DEPLOYMENT OF EHEALTH IN A HEALTHCARE SERVICE

JORGE PRADO CASAL

GALICIAN REGIONAL GOVERNMENT (XUNTA DE GALICIA)
AGENDA

1. Brief overview. Galician Health Service
2. Historical perspective. From paper to digital
3. Main issues we learnt in IT Management
4. Reality and future of eHealth
5. Conclusions
Galician area is 29,574.4 km²

Population is scattered all across our hilly landscape.

2,710,216 people living in 30,000 population entities.

Population density is low: 91.6 (habitants per km²)

Average age of the population is very high (2nd highest in Europe).

24.6% of population is +65 year
Galician Health Service is “Servizo Galego de Saude”

www.sergas.es


Global Resources of SERGAS:

7 Areas which comprise 14 Hospitals, 450 Primary Care Centres and 111 Emergency Centres

36,000 Healthcare professionals (7,500 Physicians)

SERGAS’s budget is ≈ 40% of Regional budget

- 27 M consultations in P.C.C. / year
- 4 M consultations in Hospitals / year
- 174,000 surgeries / year
- 1 M Hospital emergencies / year (2,750 /day)
- 67 M medical prescriptions / year
In just 15 years information management in Health has changed dramatically. We passed from huge amounts of paper to Tbytes.
In 1993, when we took our first steps in this project, hospitals were not connected and few Primary Care Centres had IT infrastructure.
The way from draft to reality wasn’t easy. It took planning, effort, support, and of course, lots of luck.

Changes in Healthcare environment:

• Plenty of highly skilled professionals.
• We introduced IT, which involved:
  • Arrival of a new partner that affected working environment, even in a physical way.
  • Not always fitting the previous practices naturally.
• Huge improvement in turning information into knowledge:
  • Now it goes faster, is safer and more efficient
How we did it?

Mainly by overcoming initial reluctances
Crossing the “chasm of despair”

How we did it?

Gartner Hype Cycle

Diffusion of Innovation

Everett Rogers, 1957
Geoffrey Moore, 1993
In Healthcare processes: EHR. Ianus

Project Milestones achieved

1. Integrated information available from primary and secondary care
2. Information secured by using digital signature
3. Allows continuity of care to patients
4. Enhances continuity in the health care process
5. Allows integrated management by processes
Project Milestones achieved

In Healthcare processes: Digital imaging

IANUS

Diagnostic imaging System

DICOM \ HL7 \ XML
In Healthcare processes: e-Prescription

Project Milestones achieved

Sergas Platform
- DB for electronic Prescriptions and Dispensation info
- DB Drugs Catalogue
- DB Authorized Prescribers

Pharmacy Platform
- DB Billing
- DB of Authorized Pharmacists

Primary Care e-Prescriptions

Secondary Care e-Prescriptions

Pharmacies:
- Pharmacy 1
- Pharmacy N
Project Milestones achieved

In Healthcare processes: Tele-Medicine
Project Milestones achieved

Another essential processes:
Integrated Financial Management
Innovative Human Resources Management
Documentary sources management.
There are a set of elements which were key to success:

- It’s a project for society, from society.
- The whole organization feels participant of the project and its evolution.
- It’s a project in continual progress.
- It’s a project built on a solid foundation.
- Above all, it’s an open project.
Project Milestones achieved: e-Prescription

April 2009

April 2010

- eReceita / ePrescription
Project Milestones achieved: e-Prescription

97,5% Prescripción electrónica. Hoxe en día xa un 99,2%
100% Dispensación electrónica.
Project Milestones achieved

We store 2,710,235 patient’s EHR
Project Milestones achieved

IT are key elements in Galician Health Service

100% centres and professionals accessing EHR
100% centres and professionals accessing telemedicine tools
100% centres and professionals accessing digital imaging
99.2% electronic dispensing of medicines
100% Healthcare IT Systems integrated

Access to PHR
Jan-Jun 2018
246,127

Curricula vitarum managed by expediente-e
175,796
Each day in IANUS

**IT are key elements in Galician Health Service**

- 14,700 professionals accessing EHR
  - 100% of them
- 114,000 accesses to EHR / digital imaging
  - 100% P.C. Centres can access digital imaging
- 220,000 electronic dispensations
  - 1,358 pharmacies connected
  - 99.2% prescription and 100% dispensing is electronic.
- 600 patients access their EHR through the Internet
  - E-Saude Platform
- 83,000 notations written
  - 95% writing index in Hospitals and P.C. Centres
- 200 patient access their EHR through the Internet
  - E-Saude Platform
Changing medical imaging from film to digital, we have radically improved their storage, management and distribution.

