

EQuIP

ICT & eHealth developments in Catalonia

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Generalitat de Catalunya
Departament de Salut

Depart

ICT & eHealth developments in Catalonia

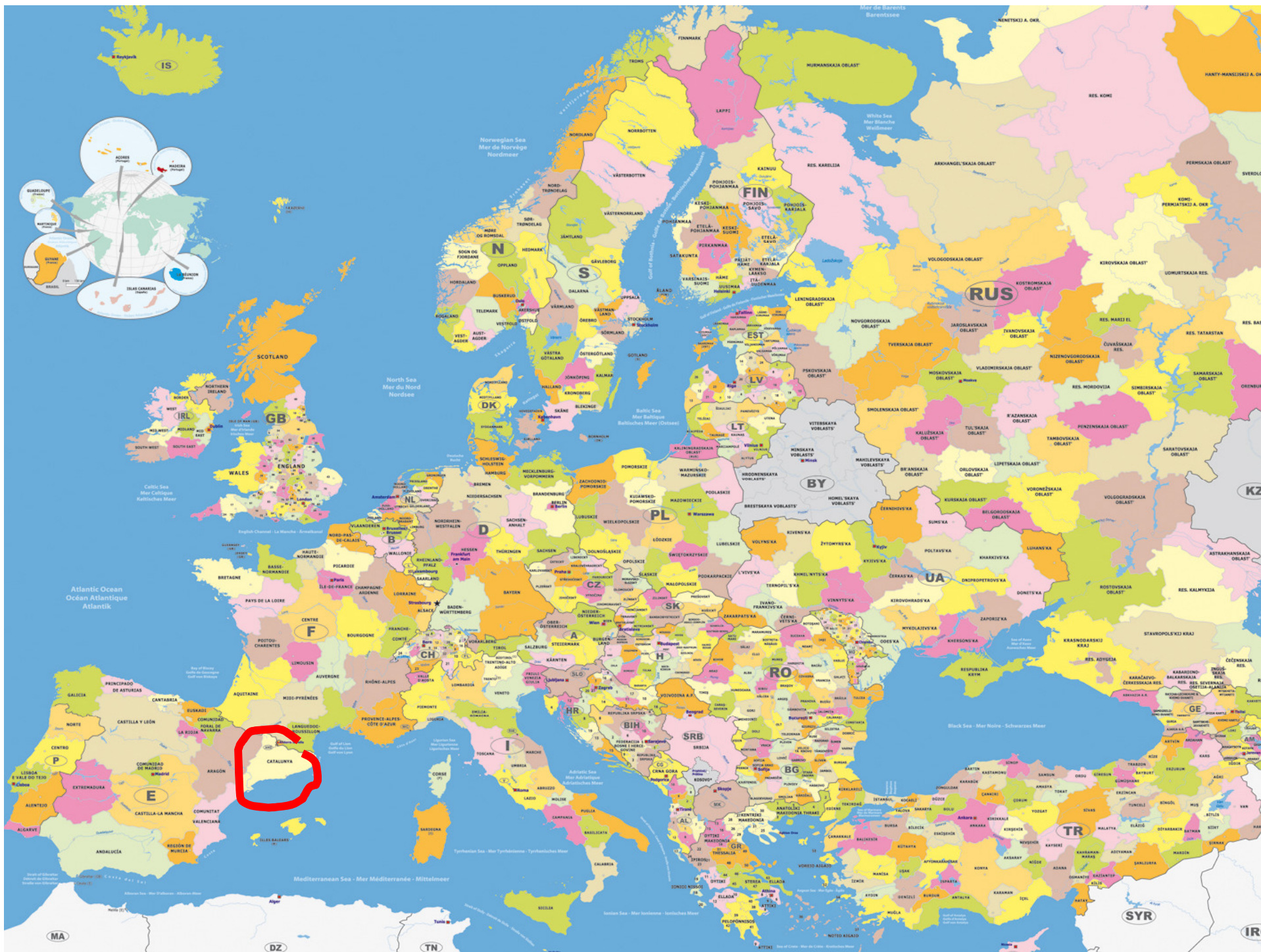


Catalonia

The ICT strategy and organization in Catalonia

Key ICT projects in Catalonia

Future challenges



Devolution process to AA CC



Generalitat de Catalunya
Departament de Salut

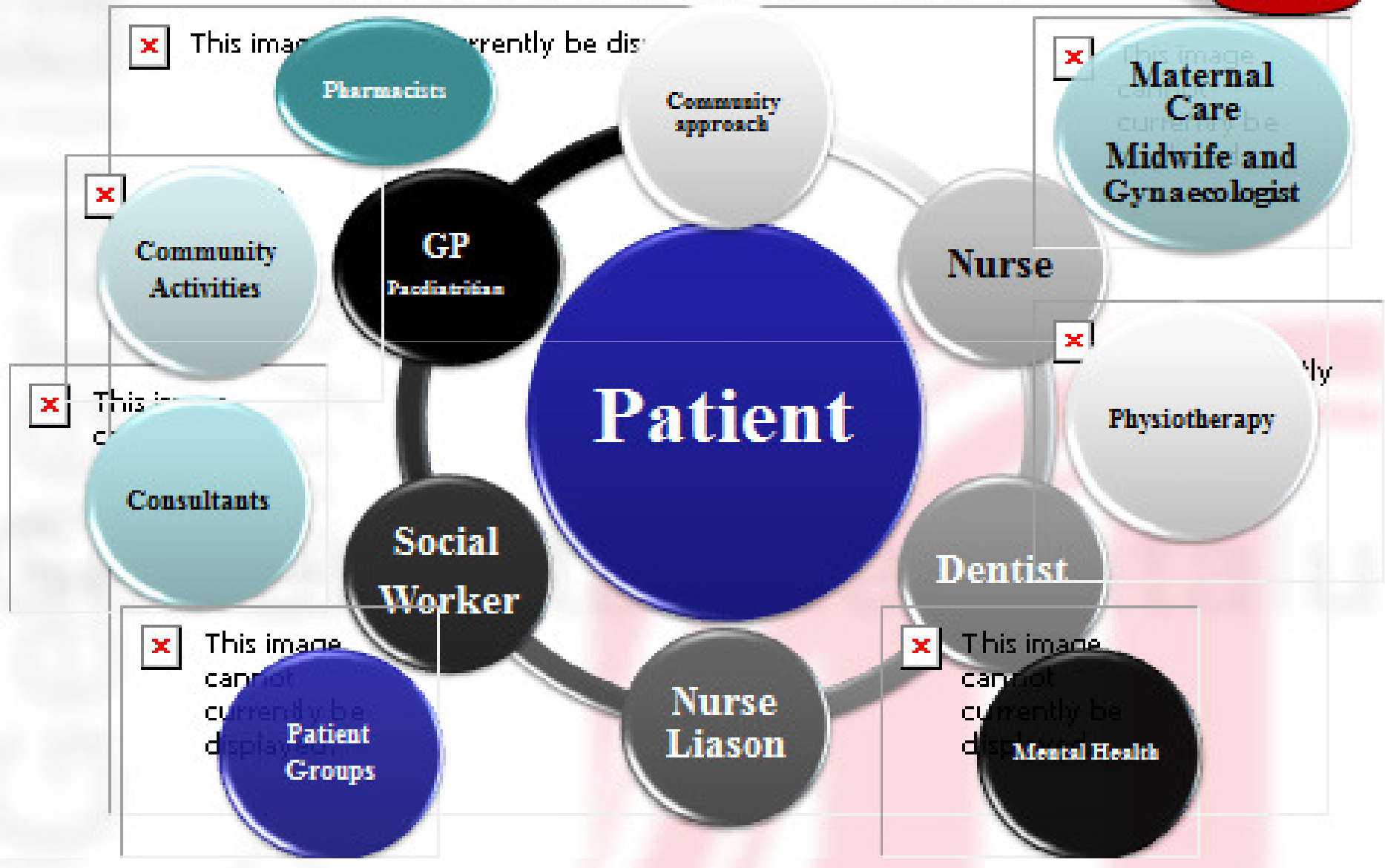
Ownership of healthcare facilities

	State Property or Management	Non State
Hospital care	20.18%	79.82%
Primary care	77.06%	22.94%
Mental Health care	27.79%	72.21%
Long-term health care	38.43%	61.57%

Source: Office of General Direction of Healthcare Resources. Department of Health of Catalunya



Primary Healthcare Multidisciplinary Team



Political and societal issues and opportunities of e-Health in Catalonia

ICT Projects in Catalonia

The ICT strategy and organization in Catalonia

Key ICT projects in Catalonia

Future challenges

The ICT strategy and organization in Catalonia

Introduction of ICT innovation in the health sector

Population growth (immigration)

- Ageing (more chronic)
- New model of doctor-patient relationship
- New styles of life (new diseases)
- Shortages of medical professionals
- New medical technologies

Pressure to increase spending

Pressure for cost containment

Economic crisis:

- Negative impact on health spending, health services and health outcomes
- Need to maintain economic competitiveness

