IS IT WORTH TRYING TO GET TO STAGE 7?

The vision of a big Spanish public hospital trying to increase IT value

Stage 7

Stage 6
Base Camp

What is being a CIO?

Head of IT Department

- To keep things working:
    - Applications maintenance
    - Systems and networks
    - User support

- IT Governance
    - Strategy
    - Methodology. Processes
    - Demand management

    ...

In most hospitals in Spain you can find heads of IT departments, not yet real CIOs in the C-Suite sense

Becoming CIO wasn't about having meetings with the C-suite but to add value with HIT to our business: quality, patient safety and efficiency

What is being a CIO?

Head of IT Department

- To keep things working:
  - Applications maintenance
  - Systems and networks
  - User support

- IT Governance
  - Strategy
  - Methodology. Processes
  - Demand management

  ...

CIO

- All previous aspects PLUS...

- Adding business value from IT:
  - Doing IT projects that support hospital's strategy
  - Boosting outcomes improvement through IT
  - Realizing ROI and so giving value to IT
  - Fostering internal change
  - Making of IT a competitive advantage

What is being a CIO?

The road of EMRAM helps to:
- Add business value from IT, focusing work in projects that can improve quality, patient safety and efficiency
- Unleash HIT value and to realize it

… And so to make the step to become a real CIO

Adding Value

The EMRAM promise

There are a lot of case studies pointing out the benefits of EMRAM
HIMSS Value Suite helps to find them

http://www.himss.org/ResourceLibrary/ValueSuite.aspx

Adding Value

The NEW ENGLAND JOURNAL *of* MEDICINE

Bar Coding for Patient Safety

Alexi A. Wright, M.D., and Ingrid T. Katz, M.D., M.H.S.

A small revolution in patient safety is taking place in the basement of our hospital. Deep underground, in a windowless room about the size of a

Err Is Human. The report documented the incidence of medical mistakes, including data from an early study that showed that

The NEW ENGLAND JOURNAL *of* MEDICINE

HOME | ARTICLES & MULTIMEDIA ▾ | ISSUES ▾ | SPECIALTIES & TOPICS ▾ | FOR AUTHORS ▾ | CME

SPECIAL ARTICLE

Effect of Bar-Code Technology on the Safety of Medication Administration

Eric G. Poon, M.D., M.P.H., Carol A. Keohane, B.S.N., R.N., Catherine S. Yoon, M.S., Matthew Ditmore, B.A., Anne Bane, R.N., M.S.N., Osnat Levtzion-Korach, M.D., M.H.A., Thomas Moniz, Pharm.D., Jeffrey M. Rothschild, M.D., M.P.H., Allen E

JAMIA
Journal of the American Medical Informatics Association

Reduction in medication errors in hospitals due to adoption of computerized provider order entry systems

David C Radley,[1] Melanie R Wasserman,[2] Lauren EW Olsho,[2] Sarah J Shoemaker,[2] Mark D Spranca,[2] Bethany Bradshaw[3]

Effects of clinical decision-support systems on practitioner performance and patient outcomes: a synthesis of high-quality systematic review findings

Monique W M Jaspers,[1] Marian Smeulers,[2] Hester Vermeulen,[2] Linda W Peute[1]

> Although not many, there are also relevant scientific evidences about the positive outcomes of the main IT subjects needed to progress in EMRAM

thebmj

Improving clinical practice using clinical decision support systems: a systematic review of trials to identify features critical to success

Kensaku Kawamoto, Caitlin A Houlihan, E Andrew Balas, David F Lobach

11 - 13 MAY 2015
RIGA, LATVIA

Follow us @eHealthWeekEU #eHW15

Adding Value

Doing IT projects that support hospital's strategy

Nevertheless to convince your CEO and begin this process usually it's easier to show that you can do projects that support the hospital's strategy

Hospital Universitario Puerta de Hierro Majadahonda
SaludMadrid — Comunidad de Madrid

- Quality of care and patient safety
- Continuity of care
- Professionals' performance and satisfaction
- Efficiency. Process optimization
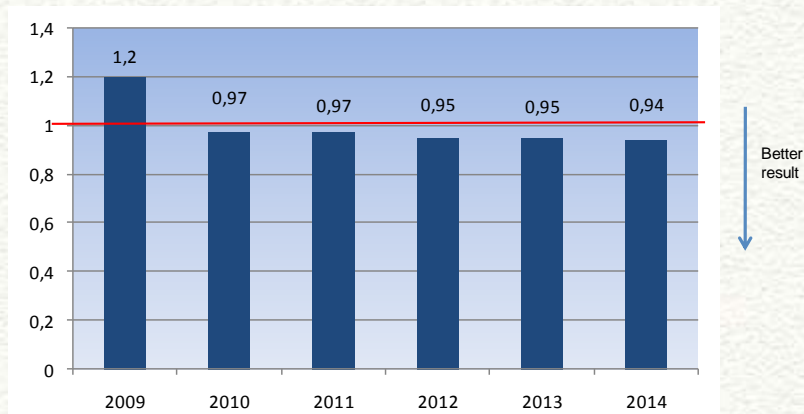- Boosting research and innovation

- Consolidate all previous EMRAM stages
- Clinical Decision Support Systems (CDSS).
- Closed Loop Medication Administration (CLMA).

