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JUNTA DE EXTREMADURA
Consejería de Sanidad y Servicios Sociales

SAPHIRe

Digital Health and Precision Medicine initiatives in Extremadura

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Scientific Coordinator

FundeSalud, Government of Extremadura

SAPHIRe best practice in personalised health workshop 2019
Belfast, UK Oct 18-19 2019

Content

- Extremadura in context
- Digital transformation in the Extremadura's Healthcare System
- R&I projects on Personalized Medicine and Digital Transformation

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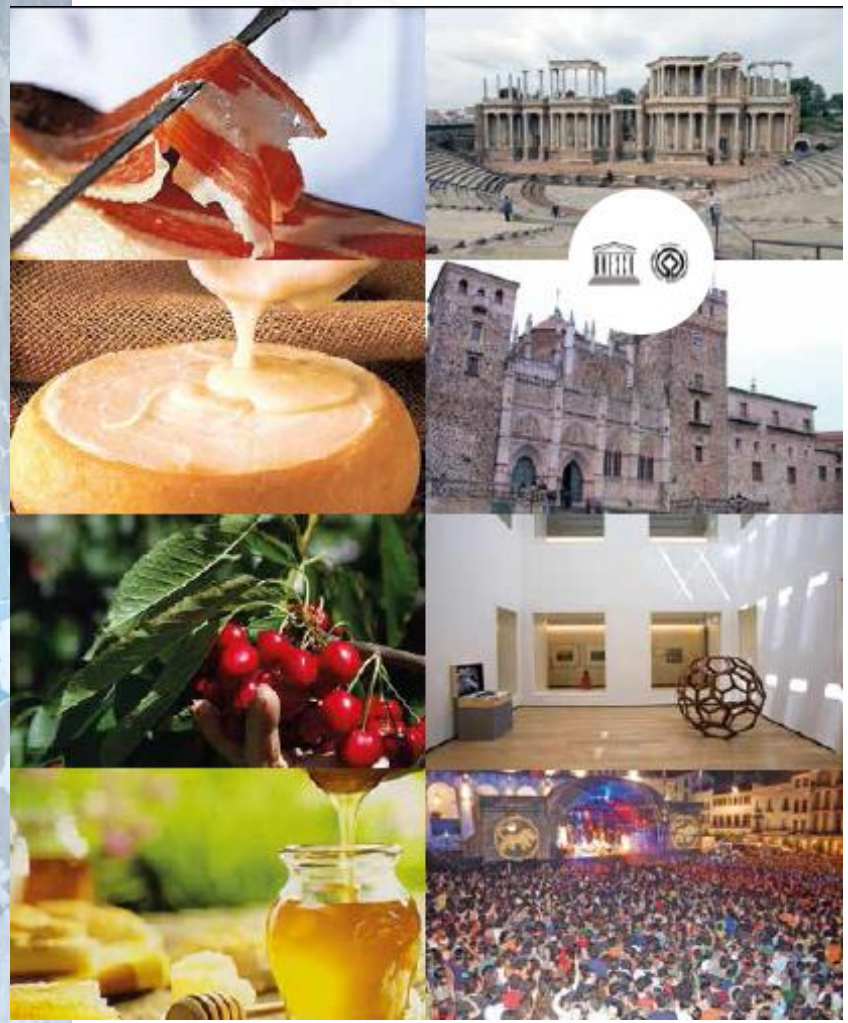
Extremadura



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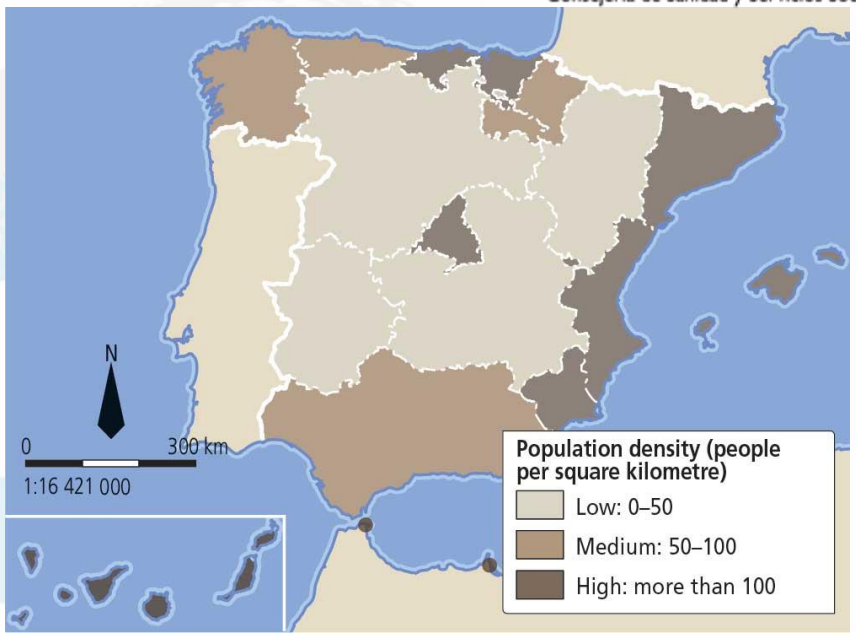
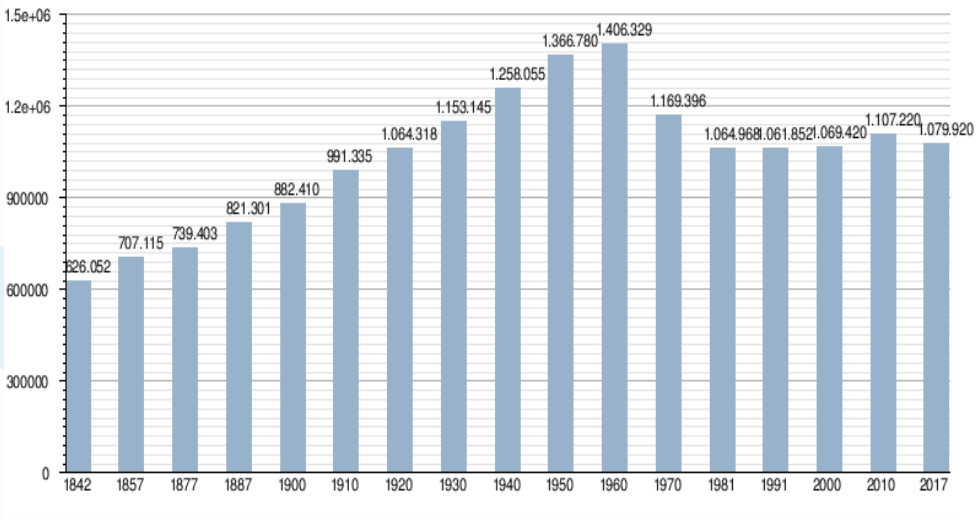
Extremadura

