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Integrated Healthcare in Andalusia

Analysis of primary care, specialised care, emergency care, social care and citizen support platforms

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Executive Summary

The SIMPHS¹ research project studied the deployment of Integrated Personal Health and Social Care Services (IPHS) by analysing IPHS projects across 20 regions in eight European Countries. One of the outcomes of the research was the identification of eight facilitators (key factors) for IPHS deployment. This report extends the analysis of facilitators to the case of Andalusia, a Spanish region recognised internationally as one of the "Best eHealth regional case studies". The aim was to review cases of Integrated Care in the region, especially those where ICT and IPHS enable integration, so as to identify the role of the eight facilitators in these settings.

After a giving a snapshot of the evolution of eHealth in Spain, specifically focusing on EHR and on outcomes of surveys on the attitude of Spanish citizens to ICT and healthcare, we set the scene by providing an overview of the Andalusian healthcare system, a complex structure that includes policy, care and technical institutions.

We then illustrate the various healthcare processes in place in the Andalusian healthcare system by developing case studies, making use of information collected through interviews with experts. The case studies allow us to identify the role that ICTs have played in integrating care services. They relate to the following healthcare processes:

- 1) Programmed healthcare (follow-up of patients) and emergency healthcare.
- 2) Integrated emergency healthcare (integration of call centres and Electronic Health Records in Mobility).
- 3) The multichannel healthcare support platform (the Salud Responde Service).
- 4) Integrated healthcare support programmes.

Experts' views have informed our research as regards the level and type of care integration. These views have also helped us to identify indicators that could be used to measure the extent of this integration in the context of the Andalusian healthcare system.

Last but not least, the report offers some conclusions on the Integrated Healthcare ecosystem in Andalusia, the holistic approach to the individual which underpins its evolution and the importance of putting eHealth technology research into a real life context. It further underlines how the facilitators identified in the SIMPHS research remain valid for studying integrated care beyond IPHS.

¹ Strategic Intelligence Monitor on Personal Health Systems (Phase 2).
<http://is.jrc.ec.europa.eu/pages/TFS/SIMPHS2.html>

1 Introduction and Background

Health and social care services in Europe face socio-economic challenges such as demographic changes, increased prevalence of chronic diseases, reduced mobility of patients, decreasing numbers of professionals and rising healthcare costs (Leichsenring, 2004). According to several reports (Protti, 2009) (Stroetmann, 2010) (Barlow, 2007) (Stroetmann, 2012), Integrated Personal Health Systems (IPHS) can alleviate these socio-economic challenges. However, their deployment and adoption has so far been slow and fragmented, as shown by May et al. (May, 2001) in the case of the United Kingdom.

It is in this context that the Strategic Intelligence Monitor on Personal Health Systems (SIMPHS)² multi-annual project was launched by the Institute for Prospective Technological Studies (IPTS) in cooperation with DG CONNECT/H2. It aimed to facilitate the understanding of the market and innovation dynamics of Integrated Personal Health and Social Care Services (IPHS), from both a supply and a demand-side perspective. IPHS refers to services that are used in practice in the provision of extramural care, rather than pre-competitive research projects denoted as Personal Health Systems (PHS).

In order to understand and analyse the deployment of IPHS in different settings, we carried out a study of different IPHS projects across 20 regions in eight European countries (Denmark, Estonia, France, Germany, Italy, the Netherlands, Spain, and the United Kingdom) gathering evidence in different environments and policy contexts. The objective was to identify what factors enhanced IPHS deployment. The eight country studies were published as independent case study reports, together with a short report summarising the main results on a clustering exercise (Villalba 2012).

An analysis of the success cases studied identified eight facilitators (key factors) for IPHS deployment and integration into the healthcare and social care systems (Villalba, 2013).

These facilitators are reorganisation of services; patient focus; governance mechanisms; interoperable information systems; policy commitment; committed professionals; national investment and funding programmes; and incentives and financing. Further details are presented in Table 1 below.

Table 1: Description of facilitators

Name	Description
Reorganisation of services	Cooperation between tiers of care, and health and social care organisations enabling the care continuum. Access to care continuum with multiple points of access.
Patient focus	Patient-centred philosophy, focusing on patients' needs. Patient engagement and participation. Patients' portals.
Governance mechanisms	Inter-professionals teams across the continuum of care. A legal framework for liability issues. Strong, focused, diverse governance represented by all stakeholders. Organisational structure that promotes coordination across settings and levels of care.
Interoperable information systems	Interoperable information systems to collect, track and report information and activities; and to enhance communication and information flow across the continuum of care.
Policy commitment	Organisational support with demonstration of commitments. Policy leaders may instil a cohesive culture enabling the care continuum.
Engaged professionals	Engage professionals in a leading role.
National investments and funding programs	Sufficient investments and funding to ensure adequate resources for sustainable change and up-front costs.
Incentives and financing	Service funding and incentives alignment to ensure equitable distribution for different services or levels of services. Funding mechanisms must promote inter-professional teamwork.

² More information at IPTS-JRC-EC, IS Unit web site: <http://is.jrc.ec.europa.eu/pages/TFS/SIMPHS2.html>

We found that reorganisation of services and governance mechanisms appeared in all cases that progressed beyond the pilot stage and may therefore be considered as necessary facilitators for successful deployment. In addition, policy commitment as well as incentives and financing appeared in most cases as a must for the introduction of integrated personal health and care services.

IPTS decided to test these findings by zooming in on a particular region and searching for evidence of the facilitators. Concretely, we decided to focus on Andalusia which is recognised internationally as one of the “Best eHealth regional case studies” for understanding and tracking eHealth developments in Europe (Empirica 2009, Protti 2007 & 2008).

In addition, we aimed to extend the analysis of facilitators to services that integrate health care and social care using Information and Communication Technologies (ICT) in general and not IPHS only. By doing so, we opened up the scope of research to integrated care. In other words, we wanted to understand whether the above facilitators are still important for achieving integrated care services in a broader sense.

Thus, the objectives of this report are to:

- Describe cases of integrated care in Andalusia, specifically those where ICT and IPHS enable the integration.
- Analyse these cases, searching for evidence of the eight facilitators described in Table 1.

Section 2 describes the methodology used to gather field information and generate the report. Section 3 illustrates the context of integrated healthcare systems in Spain through concrete examples of care integration. Section 4 is the main body of the report and presents the analysis of the integrated healthcare systems in Andalusia. Section 5 focuses on how to measure the integration and Section 6 presents a discussion of the analysis.

2 Methodology

The field work was undertaken by the Information Society Unit of IPTS in collaboration with a local agent (Dr. José Antonio Valverde), a physician with broad expertise in innovation in healthcare and emergency care.

In order to get the widest possible knowledge of all the key elements that may influence integrated care developments, this study focuses on: a) health information platforms; b) social care and telecare service provision; c) organisational measures taken at managerial (strategic) and deployment (operational) levels in the Andalusian Public Health System (SSPA)³ and d) emergency coordination and care. The aim is to obtain a more holistic understanding of the changes that take place concurrently (technological, organisational, etc.) and make the healthcare system evolve towards integrated care, the latter being the key strategic priority.

This research explores these different elements of analysis, firstly, by carrying out a non-systematic review of programmes at regional level and secondly by subsequently interviewing relevant stakeholders.

The preliminary desk research was done in two phases: the first in August 2012, and the second in November 2012. The main sources consulted included published scientific articles, congress communications, policy documents, institutional web sites and grey literature at regional level (mostly dissemination activities for professionals and the general population, abstracts from regional congresses and programme/project descriptions).

During the second phase, experts to be interviewed were selected, the main objective being:

- To complete the relational framework among institutions at regional level.
- To find out about programmes or initiatives related to integrated care that were not identified during the initial desk research.
- To obtain direct knowledge on data sources available for the study.

Eight experts were interviewed: two licensed emergency nurses, two representatives from the healthcare quality agency, two healthcare managers and two ICT managers. The written questionnaire used in the study is attached as Annex 1.

Later, the described cases were analysed to seek to evidence of the facilitators.