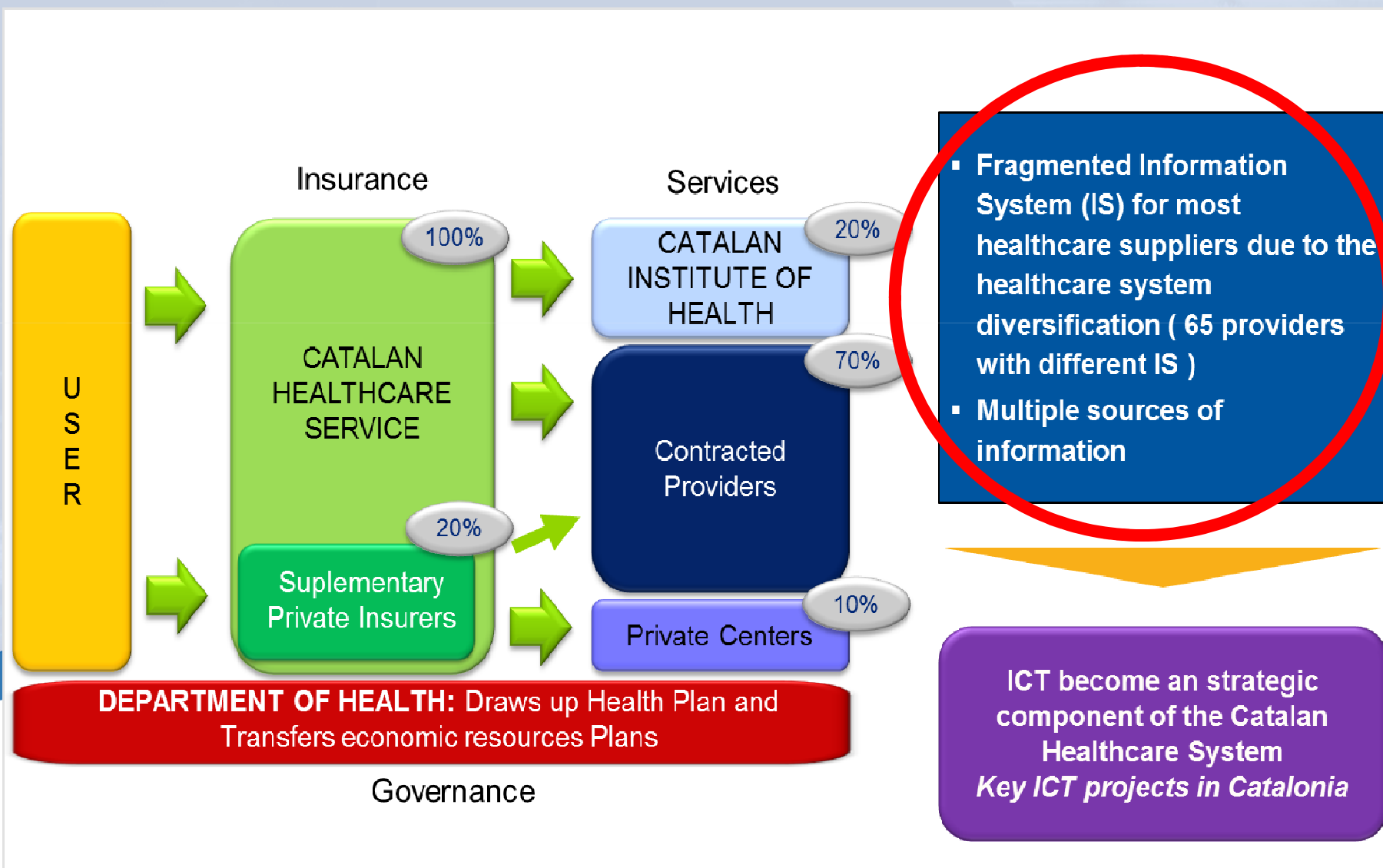
Need to reach consensus

NEED FOR A SUSTAINABLE HEALTH CARE SYSTEM

Information and Communication Technologies

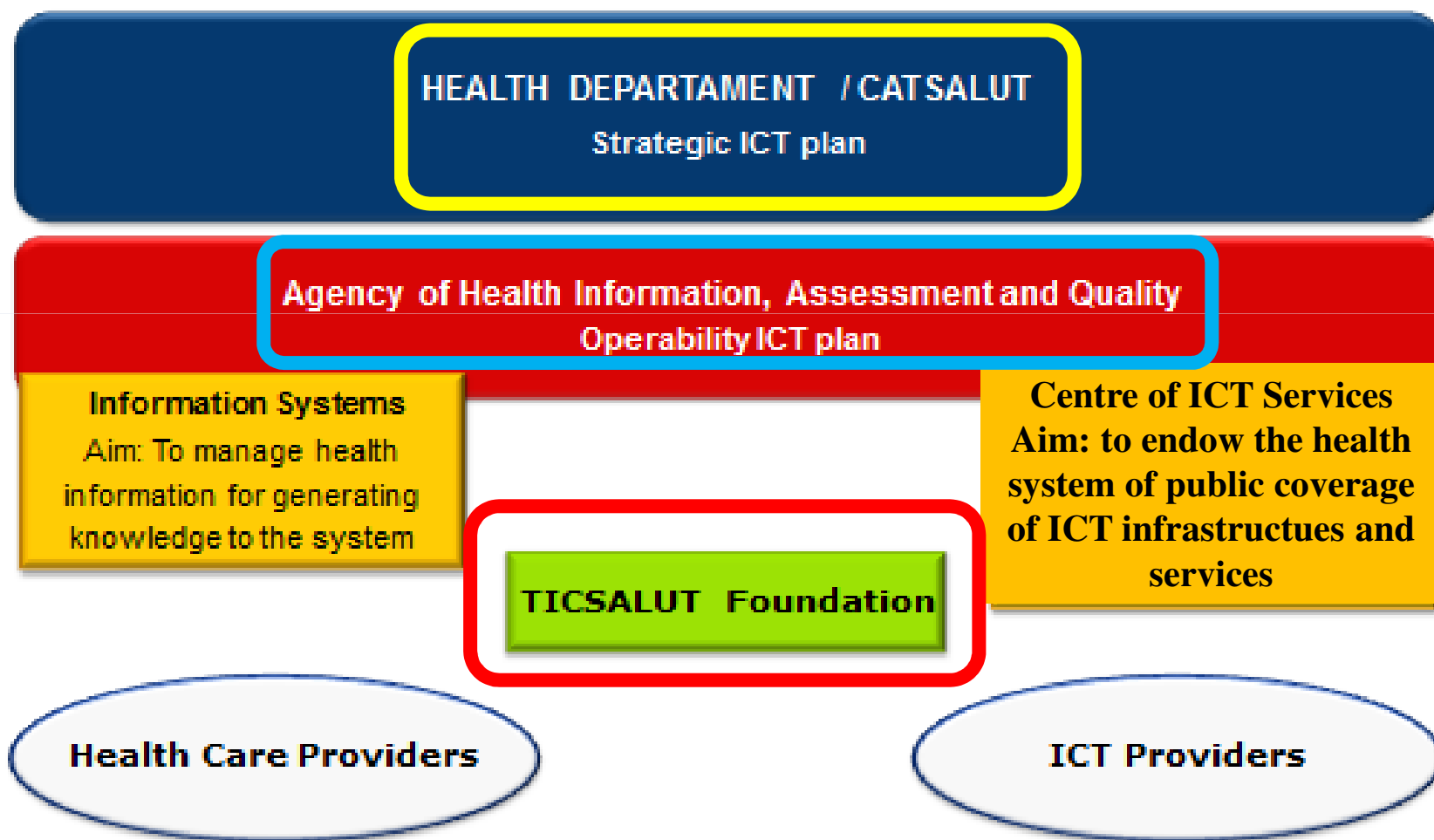
The ICT strategy and organization in Catalonia

General diagram of the Catalan Health System



The ICT strategy and organization in Catalonia

General diagram of the Catalan Health System



The ICT strategy and organization in Catalonia

ICT Strategic Plan 2008-2011

The Government of Catalonia sees as strategic priorities the development of ICT policies and investment in healthcare system. As a result of this priority the **SITIC Strategic Plan 2008-2011** was designed as an initiative containing **6 strategic pillars and 35 action plans**

Mission of the Department of Health in ICT

Boost the objectives and strategies of the Department through ICT, guaranteeing the citizen right to access information and supporting the task of professionals to improve the quality of healthcare assistance. The Department will develop a leadership role in the ICT sector, promoting both the image of Catalonia as an innovative territory and the participation of all healthcare agents.

ICT Strategic Plan 2008-2011



S.O. 1
Implement ICT as a strategic element in Healthcare



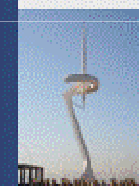
S.O. 2
Support citizens in the access to Information and services to promote their health



S.O. 3
Endow professionals with ICT tools to perform a high-quality care



S.O. 4
Answer efficiently the requirements of information, management and security in the sector and the Department



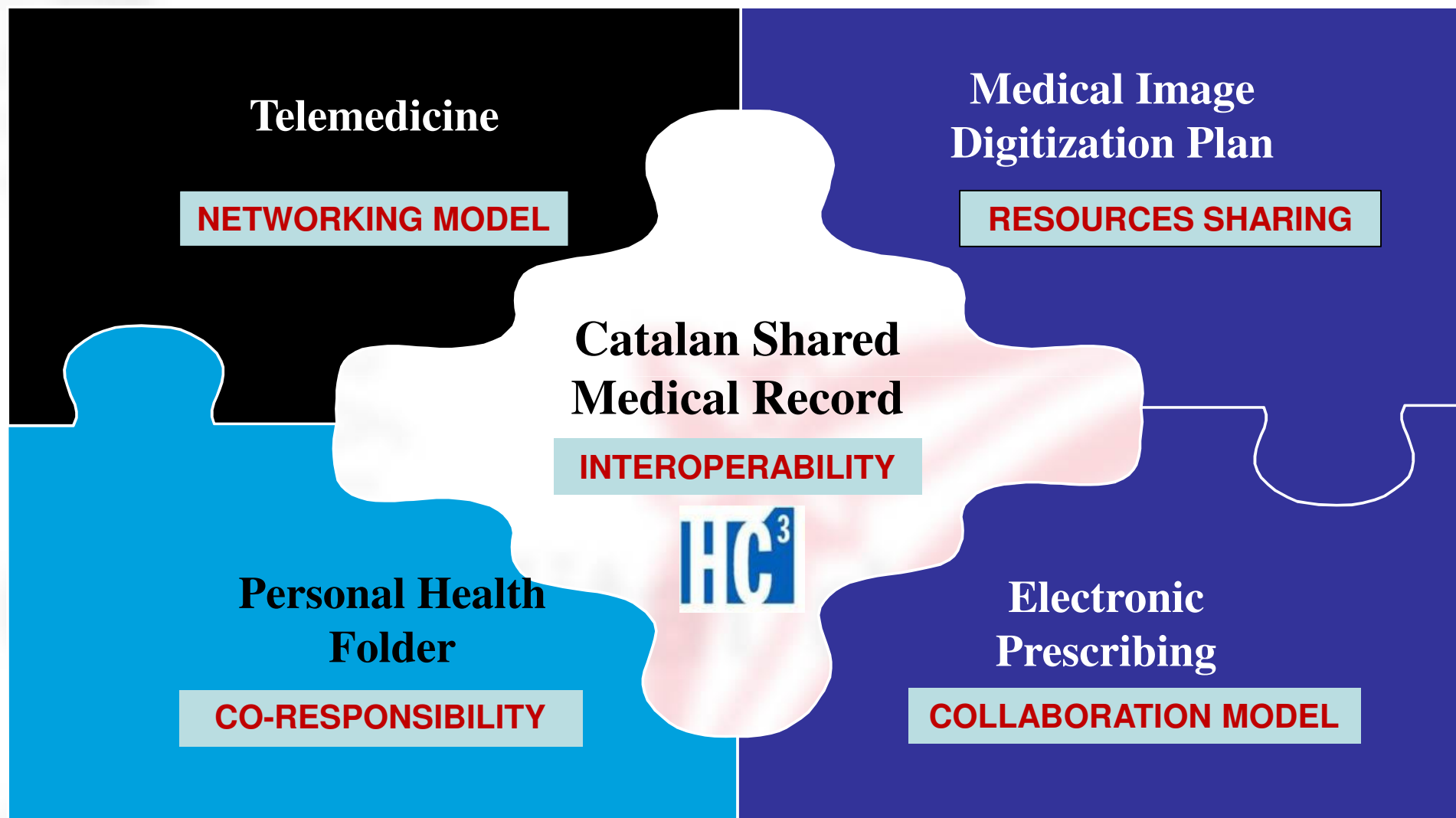
S.O. 5
Endow agents with the proper Infrastructures and guarantee interoperability



S.O. 6
Boost and project Catalonia as an innovative territory in Healthcare ICT

ICT STRATEGIC PROJECTS

Key ICT Projects – Governing characteristics



De Key ICT projects in Catalonia

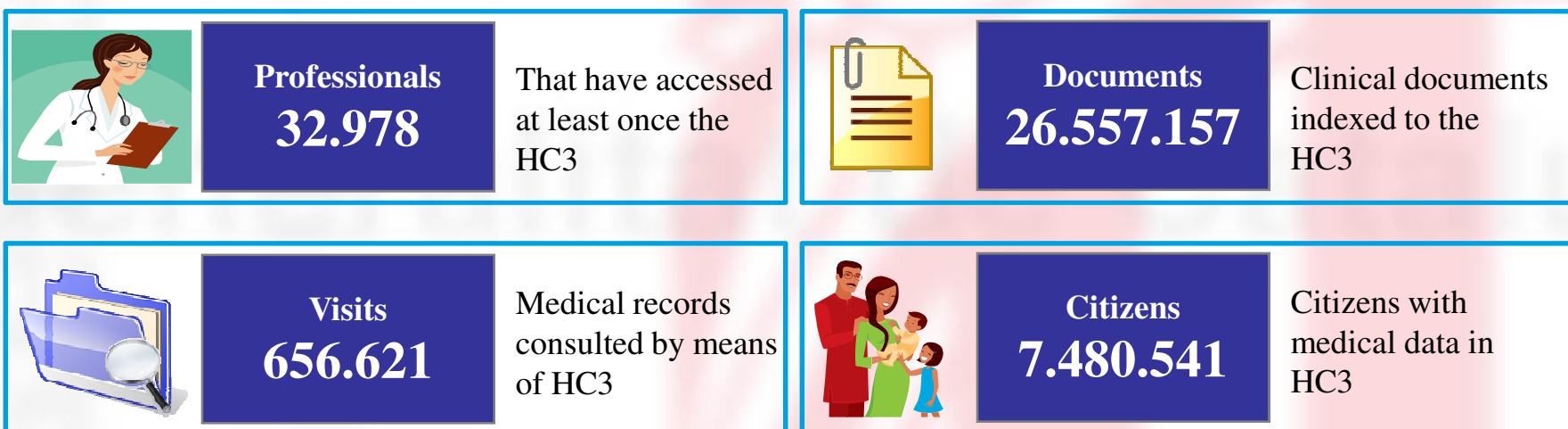
Shared Medical Record - HC3



Objectives

- **Improvement of healthcare services offered to citizens** with an instrument which facilitate the work of the professionals by allowing **the use of shared information of the patient**
- The HC³ will **prevent duplicated procedures / diagnosis** in several centers or when lost
- The Shared Medical Health Record will **make easier and potentiate healthcare processes** and improve computer resources