- Systems usage level (pervasiveness of use)
- Paperless hospital
- ICT Governance
- Clinical and Business Intelligence. ROI demonstration
- Health information exchange
- Disaster Recovery and Business Continuity

Adding Value

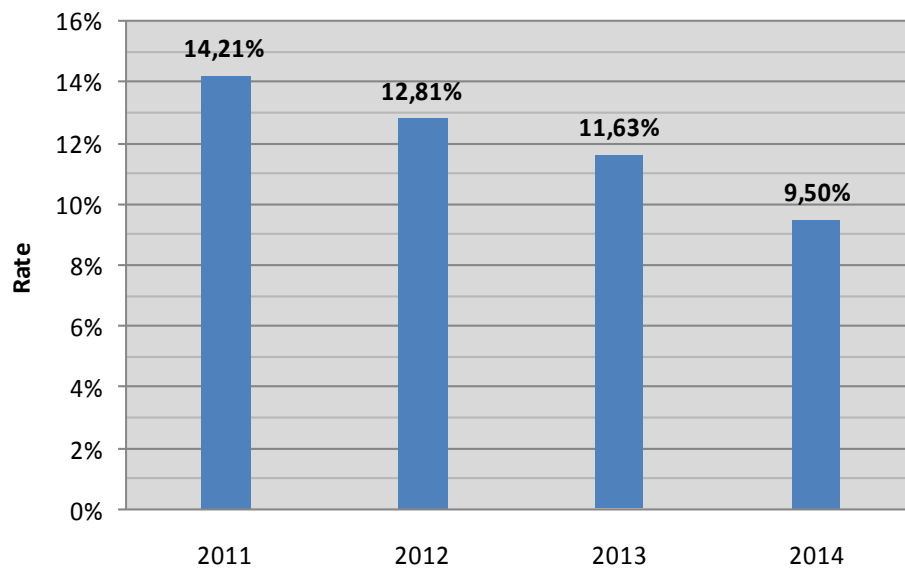**Boosting outcomes improvement through IT**

IQI 20 Pneumonia Mortality Rate

Bar chart — Rate:
- 2011: 14,21%
- 2012: 12,81%
- 2013: 11,63%
- 2014: 9,50%

Casemix-Adjusted Inpatient Hospital Average Length of Stay (IEMA)

Bar chart:
- 2009: 1,2
- 2010: 0,97
- 2011: 0,97
- 2012: 0,95
- 2013: 0,95
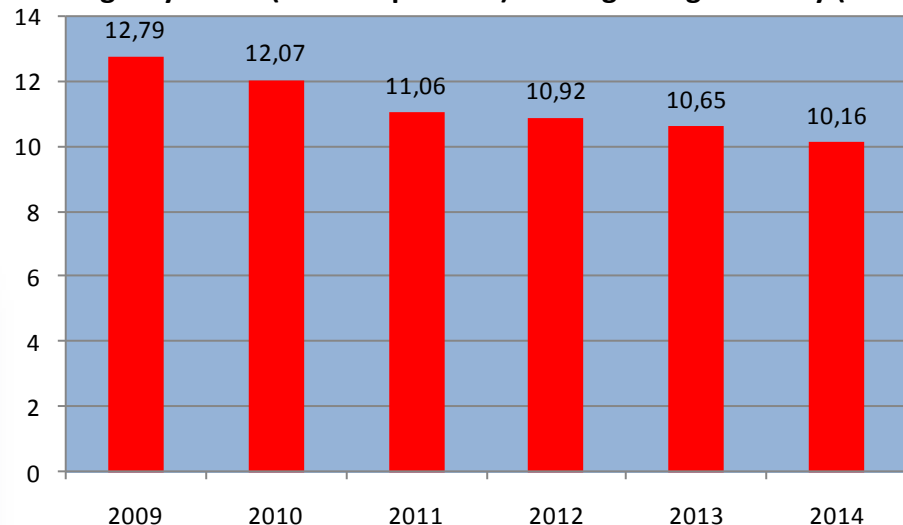- 2014: 0,94

Better result

Controlling for differences in clinical factors (DRGs), Hospital Puerta de Hierro consumed significantly less days of care than others hospitals
2014: 7.600 less days of care