³ SSPA is the Spanish acronym for "Sistema Sanitario Público de Andalucía".

3 Overview of Integrated Healthcare Systems in Spain

In July 2012, Red.es⁴ published the updated data of the national programme “Sanidad en Línea” (eHealth). The study is based on the indicators reported in March 2011 by the Regional Health Departments in answer to a specific questionnaire (Red.es, 2012). This report is the third of a periodic series started in 2006, and it allows us to track the evolution of eHealth deployment in Spain. The study is of relevance for our research insofar as it allows us to illustrate the evolution of Electronic Health Records (EHR) in Spain as the basic infrastructure for deployment of eHealth applications in general and IPHS in particular (see Figure 1).

Figure 1: Deployment of EHR at primary care level in Spain, 2006-2011.

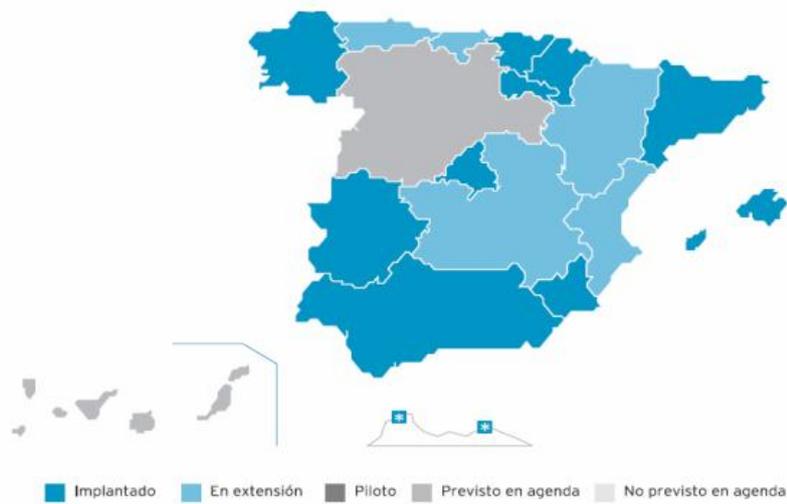


From left to right: situation in 2006, 2009 and 2011. Legend: Dark blue: deployed, light blue: deployment ongoing, dark grey: pilot, grey: already included in the agenda, light grey: not included in the agenda.

Source: Red.es 2012, based on data from the Regional Departments of the Spanish NHS.

While the deployment of EHR in Primary Care has achieved a remarkable level of success, it does not appear to have done so at hospital level (Figure 2). From the Red.es study, it is not clear if these two systems communicate both ways and to what extent interoperability issues have been tackled.

Figure 2: Deployment of EHR at specialised care level (Hospital) in Spain, 2011.



Legend: dark blue: deployed, light blue: deployment ongoing, dark grey: pilot, grey: already included in the agenda, light grey: not included in the agenda.

Source: Red.es 2012, with data from the Regional Departments of the Spanish NHS.

⁴ Red.es is the public corporate entity attached to the Ministry of Industry, Energy and Tourism (MINETUR) which is responsible for promoting the development of the Information Society in Spain.

An added complexity is the interoperability of EHR between regions. To cope with this difficulty, the Spanish NHS is developing another layer of EHR for integration of healthcare information at national level. The National Health System Electronic Health Records Projects (HCDSNS) started to implement a system of compatibility in 2006 to enable the interchange of EHR by Spain's healthcare centres so that a patient visiting different centres for treatment would not be subjected to unnecessary duplication of examinations and procedures.

The Spanish Department of Health, Social Services and Inclusion (MSSSI), which participates in the European epSOS Project,⁵ with funding from *Plan Avanza*,⁶ has developed an NHS Central Node as an advanced interoperability platform. Figure 3 shows deployment as of March 2012 with connectivity levels between the regions and the Central Node in Madrid.

Figure 3: Connectivity level of the National Health System Electronic Health Records Project (HCDSNS), March 2012.



Legend: First symbol: connectivity with epSOS finished, second symbol: connectivity with epSOS ongoing, third symbol: connectivity with epSOS pending.

Dark blue: Connectivity deployed to transfer and receive, blue: deployed to receive, dark grey: ongoing, grey: action by region pending, light grey: decision awaiting.

Source: Red.es 2012, with data from the Regional Departments of the Spanish NHS.

Also in July 2012, ONTSI⁷ published a complementary report on the opinions and expectations of Spanish citizens regarding the use and application of ICT to the healthcare domain (Hernando-Martin, 2012).⁸ The study is based on a telephone survey of 5,500 citizens carried out in July 2011. This survey includes very relevant information for the current study on IPHS, such as specific questions on PHS (pages 83-87), social computing applications for health (pages 76-82) and the perceived changes IST introduces in the patient-physician relationship (pages 88-94).

⁵ epSOS aims to design, build and evaluate a service infrastructure that demonstrates cross-border interoperability between electronic health record systems in Europe. <http://www.epsos.eu/>

⁶ Plan Avanza is the national plan for the development of the information society in Spain. The funding of projects is shared by the central government and the regions. <https://www.planavanza.es>.

⁷ ONTSI, the Spanish National Observatory for Telecommunications and the Information Society is a body attached to the public corporate entity Red.es, the main objective of which is the monitoring and analysis of the Telecommunications and Information Society sector.

⁸ See also the Slides Presentation (in Spanish) with the summary of the most relevant results of the study.

Although the description of PHS in the ONTSI study only covers some aspects of what we refer to as PHS,⁹ the survey investigated some interesting dimensions:

- Knowledge and use of PHS: Only 8.8% of the population know or have heard about PHS.

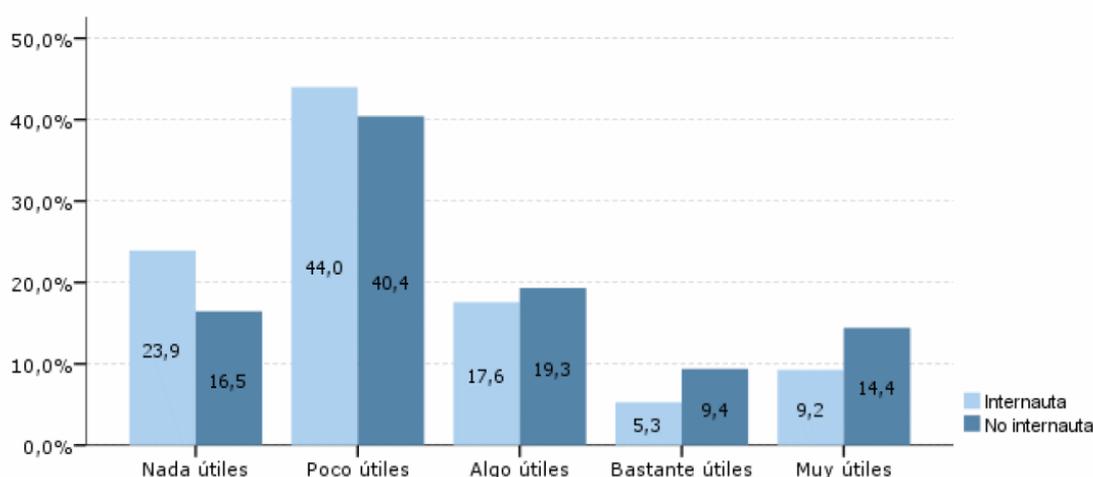
Table 2: Knowledge and use of PHS

ANSWERS	%
Yes, I know and use PHS	0.4
Yes, I know but do not use PHS	2.6
Yes, I have heard about PHS	5.8
No	89.1
No answer	2.1

Source: Authors' elaboration based on ONTSI, 2012 data.

- Assessment of the usefulness of PHS: Figure 4 shows (in Spanish) the assessment differentiating between Internet users (pale blue) and non- users (dark blue). Combined results show that 64.6% of citizens considered that a PHS, such as a virtual personal health register, had no added value.