Data related to activity

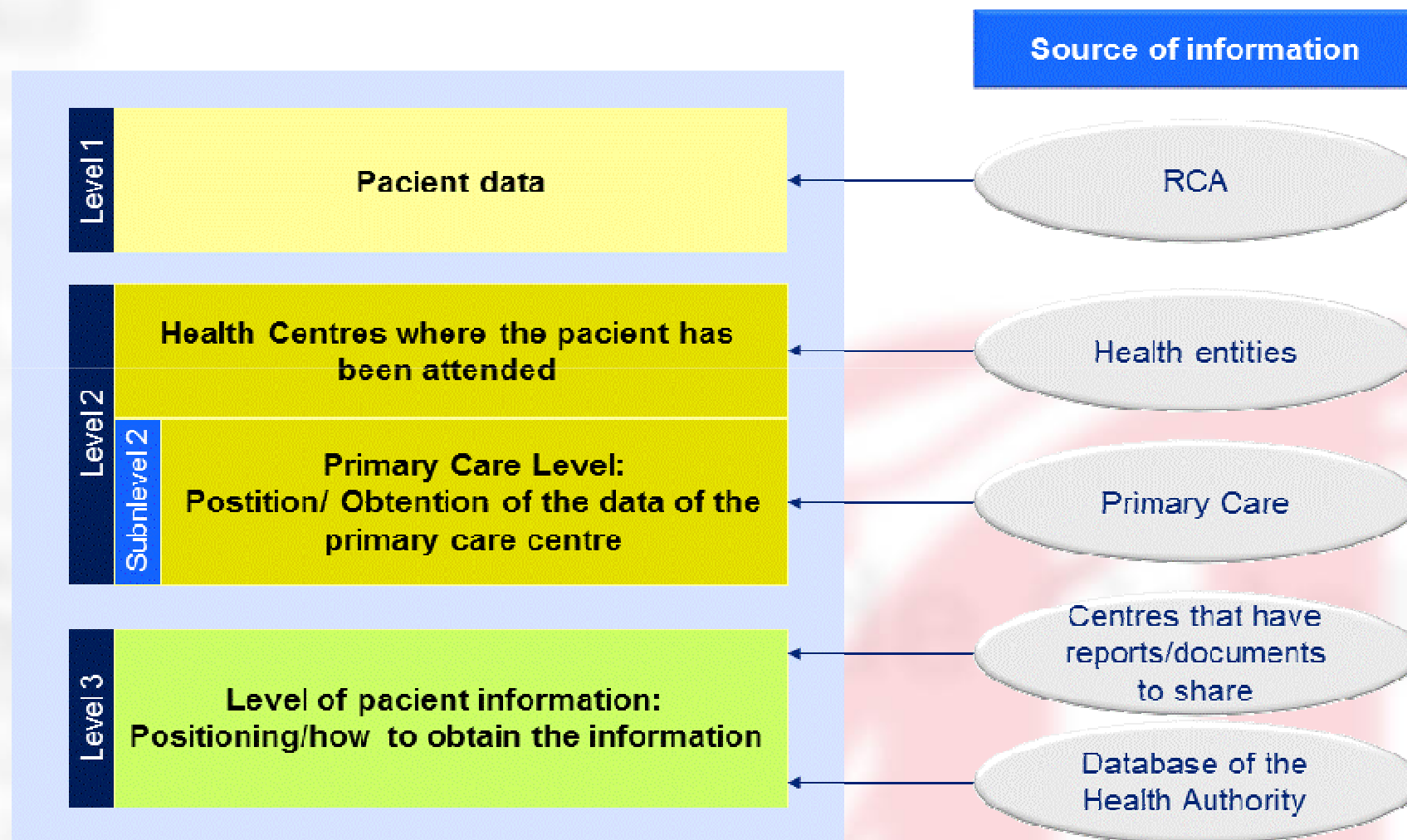


De Key ICT projects in Catalonia

Shared Medical Record - HC3



The index system



De Key ICT projects in Catalonia

Shared Medical Record - HC3



Available information

Healthcare Centers Information

Primary healthcare

Diagnosis

Prescriptions

Immunizations

Specialized attention, social-medical attention and mental health

Internal discharge report

Emergency reports

Specialized outpatient clinic reports

Diagnosis procedures

Laboratory reports

Imaging diagnosis reports

Other diagnosis tests reports

Health Department Information

Hospital MSD

Diagnosis

Procedures

Discharge date

Dispensed medical treatment

Medicines

Dispensation date

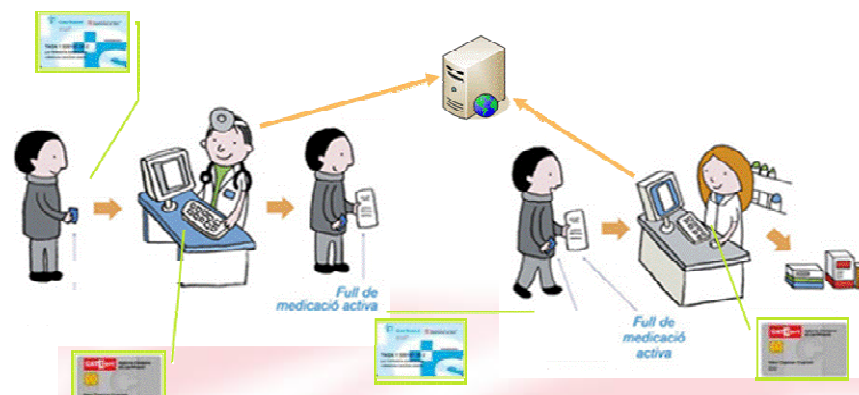
De Key ICT projects in Catalonia

Electronic Prescribing



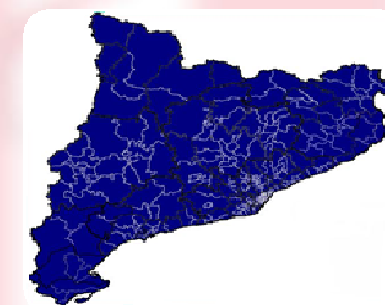
Objectives

- **Immediate availability** of drugs used.
- **Coordination** of the prescription and dispensation processes.
- Facilitate the patient's **therapeutic follow up**.
- Improve the healthcare **quality**.
- Improve the patients' healthcare **attention**.
- Increase **safety of drugs used**



Current deployment

- The Electronic Prescription is available in 369 Basic Health Areas, representing **100 % of all** ,where **9232 doctors prescribed** it and it's **dispensed by 3077 pharmacies**.
- The number of **patients exceeds the 3.371.671** users of the system and the number of **prescriptions dispensed** is approximately **28.674.419**



■ ABS where prescribes and dispenses electronically

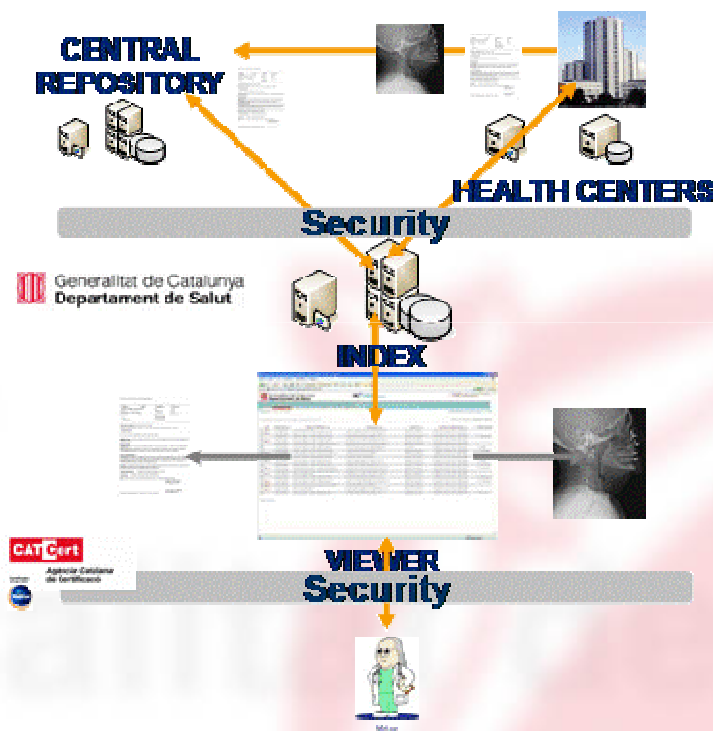
De Key ICT projects in Catalonia

Digitalization of Medical Imaging Plan



Definition and objective

Access from any point of the network to any medical image in anywhere at any time



Through the implementation and interconnection of different products like the HC3 and the Catalan Medical Image Repository (RCIM) from the Digitalization of Medical Imaging Plan, we are building up a very solid system in terms of healthcare continuity and we are also forcing the establishment of a high quality communication network

De Key ICT projects in Catalonia

Digitalization of Medical Imaging Plan



Catalan Medical Image Repository deployment

It enables health centers to have a secure backup system of medical images (Bi), while it storages all the radiological images in a same database

Technological Functionality

- Servers and disks booths at 150 TB per year for radiological images
- To facilitate the backup of medical imaging for health centers of the public system
- Independent supplier of PACS
- The center needs network connectivity: Anella TicSalut
- No cost for health centers

Advanced platforms

Once the platform is available and functioning, different projects, like telemedicine or teleassistance will be added

Healthcare Functionality

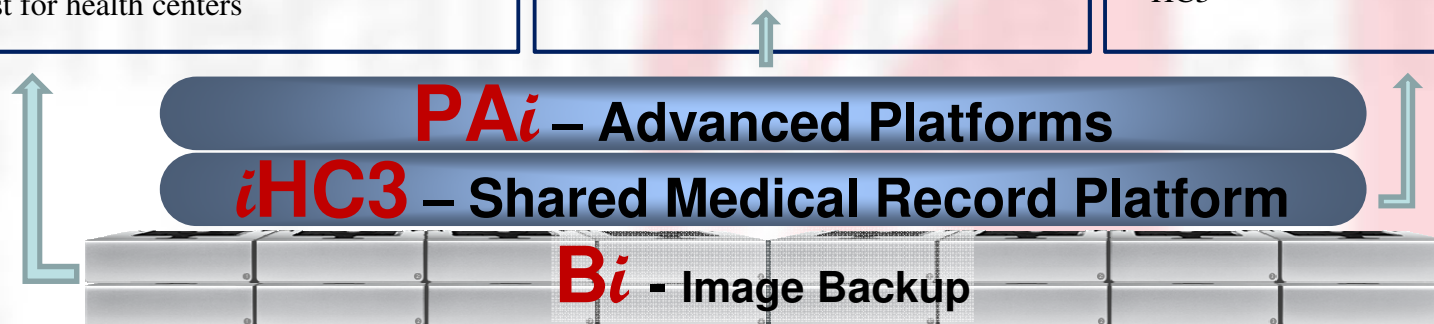
- Facilitates radiological and other professional networks
- Centralizes computer-aided diagnosis
- Promotes R+D networks

Integration of Digital Imaging with HC3

It allows the distribution of citizen's medical images through the HC3 and for sharing medical images between health centers

Healthcare Functionality

- SW Platform to integrate backup images with the Shared Medical Record of Catalonia - HC3
- CDA radiology report is improved
- Independent manufacturer of PACS and RIS
- Access to images is able through the HC3



De Key ICT projects in Catalonia

Telemedicine and Telecare medical Plan



Objectives

The Telemedicine and Telecare medical Plan focus **in accelerating the implementation of technological top applications** which, by the use of telecommunications, optimize the quality, efficiency and equity of the healthcare services in Catalonia

