECTION D</b> <b>S1.4 eHealth without frontiers - Legal barriers and ethical hurdles</b>
10:30 - 11:00	BREAK			
11:00 - 12:30	EMERALD BALLROOM <b>P1.1 OFFICIAL OPENING OF THE CONFERENCE AND HIGH-LEVEL PANEL</b>			
12:30 - 14:00	LUNCH			
14:00 - 15:30	EMERALD BALLROOM <b>P1.2 PLENARY SESSION eHealth without frontiers</b>			
15:30 - 16:00	BREAK			
16:00 - 17:30	PARALLEL SESSIONS			
	<b>EUROPA SECTION A</b> <b>S1.5 Panel on eHealth interoperability</b>	<b>EUROPA SECTION B</b> <b>S1.6 Continuity of care</b>	<b>EUROPA SECTION C</b> <b>S1.7 Good practices in eHealth</b>	<b>EUROPA SECTION D</b> <b>S1.8 Cross-border Health Services</b>
19:30	Grand Restaurant (10th floor) <b>WELCOME RECEPTION AND DINNER</b>			



# Conference programme II

## Wednesday 7 May

9:00 - 10:30	EMERALD BALLROOM <b>P2.1 PLENARY SESSION - Chronic disease management (CDM) Telemedicine</b>		
10:30 - 11:00	BREAK		
11:00 - 12:30	PARALLEL SESSIONS		
	<b>EUROPA SECTION A</b> <b>S2.1 Telemedicine: A new era of patient oriented services</b>	<b>EUROPA SECTION B</b> <b>S2.2 Investing in eHealth solutions: strategic decision making</b>	<b>EUROPA SECTION C</b> <b>S2.3 Patient centredness and health professionals</b>
12:30 - 14:00	LUNCH		
14:00 - 15:30	PARALLEL SESSIONS		
	<b>EUROPA SECTION A</b> <b>S2.4 Panel on planned Telemedicine /CDM Communication</b>	<b>EUROPA SECTION B</b> <b>S2.5 Quality labelling and certification of eHealth applications</b>	<b>EUROPA SECTION C</b> <b>S2.6 Patient safety good practice</b>
15:30 - 16:00	BREAK		
16:00 - 17:30	EMERALD BALLROOM <b>P2.2 PLENARY SESSION - Health Strategy eHealth</b>		
17:30 - 18:30	EMERALD BALLROOM <b>P2.3 CLOSING PLENARY WITH CONFERENCE CONCLUSIONS</b>		
18:30	Grand Restaurant (10th floor) <b>RECEPTION</b>		



# Portoroz Declaration intentions

- express the continued motivation of the Member States to develop and implement cross-border eHealth services
- combine the work on a legal framework for eHealth services with the work on a technical framework
- identify key next steps for European eHealth stakeholders.



## Declaration themes

- **build on national eHealth roadmaps**
- **organise Europe-wide cooperation**
- **combine standardisation and safety in eHealth**
- **involve all stakeholders, in particular patients, and supporting the eHealth industry including small and medium-sized enterprises**
- **create an innovative eHealth market.**



## Building the key next steps

- **The intention is to:**
- **deploy telemedicine and innovative ICT tools for chronic disease management.**
- **introduce an enhanced focus on new research opportunities.**
- **define the responsibilities, rights and obligations of all the different stakeholders involved in the eHealth process.**



# Conference conclusions (I)

The Member States and the European Commission commit to support together the **deployment of high-capacity infrastructure** for health and social care information networks and services such as telemedicine ( teleradiology, teleconsultation, telemonitoring, telecare), ePrescription, and eReferral



## Conference conclusions (II)

With continued commitment from all the stakeholders involved, **European-wide cooperation on electronic health services** will lead to the successful formation of a European health information area. As a result, the health of European citizens and the sustainability of European health care systems will benefit considerably.



## For further information

- **DG ENTR LMI microsite:**

<http://ec.europa.eu/enterprise/leadmarket/leadmarket.htm>

- **eHealth Task Force report:**

[http://ec.europa.eu/information\\_society/activities/health/docs/lmi-report-final-2007dec.pdf](http://ec.europa.eu/information_society/activities/health/docs/lmi-report-final-2007dec.pdf)

- **INFSO H1 Policy site:**

[http://ec.europa.eu/information\\_society/activities/health/index\\_en.htm](http://ec.europa.eu/information_society/activities/health/index_en.htm)

- **e-Newsletter:**

[http://ec.europa.eu/information\\_society/activities/health/newsletter/index\\_en.htm](http://ec.europa.eu/information_society/activities/health/newsletter/index_en.htm)

- **Research site:**

<http://cordis.europa.eu/ist/health/index.html>

- **Interactive Portal:**

<http://www.epractice.eu>