- Socioeconomic factors
  - 1.079.920 inhabitants (2017)
  - Rural area (75% of population live in localities with less than 50.000 inhabitants)
  - 65+: 20% of the population (80+: 7% of the population)





Source: INE (http://www.ine.es/)

- ❑94% chronic patients are polymedicated
- ❑80% primary care appointments because of chronic diseases
- ❑42% of the hospitalizations in 65+

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Extremadura's Healthcare System

- **Servicio Extremeño de Salud (SES)**
  - ✓ 8 Managing Areas + Central Services
  - ✓ **14 Hospitals (2.824 beds)**
  - ✓ 2 Mental Hospital (816 beds)
  - ✓ 113 Community Health Centers
  - ✓ 420 Primary Care Centers
  - ✓ 79 other centers (Detox centers, etc)
  - ✓ More than 18.000 professionals
  - ✓ **1,586.1 M€ budget**

Extremadura's EHR

JAVA CARD TECHNOLOGY

100 % ELECTRONIC PRESCRIPTION

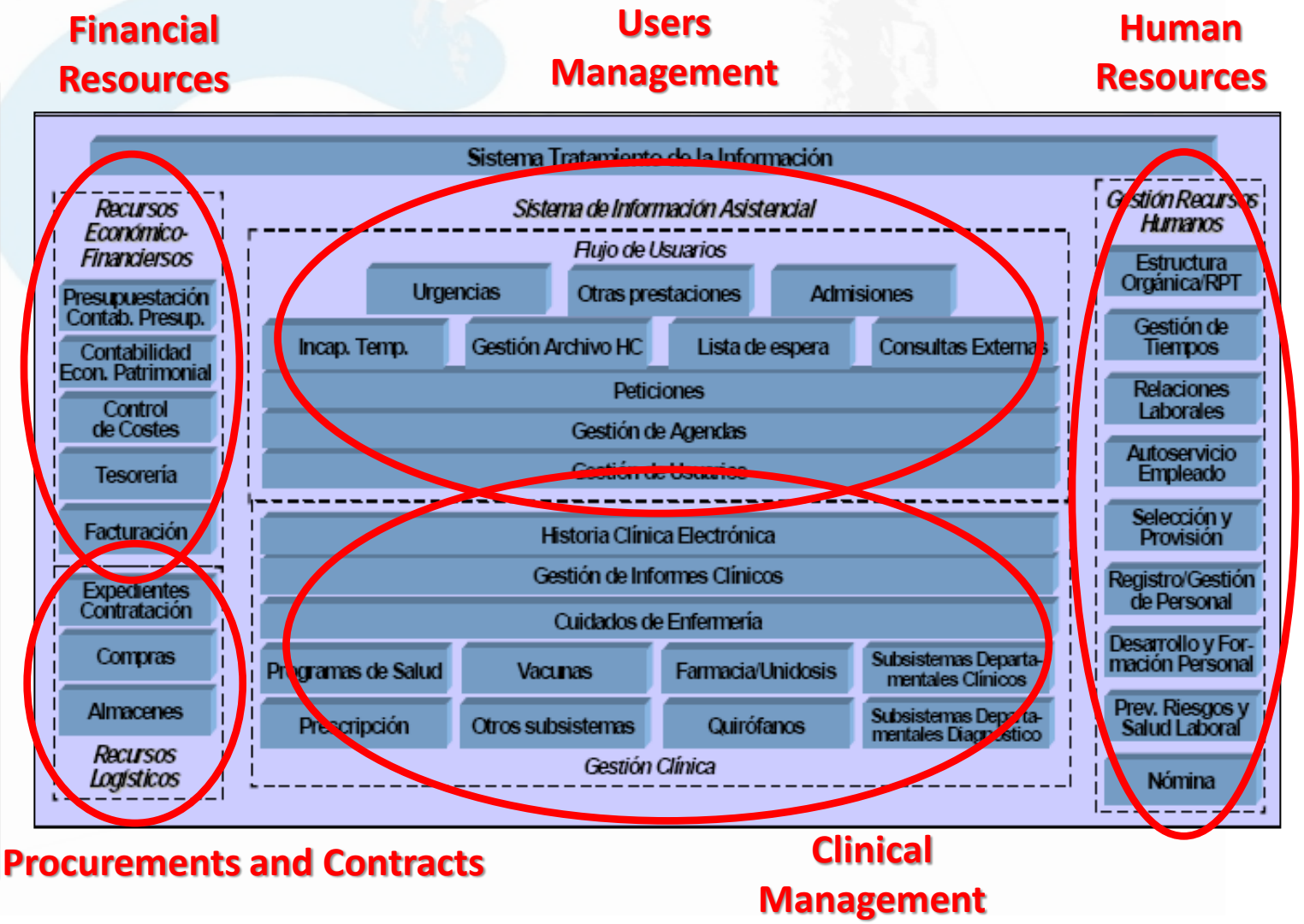
INTEGRATED MEDICAL RECORD

- 100% Health Centers
  - 112 Community Health Centers
  - 420 Primary Care Centers

- 100% Hospitals (14)

Extremadura's EHR

- Single medical record per patient
- Integration with
  - Population database
  - Departmental management system
- Management Systems:
  - Financial
  - Human Resources
  - Procurements and Contracts
- Management Control Systems



Medical appointment scheduling

- By phone
- By SMS (text message)
- By internet
  - Web:

    https://saludextremadura.ses.es/web/
  - App

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centro de salud online

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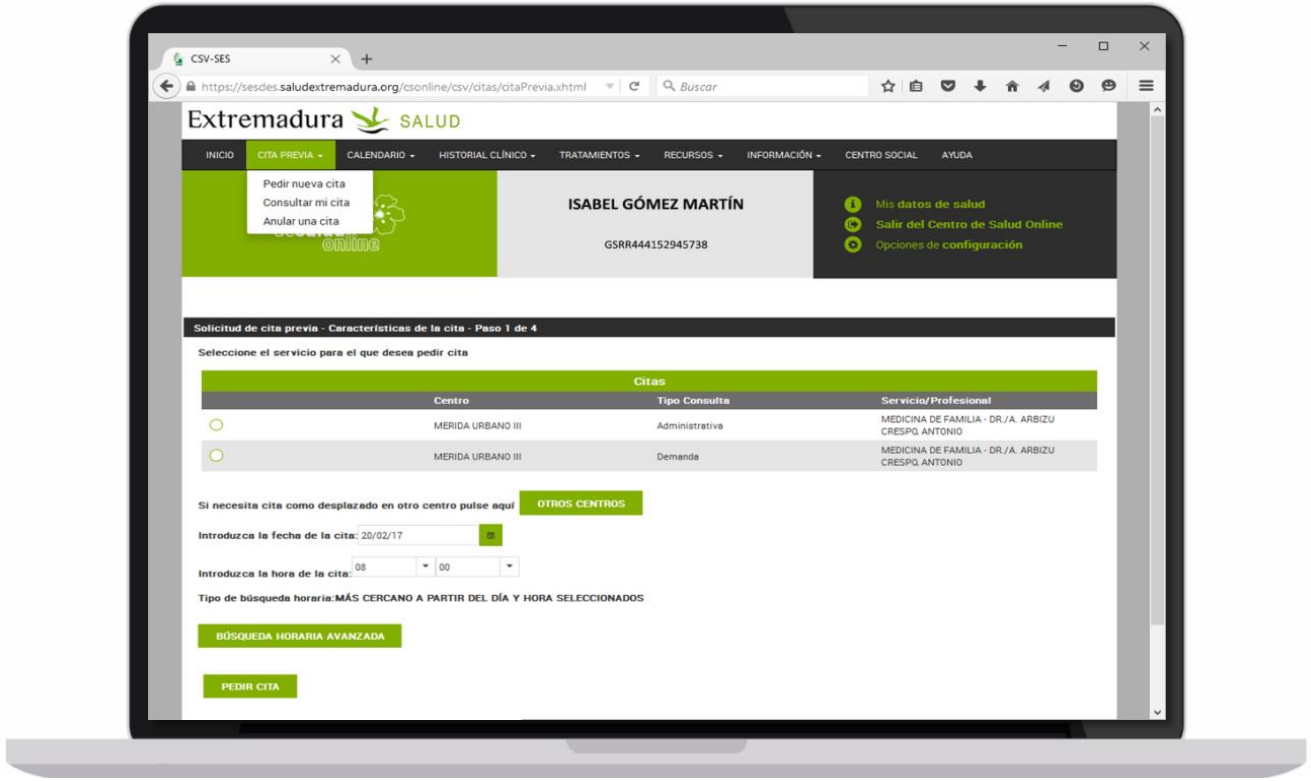
Medical appointment



Gestión de citas

✓ Set up, check, change or cancel appointments (primary and specialized care)

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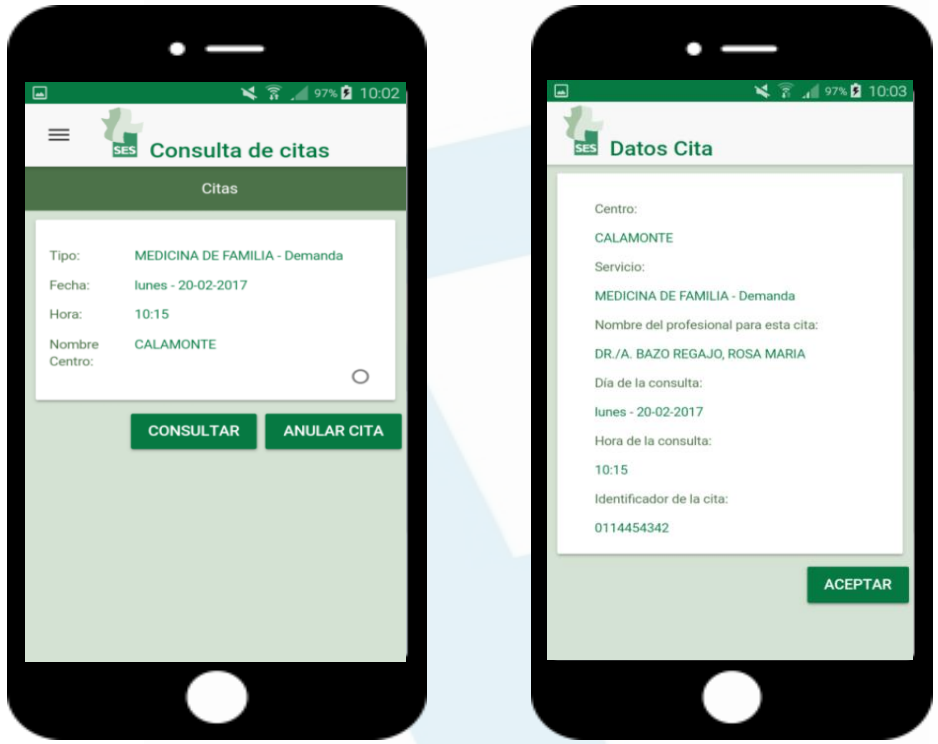
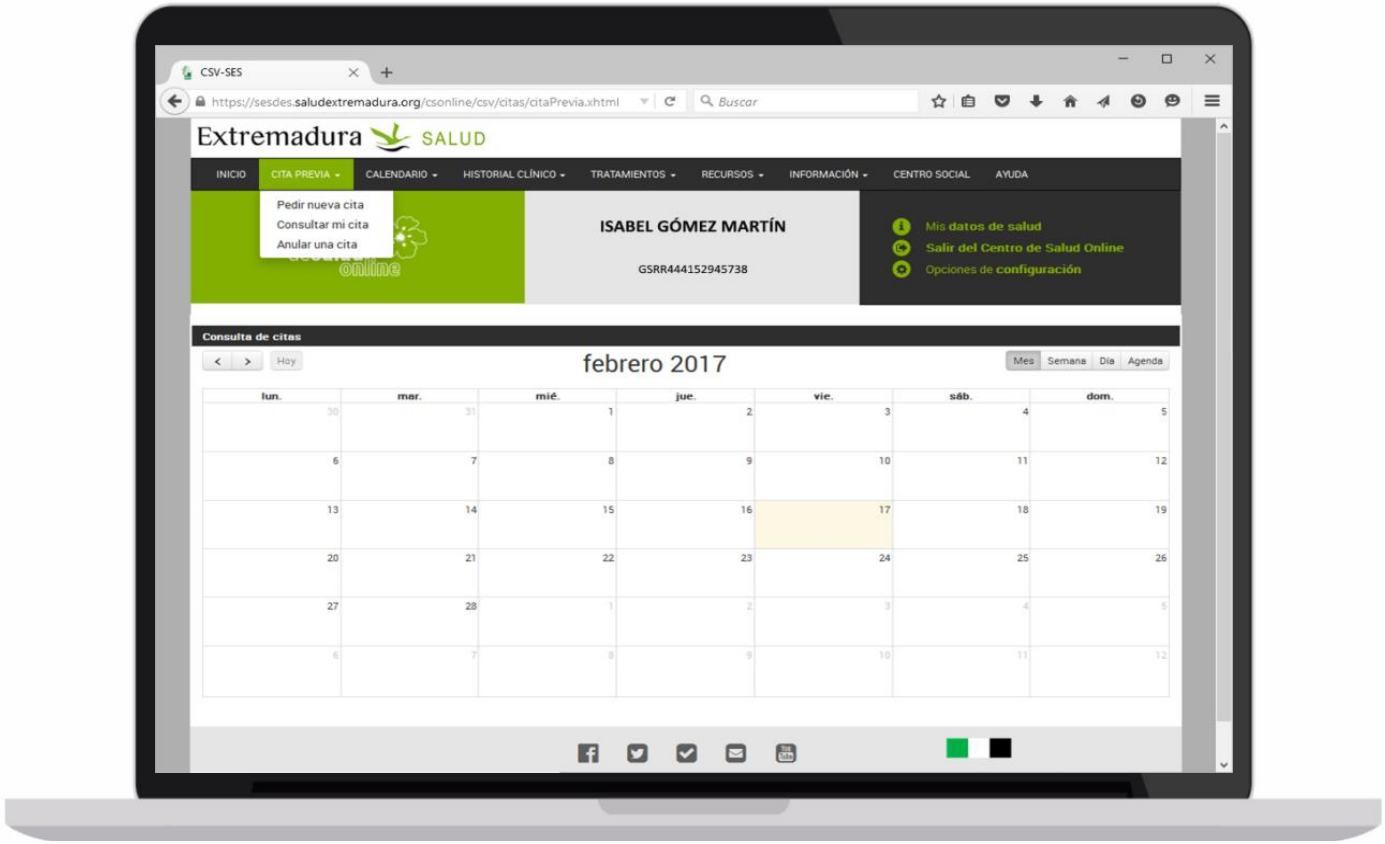
Medical appointment