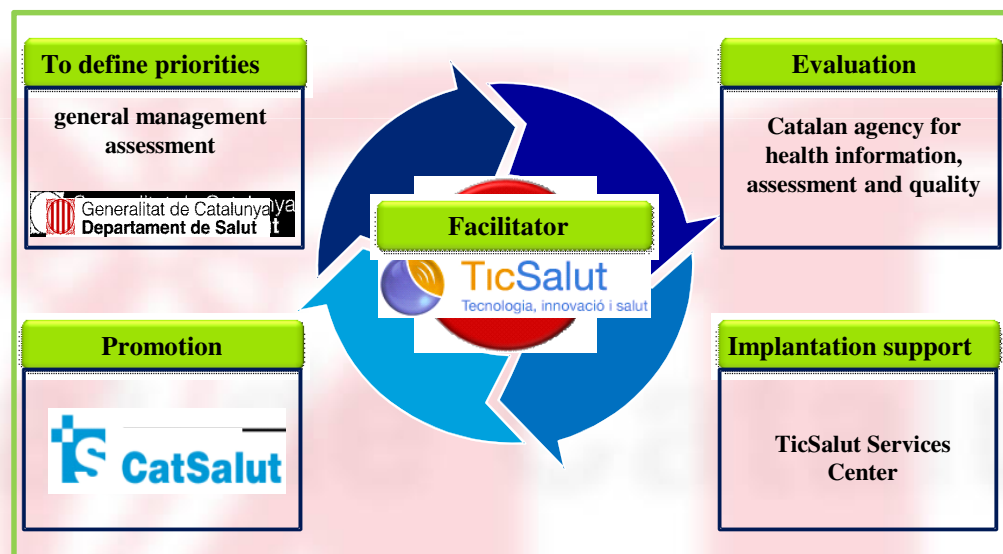
The plan prioritizes 3 lines of action

Real time communication between reference center professionals and the patient accompanied by another professional from a remote center through teleconsultation in cardiology, dermatology, neurology or psychiatry

Promote **Telemonitorization for chronic patients** who suffer diabetes, respiratory insufficiency and cardiac diseases

Facilitate **communication among professionals of different healthcare levels** for the production of radiology diagnoses, pathological anatomy, ophthalmology and others

Principal actors roles



De Key ICT projects in Catalonia

Personal Health Folder



Definition

PHF is a space where the Catalan Department of Health will store and offer to all Catalan citizens, through internet, relevant information of their health status

- **New strategic tool**
- **The participation of citizens in managing their health:**
 - **Managing your illness: Self control**
 - **Managing Your Health: Prevention**
- **Basic Functionality: The synchronization with the Shared Medical Record presenting the vision of citizen**



Functioning

All data from the folder will be available on a simple, intuitive and secure way, ensuring data confidentiality and patient rights

Access

Access mechanisms work only with digital certification (idCAT, CATCert and digital ID) to ensure both privacy and patient rights

De Key ICT projects in Catalonia

Personal Health Folder



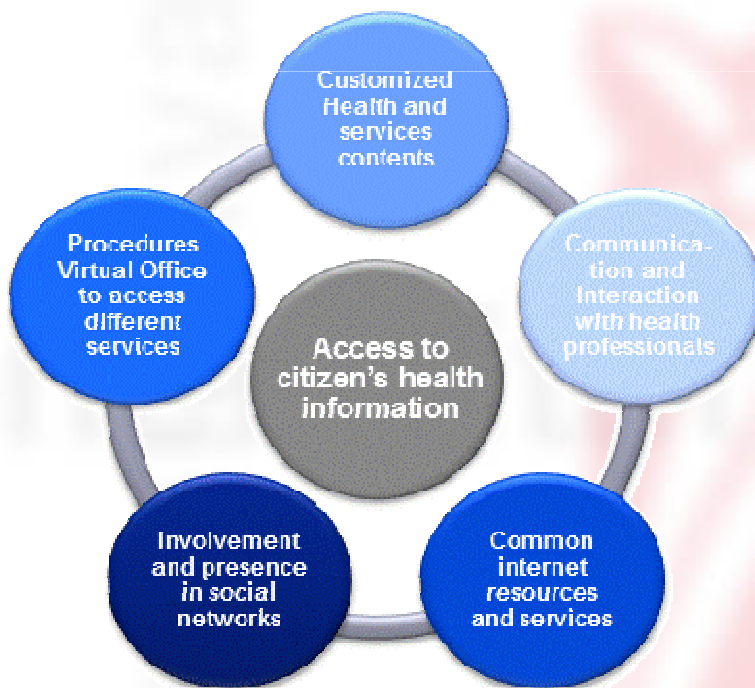
Contents

Information available

Information available:

- Prescribed medication
- Vaccines
- Medical reports
- Connection to the Virtual Office - Blood bank (results of recent blood tests, etc.)

Information available in the future



Thanks to the information available in the future model of the PHF, will directly change the relationship between patient - doctor - Administration

Citizens more implicated in the care of their own health

Wide range of procedures available and **personalization** of the information

Simplification of procedures, consultations and virtual management

Better use of available resources

De Key ICT projects in Catalonia

Personal Health Folder



Progressive deployment

Key elements

Empower the strategy to facilitate the participation of citizens in the management and care of their own health

Progressive territorial expansion of the PHF and their functions with applications that will provide greater control to the citizens to monitor their health status, especially to those who have a chronic disease

Providing access through new channels that will allow mobility

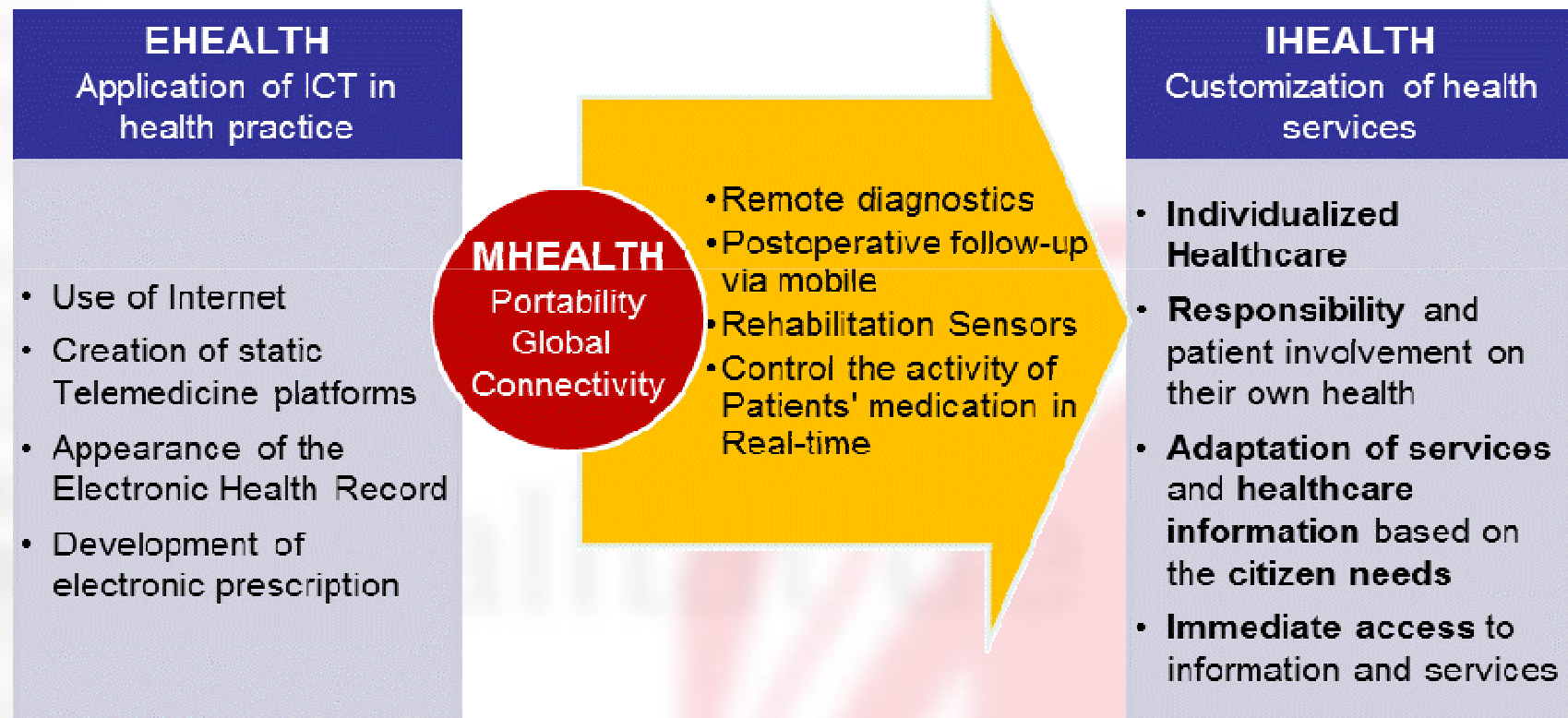
Pilot to access the Personal Health Folder via mobile phone by digital certificate



