European Union eHealth strategy in support of Member State health policy priorities

Veli N. Stroetmann PhD MD, Karl A. Stroetmann PhD MBA
empirica Communication & Technology Research, Bonn, Germany

with the kind support of
Ilias Iakovidis PhD
Deputy Head, ICT for Health (eHealth)
Information Society & Media DG, European Commission

The Role of IT in Healthcare Policy. HL7's 22nd Annual Plenary Meeting, September 15, 2008, Vancouver, BC, Canada
Contents

1. European diversity and the European Social Model – health policy context
2. eHealth in the Union - European Commission & member state activities
   • R&D support
   • EC eHealth policy agenda
   • Support to deployment
   • In search of evidence
3. Conclusions

European diversity and the European Social Model - health policy context -
European diversity

- > 20 official languages
- Countries with 2, 3 & 4 official languages (BE, CH, FIN, IRL; unofficially many more languages: IT, ES, SK, etc.)
- 3 alphabets (Ελληνικό, Кирилица, Latin)
- National (UK: 4 countries) or regional health systems (ES 17, IT 22)
- Sometimes responsibilities for healthcare shared by central/provincial/local governments (DE, Northern Europe, ...)
- Bismarck (public insurance), Beverage (tax based), mixed (public-private) health financing systems

European unity

Common values of European health systems:

- Universality: everyone
- Good quality: everywhere
- Equity: according to needs, no discrimination
- Solidarity: insurance fees/taxes according to financial ability to contribute

A set of overarching values shared across Europe – European Social Model
European (health) policies

- Assure a *single market* for products *and* services, *but* health services excluded
- Full *mobility* across European Union (EU) member states (MSs) for all (supply, demand):
  - Students, workers, *professionals* (including MDs, pharmacists, nurses)
  - People, also as *patients* (>200m/y)
  - *Retired* people (chronic, social care needs)
  - Already close cooperation in some *cross-border* regions
  - Medical tourism (e.g. dental treatment)

EU and MSs: sharing of health services responsibilities

EU Treaty stipulates: delivery of *healthcare* services
  - *sole responsibility of each member state*

but various exceptions:
  - Health services may be *bought in another MS*
  - *European Court of Justice*: all persons have certain rights to *access healthcare services in another state*
  - *European Court of Human Rights*: European Convention on *Human Rights* assures *confidentiality* of (electronic) medical records in any member state
  - EU ensures high level of *health protection* in *all* policies
Towards a European eHealth space

- Closer cooperation among MSs and support by the EU are required to
  - sustain the European Social Model
  - meet citizens’ demands for better health services and mobility
- eHealth, i.e. *ICT-supported health services and solutions*, will strongly contribute to the pan-European health services vision
- The European Commission is meeting these challenges and strongly supports development of a *unified European health information space*

---

**eHealth in the Union**

**European Commission (EC) and member state (MS) activities**
European Commission
ICT for Health Unit

Vision: eHealth enabled citizen-centred services

• Research & Development activities
  § Research Framework Programmes (since 1989)
  § To date > 450 projects, > €1 billion
  § In cooperation with health services, industry, universities

• Policy instruments
  § Communications, Recommendations to member states, working with stakeholders, etc.
  § Strategy studies, road maps, evidence

• Support to deployment
  § Market validation and implementation
  § Competitiveness and Innovation Programme: fostering cooperation among MSs

ICT for Health – Overall Strategy

Basic research

Deployment

Long term R&D
Virtual Physiological Human
HealthGrid

Mid term R&D
Personal Health Systems (wearables)
ICT for Patient safety

Support to Deployment
eHealth Action Plan
Independent Living

5 years 10 years 15 years
Time to results
R&D support

ICT for Health in Framework Programme 7 (FP7) 2007-2013

Personal health systems
• € 72m in 2007 (€ 63m in 2009)
• Example: Heartcycle (www.heartcycle.eu)

Patient safety - avoiding medical errors
• € 30m in 2007 (€ 30m in 2009)
• Example: DebugIT (www.debugIT.eu)

