eHealth in Spain: A Strategy for a Decentralised National Health Service

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ICT as an Element for Transformation

TABLE OF CONTENTS:
- Importance of the Intensive Application of ICT to Healthcare (eHealth)
- eHealth in Spain: The Need for Appropriate Information Governance in the NHS
- Model of eHealth Governance/Cooperation in the Spanish NHS
  - Strategy
  - Architecture
- Results: eHealth Services today and their capacity to transform
- Pilots today in the EU and USA
- The near future

Conclusions
Application of ICT in Health

Challenges faced by health systems:

- Increase in the demand for health services due to the ageing of the population and its rising economic and educational level (2050 40% EU > 65)
- Increase in citizens' expectations regarding the quality of healthcare and a significant increase in their mobility (patients and professionals, 10% National Health Survey)
- Exponential increase in the information generated and the necessity to make it accessible where and when necessary in a secure and efficient way
- Providing a response to all of the above with limited budgets

**Conclusion:** The system is unsustainable in the medium-term due to demographic and lifestyle changes, the impact of chronic diseases and budget limitations (paradoxically dying of success)

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Application of ICT in Health

The **Response** lies in establishing a new healthcare model based on **prevention** and health systems driven by informed **citizens** that are actively involved

**New model is aimed at:**

- Patient Safety: continuity of healthcare...
- Patient Satisfaction and **Focused:** access and control of their clinical information, customisation...
- Effectiveness: prevention, information, treatment at home...
- Efficiency: sustainability, optimal use of resources, ROI...
- Fairness: access, waiting times, doing away with geographic and cultural barriers...
e-Health as a Response

This model can only be achieved through extensive and appropriate use of ICT, in conjunction with appropriate organisational changes that allow all their potential to be exploited.

e-Health is the tool which allows substantial gains in productivity to be obtained TODAY while structural changes are tackled that would allow for a citizen-driven health system to be achieved and respecting the cultural and linguistic diversity of the different health systems.

Response: e-Health

- Patient Safety: Electronic Health Records, ePrescription...
- Patient Focused: Access to their information, ability to hide it, customisation of the information received, chronic patients...
- Effectiveness: Telemedicine, Web of medical information...
- Efficiency: Pooling of demand, management of benefits...
- Access: Remote appointments, Telemedicine, electronic access to clinical information...

e-Health as Part of the Response

<table>
<thead>
<tr>
<th>Face to face</th>
<th>Ubiquitous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive medicine</td>
<td>Proactive medicine</td>
</tr>
<tr>
<td>Passive patient</td>
<td>Active and informed</td>
</tr>
<tr>
<td>Focused on curing</td>
<td>Focused on prevention</td>
</tr>
<tr>
<td>Fragmental</td>
<td>Connected and integrated</td>
</tr>
<tr>
<td>Generator of data</td>
<td>Intelligent response</td>
</tr>
<tr>
<td>Support to dependency</td>
<td>Greater autonomy in social care</td>
</tr>
</tbody>
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Keys for change

- Restructuring around chronic patients with multiple pathologies (social and healthcare-related)
- Self-care as an essential part of the benefit
- Continuous integrated monitoring across time, places and patient conditions
- Intensive application of ICT for both patients/dependents as well as professionals
- Greater autonomy in social care
Oh!, so you are also implementing eHealth?

Change of Viewpoint

Applications Infrastructure
- Isolated "legacy" applications
- Several development environments
- No communication among them
- Monitoring / Availability
- Aimed at developments
- Impossible to unify by resources and competences

Services Infrastructure
- Assembly / Comprised of applications
- Orchestration of healthcare services
- Integration of multiple platforms
- Management and control
- Posting, discovery and safety of services
- Routing and message conversion
ICT Cooperation Model: Architecture

General Diagram on How it Works

Ministry of Health

NHS service bus
- Local interchange
- XML server

Services by application
- Population
- Health Records
- ePrescription
- Others

DB Server

Interchange server

XML Adapter

Applications
- Population
- Health Records
- ePrescription
- Others

DB Server

Asynchronous Notifications

Synchronous Notifications

NHS Partners

Individual Health Cards
NHS Health Card - Additions

December 2002

December 2002

December 2002

December 2002

December 2002

December 2002

December 2002

December 2002

December 2002

Query the e-Health Records of all Reg. Authorities NHS 2006/2011

2006

2009

2011

Implemented

Not implemented

Not planned

Under implementation

Source: Own research based on NHS Health Services data.
NHS Electronic Health Records

SERVICES

**For professionals**

Access to a patient's data sets and images when the patient requests healthcare

**For citizens**

Access to all their health data sets
Data access audits
Possibility of deciding which of their reports can be displayed

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12 Regional Authorities are actively involved in the project
19 million Patients have their clinical information potentially available in other regional authorities
Use July 2013: 3,000,000 queries by professionals through the Switching Point and 30,000 queries by citizens
The Future

- NHS PATIENT SUMMARY
- ePRESCRIPTION
- CENTRALISED PROCUREMENT
- MANAGEMENT OF CHRONIC PATIENTS
- MANAGEMENT BY PROFESSIONALS
- REMOTE SORTING
- REMOTE CARE
- REMOTE DIAGNOSES
- IMAGING (PACS)
- DEPENDENCY MANAGEMENT
- MOBILE APPLICATIONS
- ...

Mature: Phase 1
Under development: Phase 2
Secure Access to Information and Aid in Decision-Making

CONCLUSIONS

The Model incorporating a powerful central switching point allows for the addition of the services required the NHS to ensure its sustainability and evolution.

By applying technology, the Model enables the NHS to be integrated whilst maintaining independence with regard to the Partners’ organisation, platforms and applications, thereby turning a weakness into a strength.

The Model allows for the development of shared solutions run in the switching point to drive forward less developed Partners with in-house solutions devised by more developed Partners.
THANK YOU VERY MUCH FOR YOUR ATTENTION!

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