De **Future challenges**

Towards a personalized medicine

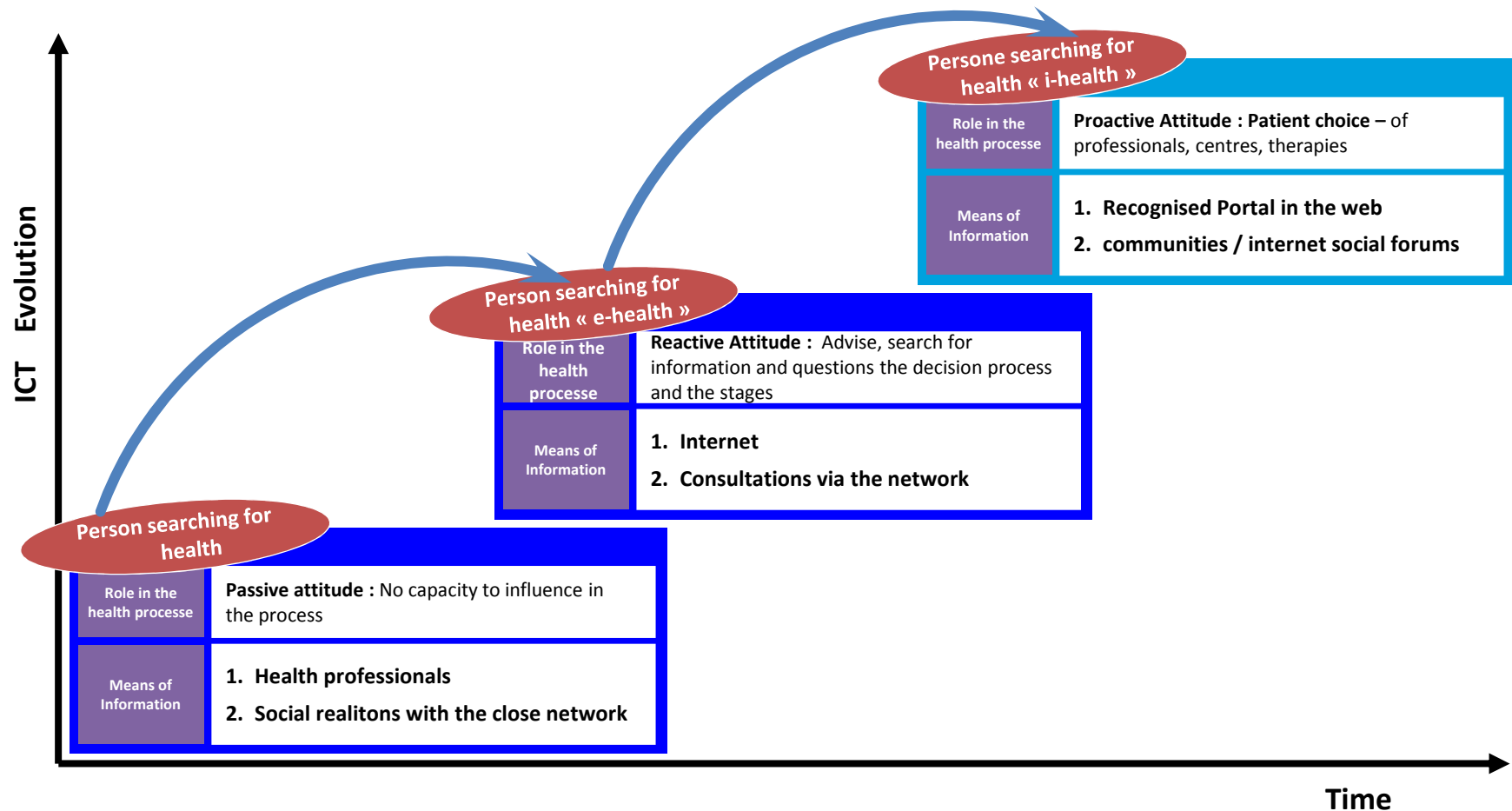
Evolution of health care services



ICT - FUTURE DOMAINS

Towards a personalised medicine – The new Citizen

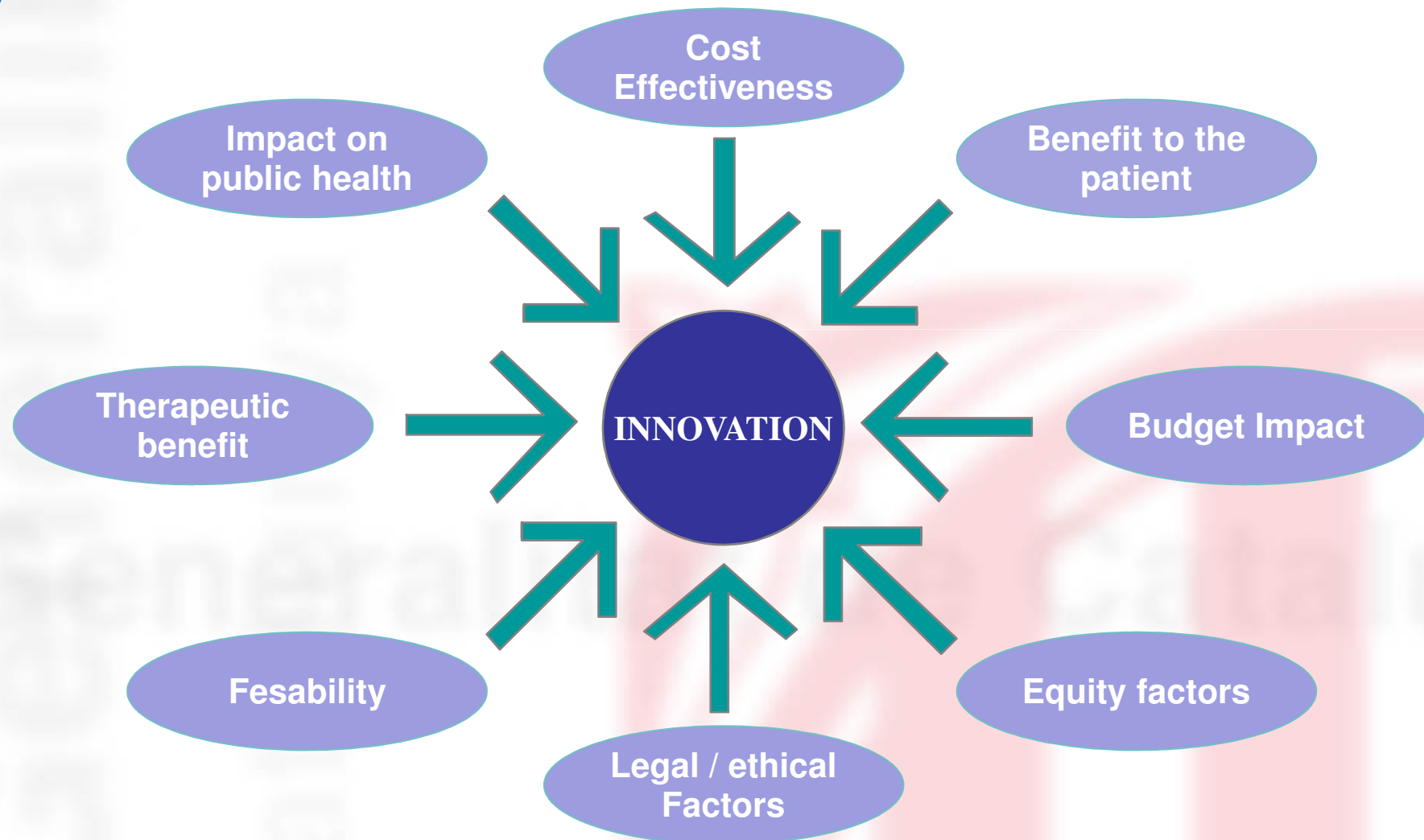
Citizen's evolution regarding the health process



Depart

New innovation perspectives on health care

Critical factors that determine what innovations must be introduced in the health system



Evaluation System in Primary Care in Catalan Health Institute



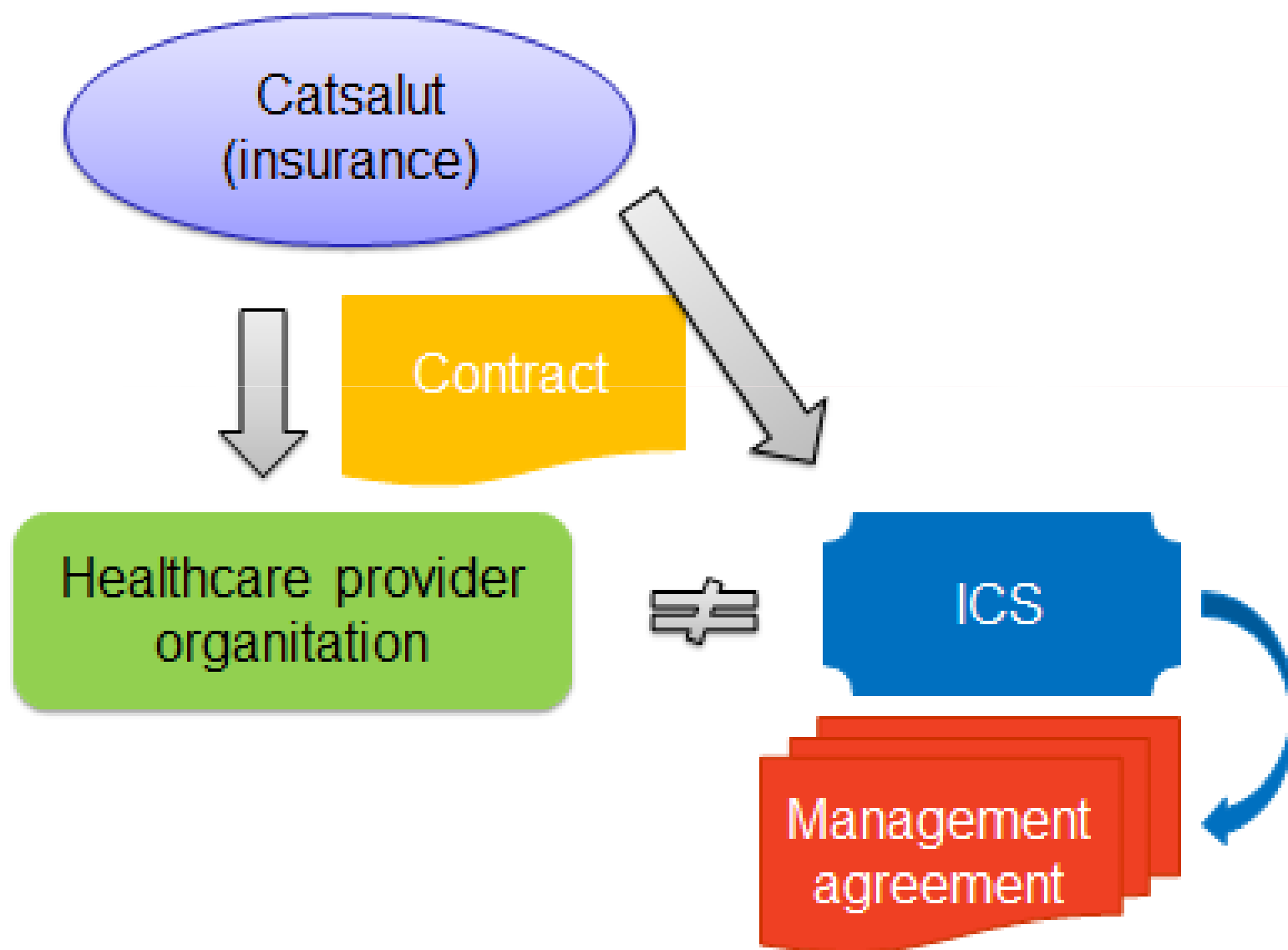
Generalitat de Catalunya
Departament de Salut



Institut Català
de la Salut

 www.gencat.net/ics

Catalan Health System



Management agreement. Concept

- Annual evaluable contract
- Between
 - Management staff (Direction)
 - Leader of Primary Care team
- Specific objectives for every Primary Care Team
- Tool to management
- Main strategic lines
- Economic incentive for professionals

Management agreement. Structure

Sustainability (25%)	Compliance with economic budget		15%
	Pharmaceutical expenditure budget (DMA)		10%
Healthcare quality (55%)	Clinical Quality Standard (EQA)		25%
	Drug Prescription Quality Standard (EQPF)		15%
	Drug use safety		10%
	Temporary disability management		5%
Organizational improvement (20%)	e-agree implementation		5%
	Acute disease resolution for nurse		5%
	Patient Safety		10%

Clinical Quality Standard. Concept

- Synthetic indicator
- Includes 60 sub-indicators
 - 39 adult
 - 21 childhood
- Scientific evidence
- Weighted score for sub-indicator
- Specific goal according starting point for:
 - Team
 - professional

Clinical Quality Standard. Adults Health Problems (I)

Health problem	Sub-indicators	score
Ischemic stroke	2	66
Ischemic heart disease	3	103
Dyslipemia	1	45
Atrial fibrillation	1	43
Arterial hypertension	2	84
Heart failure	2	66
Type 2 diabetes mellitus	4	124
Cognitive impairment	3	53
Chronic hepatitis C	1	19
Chronic obstructive pulmonary disease	2	40
Asthma	1	26
Prostate neoplasia	1	13

Clinical Quality Standard. Adult Health Problems (II)

Health problem	Sub-indicator	score
Adult vaccine coverage	4	104
Alcohol consumption	1	48
Tobacco consumption	2	64
Home healthcare	2	49
Iron deficiency anemia	2	29
Nephritic colic	1	11

Drug Prescription Quality Standard

- Synthetic Indicator
- Based in rational drug use
- Criteria:
 - Safety
 - Efficacy
 - Efficiency

- Decrease clinical risk with drug use
- Sub-indicators:
 - Duplicity
 - Inadequate use in elderly
 - Drug Interactions
 - Gastric protection

Acute disease resolution for nurses

- Improve competences of nurses
- Number solved cases
- Protocolized health problems
- Objective: decrease medical visits