Predictive Medicine – Virtual Human
• € 72m in 2007 (€ 68m in 2009)
• Modelling/simulation of diseases (www.vphop.eu)
EC eHealth policy agenda

EC eHealth policy instruments

• Communications (policy statements)
  - EU eHealth Action Plan, 2004; in preparation: Telemedicine services
• Recommendations
  - Recommendation on cross-border interoperability of EHR systems, 2008
• Support for market development and deployment
  - Lead Market Initiative, 2008 (eHealth market support)
  - Competitiveness & Innovation Programme-Policy Support, 2007-2011
• Policy studies: strategies, market research, assessment, business models
• Stakeholder involvement
  - Ministries of Health (i2010 Subgroup on eHealth)
  - Stakeholder groups (patients, industry)
• Annual events:
  - eHealth High Level Ministerial conferences
  - World of Health IT (WHIT) conferences and exhibitions
**Communication:**
European eHealth Action Plan (2004-2010)

- EC called for commitment of MSs to work together to implement eHealth & develop:
  - National/regional strategies/roadmaps (MS)
  - Common approaches for patient identifier (EC+MS)
  - Interoperability standards for EHR systems and messaging (EC+MS)
  - Boosting investments in eHealth (MS)
  - Certification and conformity testing (EC+MS)
  - Deployment of health information networks (MS)
  - Legal framework, accreditation (EC+MS)

**Emphasis on interoperability in 2008 - I**

- EC *Recommendation* on (cross border) EHR systems interoperability
- *Large Scale Pilot* (epSOS) to deploy 2 services across borders: patient summary & ePrescription
- Projects & workshops on *semantic* and technical interoperability
  - *SemanticHEALTH*: R&D and deployment roadmap for semantic interoperability in Europe
  - RIDE
- Upcoming calls for new proposals:
  - EHR certification; conformance testing
  - Personal Health Systems interoperability with EHR systems

[www.SemanticHEALTH.org](http://www.SemanticHEALTH.org)
Emphasis on interoperability in 2008 - II

Mandate to three European Standards Organisations (ESOs): CEN, CENELEC, ETSI to focus on
1) Patient and health practitioner identifiers
2) Patient summary
3) Emergency data set
thereby

- analysing health sector needs (Phase I)
  • Open consultation of Phase I Draft Report: IHIC, 9-10 October 2008, Crete, and WHIT, 7 November 2008, Copenhagen
  • Final report: December 2008

- further developing standards (Phase II)
  • Phase II 2009-2011: realise work programme
    www.ehealth-interop.nen.nl

EC Recommendation on cross border interoperability of EHR systems (2008)

- **Aim:** guidelines for national and cross-border interoperability of EHR systems
- **Scope:** incl. also patient summaries, emergency data sets, medication records / ePrescription
- **Actions** at four levels:
  - (1) political
  - (2) organisational
  - (3) technical
  - (4) semantic
- Monitoring, evaluation & awareness rising
- Compliance with national & EU laws
Selected technical and semantic level actions proposed

- Consider the establishment of competence centres for *multilingual and multicultural adaptation* of international classifications and terminologies
- Develop necessary additional standards at the *global level*
- *Agree on standards* for health information representation for *particular use cases*
- Development of *tools* for incorporating the semantic content into *practical applications*
- Sound socio-economic *evaluation*

Support for deployment

*Competitiveness and Innovation Programme – Policy Support (CIP-PSP)*
EC and member states cooperation in eHealth deployment

• Large Scale Pilot on cross border interoperability (epSOS = Smart Open Services for European patients)
  ‣ 12 EU member states, € 22m, 2008-2011
  ‣ Cross-border services – safe treatment for citizens when in another MS
    • European Patient Summary (emergency treatment, unplanned care)
    • ePrescription across the EU (continuity of care)
• EU Interoperability Network CALLIOPE
  ‣ Community building, exchange of experience
  ‣ All member states

In search of evidence
Monitoring, market research, socio-economic assessment
**EU survey on ICT standards in health**

