



## eHealth in Catalonia: we are connected

### \*\*\* An enterprising country for the 21st century

**Catalonia** is a Mediterranean country, one of Spain's 17 Autonomous Communities, with its own history, language (Catalan) and culture.

For centuries Catalonia has been renowned for its pioneering spirit and its drive in the fields of trade and industry. This entrepreneurial tradition has continued into the 21st century, reflected in Catalonia's clear resolve to be a European benchmark for innovation and **information and communication technologies (ICT)**, with the aim of becoming fully integrated in the knowledge society and the knowledge economy.

The devolved government of the country is embodied in the **Government of Catalonia**. Catalonia has broad powers in the areas of health, education, social action, transport and communication, and in the setting of economic and trade policy.

The **Catalan Ministry of Health** is responsible for determining healthcare policy. The Catalan healthcare model is a mixed model, providing universal coverage, free of charge, bringing together all publicly available healthcare resources, whether publicly or privately owned.

### \*\*\* Health and ICTs in Catalonia

The Government and the Administration of the Government of Catalonia see as strategic priorities the development of ICT policies and investment in the healthcare services.

The Government, which has taken a leading role in the use of eGovernment in public services, has launched landmark projects that empower members of the public in the management of their own health.

Within the Catalan government, the Ministry of Health is the body responsible for setting healthcare policy and, thus, for taking the lead on the implementation of ICT systems, raising Catalonia's profile as an innovative region and helping the many agents working in and with the Catalan healthcare system to become more involved.

In its health sector, therefore, Catalonia has a powerful driver of innovation and the economy in the knowledge society.



### \*\*\* Strategic eHealth projects in Catalonia

To develop ICTs and incorporate them into the provision of healthcare services, the Catalan Ministry of Health has created instruments such as the **SITIC Strategic Plan 2008-2011**, the **TicSalut Foundation**, which runs the **Standards and Interoperability Technical Office**, and the future **Catalan Agency for Health Information and Quality Assessment**.

The purpose of this last organisation will be to identify, promote and implement tools that help to improve the quality of the public healthcare system.

This agency will operate the **TICSalut Service Centre** which will set up the **Anella TICSalut (TICSalut Network)** of health sector bodies working together to develop eHealth in Catalonia under the leadership of the Ministry of Health.

The SITIC Strategic Plan 2008-2011 is an initiative containing 6 strategic pillars and 35 action plans. The main projects involved are:

- The Catalan Shared Medical Record (HC<sup>3</sup>)
- The Personal Health Folder
- The Plan to Digitalise Medical Images
- Telemedicine and Telecare
- The Electronic Prescription (Rec@t)

#### \* The Shared Medical Record (HC<sup>3</sup>)

This aggregates all the documents containing data, information and clinical assessments on the state and progress of a patient's health throughout their clinical history.

The HC<sup>3</sup> is based on a decentralised management model, connected via interoperable systems using common standards.

It allows doctors to access all the relevant information available on their patients, irrespective of the healthcare service or geographical location involved, helping to ensure continuity of healthcare, to integrate information and to avoid mistakes and the unnecessary repetition of examinations and/or procedures.

419 centres are currently sharing 15,474,233 records relating to 7,217,789 people.

By June 2010, 472 centres are expected to be connected to the Shared Clinical Record System, sharing a total of 25 million clinical records.

#### \* The Personal Health Folder

The Personal Health Folder is a digital dossier which members of the public can consult, giving them secure, confidential access to their personal health information.

The project is currently still being designed and implemented. In the first stage, members of the public will have access to the main details contained in the HC<sup>3</sup>: medication prescribed and vaccinations given, medical reports and test results and complementary examinations carried out.

The second stage will give the public personalised access to other information about their health and to all the e-services and administrative procedures that can be provided on-line: requesting a doctor's appointment, changing the details on their Health Card, following the progress of complaints and requests for health certificates.