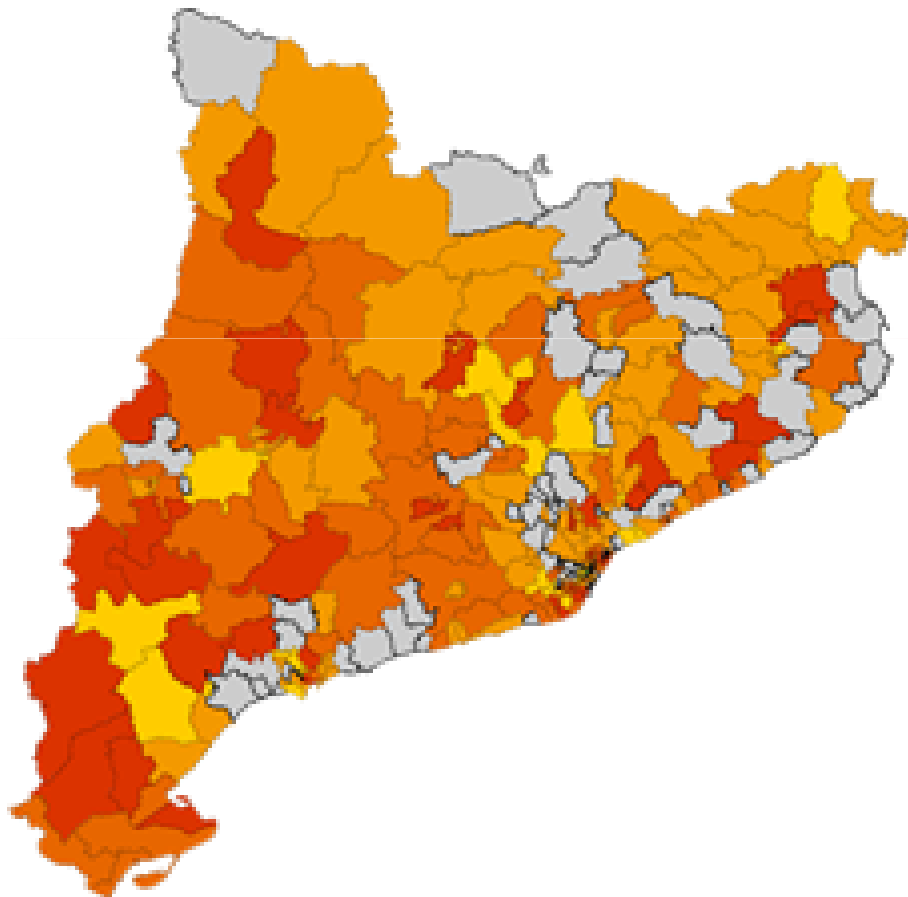
Sistema d'Informació dels

SISAP

Serveis d'Atenció Primària



Primary care @ ICS



5.850.000 Clinical records

>20.000 attended / day

7.900 Health workers

**272 Primary care teams
(PCT)**

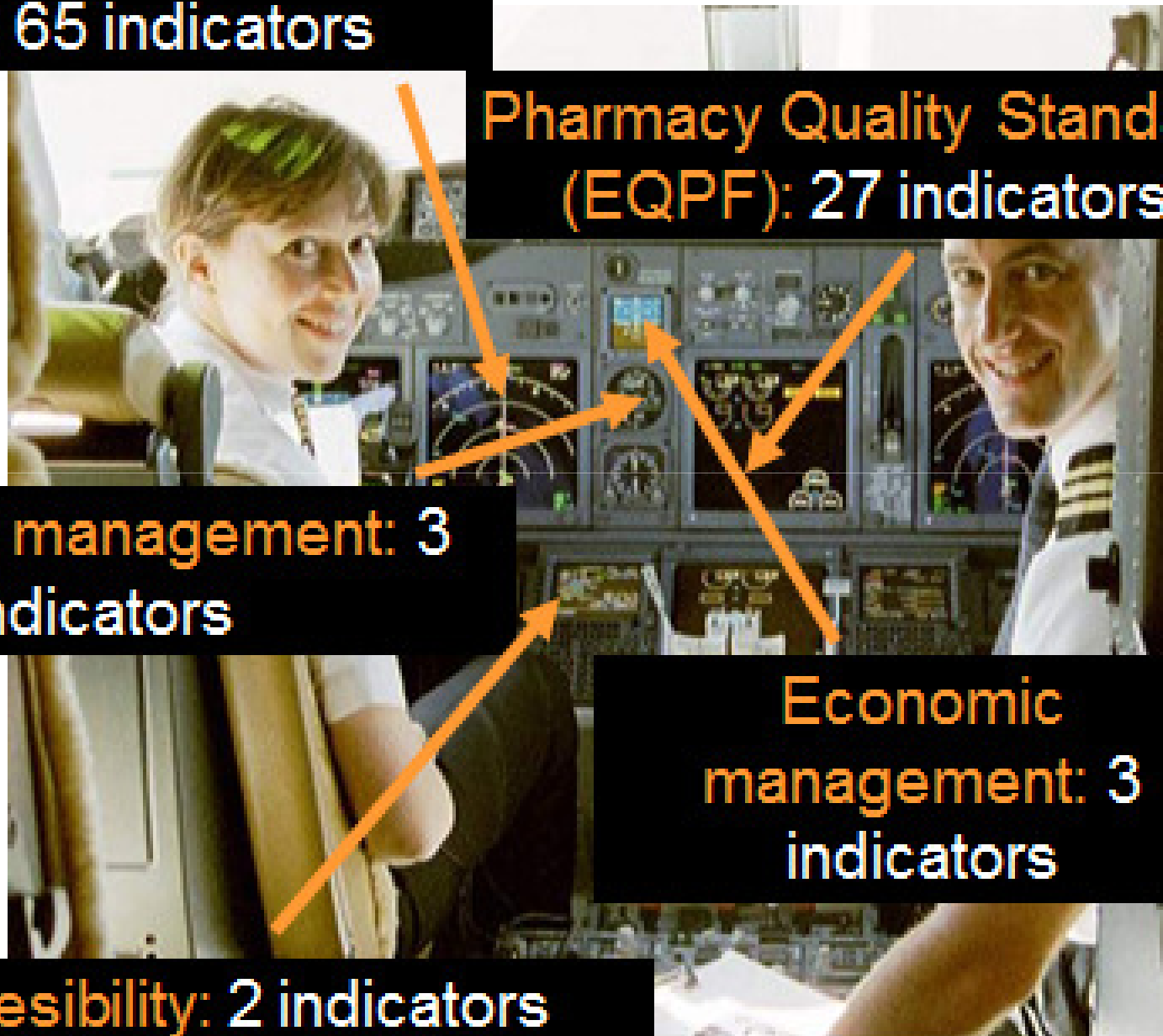
**Clinical Quality standard
(EQA): 65 indicators**

**Pharmacy Quality Standard
(EQPF): 27 indicators**

**Disability management: 3
indicators**

**Economic
management: 3
indicators**

Accessibility: 2 indicators



Construction and Publishing

prof320 - Seguint problemes de salut

Dades clíniques | prQues | Descripció | Agenda pacients | rec/les | Catàleg | Altres | ajuda | documentació | Suport

BERTA MEDINA RIBARCH (DONA, 7 ANYS)

MEPRICOM 300

Notes privades | Visualitza/Modifica nota | Notes del dia

Pàg. 1

(No hi ha cap filtre seleccionat)

27/06/2008 10:38 - CLOR (N) VAL/APLANA, ROSA - PEDIATRIE

ALTRES EXPLORACIONS ESPECIALS I ESTUDIS EN PERSONES SENSE SI

• NAFU (JANU 8-14 ANYS)

Edat revisió : 8.8

TAD : 100

TAD : 85

Peso : 22,600

Talla : 113,000

I.M.C. : 17,899

Comentaris Exploració : soplo sistòlic 2/6

característic funcional,
canvi de coloració del
aparell en molar definitiu.
Bulbosa caries en molar
temporal, molluscum en zones
de eczema, maculles
hipocromiques amples en
avella y zona poplíteia
dreta.

DEF CARDÍAC

• soplo 1-2/6 sistòlic, característic funcional.

DERMATITIS ATÒPICA

• maculles hipocromiques en avella y zona poplíteia dreta, prèviament enteromatoses, efectes II
con advertent, algun molluscum

MALOCCLUSIÓ

• maloclusió anterior, falta 3 mesos 7 Paga

MOL·LUSCUM CONTAGIOSUM

• molluscum en zones de eczema

TRAFICOM 12-18 - CLOR (N) VAL/APLANA, ROSA - PEDIATRIE

ALTRES EXPLORACIONS ESPECIALS I ESTUDIS EN PERSONES SENSE SI

ACTUS | PASSUS

Recerca | Tots | Prioritats

1

☐ DEF CARDÍAC, NO ESPECIFICAT

☒ ALTRES TRASTORN DELS DESENVOLUPAMENT I

☐ DERMATITIS ATÒPICA

☐ BRONQUITIS AGUDA, NO ESPECIFICADA

☐ MOL·LUSC CONTAGIOS

☐ FRACTURA DELS OSSOS DEL NAS

☐ MALOCCLUSIÓ DE TIPUS NO ESPECIFICAT

☐ PERDA D'UNA PÈRRA RESPECTIVA DEL COS

☒ VARICEL·LA

☐ PNEUMONITIS AGUDA (REFREDAT COME)

☐ FEBRE, NO ESPECIFICADA

☐ BRONQUITIS AGUDA, NO ESPECIFICADA

☐ DIARRÈIA I GASTROENTERITIS DE PRESUMPTA OP

☐ ALTRES EXPLORACIONS ESPECIALS I ESTUDIS E

☐ EXAMEN I OBSERVACIÓ PER RAONS NO ESPEC

DETALL DEL PROBLEMA | NOU PROBLEMA

Data Aba | 08/06/2008 | Cod | 300

Descripció | VARICEL·LA

Comentari | OM-VARICEL·LA

Performance Dashboard



€conomic Resources

Expenses actualitat	Acord Gestió 2009	Gen - May 2009	Gen - May 2008	Variació	Forecast 2009	Prev. Forecast 2008
Contracte Programa	2.600.000 €	1.007.410 €	1.075.400 €	2,04 %	2.601.120 €	2.600.000 €
Facturació a tercers	1.100 €	1.015 €	744 €	70,50 %	2.500 €	4.907 €
Contractes	0 €	0 €	0 €	0,00 %	0 €	0 €
Indemnitz a l'empresari	47.607 €	10.000 €	10.473 €	2,04 %	40.770 €	47.607 €
Total Expenses actualitat	2.647.607 €	1.118.425 €	1.086.617 €	2,09 %	2.644.410 €	2.652.514 €

Expenses actualitat	Acord Gestió 2009	Gen - May 2009	Gen - May 2008	Variació	Forecast 2009	Prev. Forecast 2008
Infraestructures de gestió	240.000 €	100.760 €	90.200 €	0,89 %	230.340 €	240.000 €
Maneja personal no	1.370.200 €	550.000 €	581.242 €	-5,73 %	1.420.400 €	1.370.200 €
Rebuccions M.B.	0 €	0 €	0 €	0,00 %	0 €	0 €
Quites patrimonials	240.770 €	144.400 €	141.700 €	0,89 %	230.000 €	240.770 €
Netes, manteniment, subminist. (inc)	154.000 €	50.000 €	54.700 €	0,89 %	151.500 €	154.000 €
Subtotal despeses infraestructura	2.004.970 €	805.160 €	878.842 €	-6,75 %	2.132.840 €	2.004.974 €
Material	200.000 €	41.000 €	14.274 €	80,50 %	50.100 €	170.400 €
Substitucions	0 €	14.120 €	50.543 €	-75,81 %	110.200 €	50.200 €
Jornada complementària	0 €	2.570 €	990 €	70,81 %	0.000 €	20.100 €
Maneja altres	0.000 €	0.000 €	90 €	-100,00 %	0 €	0.000 €
Subtotal despeses personal no infraestructura	200.000 €	57.690 €	75.807 €	-23,79 %	160.300 €	140.700 €
Tons	80.000 €	33.000 €	100.000 €	-67,31 %	170.000 €	80.000 €
Material carter	50.000 €	0.000 €	0.000 €	0,00 %	10.000 €	10.000 €
Material no carter	12.700 €	2.044 €	0.000 €	100,00 %	10.000 €	0.000 €
Formació	2.000 €	0 €	0 €	0,00 %	0 €	0 €
Altres	0 €	0 €	2.400 €	-100,00 %	4.100 €	0 €
Subtotal despeses no infraestructura	240.700 €	102.450 €	130.200 €	-21,89 %	204.340 €	200.000 €
R. Laboratori clínic	100.000 €	42.000 €	41.070 €	0,89 %	0.000 €	100.000 €
R. Proves provisionals ACS	50.100 €	20.250 €	20.000 €	-1,25 %	41.200 €	57.000 €
R. Proves provisionals no ACS	91.000 €	22.200 €	20.000 €	-10,91 %	50.100 €	60.000 €
Total Expenses actualitat	2.647.607 €	1.008.000 €	1.168.742 €	-16,48 %	2.748.120 €	2.460.000 €