**Importance of selected SDOs (%)**

<table>
<thead>
<tr>
<th>SDO</th>
<th>Very Unimportant</th>
<th>Somewhat Unimportant</th>
<th>Somewhat Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO TC 215</td>
<td>4</td>
<td>17</td>
<td>31</td>
<td>53</td>
</tr>
<tr>
<td>CEN TC 251</td>
<td>3</td>
<td>17</td>
<td>31</td>
<td>42</td>
</tr>
<tr>
<td>IHTSDO (SNOMED CT)</td>
<td>1</td>
<td>17</td>
<td>31</td>
<td>56</td>
</tr>
<tr>
<td>Health Level 7</td>
<td>0</td>
<td>30</td>
<td>60</td>
<td>75</td>
</tr>
<tr>
<td>DICOM</td>
<td>1</td>
<td>17</td>
<td>31</td>
<td>55</td>
</tr>
<tr>
<td>IHE</td>
<td>2</td>
<td>17</td>
<td>31</td>
<td>47</td>
</tr>
<tr>
<td>openEHR</td>
<td>8</td>
<td>35</td>
<td>60</td>
<td>47</td>
</tr>
</tbody>
</table>

Should be: very important

n = 94 respondents


---

**The current eHealth standards situation is...**

- **Very supportive for intra-organisational:** 73%
- **Supportive for inter-operability within a single health service provider:** 23%
- **For systems interoperability between several health service providers:** 9%
- **For systems interoperability in national health systems:** 8%
- **For systems interoperability in cross-border care provision:** 25%
- **For competitiveness of European ICT for health companies:** 6%
- **Unsupportive for cross-border:** 70%

n = 94 respondents

EU policy implications

- Promote *EU-wide agreement* on priority standards and their uptake, harmonisation and further development of necessary standards
- Strengthen *collaboration* initiative of ISO, CEN and HL7
- Commitment of member states to *global* eHealth standardisation
- Stronger involvement of *industry and user groups*

**EU GPs using a computer during consultation, in %** *(EC Study 2007)*

Random samples of 6,789 GPs in 29 countries

**Source:** empirica: ICT and eHealth use among GPs in Europe 2007, Bonn April 2008
EU GPs data exchange with hospitals

GPs: electronic exchange of patient data with other actors

Source: empirica: ICT and eHealth use among GPs in Europe 2007, Bonn April 2008
GPs: interoperability problems

Source: empirica: ICT and eHealth use among GPs in Europe 2007, Bonn April 2008

Socio-economic assessment: eHealth is worth it

- **National & Regional Health Information Networks** improve quality, efficiency, and realise estimated net benefits of € 80m/y in Denmark (Medcom) and € 50m/y in Czech republic (IZIP)
- **ePrescription** improves patient safety, net benefits € 70m/y in Sweden
- **Direct online information services** such as NHS Direct Online, empower patients, avoid unnecessary hospitalisation, net benefits € 100m/y in UK

Conclusions and some lessons learned - I

• The European Social Model & citizen mobility necessitate faster progress in intra and cross health system interoperability (IOp)
• Individual health service providers often have little interest to invest in “external” IOp - i.e., [public] incentives may be needed
• Benefits may be high for patients, Public Health, clinical research, third party payers, health system politics
• Slow progress in IOp is a key barrier to realising these benefits
• To become more successful, eHealth strategies must be integrated into and support health policies
Conclusions and some lessons learned - II

• Based on 20 years of successful R&D support and concrete eHealth roadmaps, both the European Commission and Union member states provide strong leadership and commitment to realise pan-European (basic) IoP

• Building on global leadership of European health service providers in ICT use, a strategy focusing on few key pan-European applications (patient ID, basic patient summary, medication record/ ePrescribing) is pursued

• Patient safety, quality and access are key policy goals

• eHealth is not a panacea – key is optimal redeployment of freed resources, not cost savings

Acknowledgements

We thank the European Commission for their financial and non-financial support!

This presentation is part of research supported by the European Commission, Directorate General Information Society and Media, Brussels. It reflects solely the views of its presenters. The European Community is not liable for any use that may be made of the information contained therein.

Further information:

European Commission
http://europa.eu.int/information_society/activities/health/index_en.htm

empirica