

Integrated care for complex chronic patients in Andalusia (Spain): Personalized care action plans (PAPs)

*Regional Ministry of Health and Families of Andalusia
Andalusian Health Service*

Marketplace of good practices in Primary Care
(1st - 2nd June 2021)

OVERVIEW

- Andalusia main facts
- Andalusian Healthcare system
- Design and implementation of PAPs
- Results (CHRODIS+)
- Success factors



Andalusia: basic data

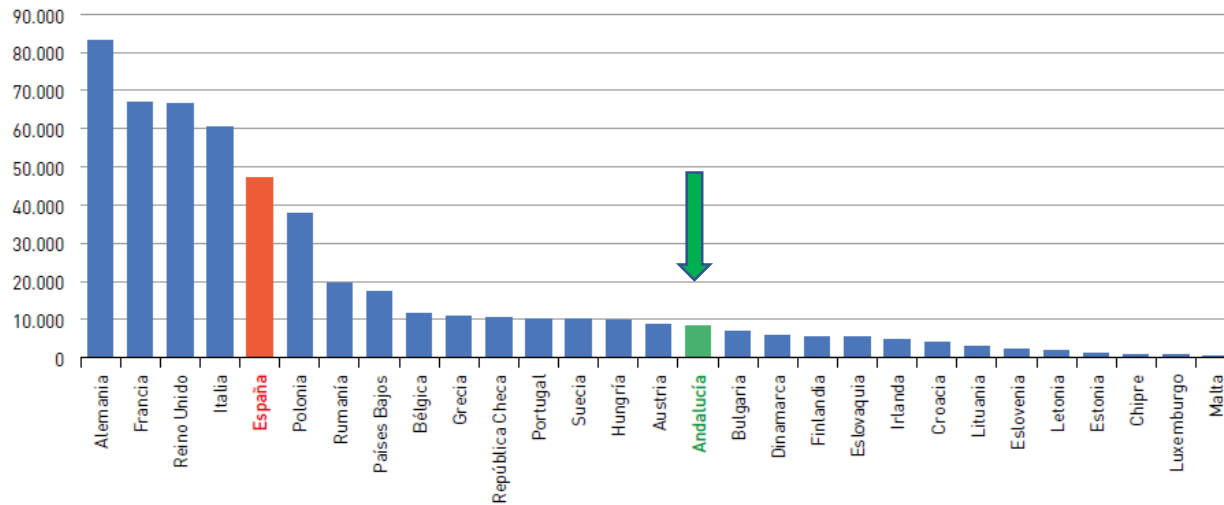
87.597 Km²

8.464.411 habitants

- 655.555 foreigners
- 32.476.854 tourists (2019)

Life expectancy at birth

- 81,9 (Total)
- 84,6 (♀)
- 79,2 (♂)



Andalusia: political context

- Political Autonomy since 1981
- Regional Institutions
 - Parliament
 - Government (“Junta de Andalucía”)
 - Court of Justice (TSJA)