Figure 4: Assessment of the usefulness of PHS, by Internet user profile



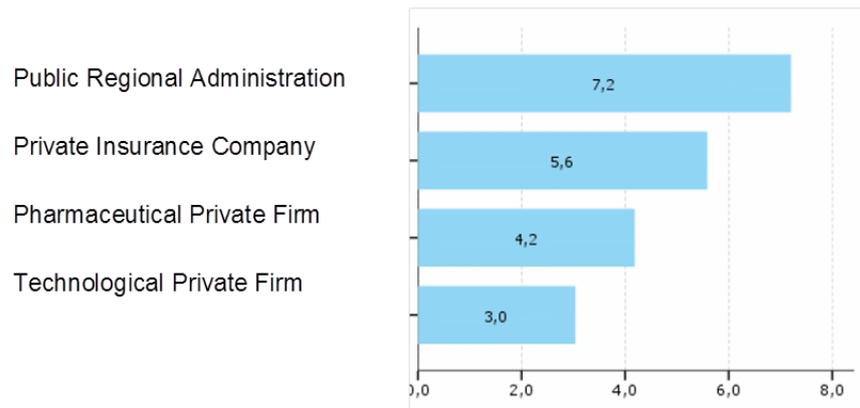
Legend: From left to right: No Use.- Little Use.- Some Use.- Quite Useful.- Very Useful. Dark blue: not internet user, light blue: internet user.

Source: ONTSI, 2012.

- Assessment of PHS reliability, depending on the management organisation in charge: Figure 5 shows average confidence in different types of providers. Citizen awareness of security and data protection issues may explain the preference for public regional administrations as managers of PHS.

⁹ The survey included a description of a PHS type Virtual Personal Health Register, e.g. Google Health.

Figure 5: Average confidence, depending on the provider on charge of managing PHS.



Source: Adapted from ONTSI, 2012.

Considering these developments in terms of facilitators, one can conclude that there is a clear policy commitment and national investments and funding programmes. Spain is developing interoperable information systems at regional and national level as the basis for integration. An open question is whether a reorganisation of services is already underway, without which the integration is unlikely to happen. Governance mechanisms are also crucial; there is a need to stabilise new structures promoting the integration. In this sense, specific legislation to allow integration was approved as early as 2003.

4 Andalusian Regional Healthcare System

The Andalusian Public Health System (SSPA) is a complex structure that includes policy, care and technical institutions, with the objective of providing healthcare to 8,424,102 Andalusian citizens.¹⁰ The annual health budget is approved by the Andalusian Regional Parliament. The political guidelines are set up by the Regional Department of Health and Social Welfare (Consejería de Salud y Bienestar Social).¹¹ Up until June 2012, health and social care were split into two different regional departments. The political decision to join both departments reflects real-life care conditions, in contrast to the previous artificial and bureaucratic separation. The updated structure of the SSPA is described in the official publication BOJA 115, 13/06/2012 Sevilla.¹²

Currently, the main strategic framework document for healthcare in Andalusia is the “Quality Plan of the Andalusian Public Health System 2010–2014” (Consejería de Salud, 2010). The eHealth regional strategy is described in three different projects, numbers 14, 15 & 16, of the Quality Plan: 14) Information Systems for Knowledge Management, 15) Digital Strategy and 16) Telemedicine. This last project, Telemedicine, describes the seven steps of the roadmap for integration of telehealthcare services in the SSPA. (See Annex 2 for further details). Furthermore, the Social Healthcare Strategy includes in its Actions the definition of an “Early Intervention Information System” to be included in the Digital Medical Record (DIRAYA).

The Andalusian Plan for Integral Care to Patients with Chronic Illnesses (PIEC) was published recently (Alguacil-Herrero, 2012).

The Andalusian Health Service (SAS)¹³ is the main regional healthcare provider. The total budget of the SAS was 8,835 M€ in 2011, 3.56% less than the previous year, and representing an average investment of 1,049 €/citizen. Human resources absorbed 51.23% of the total budget (4,369 M€), while pharmaceutical costs represented 24.33% (2,075 M€). Data on health indicators and services provided can be consulted online in the 2011 SAS annual report.¹⁴ The SAS is also the organisation mainly responsible for DIRAYA, *Receta XXI* and *InterS@S* production and deployment. DIRAYA is the Medical Record, *Receta XXI* is the ePrescription system, and *InterS@S* provides Internet access to appointments and contacts.

The following tables and figures show the current situation with eHealth developments. *Salud Responde* will be analysed later as a separate case study, as it is a transversal multichannel support platform providing services to the whole SSPA under the management of EPES.

¹⁰ Source: Instituto Nacional de Estadística (data at 01/01/2011).

¹¹ More information at the Health Portal of the Andalucía Department of Health and Social Welfare:

<http://www.juntadeandalucia.es/salud/sites/csalud/portal/index.jsp>.

¹² http://www.juntadeandalucia.es/eboja/2012/115/BOJA12-115-00014-10375-01_00008862.pdf (in Spanish).

¹³ SAS is the Spanish acronym for “Servicio Andaluz de Salud”. More information at:

<http://www.juntadeandalucia.es/servicioandaluzdesalud>

¹⁴ Available online at:

<http://www.juntadeandalucia.es/servicioandaluzdesalud/library/plantillas/externa.asp?pag=../publicaciones/datos/517/pdf/SASMEMO11-7completa.pdf>

Table 3: Population coverage of the different DIRAYA modules, 2004-2011

	Population	% Electronic Health Record (EHR)	% ePrescription "RECETA XXI"	% "Salud Responde" 24 hours citizens service	% Laboratory results module
2004	7,195,420	25.69	2.96	3.99	-
2005	7,393,555	66.30	11.59	12.35	-
2006	7,570,923	71.72	32.87	47.46	-
2007	7,751,219	90.52	86.40	89.58	1
2008	7,906,149	93.75	93.33	92.60	1
2009	7,979,271	94.83	94.61	94.02	1
2010	8,053,990	100	98.50	97.14	24
2011	8,088,118	100	99.71	98.19	49.10

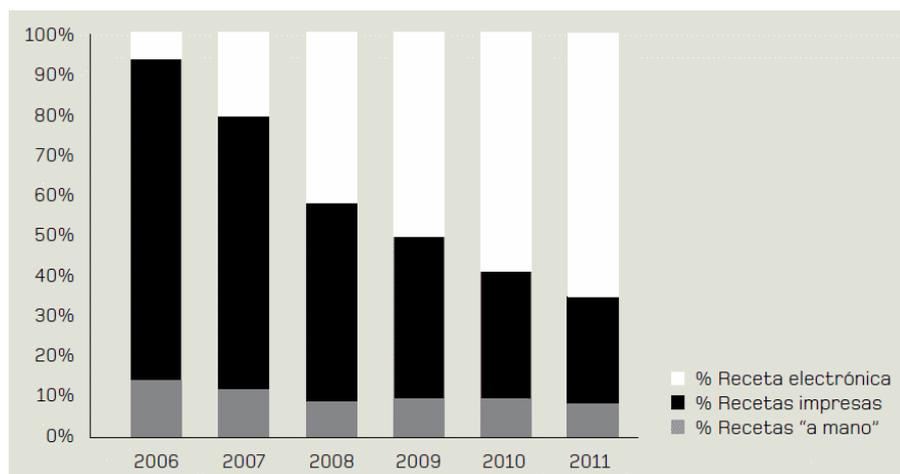
In 2011, almost 100 million clinical appointments of all types were managed through *DIRAYA* (Table 4).

Table 4: Medical appointments managed through DIRAYA, 2006-2011

Type of appointment	2006	2007	2008	2009	2010	2011
Physician Primary Care	33,735,712	49,431,703	53,339,307	57,414,079	55,121,991	55,057,252
Other Primary Care	12,256,279	20,020,416	24,614,219	27,040,925	28,127,523	29,755,684
Hospital	5,702,936	7,673,736	9,497,525	10,948,040	11,948,560	13,219,834

Source: Taken and translated from 2011 SAS Memory.

Figure 6: Pharmaceutical receipts, 2006-2011



Legend: Receta XXI (white), printed from DIRAYA (black) and hand written (grey).

Source: 2011 SAS Annual report.

