Swiss eHealth Summit

www.ehealthsummit.ch

Digitales Ökosystem
Gesundheitswesen –
Vorgaben umsetzen,
Versprechen einlösen

Präsentiert von

In Kooperation mit

HIMSS Europe
FH Berner Fachhochschule
SGMI SSIM SSMI
Vereinigung Gesundheits-Informatik Schweiz
VGI.ch
Key to the Success of the Denia Project

Vicent Moncho Mas
CIO Marina Salud
Who we are?

2005

Private management of public health department

Investment in health infrastructures

Integration of professionals
1. Focused on the patient

2. Focused on the professional

3. Focused on the process

4. Healthcare integration

5. Quality management

6. Knowledge reference
What did we decide?

Little hospital

One provider
Parametrizable
Standard

Little IT Budget
Little IT Staff

Easy IT System Map
How we did?

16 months project
On-site working team
Big bang go-live
Design of clinical processes
Management of implementation
Priorization of proposals
What do we want?

- Financial Results
- Efficiency
- Patient Safety
- Health Promotion
## Nursing documentation

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Contribution</th>
<th>Impact</th>
<th>Cases</th>
<th>Hours/year</th>
<th>FTE Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>All discharged patients have</td>
<td>50% of the report's content is generated automatically</td>
<td>Minutes per report</td>
<td>11,728</td>
<td>977.33</td>
<td>0.56</td>
</tr>
<tr>
<td>Continuity of care between</td>
<td>Single database per patient</td>
<td>Minutes per discharge</td>
<td>11,728</td>
<td>2,932.00</td>
<td>1.69</td>
</tr>
<tr>
<td>departments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Physician documentation

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Contribution</th>
<th>Impact</th>
<th>Cases</th>
<th>Hours/year</th>
<th>FTE physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable remote visits</td>
<td>Structured clinical information available anywhere at any time. Protocols integrated.</td>
<td>Time per visit 10reduced from 15 to 5 minutes</td>
<td>5,828</td>
<td>971</td>
<td>0.56</td>
</tr>
<tr>
<td>Greater access to documentation</td>
<td>Single database per patient.</td>
<td>Minutes per 10discharge</td>
<td>11,728</td>
<td>1,955</td>
<td>1.13</td>
</tr>
<tr>
<td>Documentation in Operating Room</td>
<td>Integration of monitoring devices</td>
<td>Minutes per major 7surgery</td>
<td>8,608</td>
<td>1,004</td>
<td>0.58</td>
</tr>
</tbody>
</table>
### Documentation area

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Impact</th>
<th>Cases</th>
<th>Hours/year</th>
<th>FTE Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of medical record information electronically</td>
<td>4 Minutes per movement (discharges, consultations, and minor surgery)</td>
<td>193,718</td>
<td>12,914.53</td>
<td>7.47</td>
</tr>
<tr>
<td>Improved coding</td>
<td>5 Minutes per major and minor surgery</td>
<td>14,994</td>
<td>1,249.50</td>
<td>0.72</td>
</tr>
<tr>
<td>Automatic distribution of discharge report</td>
<td>5 Minutes per report</td>
<td>6,824</td>
<td>568.67</td>
<td>0.33</td>
</tr>
</tbody>
</table>

### Preference cards in OR

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL Surgical Procedures</td>
<td>11,874</td>
<td>11,727</td>
<td>12,414</td>
</tr>
<tr>
<td>Scheduled Procedures</td>
<td>10,453</td>
<td>10,173</td>
<td>10,897</td>
</tr>
<tr>
<td>TOTAL Increase 2013-11</td>
<td></td>
<td></td>
<td>540</td>
</tr>
<tr>
<td>% TOTAL INCREASE related to 2011</td>
<td>-1.25</td>
<td></td>
<td>%5.53</td>
</tr>
</tbody>
</table>

### BUDGET

<table>
<thead>
<tr>
<th>BUDGET</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL Expenses Medical Supplies</td>
<td>$ 12,297,370</td>
<td>$ 10,719,001</td>
<td>$ 9,466,640</td>
</tr>
<tr>
<td>Expenses in Surgical Area</td>
<td>$ 4,304,079</td>
<td>$ 3,751,650</td>
<td>$ 3,313,238</td>
</tr>
<tr>
<td>TOTAL Savings 2013-11</td>
<td></td>
<td></td>
<td>-$ 990,841</td>
</tr>
<tr>
<td>% SAVINGS IN SURGICAL AREA related to 2011</td>
<td></td>
<td></td>
<td>%29</td>
</tr>
</tbody>
</table>
Full nursing process

- 100% of patients with nursing care plans
- 100% of patients with nursing care report
- 5 rights in the close loop medication process
- Full paperless nursing care process: assessment, diagnosis, care planning and evaluation of results.
### Pressure Ulcers (PU)
- 99.42% of hospitalized patients had Norton risk scale for pressure ulcer assessment.
- In 1,561 patients, 72 PU prevalence of 4.61%.
- Only 28 PU are hospital waste prevalence of 1.79%.

### Falls
- 72,832 stays were recorded.
- Conley risk rating scale to 1,555 patients.
- 126 falls were recorded.
- Incidence rate of 1.73 x 1000.
- The patient was:
  - 44% wandering.
  - 32% lying.
  - 11% sitting.

### Phlebitis
- 128 patients analyzed.
- Selected dressing:
  - Transparent 59.63%
  - Bandages or mesh 37.61%
  - Opaque 2%
- Degree of phlebitis:
  - No presence 86, 24%
  - Signs 10.09%
  - Phlebitis 3.67%
Some results

**Complexity. Relative weight.**

- 2009: 0.9446
- 2010: 0.9712
- 2011: 1.0566
- 2012: 1.0957
- 2013: 1.1141

**ICAR (complications)**

- 2009: 1.12
- 2010: 1.09
- 2011: 1.04
- 2012: 1
- 2013: 0.92

**IRAR (readmissions)**

- 2009: 1.1
- 2010: 1.06
- 2011: 1.01
- 2012: 0.93
- 2013: 1

**IMAR (mortality)**

- 2009: 1.47
- 2010: 1.47
- 2011: 1.23
- 2012: 1.05
- 2013: 0.92
Some results

Hospitalization

- Average stay: 5.20 days
  28.5% better than the national average

Surgical Procedures

- MAS rate: 59.20%
  16% better than the national average

- Average delay: 36.16 days
  43% better than the average delay in the Valencian region and
  63% better than the national average
Some results

Outpatients

- Average delay: 26.65 days
  61% better than the national average

Patient Safety

- Mortality adjusted to risk: 9% better than the national average
- Complications adjusted to risk: 8% better than the national average
- Readmissions adjusted to risk: 7% better than the national average
Through IT

Sepsis Workflow

Pre-operative chest x-ray rule

Cancer workflow

Alerts in case of allergies on medication

STAGE 7 AWARD
Lessons learned

- Solution
- Cultural
- Robustness
- Project
- Design
- Expectations
- Make it simple
Thank you very much

Vicent Moncho Mas
CIO Marina Salud