**Regional
Parliament**

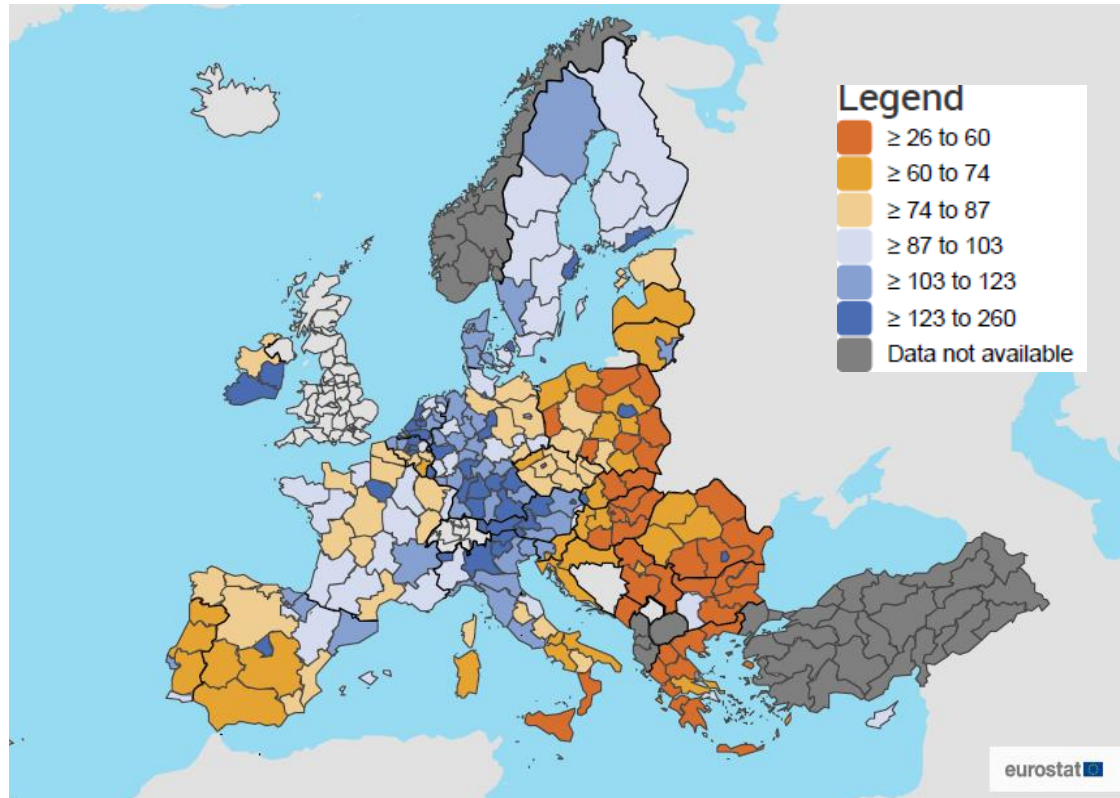


**Regional
Government**



**Regional Court
of Justice**

Andalusia: economic context



Regional gross domestic product (PPS per inhabitant) by NUTS 2 regions

Geopolitical entity (reporting) / Time: 2019 Time frequency: Annual Unit of measure: Purchasing power standard (PPS, EU27 from 2020), per inhabitant in percentage of the EU27 (from 2020) average

Gráfico 10. PRODUCTO INTERIOR BRUTO A PRECIOS DE MERCADO

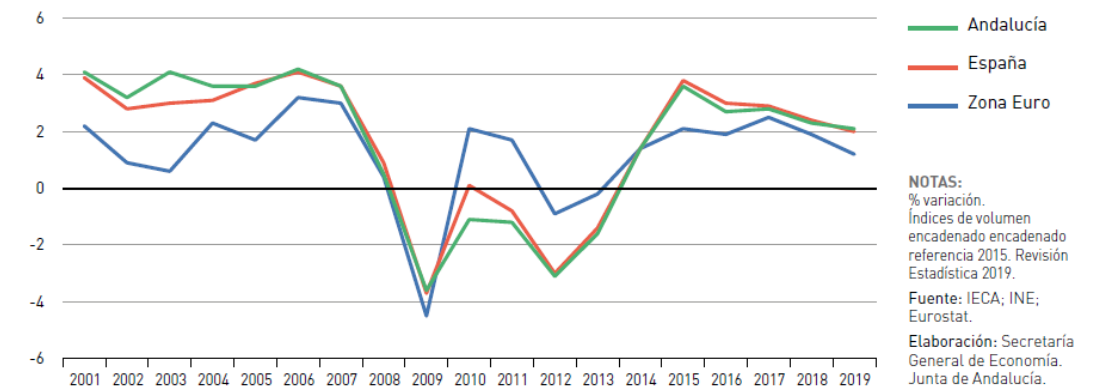
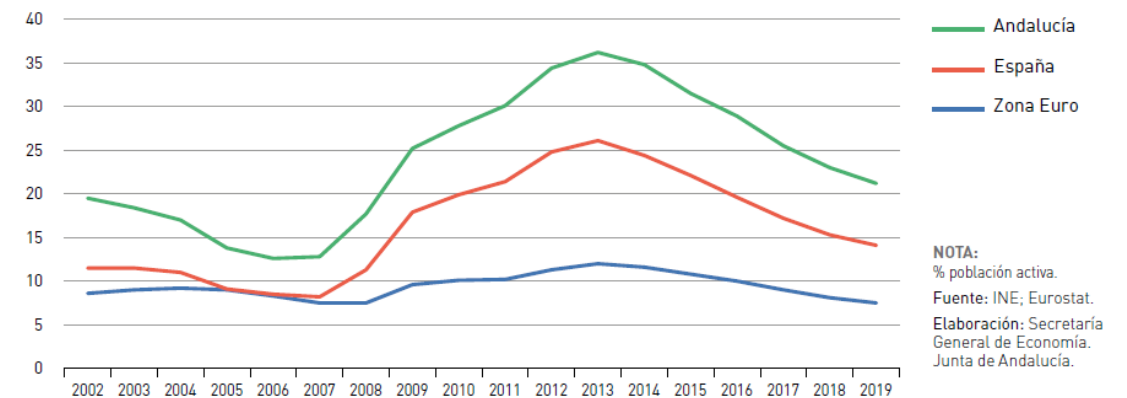