#### \* **The Plan to Digitalise Medical Images**

The aim of the Catalan Plan to Digitalise Medical Images is to digitalise x-ray images and to establish a basis for the digitalisation of other types of medical images.

Through this Plan, the Catalan Ministry of Health has partially financed 12 digitalisation projects covering 24 hospitals and 39 primary healthcare centres, where 4 million examinations are annually performed, 50% of the total carried out in Catalonia.

The roll-out of this infrastructure means that two-thirds of the over 7 million x-rays taken in Catalan healthcare centres each year are now available in digital form. During 2010, 100% is expected to be reached.

The development of a **Central Medical Images Repository**, with an annual capacity of 150 terabytes, is in the final stages of completion. It will store the images generated in public healthcare centres, and will enable images to be distributed via the HC<sup>3</sup> system.

#### \* **The Telemedicine and Telecare Plan**

The purpose of the Telemedicine and Telecare Plan is to accelerate the implementation of advanced technological applications that use telecommunications to optimise the quality and efficiency of the Catalan health services and to ensure equity of access to them.

The plan prioritises real-time communication between healthcare centre professionals and the patient, promotes telemonitoring for patients with chronic diabetes, respiratory and cardiac disorders and facilitates communication between professionals in different parts of the service on the production of diagnostic reports.

One of the most important projects being developed in telemedicine is the **Catalan TeleIctus Network**, an automatic system to provide specialist care for stroke victims in the first hours of the acute phase.



Parallel telemedicine projects are being developed in the fields of dermatology, the electrocardiogram, ophthalmology and diabetes.

### \* **The Electronic Prescription (Rec@t)**

The Electronic Prescription (Rec@t) has now been implemented across the entire primary healthcare centre network in Catalonia.

The number of patients using the system has now passed 1,2 million with more than 24 million of dispensed prescriptions.

The Rec@t facilitates coordination among health professionals, physicians and pharmacists. The Rec@t provides a **patient's medication plan**, which improves the safety of drugs utilization and the accessibility of patients to pharmaceutical services.

### \*\*\* **A strong international role**

The Catalan Ministry of Health is involved in a number of international e-Health projects, in line with Catalonia's international outlook.

Catalonia, together with other Spanish Autonomous Communities, forms part of the **European Patients Smart Open Services (EpSOS)** project, aimed at standardising digital medical records and **electronic prescription** across Europe and improving the quality of service received by European citizens outside their own countries, helping them to be more mobile.

Together with eight other European regions, Catalonia has also recently joined the **Renewing Health Project** on telemedicine for the care at home of patients with chronic disorders such as diabetes or cardiovascular and respiratory problems. It is also involved in the European Union's Programme on Competitiveness and Innovation in ITC policies.

### \* **Committed to ICTs**

Catalonia is very aware that the health sector will be one of the drivers of its economy over the coming years.

The Catalan Ministry of Health has, for example, invested heavily in innovation and research, reflected in a 44% increase in the budget allocated to ICTs in the health service from 2003 to 2007.

ICTs also have direct benefits for the public, for healthcare professionals and for healthcare centres.

- for the public: greater access to information and to test results, and a reduction in the risks associated with the duplication of tests and treatments. This information allows people to assume a greater measure of joint responsibility for their own health.



- for healthcare professionals and centres: faster, cheaper transfer of information and better coordination of the resources available, leading to better clinical and financial management and improved services.

There are still major challenges ahead for the use of ICTs in healthcare and our response to them will shape its future: citizens' abilities to take responsibility for their own health, the opportunities offered by biomedical research, changes in professionals' working patterns, and, above all, how to improve the quality of care.

These developments in the use of ICTs will allow us to evolve from eHealth (the application of ICTs to healthcare services), to **iHealth (the personalisation of healthcare services)**. iHealth means more personalised healthcare, based on better knowledge of the patient. It means adapting healthcare services and information to the profile of the local population. It means patients being involved in and jointly responsible for their treatment. And it means instant access to information and services and safer healthcare provision. The future is iHealth.