



ICT FOR A GLOBAL SUSTAINABLE FUTURE

Brussels, 22-23 January, 2009

eHealth for sustainable quality healthcare

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Health sector in EU

- Employs 9.3 % of workforce, > 15 M people (retail 13.0 M, business services 13.3m)
- Health expenditure > 8,5 % of GDP, growth at 4% a year (faster than EU economic growth), potential to reach 16% of GDP in EU by 2020 (Healthcast 2020, PWC)
- Health care is information intensive sector but ICT penetration is low compare to other sectors.
- There is great potential for benefits for individuals, society and economy when **ICT, leadership and skills come together**



eHealth (ICT for Health)

What is it

1. Clinical information systems

- a) Specialised tools for health professionals within care institutions
- b) Tools for primary care and/or for outside the care institutions

2. Telemedicine systems and services

3. Regional/national health information networks and distributed electronic health record systems and associated services

4. Secondary usage / non-clinical systems

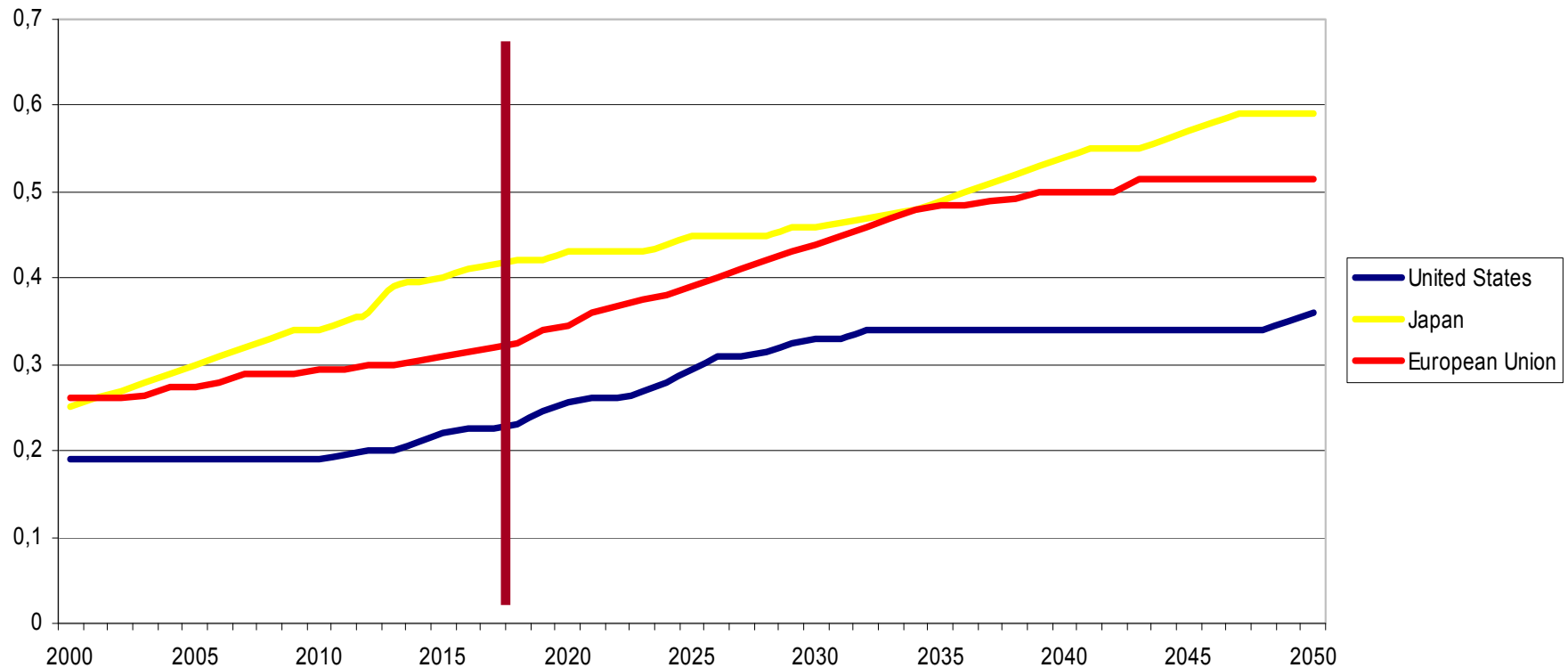
- a) Health education and health promotion of patients/citizens
- b) Specialised systems for research, public health



Demographics in EU

The share of elderly in the population will double by 2050.....