SUBSG ACTIVITAT	0 €	0.000 €	0.000 €	0,00 %	0.000 €	0.000 €
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Paràmetre	Acord Gestió 2009	Gen - Ma 2009	Gen - Ma 2008	Variació	Forecast 2009	Prev. Forecast 2008
PARA Paràmetre	4.300.077 €	1.000.000 €	1.070.200 €	-14,07 %	0.000.000 €	4.300.077 €
Despesa Paràmetre	4.300.077 €	1.000.000 €	1.070.200 €	-14,07 %	0.000.000 €	4.300.077 €

SUBSG PARÀMETRE	0 €	-100.000 €	-100.000 €	0,00 %	-100.000 €	-100.000 €
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Estàndard de Qualitat Assistencial

Indicador	Professional				Punts	Màxim Puntu	Notes		Resultats de l'enquesta	
	Prevalença	Detecció	Resolució	Resultat			Mínim	Màxim	IAS	ICS
05-ARC: Tractament antiagregant	2,4%	100%	98,83%	98,43%	45	45	71,3	89,77	86,33%	89,34%
06-ARC: Control lipídic	2,4%	100%	39,29%	29,29%	25,42	40	29,81	41,8	33,45%	29,78%
07-CI: Tractament beta-bloquejant	2,88%	100%	58,58%	58,88%	40	40	45,38	54,74	59,81%	52,52%
08-CI: Tractament antiagregant	2,88%	100%	98,77%	96,77%	40	40	68,68	90,87	81,68%	87,1%
09-CI: Control lipídic	2,88%	100%	45,18%	45,18%	25,83	35	38,28	50,45	38,17%	46,24%
10-Diàlisi: Càlcul RCr (25-7 kg)	18,47%	73,69%	88,24%	79,44%	58	58	52,98	78,28	48,43%	74,53%
11-ACuFA: Tractament RAB i ACO	5,72%	100%	75%	79%	34,75	60	61,48	76,19	70,48%	75,23%
12-HTA: Control TA	19,13%	99,04%	68,37%	66,37%	45	65	51,25	60,81	58,38%	59,21%
13-HTA: Control TA en població de risc	13,04%	100%	55,82%	55,80%	45	45	37,82	47,31	45,84%	47,53%
14-IC: Tractament IECA/APAC	2,4%	100%	78,57%	78,57%	45	45	48,68	71,8	71,48%	62,72%
15-IC: Tractament beta-bloquejant	2,4%	100%	48,43%	46,43%	40	40	32,95	38,29	44,54%	33,8%
16-IMC: Vacunació anti-IMC (15-79a)	3,42%	100%	29,73%	29,73%	5,94	25	25,52	43,18	37,58%	41,71%
17-Alcohol: Críbratge (15-79a)				43,2%	14,5	40	35,95	53,53	45,78%	41,51%
18-Tabac: Apstinents en població de risc	27,53%	100%	68,21%	69,21%	25,88	40	62,74	74,56	66,53%	67,85%
19-Tabac: Cessacions en els darrers 12m (15-79a)	25,72%	100%	3,8%	3,8%	0	45	4,83	8,44	5,15%	7,51%
20-DRC: Críbratge pes	8,88%	100%	35,84%	35,84%	0	35	43,88	58,58	50,26%	49,65%
21-DRC: Control HbA1C (15-79a)	7,12%	100%	54,55%	54,55%	26,84	45	48,88	61,12	58,53%	57,1%
22-DRC: Críbratge refinocapla (15-79a)	7,12%	100%	67,53%	67,53%	25,87	35	50,68	68,19	62,48%	61,58%
23-Tips de ceta: Estracció	5,28%	48,94%	100%	86,2%	3,81	15	81,5	100	81,48%	100%
24-Grp: Vacunació (>59a)				53,17%	1	45	52,87	61,89	48,84%	58,38%
25-Grp: Vacunació població de risc (15-59a)	19,7%	100%	21,05%	21,05%	21,05%	35	17,87	25,8	19,2%	21,83%
26-Malaltia pneumocòccica: Vacunació (>59a)				43%	0	10	48,2	66,87	30,08%	55,17%
27-Títolus: Vacunació				43,89%	7,38	25	37,67	57,47	38,48%	48,43%
28-MPOC: Ventilació intubadors (>29a)	8,89%	100%	31,82%	31,82%	0	25	48,82	67,36	54,76%	61,57%
29-ATCQM: Valoració integral	2,74%	100%	58,38%	58,38%	40,88	25	42,85	67,42	51,78%	60,08%
30-ATCQM: Risc URR	2,74%	100%	87,5%	87,5%	40	40	58,58	81,88	71,78%	78,81%
31-Préstat: Ús correcte PSA (>74a)				96,97%	15	15	72,65	85,47	87,38%	78,63%

Punt de partida

689,96

Total Puntu

653,81 de 1.000

Meta OPO

787,8

SISAP | sistemes d'informació dels serveis d'Atenció Primària

Inici EQA EQFF IT ACC POS TIRES TAO

Data càlcul: 31/08/2009

Insulina (fins 7 tires / setmana)

Pacients amb indicació incorrecta:	3
Pacients amb indicació correcta:	10
Pacients sense tires:	5
Total pacients:	18

CIP	NHCAP	Nom	Cognom1	Cognom2	Prescripció
ALAD051051200	29874-RA	MOHAMED	ALABAOH		14 / setmana
CHCH180080600	12418-RA	DOLORES	CHICA	CHICA	21 / setmana
PAM0041101300	09227-RA	JOSE	PACILLA	MONTIEL	14 / setmana

Secretagogs (fins 3 tires / setmana)

Pacients amb indicació incorrecta:	1
Pacients amb indicació correcta:	10
Pacients sense tires:	19
Total pacients:	30

CIP	NHCAP	Nom	Cognom1	Cognom2	Prescripció
LADR130090500	01708-RA	VICENTA	LASO	CREZ	14 / setmana

No secretagogs (0 tires)

Pacients amb indicació incorrecta:	0
Pacients amb indicació correcta:	-
Pacients sense tires:	28
Total pacients:	28

Dieta (0 tires)

Pacients amb indicació incorrecta:	0
Pacients amb indicació correcta:	-
Pacients sense tires:	25
Total pacients:	25

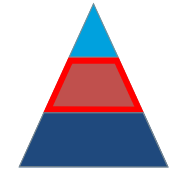
Test strips for blood glucose determination

Principal measures post-intervention

	Group		difference		difference (%)		p
	Intervention	control	difference	IC95%	difference (%)	IC95%	
Adequacy of prescription of blood glucose test strips (%)	86.1	77.3	8.83	(9.13 - 8.54)	11.38	(11.04-11.81)	0.001
Average cost by diabetic (€)	4.82	5.43	-0.63	(-0.28 - -1.00)	-11.55	(-4.77 - -18.34)	0.001
% hb A1c, all diabetics (Average)	6.4	6.42	-0.02	(-0.03 - -0.002)	-0.31	(-0.46-0.08)	0.077
% hb A1c, diabetics with insulin (Average)	7.23	7.24	-0.006	(-0.033 - 0.023)	-0.12	(-0.73-0.48)	0.694

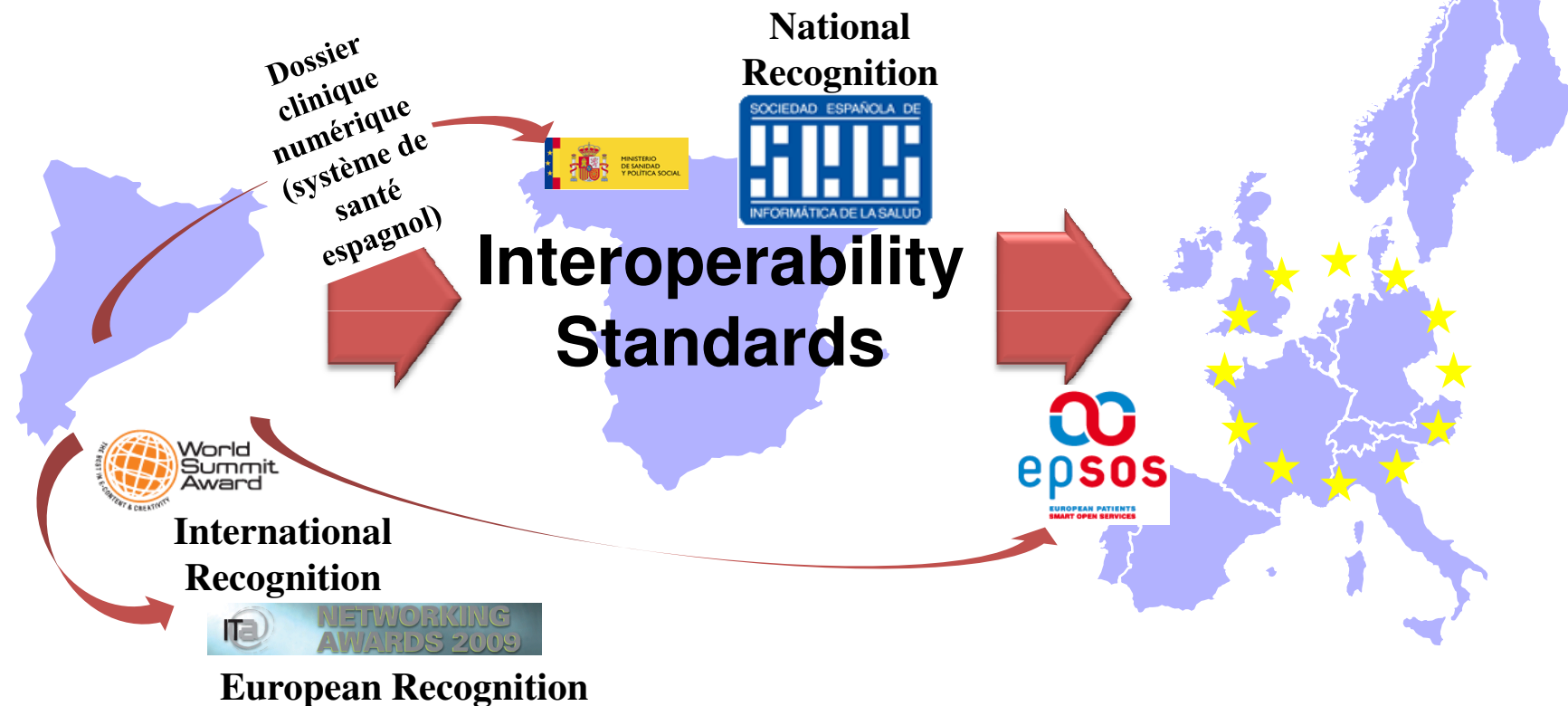
Depart





Interoperability

Participation in the following projects



The ICT solutions developed in Catalonia are essential in order to guarantee the connectivity with Spain and Europe

Gràcies
Thank you

www.gencat.cat/salut

tdedeu@gencat.cat



Generalitat de Catalunya
Departament de Salut

Challenges:



Generalitat de Catalunya
Departament de Salut

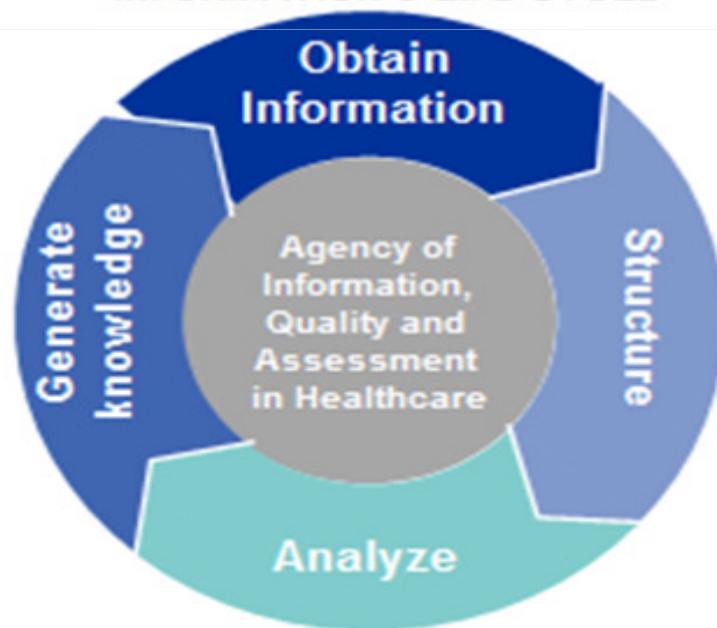
The ICT strategy and organization in Catalonia