There are five independent institutions integrating the SSPA. They contribute either to healthcare delivery or to general issues related to managerial and research support.

- Public Body for Emergency Care (Empresa Pública de Emergencias Sanitarias – EPES 061).¹⁵
- Public Agency Costa del Sol (Agencia Pública Empresarial Sanitaria Costa del Sol).¹⁶
- Agency for Social Care and Dependency of Andalusia (Agencia de Servicios Sociales y Dependencia de Andalucía -ASSDA).¹⁷
- Andalusian Health Technology Assessment Agency (Agencia de Evaluación de Tecnologías Sanitarias de Andalucía – AETSA).¹⁸
- Andalusian Public Health School (Escuela Andaluza de Salud Pública -EASP).¹⁹

4.1 Healthcare processes

The healthcare access and delivery processes in the SSPA are presented briefly to help understand and identify the impact of the cases described in this section and also to clarify the context for these cases. The example of an elderly diabetic patient will be used to illustrate the case of a long-term chronic condition, often associated with disabilities. The different options for access to the healthcare system and the types of care delivery are described in the following sections which depict two types of healthcare provision:

- Programmed healthcare, which comprises follow-ups and reviews.
- Emergency healthcare.

4.1.1 Programmed healthcare

Programmed healthcare refers to the appointments to follow up on patients. These patients are usually monitored by Primary Care (PC) physicians through periodical reviews following regional guidelines,²⁰ e.g. insulin treatment adjustment. If the patient is not able to move by him/herself,

¹⁵ <http://www.epes.es/cocoon/index.html?language=en>

¹⁶ <http://www.juntadeandalucia.es/haciendayadministracionpublica/clara/gaaDetalleFuncion.html?idFuncion=1-45-50&nombre=Agencia+P%FAblica+Empresarial+Sanitaria+Costa+del+Sol>

¹⁷ <http://www.juntadeandalucia.es/agenciadeserviciosocialesydependencia/>

¹⁸ <http://www.juntadeandalucia.es/salud/servicios/aetsa/>

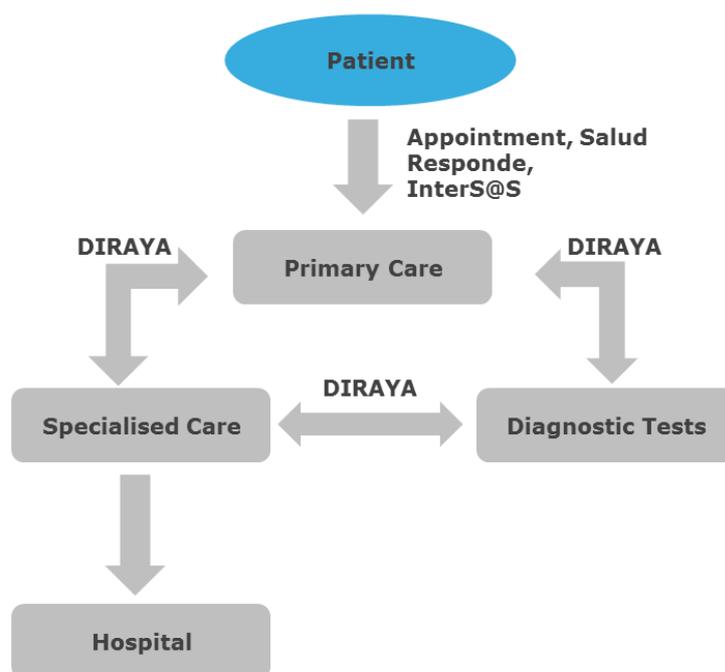
¹⁹ <http://www.easp.es/>

²⁰ Evidence-based clinical guidelines, called “Procesos Asistenciales”.

medical transport is arranged or the PC Physician/Nurse visits the patient at home. The appointments could be arranged either by calling the PC Centre or the Salud Responde 24 hours service. Internet (InterS@S) access is more and more frequently used, either from home or from electronic kiosks at PC Centres (still in deployment). In addition, mobile applications have been developed to access InterS@S, like the non-official App “Cita Previa InterSAS” available on the Android and IOS markets.

At the PC consultation, any treatment needed is directly registered in DIRAYA. When the patient goes to the pharmacy, the clerk provides the prescribed drugs with no need for written receipts.

Figure 7: Programmed healthcare in SSPA



Source: Authors' elaboration.

Whenever a Medical Specialist is needed, the PC Physician arranges an inter-consultation through DIRAYA, either at hospital level, i.e. review of retina damage by Retinography, or at external specialised consultation centres, for example for the review of vascular complications. These specialist consultation centres and the professionals working there are attached to a hospital.

From the latest DIRAYA data sets, it seems that almost 50% of healthcare centres are equipped with the module enabling interchange of diagnostic results.

4.1.2 Emergency healthcare

In the case of an acute health disorder, the patient may decide to go by his/her own means to the following healthcare facilities:

- Primary Care Centre: either during normal consultation times or for an emergency consultation (A&E services, not available at all times).
- Hospital accident and emergency (A&E) services.

Depending on the level of emergency care perceived by the patient, his or her family or carer (subjective), the citizen contacting emergency care may also opt to access the SSPA by different telecommunication paths. From the highest to the lowest level of emergency perception, these are:

- 112 or 061 phone numbers for life-threatening conditions, e.g. coma.

- Emergency phone number for acute conditions, also received directly at 061 but through a different specific line, e.g. hypertension found by a routine home test.
- *Salud Responde* service for general consultations, information queries or low level acute cases (health counselling), e.g. malfunctioning of home testing device for glucose levels (glucometer).
- SAT, the Andalusian Telecare System (when available) is being used for any condition.

In Andalusia, all health emergency calls are channelled to and managed at 061 Health Emergency Coordination Centres (HECC). The types of call resolution are summarised below:

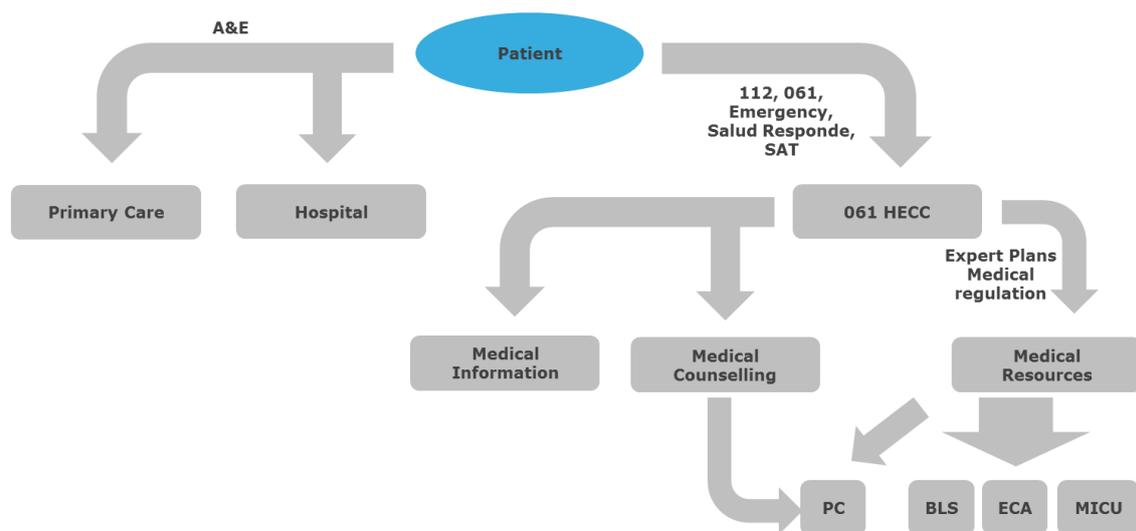
- Medical information, e.g. secondary effects of drugs.
- Medical counselling and referral to PC Physician or Nurse, e.g. treatment adjustment.
- Mobilisation of healthcare resources:
 - Basic Life Support (BLS) Ambulance: two health transport technicians.
 - Advance Coordination Team (ECA): nurse and health transport technician.
 - Primary Care Nurse in a BLS Ambulance.
 - Primary Care Physician in a BLS Ambulance.
 - Advance Life Support (ALS) Ambulance, either an 061 Mobile Intensive Care Unit (MICU), or SAS MICU: emergency physician, nurse and health transport technician.
 - 061 medicalised helicopter: pilot, mechanic, emergency physician and nurse.

