Empowering patients with diabetes using telemedicine services in Andalusia

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Andalusian Health Service / RMHealth
Andalusia

Main features
- 8,492,635 inhabitants
- >22 M tourists
- Political Autonomy since 1981
- Full responsibility at regional level on Public Health and Healthcare services since 1984

Public Healthcare System
1500 Primary care centres
47 Hospitals (93% h beds)
100,000 healthcare workers

3800 Pharmacies (private)
PHC is the gatekeeper
Plan for Diabetes

- Andalusia: 1M people with diabetes
- Prevention-oriented (-50% complications)
- Integrated care process for diabetes care
- Programmes:
  - Specific outpatient clinics (12)
  - Programme of podiatric attention (8709 patients in 2012)
  - Programme of continuous insulin infusions (1011 treat)
  - Health hotline Salud Responde (9693 patients)
  - Early detection programme for diabetic retinopathy

- Results (2007-2012)
  - Decrease of ketoacidosis (-38%, type-1 diabetes)
  - Decrease of Hyperosmolar coma (- 20%, type-2 diabetes)
  - Fewer amputations (-20%)
  - Fewer acute myocardial infarction (-16%)
  - Smaller ictus rate (-30%)
PALANTE pilot 1- Andalusia

• Starting point ClicSalud: Clic Salud
  secure universal access to individual eHR + new services

• Goals:
  • Empowerment of patients (target: 7,000 patients)
  • Improve quality of life and diabetes management
PALANTE pilot 1- Andalusia

- **Services being piloted:**
  - Patient’s access to their personal health record
  - Patient’s management of their personal health information
  - Chronic disease management support services
  - Tailored education and lifestyle guidance

- **Pilot focus:**
  - To demonstrate the benefits of the services the pilot will focus on patients with diabetes.

- **Pilot target population:**
  - 500 with diabetes mellitus Type 1 (Hospitals)
  - 6500 with diabetes mellitus Type 2 (Primary Care)
Citizens’ access to eHR

Cita Médico
10 Noviembre
12:30

Current Health Problems
Current Allergies and Contraindications
Current Medication
Primary and Specialized care Appointments
Clinical reports
Hospital Admissions

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PALANTE Project Final Conference
Services being piloted

<table>
<thead>
<tr>
<th>Questionnaires</th>
<th>Communication</th>
<th>Educational tools</th>
<th>Telemonitoring devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>(treatment diet and physical exercise adherence)</td>
<td></td>
<td>friendly fridge, stacks and ladders, augmented reality</td>
<td>400 tensiometers and 3000 glucometers*</td>
</tr>
</tbody>
</table>

*Specifications to all pharmaceutical companies working in the region have been provided to allow integration of their devices in the platform.
PALANTE pilot 1: services (I)

Questionnaires (treatment, diet and physical exercise adherence)
PALANTE pilot 1: services (II)

Telemonitoring
PALANTE pilot 1: services (III)

Educational tools: friendly fridge, stacks and ladders, augmented reality
Patients and professionals’ bidirectional communication tool
### Expected Impact

<table>
<thead>
<tr>
<th>For patients</th>
<th>For healthcare professionals</th>
<th>For healthcare system</th>
</tr>
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<tbody>
<tr>
<td>• better control of one's health status (access to personal health data, support services for diabetic patients)</td>
<td>• closer monitoring</td>
<td>• optimizing available resources</td>
</tr>
<tr>
<td>• better interaction with healthcare services (bi-directional communication and shared decisions)</td>
<td>• reduce unnecessary visits and inpatient episodes</td>
<td>• increase quality, efficacy and efficiency</td>
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<tr>
<td></td>
<td>• faster response</td>
<td></td>
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Setting Up and Running Pilot 1

• **Enrolment.**
  - Support material development, coordination protocol
  - Pre-test in Bahía-Cádiz District (70 healthcare professionals)
  - Project presentation to representatives from all PHC Districts and Endocrinology Clinical Management Units
  - Cascade training and recruiting for healthcare professionals and patients.

• **Users support protocols (24x7).**
  - Professionals: CGes, the actual IT support center for healthcare professional users
  - Patients: Salud Responde phone line, which is the actual call center for addressing any user request regarding the regional public health system and its citizen oriented IT services

• **Preparation for the Evaluation phase:**
  - specific assessment indicators
  - questionnaires to evaluate the new PALANTE functionalities
On May 9th 2013 we had our first real patient in Cádiz but full enrolment started in July (month 18), only after the access to the EHR was opened on June, 12th.
Deployment: a complex ecosystem

Planned scenario: Cascade enrolment

Pilot 1 team -> HCPs Representatives -> HCPs

Users
Deployment: a complex ecosystem

Enrolment lower than expected ..... effective recruitment extended until M30.

<table>
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<tr>
<th>Issues</th>
<th>Actions</th>
</tr>
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<tbody>
<tr>
<td>Task overload due to higher burden in a context of economic crisis after the project onset. Reduced HCPs motivation.</td>
<td>Inclusion of KPIs linked to PALANTE patients enrolment and follow-up for 2014 in programme-contracts at primary and hospital level. Certificate of research collaboration Increase communication and feedback</td>
</tr>
<tr>
<td>Integration in Diraya-Clic Salud</td>
<td>Adaptation to new legislative requirements at national level (e-prescription) during integration. Integration in Clic Salud</td>
</tr>
<tr>
<td>Limited patients’ IT literacy  Reduced patients’ motivation</td>
<td>Collaborative Agreement with Guadalinfo Contact with Mass Media to promote patients’ participation</td>
</tr>
<tr>
<td>Devices supported</td>
<td>Extension to other devices provided by other pharmaceutical companies</td>
</tr>
</tbody>
</table>
Pilot 1: recruitment results

Diabetes mellitus prevalence (700,000) || goal sample size: 1% 7,000 patients

7289 patients
4196 Basic services (information)
3093 Extended services

538 Type 1
6751 Type 2

2186 HCPs

Pilot running with all services available since M13 || Full deployment to all the territory in M16
Pilot 1: use of new services

7289 people with diabetes
• 538 type 1
• 6751 type 2

<table>
<thead>
<tr>
<th>Measurements</th>
<th>61926</th>
</tr>
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<tbody>
<tr>
<td>Questionnaires</td>
<td>2146</td>
</tr>
<tr>
<td>Patient messages</td>
<td>1131</td>
</tr>
<tr>
<td>Professional messages</td>
<td>1773</td>
</tr>
<tr>
<td>Games</td>
<td>932</td>
</tr>
</tbody>
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Núm. veces que se ha registrado una toma (por categoría)

- Frecuencia Cardiaca
- Glucosa Al Azar
- Glucosa Antes de la Cena
- Glucosa Antes del Almuerzo
- Glucosa Antes del Desayuno
- Glucosa Después de la Cena
- Glucosa Después del Almuerzo
- Glucosa Después del Desayuno
- Tensión Arterial Diastólica
- Tensión Arterial Sistólica
- Índice de Masa Corporal
- Perímetro Abdominal

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Pilot 1: Assessment

Patients: Questionnaires completed
- PAM 1st wave: 394
- PAM 2nd wave: 152
- TAM 1st wave: 353
- TAM 2nd wave: 123

HCPs: 250 Questionnaires completed
Pilot 1: Assessment

1. Healthcare services use by patients with diabetes
2. Quality indicators: disease management and complications

Study group

- Male
- Female
Pilot 1: Results

PAM SCORE

USE OF SERVICES

No changes so far … more time needed
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23rd June 2015
Committee of the Regions. Brussels