Gestión de citas

- ✓ Calendar
- ✓ Notifications

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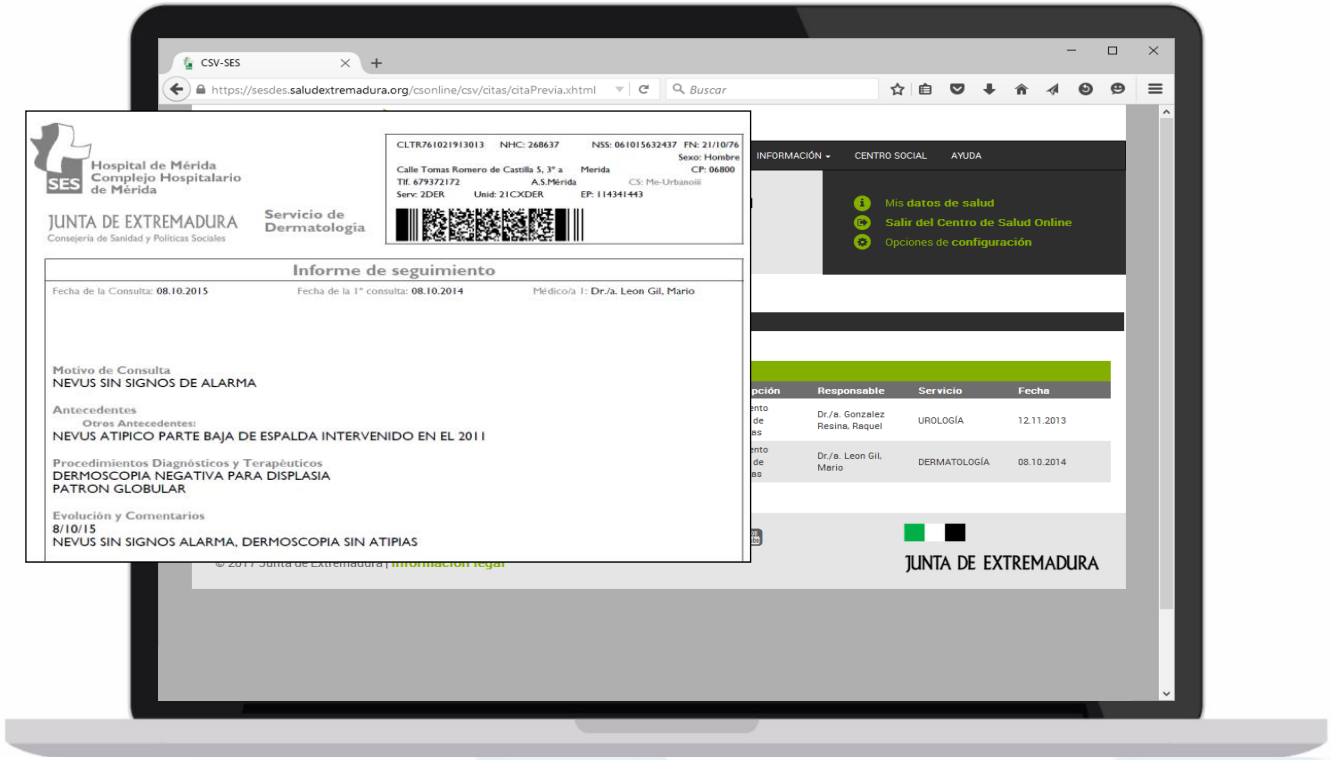
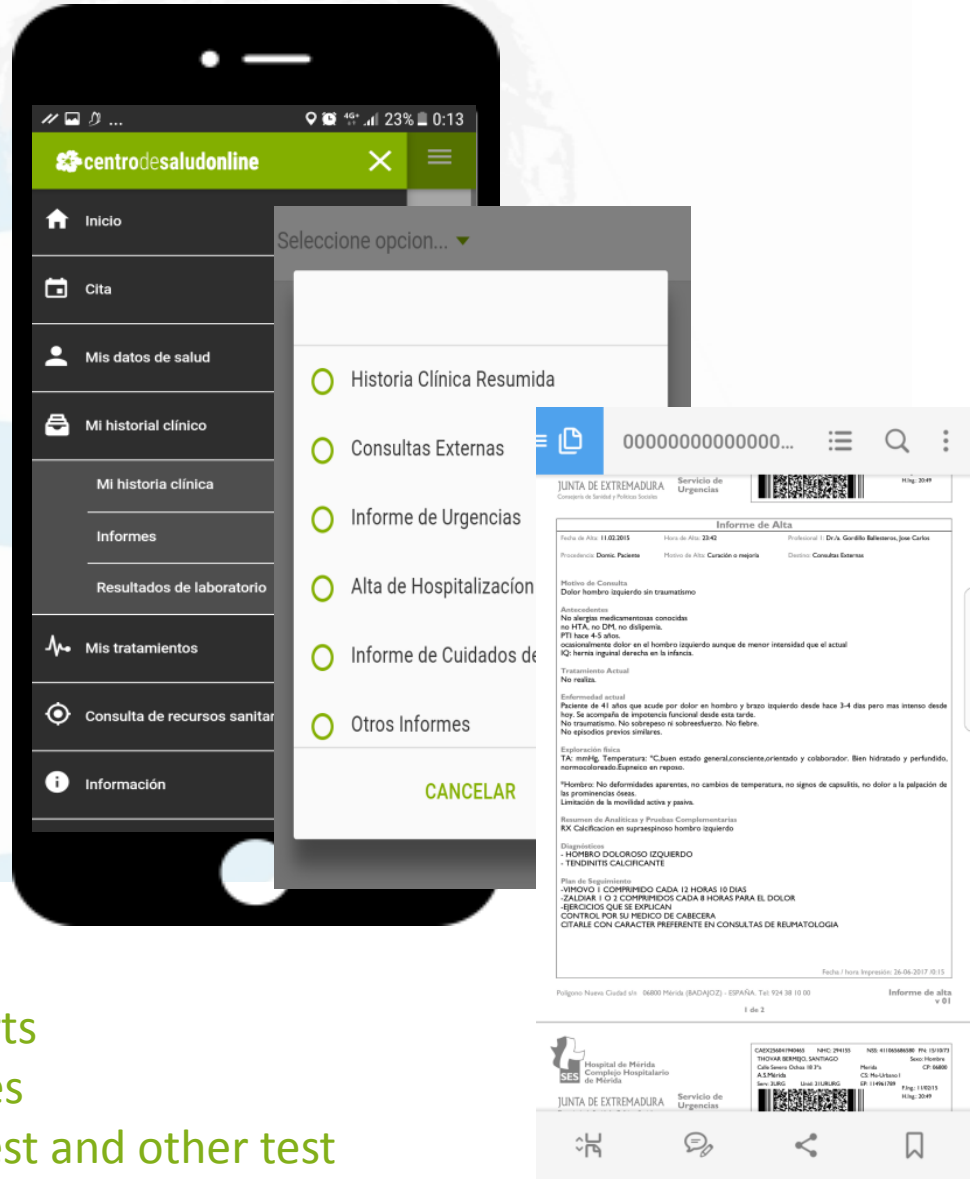
Clinical history