Emergency Room (medical patients). Average Length of Stay (hours)

Bar chart:
- 2009: 12,79
- 2010: 12,07
- 2011: 11,06
- 2012: 10,92
- 2013: 10,65
- 2014: 10,16

It's very difficult to demonstrate an improvement in clinical outcomes due to IT
Correlation doesn't imply causation…

Adding Value

Boosting outcomes improvement through IT

Delay in Mammography

1. **IT based processes**
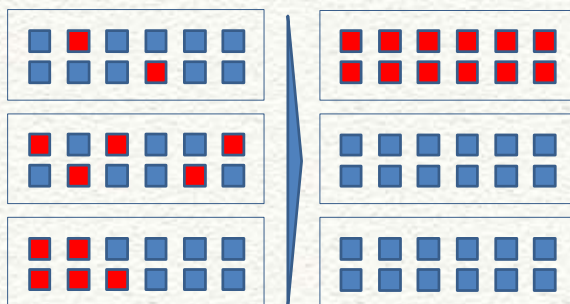2. **Data analysis**
3. **Action plan**
4. **Evaluation**

... Although sometimes there is a clear cause-effect relationship betweet IT and outcomes improvement

Adding Value

Realizing ROI and so giving value to IT

To be in the Stage 7 process has changed the way we think about IT projects, becoming us more outcome oriented and forcing us to analyze what we do in health IT
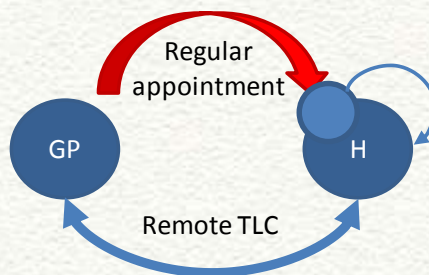
Week Hospital

■ Discharge before weekend

Investments: 6.400 €

Return: 247.400 eur / year

ROI (1st year): 3766 %
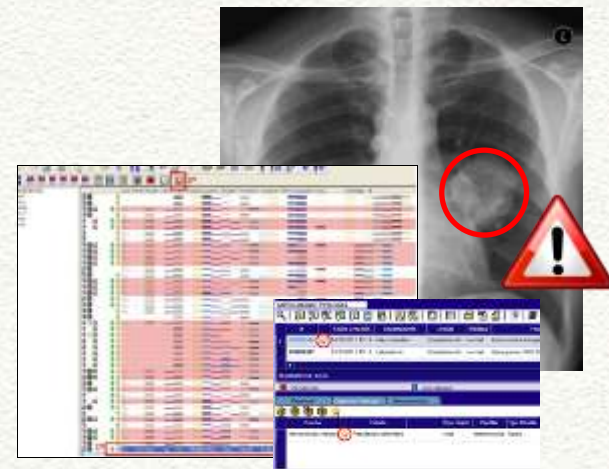
Remote consultations from PC

Regular appointment

GP

H

Remote TLC

Investments: 8.800 €

Outcomes (some examples):

- **Sleep apnea: 427 1st visits, 23.485 patient-days saved**
- **Hematology: 426 IM 1st visits, 43.026 patient-days saved**
- **Sciatica & v.disc prolapse: 224 TRA 1st visits, 10.976 patient-days saved**

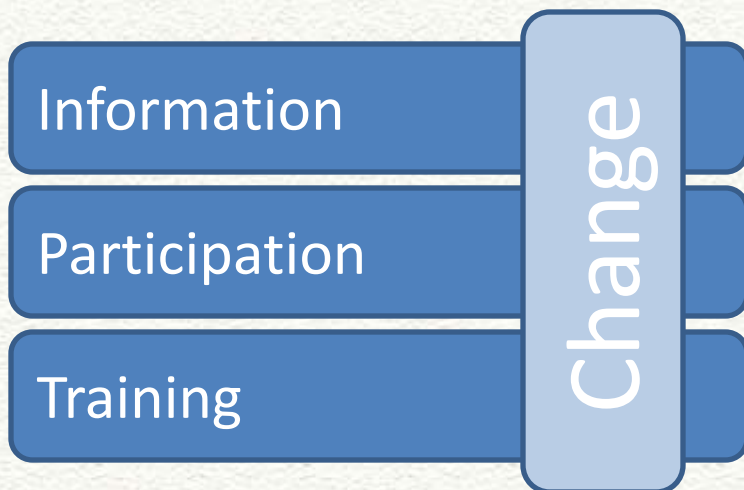## Radiology and Pathology alerts

Investments: 35.200 €

Outcomes (1,5 years):