(Ratio of population aged 65 and over to population aged 15-64)



Sources: EU Economic Policy Committee 2001;
UN Population Prospects Publication (revision 98); IMF staff estimates



eHealth for Sustainability

Some examples

- Efficiency & productivity – to do more with less
- From 'hospital-based' to 'patient-centred' care
- From 'late disease' to 'early health'
- Two main areas:
 - **Preventive medicine**
 - Chronic disease management
 - Empowering the patient (training, monitoring ..)
 - **Predictive medicine**
 - Molecular medicine
- eHealth for the economy – Lead Market sector

eHealth works: Efficiency and productivity

- **National and Regional Health information Networks** improve quality, efficiency, and will save next year € 80 Mil/year in Denmark (Medcom) and € 60 Mil/y in Czech republic (IZIP)
- **ePrescription** improves patient safety, saves € 70 Mil/y in Sweden
- **Direct Online information Services** such as NHS Direct online—empower patients, avoid unnecessary hospitalisation, support lifestyle choices, save € 110 Mil/year

www.good-ehealth.org

www.eHealth-impact.org

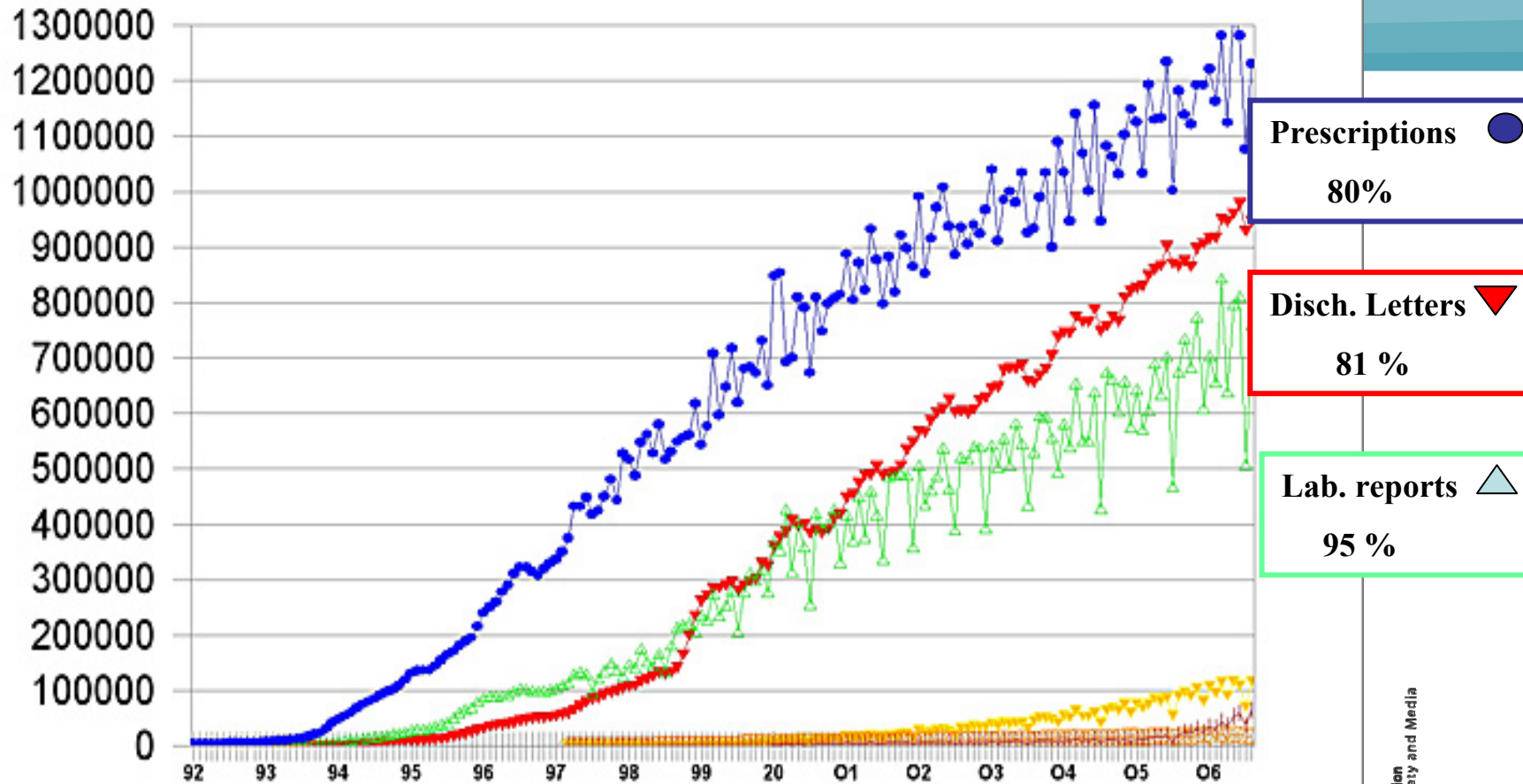
<http://www.epractice.eu>



MedCom -The Danish Health Data Network

Messages/Month

www.medcom.dk



Estimated cumulative benefit by 2008: ~ € 1.4 bil.

Reimbursement
13290 = 95 %

Referrals
40113 = 80%



From 'hospital-based' to 'patient-centred' care

Case of Telemedicine

- **Boario telecardiology:**
 - 35-47% reduction in hospital admissions (in various studies)
 - 12% reduction in outpatient visits
- **UK studies:**
 - Wireless Healthcare (2004): Early discharge from hospitals -> up to 85% reduction in weekly care costs
 - Cost of telecare at home with 24 hours response = 1/3 of the cost of a nursing home place
- **Potential of Mobile Monitoring in Germany**
 - Up to €1.5 billion/year savings through early patient discharge
 - (Assuming 3 days less hospital stay for 20% of patients)

See EC Communication on Telemedicine COM(2008)689 final



Factors determining a health status of an individual & population

-Quality/Efficacy of Healthcare services

} Health delivery system

- Lifestyle: what we eat, drink, breath, ...

- Physical and social environment

} Exogenous Determinants (Nurture)

- Genetic “blueprint” /profile at birth

- Acquired genetic changes

} Endogenous Determinants (Nature)

ICT – important tool for all factors!
(not only health delivery systems)