...And this improvement process represents a consolidated saving of 2,7 M€ / year.
EHR and e-Prescription optimised the way professionals, patients and pharmacies interact, reaching unthinkable improvements in Healthcare.

And with returns in Healthcare efficiency:

“Administrative” consultations in P.C. Centres dropped 2,000,000 annually.

Now we have efficient tools to manage the relationship with Pharmaceutical suppliers in clinical and financial issues.

By eliminating paper in prescriptions, we save 0,7 M € annually.
How to avoid making this mistake?
IT governance

Are we aware of what we are trying to do?

- 18,038 pieces
- 2.3 million blocks
- Bionic A12, 6.900 million transistors
- On average apps have 10,000 lines of code
- Android 15 million lines of code
IT governance

Who should rule?

La guerre! C’est une chose trop grave pour la confier à des militaires.

War is too important a matter to be left to the military

Georges Clemenceau
IT governance
What should IT departments tell?

Would you do this?

Or, do you prefer this other?
IT governance

Put yourself in the shoes of eHealth managers
Sometimes, risks were not properly managed in IT

Recipe for Disaster: The Formula That Killed Wall Street

WIRED MAGAZINE: 17.03

Recipe for Disaster: The Formula That Killed Wall Street

In the mid-'90s, Wall Street turned to the quants—brainless financial engineers—to invent new ways to boost profits. Their methods for making money worked brilliantly, until one of them devastated the global economy.

Photo: Jim Bourbon/Galley Stock

The dot-com bubble: How to lose $5 trillion

November 24, 2009

Editor’s Note: This article continues our series excerpted from AC360°’s contributor David Geiwitz’s upcoming book, How To Save Jobs, which will be available in December. Over the next few months, we’ll be excerpting the first section of the book, which answers the question, “How did we get here?” Last time, we looked at how India has been transforming itself into a world-class competitor. This time, we start to look at the Internet and how some of the early irrational exuberance has led to some of today’s job market problems. To learn more about the book, follow David on Twitter @DavidGeiwitz.
You need to know at what stage you are.

Are you still riding high?
You need to know at what stage you are.

Because...maybe those days are over
Be sure before taking any decisive step.

Have you think twice? (if not more)
You must ensure value from IT

It sounds quite simple

Diagram:
- Enterprise Information
- Business Requirements
- IT Processes
- IT Resources

which responds to

drive the investments in

to deliver

that are used by
IT performance measurement

Balanced Scorecard Framework*

Financial
To succeed financially, how should we appear to our shareholders?

Customer
To achieve our vision, how should we appear to our customers?

Vision and Strategy

Internal Business
To satisfy our shareholders and customers, what business processes must we excel at?

Learning & Growth
To achieve our vision, how will we sustain our ability to change and improve?

IT performance measurement


Many times, results are not as good as expected.
Return of Investment

Delivering promised benefits, in time and within budget.
“For a successful technology, reality must take precedence over public relations, for Nature cannot be fooled.”

Richard P. Feynman
“A body of men holding themselves accountable to nobody ought not to be trusted by anybody.”

Thomas Paine
The challenge of public services

Public services must be
To face urgent and demanding challenges, innovation is a must.
Budget: 45 M€. 9 projects with a final result of the physical-scale demonstration of the facilities of the future hospital:

- The hospital of the future must be a safe hospital. Patient`s safety, key point of the healthcare quality.

- The hospital of the future has to be a green hospital, which includes programs of efficient usage of water and energy, integral management of solid and liquid waste.

- The hospital of the future has to be a sustainable and efficient hospital. It has to be integrated into the environment in which it is located.