- **1073 alerts generated**
- **105 early appointments**
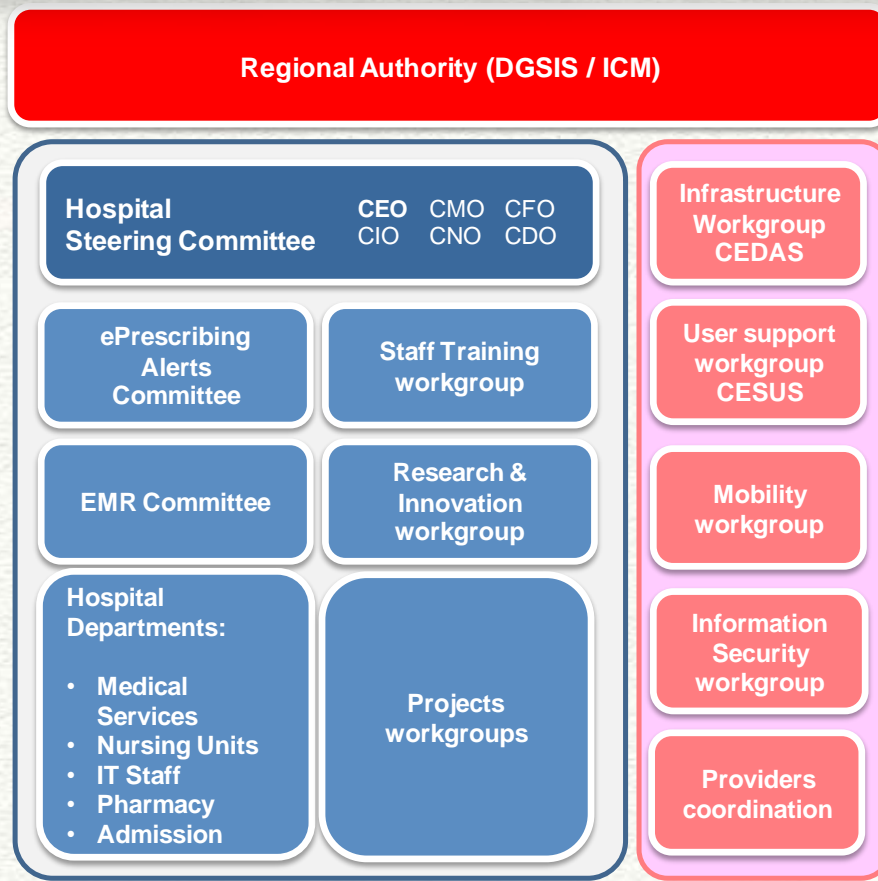- **2.765 patient-days with malignant disease saved**

Adding Value

Fostering internal change

To be in the stage 7 process brings some organizational benefits not so expected when we started. Probably to start movement in a big organization is the most difficult thing in our IT world

- More than 20 committees and workgroups. More than 100 people directly involved in Stage 7 achievement.

Information

Participation

Training

Change

Regional Authority (DGSIS / ICM)

Hospital Steering Committee	CEO CMO CFO CIO CNO CDO
ePrescribing Alerts Committee	Staff Training workgroup
EMR Committee	Research & Innovation workgroup
Hospital Departments: • Medical Services • Nursing Units • IT Staff • Pharmacy • Admission	Projects workgroups

Infrastructure Workgroup CEDAS

User support workgroup CESUS

Mobility workgroup

Information Security workgroup

Providers coordination

Adding Value

Fostering internal change

To have a BIG objective ahead is a powerful lever for change and the only way to address such an ambitious work programme in a short time
Stage 7 is not only about IT but about changing organization & processes

IT Service Operation

IT leadership

Consolidation of IT achievements

80 projects

STAGE 7

ORGANIZATION + PROCESSES + TECHNOLOGY

Research & Innovation

Compliance with stage 7

Corporate projects

Spreading the word

Our Hospital is a well known reference in Spain, Portugal and Latin America. Trying to get to Stage 7 encourages many other hospitals to adopt EMRAM... And this will be good also for a lot of patients around the globe.

So... is it worth?

- Helps you to make the step for actually being a hospital CIO.
- Facilitates adding business value trough IT. That is:
  - Supporting the strategy
  - Boosting outcomes improvement
  - Realizing IT ROI
  - Fostering internal change
- Gives value to IT in the hospital, and so to your work.
- Ultimately, encourages other hospitals to do it better.

It's an easy answer... *YES!*

Just trying has a value
But when we get to the top of the mountain
we know we are going to see
over the clouds
the full potential of Health IT

THANK YOU

Juan Luis Cruz

CIO Hospital Puerta de Hierro

juanluis.cruz@salud.madrid.org

@jotaelecruz

eHealth week

11 - 13 MAY 2015
RIGA, LATVIA

ORGANISED BY

EU2015.LV

Ministry of Health
Republic of Latvia

meHEALTH

WHIT

Follow us @eHealthWeekEU #eHW15