Agency for Health Information, Assessment & Quality

AIAQS



GLOBAL MANAGEMENT OF THE INFORMATION'S LIFE CYCLE

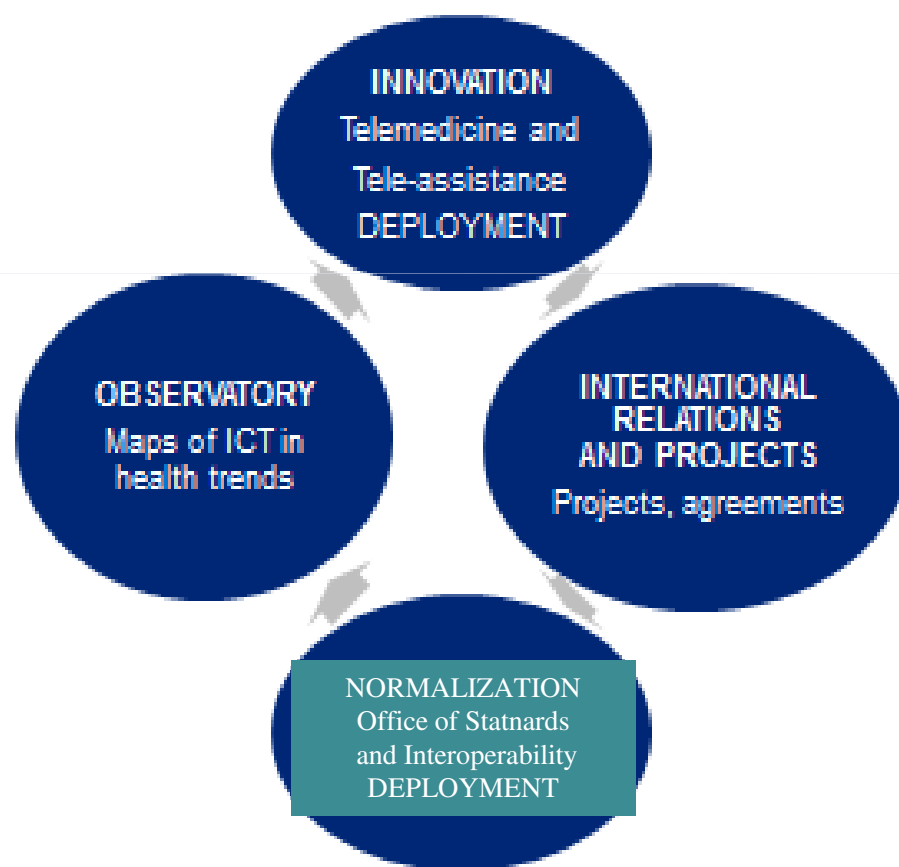


AIAQS's Mission

Generate relevant knowledge to contribute to the improvement of the quality, safety and sustainability of the healthcare system, facilitating decision making for citizens, professionals, managers and planners

The ICT strategy and organization in Catalonia

TicSalut Foundation





Key ICT Projects – Shared Clinical Record

Activity figures

Specific areas	Activity (March 2011)
People included 7 297 637	✓ Patients with their data already available in the Shared Clinical Record
PROFESSIONALS 32,878	✓ Who has already entered a minimum of once to the SCR – HC3
VISITS 656,621	✓ Number of clinical records consulted
DOCUMENTS 26,557,1571	✓ Clinical Documents Indexed into the Shared Clinical Record





Key ICT Projects – Shared Clinical Record

Added functions of the Shared Clinical Record

1	Integration between Shared Clinical Record and the Clinical Work Stations in the Primary Health Centres
2	Integration between SCR – HC3 and the « registry of live will »
3	Integration with the laboratories
4	Integration between the SCR – HC3 and the information of Pathology (Anatomy) and the interoperability with the Registry of Cancer of Catalonia
5	Integration between the SCR – HC3 and the digitalised clinical images
6	Citizens' access to the information included in the Clinical Record through a virtual office

Key ICT Projects – Medical Image Digitalization Plan

2011 Objectives

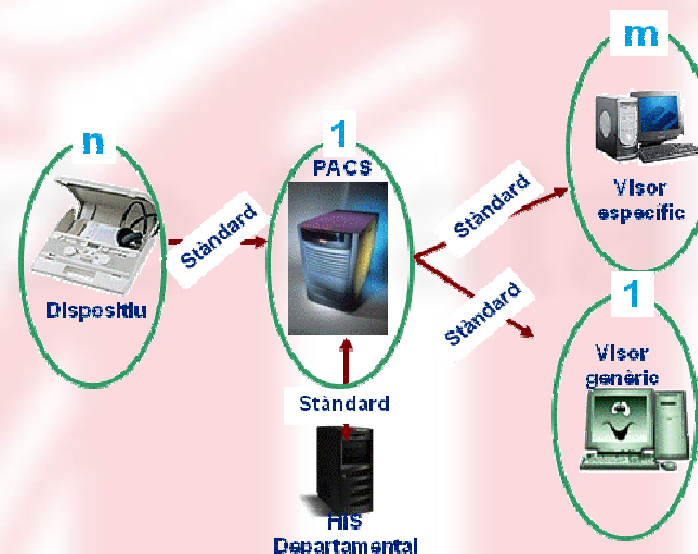
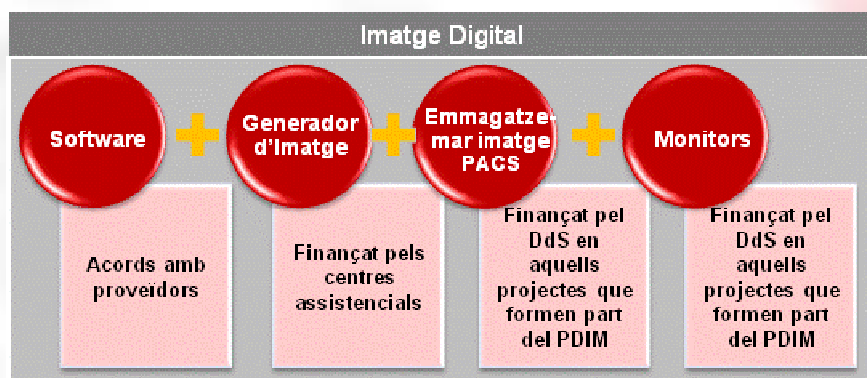
- Digitize all radiology images of Catalonia.
- Establish the basis for the rest of digitized medical images.

Radiology Image

- Definition of 12 projects which make possible obtaining 85% of the radiology image digitized.
- The equipment has been delivered (servers) and the installation of the scanning software (PACS) has been completed in all the centers considered in the 12 projects defined, to digitize radiology images (RX) financed by the DS-red.es agreement.

Non Radiology Image

- The technical support office has been created (1/04/09).
- First projects of No RX image have begun (April'09).
- Research grants have been published to advance in the digitalization of the image non RX in dermatology, ophthalmology and electrocardiography



Key ICT Projects – Medical Image Digitalization Plan

Central Repository of the Medical Image in Catalonia	(March 2011)
Hospitals that supply regularly images to the Repository	20
Explorations copied and transferred to the Repository by the health care centers (up to now)	3 million
Images copied and transferred to the Repository	90 million
Daily number of explorations indexed into the Repository	10,000
Stored Terabytes	48 TB

Key ICT Projects – Electronic Prescribing System

Electronic Prescribing System in Catalonia (Rec@t) (May 2011)	
Dispensing system	>115 million
Prescribing system	>31 million
Basic areas of primary health care where physicians can prescribe	All Primary Health Centres
Pharmacies for dispensing	All of them, 3,075
Physicians prescribing it	76%
Patients who have been prescribed	3,312,532
Daily dispensing	380,000
Current average of electronic prescriptions vs. paper prescriptions in paper	62.1%

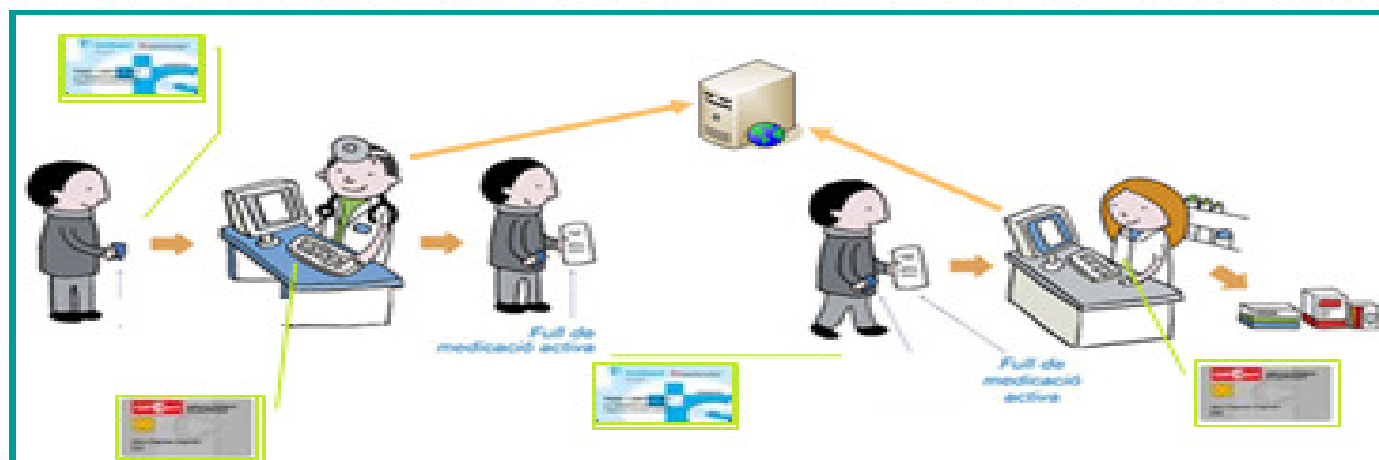
Key ICT Projects – Electronic Prescribing System

Key ICT Projects

Electronic Prescribing

Objectives

- Immediate availability of drugs used
- Coordination of the prescription and dispensation processes
- Facilitate the patient's therapeutic follow up
- Improve the healthcare quality
- Improve the patients' healthcare attention
- Increase safety of drugs used



Key ICT Projects – Telemedicine & Tele-care

Key ICT Projects

Telemedicine and Telecare medical Plan

A succesful case: Telestroke Network

- Catalunya Telestroke Network consists on the deployment of a telemedicine system where each primary care centre will have its own reference hospital
- This is an agreement between IdS – CatSalut – i2cat – Fundació TicSalut
- Ongoing Projects:
 - H.V. Molinero vs H. General de Vic: Initial date: January 2007
 - H.V. Molinero vs H. General de Granollers: Initial date: November 2008
 - H. Trueta vs H. Figueras: Initial date: November 2008
 - H. Trueta vs H. Pallares: Initial date: February 2009
- Upcoming projects:
 - H. Germans Trias and Pujol vs H. Mataró
 - H. Germans Trias and Pujol vs H. Caldes/Blanca



Other Telemedicine projects

- Telediabetes Plan
- PIUC on-line pilot tests (SCADA)
- Project with jails in collaboration with Ministry of Home Affairs, Institutional Relations and Participation and Ministry of Justice.
- Telemedicine Plan in Alt Pirineu – Aran (Teledermatology, telecardiology,...)
- Use of digital certificates to mobile devices
- RPD vs ePrescribing (elimination of paper codes)

Key ICT Projects – Personal Health Folder

- Digital platform for consultation
- Access personal health information
- Access will be only allowed by mechanisms of digital certification such as the Catalan certificat or electronic Spanish DNI