Resolution of emergency situations may happen in different ways:

- On site.
- Transport by patient's own means to healthcare facility.
- Transport by BLS ambulance either to PC Centre or Hospital.
- Medical transportation by ALS ambulance (MICU) to the most adequate reference hospital.
- Helicopter MICUs transport when the patient's condition and distance are critical.

Transport of critical patients from one hospital to another for diagnostic tests or specialised treatment is done by specifically dedicated MICUs, also coordinated by 061 HECC.

Figure 8: Emergency healthcare in SSPA



Source: authors' elaboration

Considering these developments in terms of facilitators, one can say that there is a clear policy commitment and regional investments and funding programmes. The integration of programmed

healthcare is high at primary care level and improving at specialised care level. Still, there is a need to integrate with emergency healthcare.

The following sections describe specific examples of integration at regional level. Each example is analysed in terms of facilitators encountered.

4.2 Integrated emergency care

4.2.1 Integration of call centres

A health emergency alert may arrive through various channels to different coordination centres: 112, 061, *Sistema Andaluz de Teleasistencia* (SAT) or *Salud Responde*. In all cases, except for 061, once the situation is confirmed as health emergency, the call is transferred to the 061 Health Emergency Coordination Centre. In the last few years, starting with 112, the Andalusian emergency system has implemented innovative technology providing integration with the information systems of all coordination centres mentioned above.

Prior to that, generalist call centres had to call 061 and transfer the alerting call. This led to delays in managing the case and subsequent actions kept tele-operators busy on both coordination centres. Nowadays, however, voice and text information collected are transferred immediately saving precious responding time. Actions taken in connection with the case are automatically fed back to the originating centre until the case is closed, saving tele-operators' time.

This integration brings further advantages to the management of health emergencies on the medical care side:

- Since 2004, communication is two-way with the 112 Coordination Centre, so whenever a health emergency team needs support from other actors, they can use the short messaging function that is part of the system. This enables 061 operators to ask for intervention from the police, fire brigades, civil protection, etc. while they are simultaneously in phone contact with the health emergency team on site (without interrupting voice communication).
- The integration with SAT includes a summary of clinical diagnostics, current treatments, social situation of the patient (and the informal carer) and level of disability. These data provide a clearer picture of the case and allow a more precise decision to be made about the health resource to be allocated. (European Project "CommonWell", 2008-2012).²¹
- The *Salud Responde* integrated solution incorporates an automatic request function for the tracking of fragile patients at home (ageing persons, chronic patients, disabled persons). Whenever an emergency team detects a problem with these patients, a request is automatically sent to *Salud Responde* through the 061 system, thus allowing patients to benefit from public proactive services²² with no extra cost for them. (European Project "Independent", 2010-2012).²³

The project *Centros en Red* (Networked Centres) is an interesting technological and organisational initiative currently being developed by EPES-061. In Andalusia, there is one 061 - Health Emergency Coordination Centre per province, i.e. 8 in total, but the workload varies greatly from province to province, depending on the day of the week and even during the same day. Centres in peripheral provinces (like Huelva, Jaén, Almería) have human resources available at certain times of the day who can be used to support the activity of overloaded Centres (i.e. Sevilla, Málaga, Cádiz).

Analysing these developments in terms of facilitators, there is a clear patient focus with reorganisation of services and governance mechanisms at play. Besides, the interoperable information systems in place allow these centres to cooperate closely, thus allowing for efficient management of resources.

²¹ More information at: <http://www.commonwell.eu/commonwell-home/>

²² Services like alerting people and counselling them in cases of extreme temperatures (heat wave).

²³ More information at: <http://independent-project.eu/home/>

4.2.2 Electronic Health Record in Mobility: Programme HCDM

The HCDM²⁴ programme is an internal development of EPES-061, with INDRA as technological partner, which has been funded by European Regional Development Funds (ERDF) with a total of €1,522,946.²⁵ The project started in 2007 and by the end of 2011 the pilot phase was completed. During this assessment phase, 2,437 cases were recorded. The pilot included training 260 emergency physicians and 221 emergency nurses from all over the region. In the first half of 2012, the HCDM was deployed across the whole of Andalusia and is now operational in 66 Mobile Intensive Care Units (MICU) of the 061 and SAS services.

The system is now composed of a tablet-pc, printer, wifi router and GPRS modem. The data on an emergency case obtained at the Health Emergency Coordination Centre (HECC) is sent to the tablet before the MICU arrives at the emergency location. Introducing the identification number of the patient (either National Identity Card Number or National/Regional Insurance Number) allows the physician to retrieve from the User Database and DIRAYA information on clinical history, allergies and current treatment. Emergency incidents, once closed, are discharged to the HECC and later to the patient's personal electronic health record in DIRAYA. A paper report is printed at the MICU, when needed, to provide information to the patient, the family or the physician at the healthcare facility of discharge.

Emergency physicians and nurses access the same tablet with different profiles and passwords. Every new note or change in the electronic health record is registered with time stamp and individual identification.

In the near future, the system will be extended to mobile units in charge of inter-hospital transport of critical patients and further to all the MICUs of the Andalusian Health Service (SAS). From a technology perspective, the system is being further developed in order to retrieve bio-signals through wireless connections (heart rate, blood pressure, oxygen saturation, 12-leads ECG).

Analysing these developments in terms of facilitators, one finds a clear patient focus and committed professionals. However, full interoperability with DIRAYA has yet to be implemented.

4.3 Multichannel healthcare support platform: Salud Responde Service

Building upon the long operational experience of EPES-061 with health emergency coordination centres, the Andalusian Department of Health (now including Social Welfare) decided in 2002 to organise a multichannel access platform to the SSPA. Literally, Salud Responde in Spanish does not only mean "Health Answers" but also "Health Reacts".

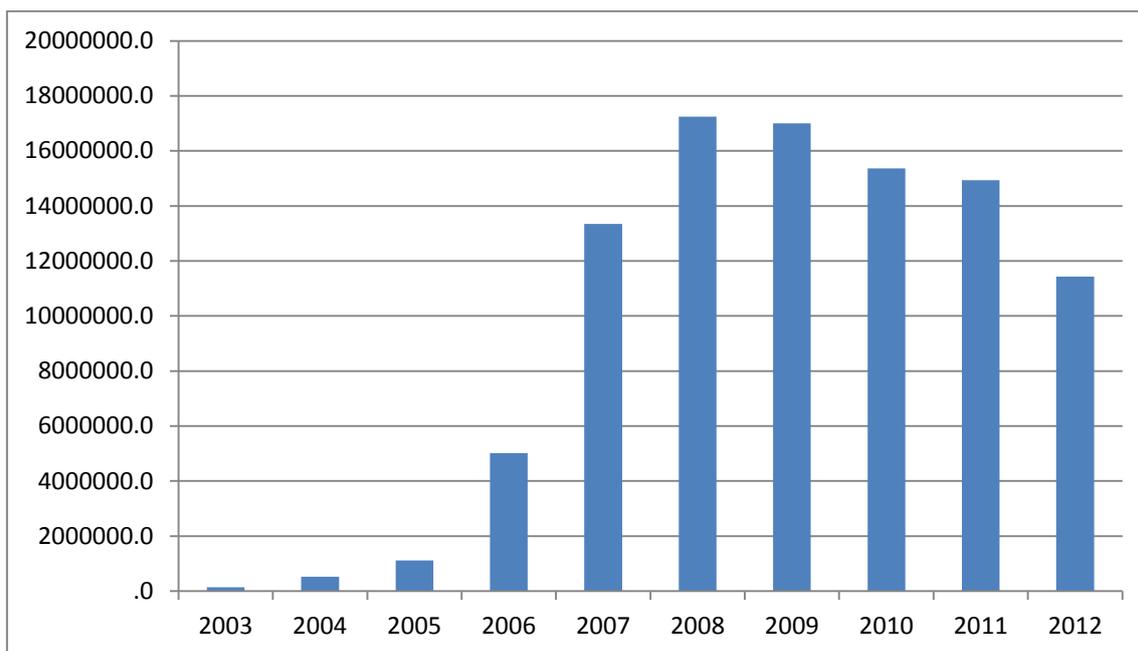
From the early phases of the project, Salud Responde was designed as a scalable 24h/365d multiservice and multichannel platform. Technically, the primary call centre is localised in Jaén, but there are six external platforms to distribute the service in order to minimise risks. As added security there is a parallel backup centre in Granada. As of today, Salud Responde offers more than 20 different services. Some of them are briefly described in the following paragraphs. A comprehensive list of services is included in Annex 3.