Mi historial clínico

- ✓ Reports
- ✓ Images
- ✓ Lab test and other test

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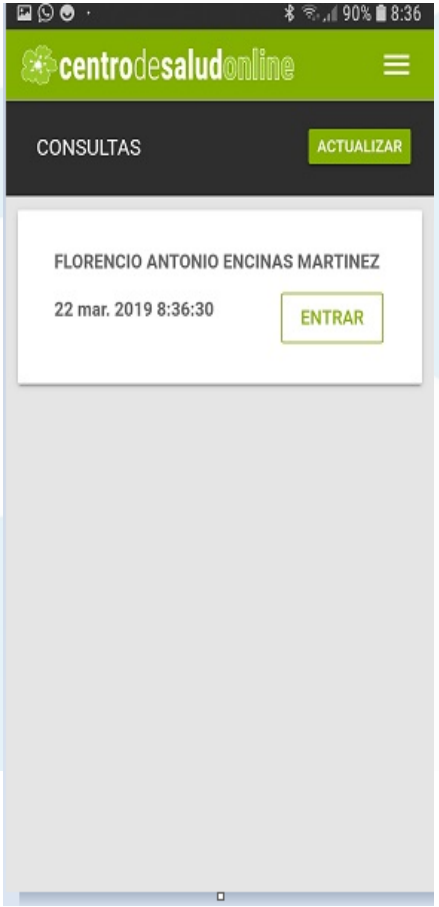
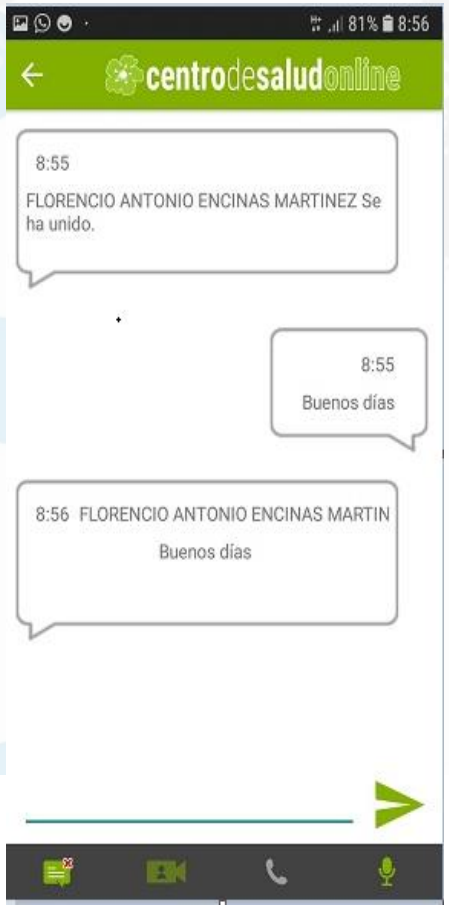
Video Consultation