Finally, the hospital of the future has to be an open hospital. Open to the rational use and evaluator of new technologies.
Budget: 45 M€. 14 projects by which innovative solutions fulfil current and future healthcare needs:

- PATIENT-CENTRED Healthcare. The acute-ill patients´ model of medicine has gone further in the last decades towards a model of medicine focused on chronic-ill patients, who need cares that are more continuous.

- SAFE AND FAST Healthcare. Safe healthcare is the one that applies new technological solutions to reduce professional human mistakes as much as possible.

- INTELLIGENT Healthcare. The conventional model seems to be more and more inefficient when fulfilling patients´ needs at hospital. This is why it is essential to change healthcare structure in order to ensure an optimal delivery of quality and safe services.
Bases for the future:
The reality of the ageing population in Galicia

At the end of 2017, in Galicia **24.6% of population is over 65 years of age.**
In 2012 it was expected to be 25% in 2020, surely we’ll reach that earlier.

The percent of **population under 15**
Fell from **23.4% in 1981**
to just over **12% in 2017**

The challenge to face is moving the Galician Health service towards a new system that meet the requirements of those who use it the most: patients with chronic illnesses, mainly linked to ageing.
We continue to build the future
Europe 2020 strategy

Galicia is a reference region ‘EIP on AHA’

- Based on best-practices:
  - EHR and e-prescription
  - Health School for Citizenship
  - Patients Advisory Board
  - Use of ERDF in Health innovative projects (H2050 – Innova Saude)
  - Health Innovation Platform
  - Broad experience using IT to ease and improve quality of life of ageing people in Galician welfare system

An opportunity to share and learn how European regions face the challenge.
Bases for the future:
We continue to build future: CODIGO 100

Budget: 13 M€. 3 projects to find innovative solutions centered on ageing-people. We try to imagine, transform and start up new innovation codes focused on our ageing society which should reinforce Galicia as a reference region on AHA. A region where people can live up to 100 years with good quality of life.

• Empowerment of patients.

• Therapies.

• Management of professionals
They should give a coherent answer to 4 fundamental axis:

- **Valuing of data** stored in Healthcare System
- **Complete Digitalization** of Healthcare activity
- Meet organisation’s **Innovation** objectives
- Complete digitalization of relationship with **patients, professionals and suppliers**
Complete Digitalization of Healthcare activity

- Manage integrated health records digitally.
- Digitalize old HR to remove ‘paper-based’ circuits
- Integrate all medical devices into a signal and alerts management system.
- Universalize decision-making aid systems.
- Ensure availability, security and quality of health information.
Relationship with patients, professionals and suppliers

Empower patients to manage their health, using a multi-services platform.

Collaborative platforms for professionals and patients. É-Saúde

Continue innovating in suppliers relationship and Public Procurement of Innovative solutions (PPI).
Valuing of data stored in Healthcare System

First step: EHR.


Third step: Knowledge management.
Meet organisation's Innovation objectives

Integrated with Healthcare and Regional strategies.

Contribute IT Projects.

Give IT support to all innovation issues.
Next steps: Integral Digital Healthcare in Galicia (25M €)


Pilot environment limited to year 2015 [ERDF 2007-2013]

Extend projects to health network [20 M€ ERDF Galicia 14-20]

Target
- People monitored from their homes: From 400 (2015) to 100,000 (2023)

Indicadores de resultados comprometidos

Quality
- Reduction in emergency visits of pluripathological patients / per 1.000: From 1950 to 1750
- Reduction in hospital admissions / per 1.000: From 350 to 315

Next steps: Integral Digital Healthcare in Galicia (25M €)
Wait... Don’t you miss something?

We’ve talked about professionals, suppliers...
Wait… Don’t you miss something?

What’s patients’ role in eHealth?

How would you describe it?
Wait… Don’t you miss something?

First, we need to focus on patient, placing them at the centre of our activities.
Then, we can assign roles.
Wait… Don’t you miss something?

Maybe Healthcare Services have to leave their passive role, and go to the patient…

…Or patients will drown Healthcare Services
Conclusions

• 15 years ago we began a journey to the future.
• Thanks to political consensus and the support of citizens, our project overcame all problems and reached promised objectives.
• Now it’s a prized treasure to be protected.
• But we must evolve if we want to maintain our public Healthcare scheme.