The first service to be implemented was a phone service, which allows patients to arrange an appointment with the Primary Care Services: general practitioner, vaccinations, paediatrician, etc. This service started on August 2003 and the activity can be tracked from 2003 to October 2012 (Figure 9). Up until now, 96,110,321 appointments have been arranged through this service. Each appointment takes an average of 45 seconds to be completed by phone. Citizen satisfaction with this service was 9.45 out of 10 at the beginning of 2012.

²⁴ HCDM is the acronym in Spanish of "*Historia Clínica Digital en Movilidad*".

²⁵ The project funded by the ERDF covers the period 2007-2013.

Figure 9: Primary care appointment service. Number of appointments from 2003-2012



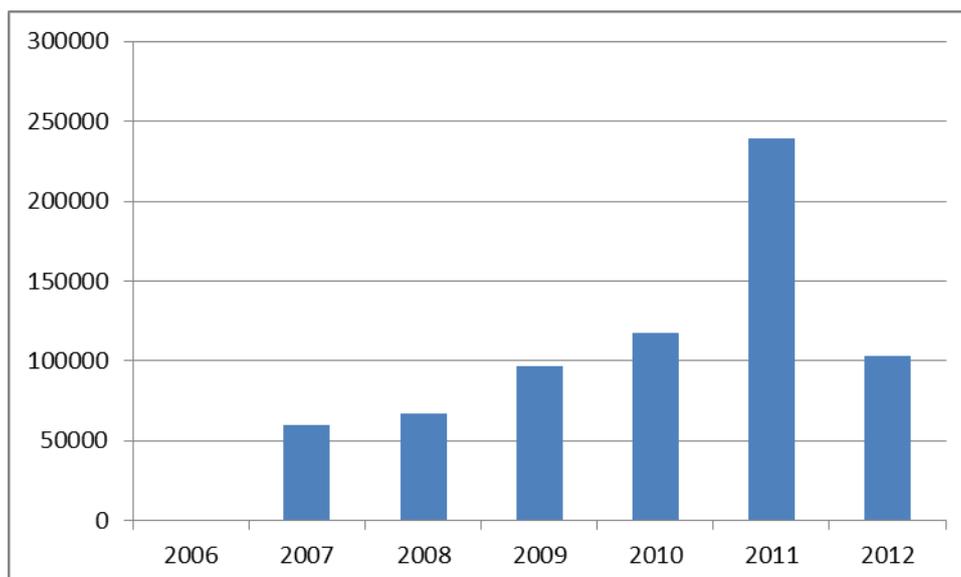
Source: Salud Responde Service, November 2012.

In October 2011, Digital Kiosks at primary care centres started to be deployed to give access to the appointment service. Secure access for citizens is granted through the electronic national identity card or the electronic regional health card.

The **Appointments Service with Specialised Care** was implemented in 2006. By October 2012, 411,519 appointments had been managed through this service, which includes general information, external specialist consultations and diagnostic tests. Since February 2012, this service is being piloted in three prison centres of Andalusia (Málaga, Jaén y Córdoba) with 1,983 appointments already managed.

Salud 24 Horas Service (Health 24 Hours) is another service providing health information, accessing the electronic health record DIRAYA and providing personalised health counselling by nurses and through **Receta XXI**, the prescription of treatments. The service aims to avoid unnecessary appointments at healthcare facilities. From November 2006 to October 2012, 557,157 consultations were dealt with (Figure 10). Drug-related questions are the most frequent. The increased numbers of consultations in 2011 may be related to the flu H1N1 epidemic.

Figure 10: Consultations to "Salud 24 Horas" Service, Nov. 2006 - Oct. 2012



Source: Salud Responde service, November 2012.

The **Simultaneous Translation Service** started operating at the end of 2009. This pioneering (at least in Spain) service offers 24h/365d translation into 46 different languages. It consists of a three-point teleconference in which a healthcare professional, a citizen and a translator participate. The aim is to reduce access barriers for immigrants and tourists. All healthcare emergency services and clinical consultations may access this service, either by fixed or mobile phone lines.

In terms of facilitators, this is a nice example of patient focus.

4.4 Integrated healthcare support programmes

In this chapter, other programmes not directly related to health access or delivery are analysed. Also cases that illustrate a policy strategic decision and represent a major reorganisation of services are included.

Quite a few other interesting programmes have been identified that could have provided interesting case studies for the project. Time and space limitations have led us to select the more representative ones or those with the most up-to-date information available at the time of writing this report. Nevertheless, the programmes likely to be included in future studies are:

- Andalusian Healthcare Processes Management Quality Plan and the development of Integral Plans for Specific Conditions, including for chronically ill patients (i.e. PIEC: Integral Plan for chronic conditions).
- EPES technological developments on Health Emergency Coordination Systems for HECC, including new access developments for citizens with specific disabilities.
- ACSA Accreditation programmes for Healthcare Centres and Professionals, also for health internet web sites.
- ACSA Recommendations for Health Mobile Applications (Apps) developers.
- ACSA Observatory for Patients' Security (Best Cases Web Portal).

4.4.1 GPDI programme: management of individualised development plans

A key web application of the Observatory for Quality on Health Training²⁶ of the Andalusian Agency for Health Quality (ACSA) is the GPDI - *Gestión de Planes de Desarrollo Individual*. Conceived in 2010 as a support tool (online software) for managing training plans within the Agency, the tool proved to be extremely useful for self-evaluation and the identification of lacking skills (competence gaps).

In the framework of the Integral Model for Competences Management of the regional health department, each Clinical Management Unit (CMU) defined the specific skills required for its professionals. As a result, more than 1,200 CMUs in 53 healthcare facilities of the Andalusian Health Service (SAS), with the participation of more than 50,000 professionals (both clinical and support staff) have defined the competences/skills needed in their posts.

The process started by defining the Competence Type Diagram of the different Units. In the next step, practical skills were identified and classified into four levels, from essential (lowest) to excellence (highest). These skills were linked to specific objectives of CMU contract agreements, in order to facilitate impact assessments for the indicators already in place. The process was completed in all the centres of the SAS from April to November 2010. In those six months, the process defined 6,880 work posts, 104 categories or specialities and 60,000 different requisites, with more than 500,000 shared registries. As a result, more than 50,000 professionals either did self-evaluation on-line or had individualised development training plans (GPDIs). (ACSA, 2012).

Table 5: Data on processes incorporated to the GPDI model

GPDI phase	AGS	HOSPITAL CARE	PRIMARY CARE	EASP	TOTAL
Pending assignation	2,821	24,556	5,927	179	33,483
Self-evaluation	1,713	7,385	3,583	-	12,681
In evaluation	1,102	6,417	2,489	-	10,008
In clarification	54	408	220	-	682
Competence Profile + Plan Ind. Development	4,152	11,684	7,297	-	23,133
TOTAL	9,842	50,450	19,516	179	79,987

AGS: Health Management Area. EASP: Andalucía School of Public Health.

Source: ACSA. *Informe de Actividad – 2º Trimestre 2012*.

An important characteristic of the process is its complete transparency. At the end, managers have three different overviews of the Clinical Unit: 1) the Type Map of the Unit with the relative position of all the staff, 2) an average profile of all the staff competences, and finally 3) an individualised training plan for each person in the staff with the prioritised competences to be trained. As an added value, the application also identifies general key training activities, and the staff that require them.