Videoconsultas

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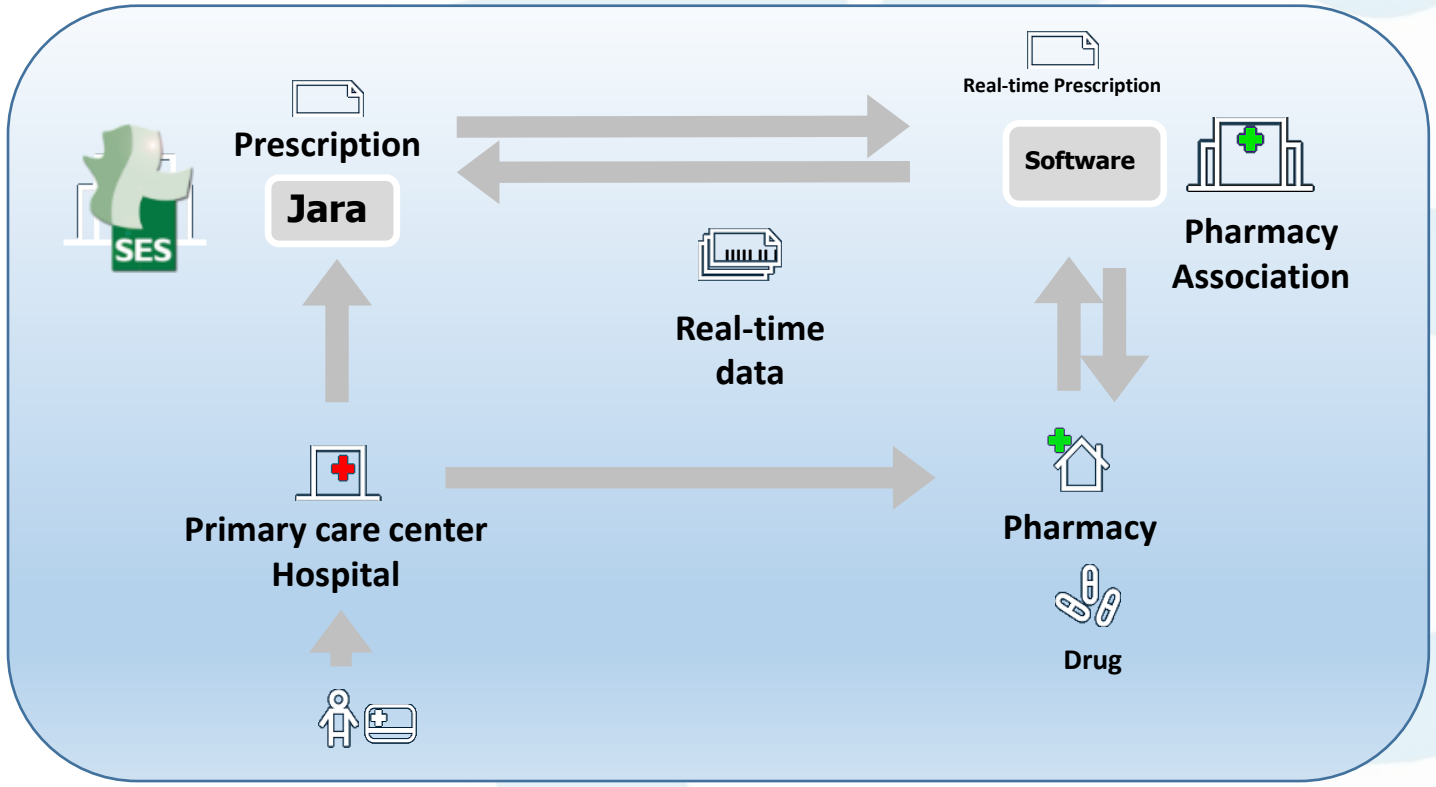
Therapy

- ✓ ePrescription
- ✓ Availability for taking it in pharmacy

Mis tratamientos

PHC and ePrescription



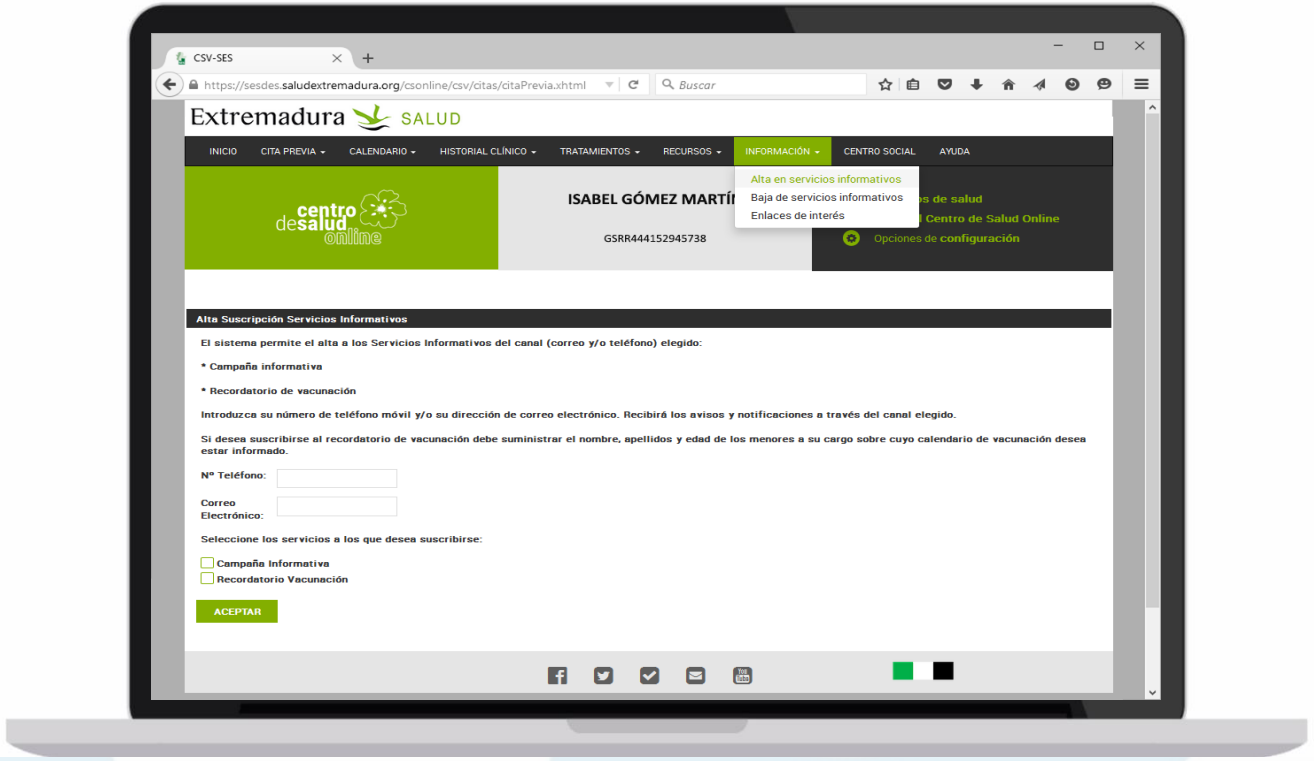
Interoperability with other regions in Spain (and Europe)

Personal Health Card (PHC)

Medical history is not saved in the card

Extremadura was one of the first region to implement it

Customer service



- ✓ Complaints
- ✓ Suggestions
- ✓ Reporting incidents/troubleshooting
- ✓ Avatar personalization