New Options for Disease Management

Environmental trigger

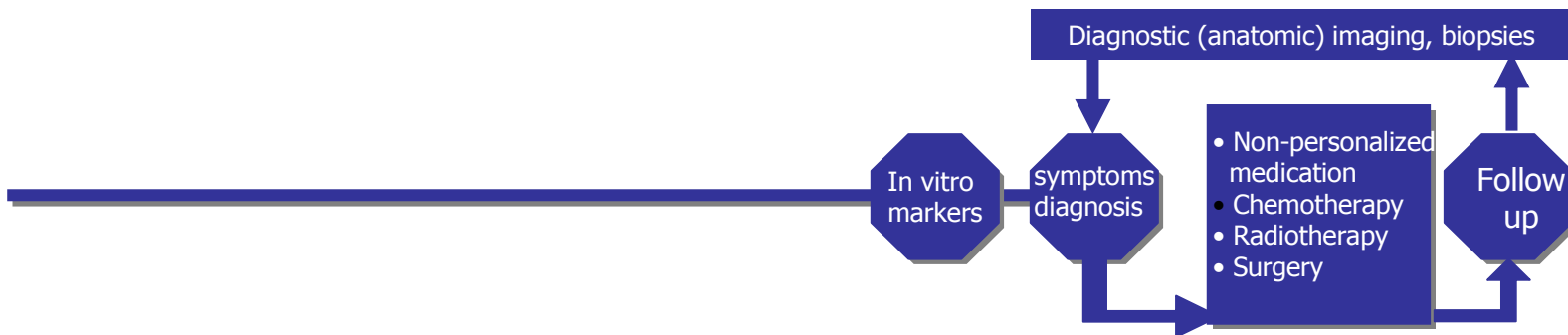
Disease progression



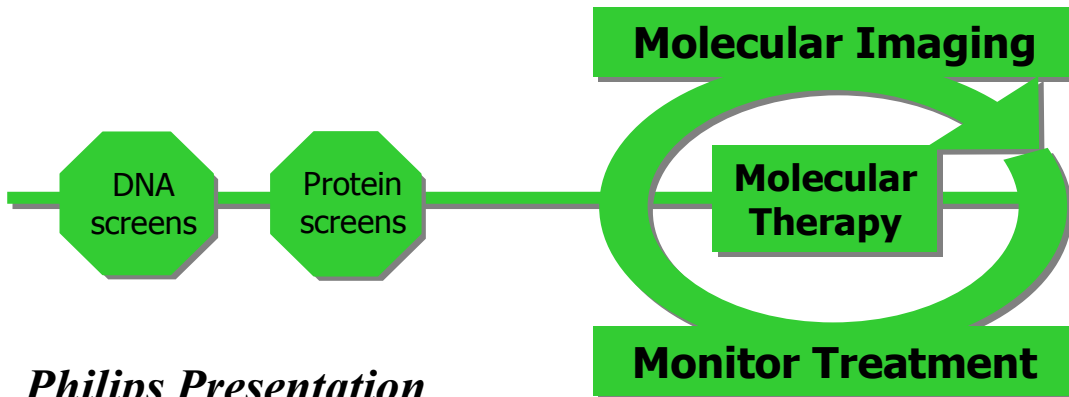
Mortality & costs



Current approach



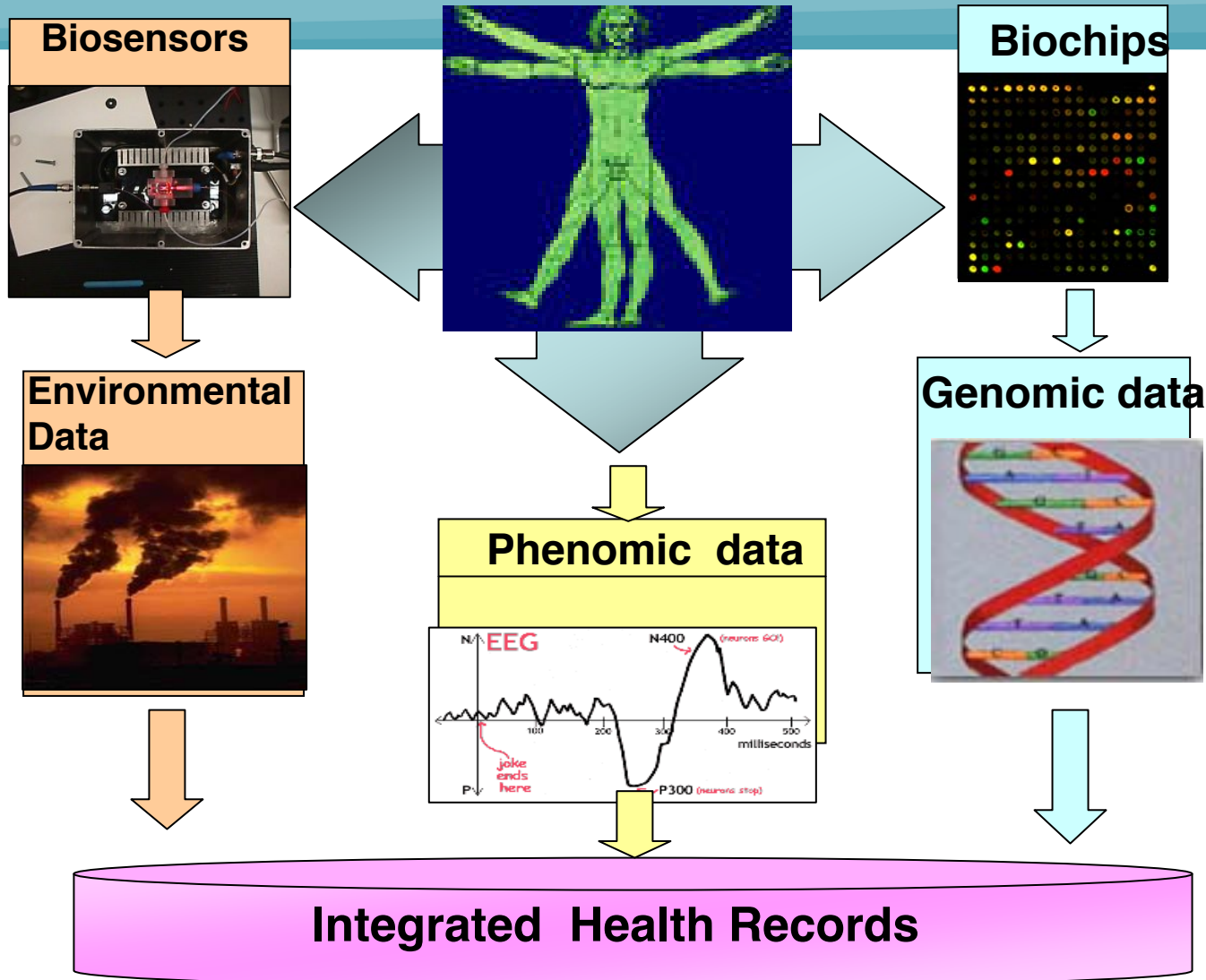
Molecular Medicine approach



Earlier
Personalized
Integrated
Efficient

Philips Presentation

Need for cross disciplinary R&D Towards full picture of individual's health status Genomics-based personalized medicine

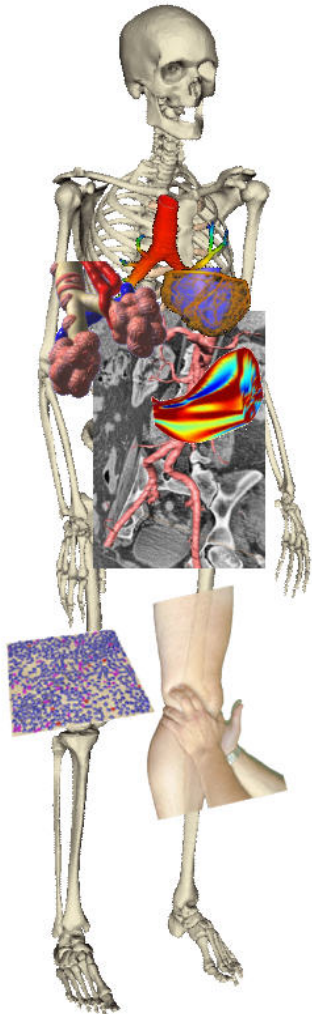


Example of New cross disciplinary R&D Virtual Physiological Human (VPH)

VPH constitutes effort towards

Multi-scale Patient specific models for

- **Personalised (Patient-specific) healthcare solution**
- **Early diagnostics & Predictive medicine**
- **Understanding diseases for the first time and across several biological levels**



The VPH research roadmap (2007)

www.europhysiome.org

developed by the EC project STEP



eHealth Deployment in EU

1) Individual Member States' strategies

22+ countries have explicit
eHealth policy strategies

www.ehealth-era.org

2) EU wide strategy

- Research (FP) and Demonstration (eTEN/CIP) programmes
- eHealth Action plan (2004)
- Lead Market Initiative (2007)
- EC Recommendation on EHR Interoperability (2008)
- Telemedicine Action Plan (2008)



Conclusions

- **ICT has shown impact on sustainability but this impact needs to scale.**
 - **patients need to take more active role in health & care and use ICT in their health/wellness management (*changing consumer behavior pattern*)**
 - **stronger focus but health delivery system on prevention and early diagnosis,**
- **ICT has great potential in**
 - **enabling novel approaches for personalised medicine (Cross-disciplinary and multi-stakeholder research)**
 - **fostering global research (*International effort*)**



For further information

- **INFSO H1 Policy site:**

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

- **Research site:**

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

- **Interactive Portal:**

<http://www.epractice.eu>