Although the application objective was to identify training needs based on specific activities of the CMUs, many other beneficial uses have been found (and are still being added):

- Facilitation of the individual accreditation processes.
- Training assessment, from initial personal expectations to final achievements.

²⁶ Web portal of the Observatory (Observatorio para la Calidad de la Formación en Salud): <http://www.juntadeandalucia.es/agenciadecalidadsanitaria/formacionsalud/gestor/es/inicio/index.html> (last accessed 04/12/2012)

- Identification of skills for new staff which allows a better adjustment to available positions more in line with actual skills.
- Supporting specific enabling processes.
- Detection of highly trained professionals for specific skills, who become tutors for those competences.
- Establishing training pathways for horizontal skills, like management, research or patient security.

The programme is being evaluated on the basis of a cost-saving analysis. Although the assessment has not been completed yet, early results suggest that there is a drastic reduction in economic terms, mostly through savings by skipping the training courses no longer needed.

The GPDJ programme is also being implemented by FAISEM (Mental Health Care Foundation of the Andalusian Department of Health and Social Welfare) at regional level and by the Health Department of Chile. International impact is growing fast, and at least three other countries are already interested in implementing it at national level.

In terms of facilitators, this is a nice example of new governance mechanisms, and can be especially helpful in improving human resources management and identifying new roles.

4.4.2 Nurse-led case management

Case Management is one of the most widespread international initiatives to address home care services. Case Management is a collaborative process of assessment, planning, facilitation and advocacy for options and services to meet an individual's and family's comprehensive health needs through communication and available resources to promote quality, cost-effective outcomes (CMSA).²⁷

In 2002, within the framework of the Andalusian Families Support Plan, the Andalusian Health Service (SAS) deployed the first batch of Case Management Nurses of Primary Care. The following year, in 2003, hospital-based nurses were also added to the programme. The SAS annual report of 2004 reported that 46,676 assessments had already been done by Case Management Nurses (CMN) after 2 years of activity. In 2008, there were 309 Primary Care Nurses and 65 Hospital Nurses enrolled. Only in that year, 97,496 patients (36% of total targeted home care population) and 60,719 caregivers were assessed by primary care CMNs. Also, 1,607 training workshops for caregivers were organized, with 12,779 attendees.

The functions of a Case Management Nurse for Primary Care are:

- To carry out home care visits to comprehensively assess patients and detect their needs upon request from other team members.
- To establish co-ordination mechanisms with other institutions and professionals (including at hospital level).
- To arrange technical assistance at home.
- To carry out specific activities with caregivers (i.e.: group workshops for emotional and care-giving support).
- To take part in committees for on-going assistance.
- To provide telecare through proactive telephone follow-up.

A clinical evaluation study carried out in Andalusian primary care centres (Morales-Asencio, 2008) concluded *"A home care service model that includes nurse-led case management streamlines access to healthcare services and resources, while impacting positively on patients' functional ability and caregiver burden, with increased levels of satisfaction"*. The research was a quasi-experimental, controlled, non-randomised, multi-centre study on the population receiving home

²⁷ Case Management Society of America. <http://www.cmsa.org>

care services which compared the outcomes of the new model of nurse-led case management with the conventional one.

Results showed significant changes in the pattern of social and health care at the centres applying Case Management:

- More physiotherapy and social worker interventions.
- More telephone consultations with the case manager community nurse.
- A drop in the number of home visits and consultations at the healthcare centre.
- A lower number of caregiver visits to the healthcare centre.

Other relevant results, especially for those working on how to measure the impact of Integrated Healthcare, are:

- Satisfaction was significantly higher in the patients receiving care under the new model than patients in the control group.
- No effect on frequency of Accident & Emergency (A&E) visits or hospital admissions.
- No effect on institutionalisation was identified in this study (this could be explained by cultural tradition in Andalusia of family home care).
- No differences were found between both groups in terms of the impact of the intervention on patient survival (the effect of home care services on mortality tends to be significant only in young subjects).

The analysis of this health policy was taken to the Health Policy Monitor of the European Observatory on Health Systems and Policies, WHO-Europe (Contel-Segura, 2008). It includes the analysis of policy dimensions, like the impact of the policy, stakeholders' positions and influences in policy making and legislation.

As regards the current situation of the initiative, and in the absence of official data, the experts consulted thought that the number of nurses enrolled is more or less the same as in the 2008 data, as no new staff have been hired during the current economic crisis. Very little technology is in place, apart from mobile phones used by Case Management Nurses. There is a specific module in **DIRAYA** hospital record, but it is still under deployment. There is no specific module in **DIRAYA** primary care. In EPES, emergency nurses identify eligible patients for the programme (fragile patients) and communicate this to the HECC and **Salud Responde**. This is done systematically in provinces like Cádiz and Jaén, but not beyond.

In terms of facilitators, this is a nice example of reorganisation of services and patient focus. This also represents a case of coordination between healthcare and social care and the introduction of a new role for nurses.

5 Measuring Integration through Information Society Development in Health and Social Care

The Andalusian Public Health System has a long-established experience with assessing ICT for Health at different phases: development, implementation and deployment, through specific project score cards. DIRAYA, “Receta XXI”, EVISAN, “*Mundo de Estrellas*” and the technological programmes described in the previous chapters are good examples.

Different agencies / institutions of the SSPA have a wide experience of carrying out ICT for health assessments at regional level:

- AETSA developed, in collaboration with the SAS (2001-2004), a Balanced Score Card (BSC) and an Information Systems Plan to be applied to the whole SSPA. The BSC is currently in place in the regional health department.
- EPES designs specific score cards for each new technological project, including the implementation and deployment phases of successful initiatives. EPES health emergency coordination and dispatch system (SIEPES) includes modules for data mining, and produces monthly reports on the indicators agreed within the annual contract-programme.
- ACSA follows a similar scheme of internal score cards for projects, but with a much stronger focus on the quality aspects.
- EASP, as a research centre on public health, evaluates health policy implementation in collaboration with the institutions in charge, like in the case of Nurse-led Case Management.

The experts interviewed during this study have proposed different indicators to measure the level of integration of care implemented by the System (SSPA), or the institution. These indicators are:

- “Integrated” patients (i.e. patients in an integrated care setting).
- Ratio integrated patients / patients in the institution.
- Hospital readmissions.
- Ratio readmissions for a certain population / patients in care programmes.
- Synthetic Indicator “Index of the carry-out of Contract-Programmes”.

In addition, when the experts were asked about the elements that should be measured, two suggestions were made:

- Clinical practice.
- Technology.

A suitable approach for the development of specific indicators that measure the development of integrated healthcare in relation with technological developments may be to gather clinical professionals, experts on indicators for the healthcare system and IST experts in a dedicated working group. This group, when granted access to the public system databases, and once agreement has been reached with the relevant institutions, should be able to propose indicators that could be tested on the existing registries.

6 Discussion

Integrated Healthcare should be regarded as a complex ecosystem of organisations, policies, relations/dependencies, professionals, and technologies and, most important, centred on the individual patient. The vision is about a holistic approach to the individual, where the person within his/her environment, with his/her capabilities, relations and also illness/es²⁸ is regarded as a whole and not just as a failing organ. Flexibility is the key characteristic that enables: 1) adaptation to the specific needs, limitations or disabilities of the patient, 2) integration of solutions, both organisational and technological, 3) modification of professional profiles and capacities, even the emergence of new roles like Case Managers or Health Teleoperators, etc. In summary, the goal is to put all the available resources of the Healthcare System at the service of the person, and not at the service of the organisation or the professionals, as still happens all too often today.

In this context, the stand-alone studies of eHealth technology, disconnected from the elements that constitute Integrated Healthcare, produce incomplete results, that depart from real-life conditions, and are regarded as irrelevant by clinical and health management professionals.