Atención al usuario

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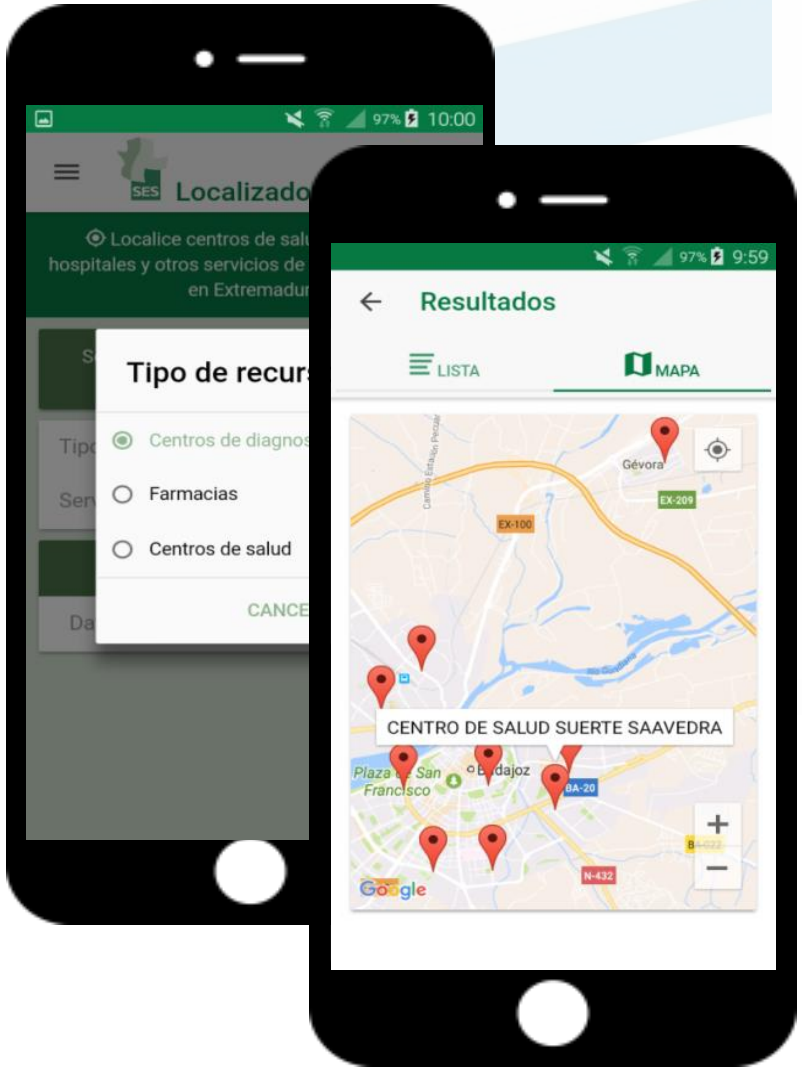
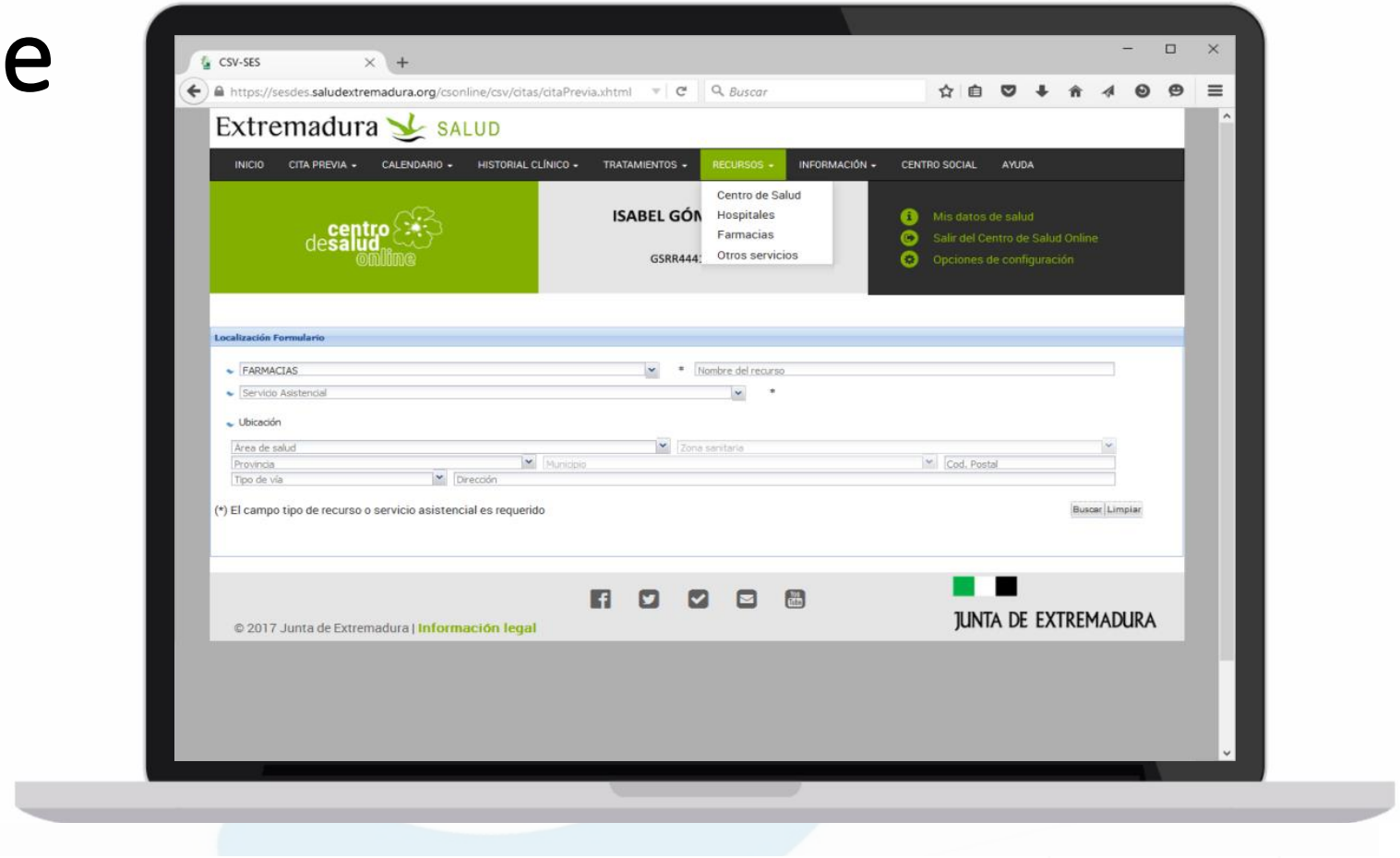
Customer service