The current report aims to deliver insights into different developments of integrated care facilitated by ICT in Andalusia, by looking at these developments from a facilitator perspective. Space and time limitations did not allow for an exhaustive study, but this could be the objective of further research. Andalusia offers an almost unique opportunity for this kind of research (with the exception perhaps of the Danish Case) for several reasons:

1. Though the reorganisation of services in Andalusia towards the development of integrated care facilitated by ICT is still underway, it has been and continues to be a key strategic focus on the political agenda.
2. Policy commitment to eHealth developments is evidenced by the long-lasting support to complicated projects like DIRAYA.
3. Governance mechanisms to facilitate eHealth deployment have been put in place, and have been programmed for the future.
4. Incentives and financing, both to professionals (accreditation, continuous education and training) and to organisations in the Andalusian Public Health System (SSPA) are in place to develop programmes covering the whole region.
5. National investments and funding programmes (ERDF, Plan Avanza I & II) have been implemented, as illustrated by several case studies described in this report.
6. There are interoperable information systems, as depicted by Call Centres or in the deployment of DIRAYA modules.
7. Patient focus has been the central strategy of the Andalusian Healthcare Quality Plan since 2000.
8. Committed professionals are key to understanding eHealth developments in the region.

Thus, facilitators for deployment of IPHS (Villalba, 2013) remain valid when IPHS are extended to Integrated Care. In the case of Andalusia, there is a strong commitment to patient focus, which is considered to be the central strategy.

The study encountered the following barriers to achieving its original objectives:

1. Some public institutions did not allow their experts to provide written contributions. This limitation was overcome by inviting, when possible, more than one expert in the same field (redundancy).
2. The sources were mostly available in Spanish only, and sometimes the authors had to provide a direct translation as no reference was found in English.
3. PHS and IPHS are still unknown concepts to most of the experts. The questions on PHS and IPHS were therefore adapted to obtain this information in an indirect fashion.

²⁸ In line with the WHO Determinants of Health frame.

Further research lines of study on PHS and IPHS in Spain may include:

- A more in-depth study of the original data from the ONTSI surveys on citizen perception of PHS, which could provide a better understanding of the current and future market for PHS.
- An impact assessment of case management strategies addressing home care for the elderly and chronically ill. This could help identify the most beneficial (and also the least productive) fields of impact assessment for the introduction of PHS.
- A retrospective study of the introduction of Clinical Management Units, together with a prospective study on their organisational and clinical impact, could illustrate fields for possible implementation of IPHS.

In conclusion, applying the facilitator approach beyond the field of IPHS has proven feasible. Though the developments in integrated care in Andalusia, as illustrated by the cases presented in this report, have no PHS components, similar facilitators to those that promote IPHS have been at work in each of the cases. They contributed in one way or another to the success of the initiatives. This finding is important for the definition of guidelines or best practice for implementing integrated care as a whole, as the facilitator approach provides a suitable framework for analysing experiences with integrated care in other regions and enriching the work carried out in SIMPHS so far.

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ANNEX 1: QUESTIONNAIRE

1. The first group of questions deals with the expertise and role of the interviewed:
 - a. For which institution do you work?
 - b. What is your position and role within your institution?
 - c. What is your relationship with the technology during your daily activities? Please specify briefly which information systems you are using.
2. Do you interchange data, electronically and systematically with other elements of the SSPA, or social care, or other public institutions?
 - a. Which kind of data (administrative, clinical, cost related), frequency, etc.
3. Describe briefly the normal circuit of a patient or health demand in your institution, with special focus on the changes introduced by integration of care either organisational or technological.
 - a. In the case of patients being attended at private hospitals concerted with the SSPA, how is the integration being done?
 - b. Is there any change in the pathway or information circuit for those patients?
4. When considering the current level of Integration of Care, which changes took place to achieve the integration?
 - a. Organisational changes (services, new roles, training).
 - b. Governance changes (regulation, legislation).
 - c. Funding & Financing changes (funding mechanics, incentives, financing schemes).
5. Describe the level of integration of care that citizens and health professionals demand from the health system as desirable.
 - a. Which tools will be needed to implement the level of Integration of Care demanded by patients and professionals?
 - b. Which information society technologies (IST) could be useful?
6. From your point of view and through your own expertise, which are the key elements for Integrated Care at strategic and operational levels in Andalusia?
 - a. At SSPA level?
 - b. At your institution/area level?
7. Is your institution using any kind of indicators to measure its performance?
 - a. If positive, at which level are being used?
 - b. Do you know of any indicator measuring the level of Integration of Care being implemented by the System, the hospital or the Clinical Unit? Either direct or indirect?
 - c. Which items should be considered to measure the level of integration?

ANNEX 2: E-HEALTH-RELATED STRATEGIC PROJECTS AND ACTIONS 2010-2014

Information Systems in Knowledge Management project:

ACTIONS:
1. Effectively implement an integrated information system for decision-making in the different areas and levels of the organisation.
2. Ensure that information regarding outcomes is generated systematically and comprehensively, thereby promoting permanent evaluation of health interventions.
3. Promote the generation of information in all areas of healthcare to orient and prioritise actions in relation to patient safety.
4. Incorporate indicators based on good practices that can be easily adapted to the best, currently available evidence.
5. Establish flexible information channels adapted to facilitate the sharing of service portfolio outcomes, thereby enhancing the transparency of the Andalusian Public Health System.
6. Encourage centres to manage and share the knowledge generated in clinical commissions as a vehicle for professional participation.
7. Coordinate the banks of good-practices to promote professional and citizen access to all the knowledge generated within the system (idea banks, answers to clinical questions, etc.).
8. Develop the institutional repository of the Andalusian Public Health System Virtual Library.

Digital Strategy project:

ACTIONS:
1. Re-analyse the digital strategy and formulate a new stage in its development.
2. Redefine the systems integration model, applications and inter-operability.
3. Incorporate decision-making help tools into the system.
4. Extensively integrate the care pathway-based management model and the principal elements for patient safety into the digital strategy.
5. Design tools and procedures for obtaining clinical indicators and health outcomes based on the Digital Medical Record and facilitate retrospective and trend studies.

Telemedicine project:

ACTIONS:
1. Develop a telemedicine framework strategy in the Andalusian Public Health System.
2. Establish criteria for adaptability, viability and effectiveness.
3. Incorporate the telemedicine tools and activities into the services portfolio of the Andalusian Public Health System.
4. Establish priority criteria and implementation schedules.
5. Develop a common, integrated telemedicine platform.
6. Integrate telemedicine actions into the Digital Medical Record.
7. Legally regulate the quality, security and protection of data in telemedicine activities.

ANNEX 3: SERVICES PROVIDED BY SALUD RESPONDE, 2011

SERVICES	NO. REQUESTS 2011
Prior appointment	14,934,625
Inters@as (prior appointment over the internet)	10,484,090
Hospital appointment	170,966
Consumo Responde (Consumer Line)	9,656
24-Hour Andalusia service	132,278
SMS information service	
New registrations	440
Registered patients	12,229
Messages sent	118,172
Interpretation service	10,690
Hospital discharge follow-up	
Patients	12,734
Calls	18,422
Heatwave programme	
Patients	6,155
Calls	9,766
Advance healthcare directive	
Record enquiries	695
Appointment requests	3,557
Hospital free choice	
Hospital changes	1,996
Birth changes	941
Information requests	5,315
Second medical opinion	411
District nursing	2,525
Tobacco information service	4,543
Health information services	
SSPA information	281,212
Health card	30,582
Dental health programme	4,850
Family support plan	290
Term guarantee	304

Source: EPES 2011 Annual Report http://www.epes.es/anexos/publicacion/Memoria_2011/Memoria-WEBa.pdf
(Last accessed: 03/12/2012).

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Abstract

The SIMPHS research studied the deployment of Integrated Personal Health and Social Care Services (IPHS) by analysing IPHS projects across 20 regions in eight European Countries. An outcome of the research was the identification of eight facilitators (key factors) for IPHS deployment. This report extends the analysis of facilitators to the case of Andalusia, a Spanish region recognised internationally as one of the "Best eHealth regional case studies". The aim was to review cases of Integrated Care in the region, especially those where ICT and IPHS enable integration, so as to identify the role of the eight facilitators in these settings.

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