✓ Resources finder

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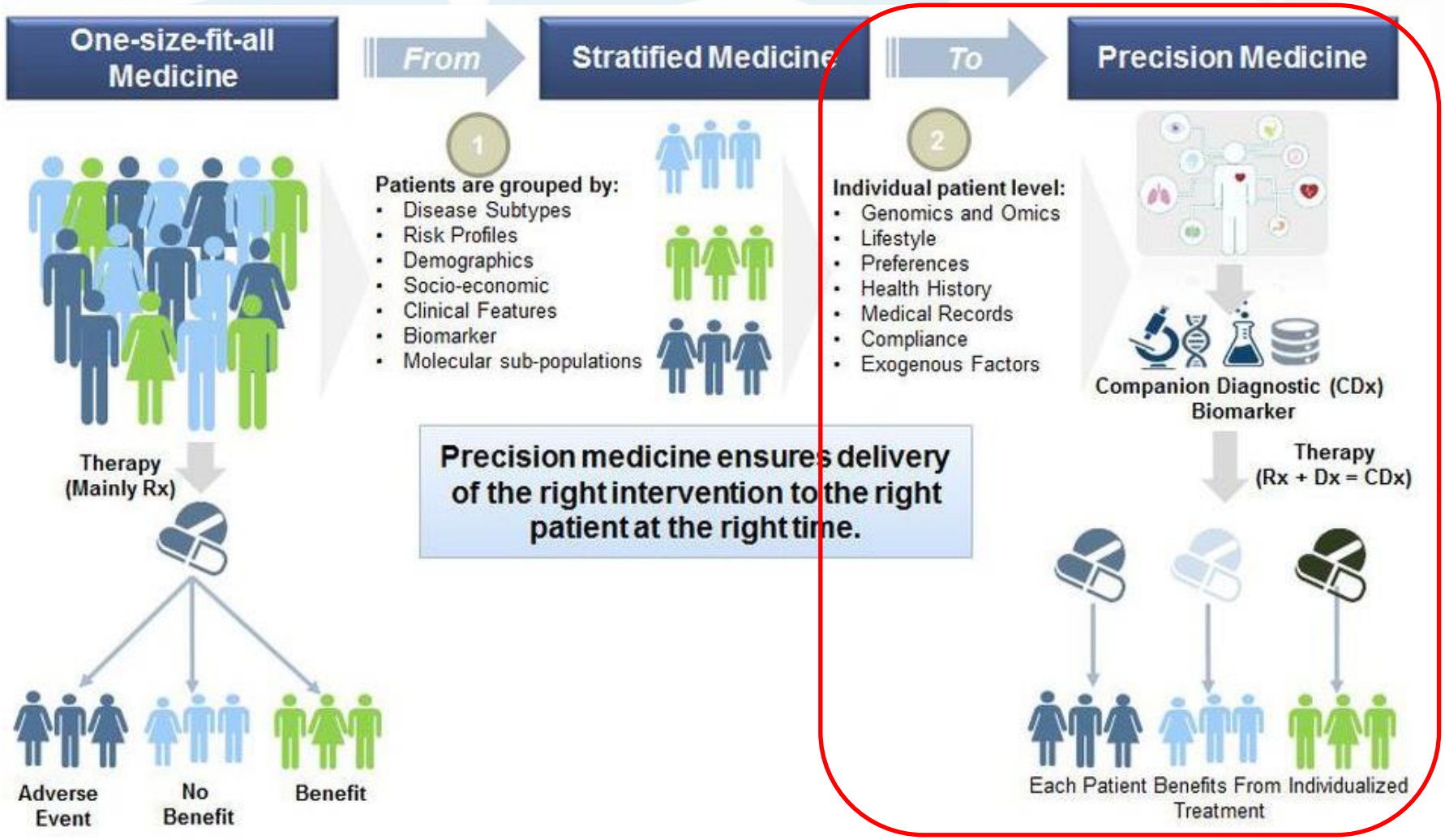
MEDEA project



Source: Frost & Sullivan -Figure 1: New Paradigm Shift in Treatment

MEDEA project

- **PCP project** that aims to build a **clinical support decision system**:
  - predict any adverse drug reactions
  - recommend the most effective treatments
  - identify the most suitable candidates for Clinical Trials

MEDEA project

- **Challenges:**

1. Personalized drug prescription system
   - **eHealth**
2. Molecular laboratory
   - **genetic biomarkers**
3. Pharmacological and analytical laboratory
   - **chemical and other type of biomarkers**
4. Analysis in clinical setting and clinical trial units
   - **Implementation and evaluation**
5. Tools for clinical evaluation and adverse drug reactions
   - **Evaluation of clinical effect and ADR**

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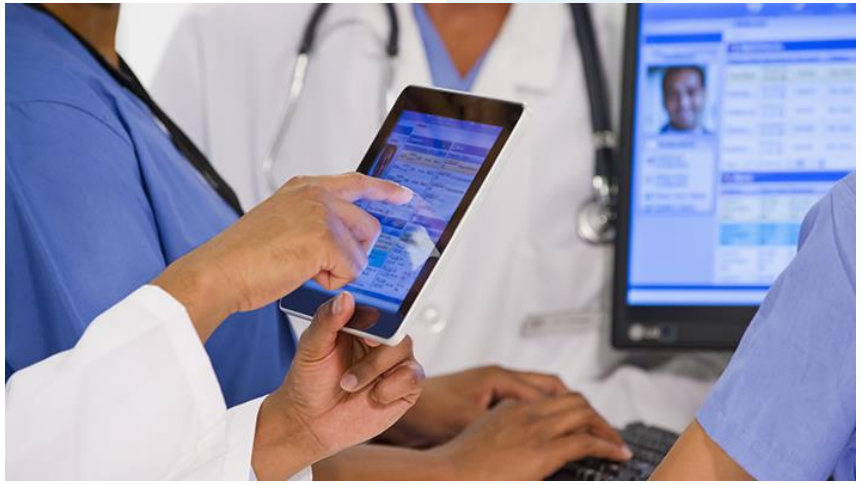
P-ICTUS

XTREM indra Drimay CASAVERDE hospitales

p-ICTUS

CDTI Centro para el Desarrollo Tecnológico Industrial · GOBIERNO DE ESPAÑA · MINISTERIO DE ECONOMÍA Y COMPETITIVIDAD · UNIÓN EUROPEA · PROYECTO COFINANCIADO POR EL FONDO EUROPEO DE DESARROLLO REGIONAL (FEDER) · Una manera de hacer Europa

Design, development and application of a tool for **personalized stroke prediction**



- Creation of a **database**
  - Big Data
- **Prediction** of health behaviors related to stroke
  - New algorithms development
- Application in consultation to perform **personalized medicine**
  - Assessment and stratification
- **Decision support tool** for clinical management
  - Focused on health outcomes
- Creation of a **repository** accessible to health professionals

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