Gráfico 19. TASA DE PARO. ANDALUCÍA-ESPAÑA-ZONA EURO



Spain: National Health System

- 100 % Public Funding
- Universal coverage
- Free of charge (Pharmacy co-pay)
- Integrated care
- 2 levels:
 - Primary Care
 - Specialized Care

Spanish Healthcare General Act 1986

National Health System Cohesion and Quality Act 2003

National Public Health Act 2011

RDL 7/2018 Universal access to National Health System



Andalusian Public Healthcare System: Framework Principles



- Full Autonomy for Health Policy since 1984
- Healthcare Management at regional level
- Same Principles as national law
- Some specific driving principles:
 - Public provision of the services
 - Based on cooperation & coordination
 - Stress on:
 - Equity
 - Guarantee of rights
 - Territorial homogeneity
 - Accessibility
 - Transparency
 - Participation

Andalusian Health Act 1998

Andalusian Public Health Act 2011

Andalusian Public Healthcare System: Main features

1,519 Primary care centers

50 Public Hospitals

104,198 Healthcare professionals

10,729 M € Health Budget 2021

3,972 Pharmacies

8,507,269 Users

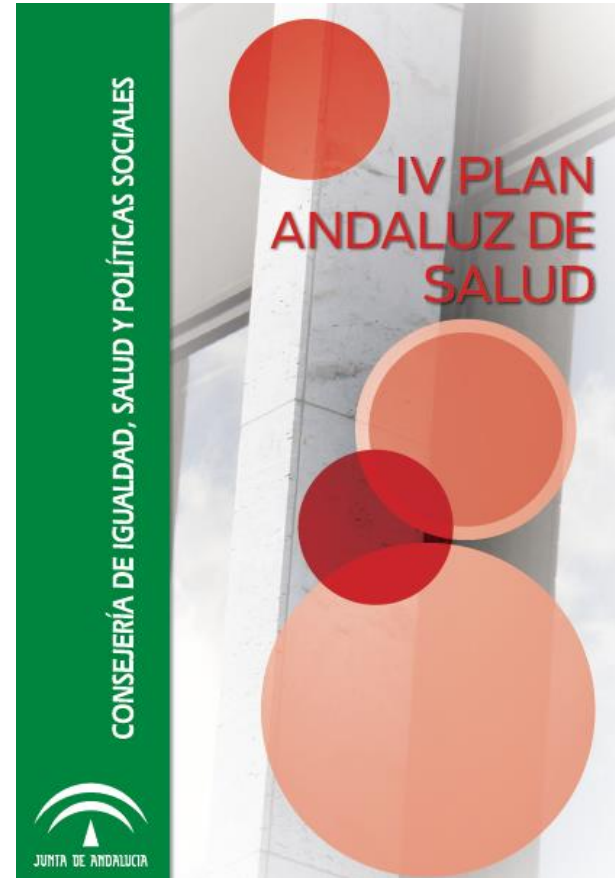
Andalusian Health Service

<https://www.sspa.juntadeandalucia.es/servicioandaluzdesalud/>



IV Andalusian Health Plan

- Health problems analysis
- Available resources
- Health objectives
- Priorities
- Strategies and policies
- Calendar
- Resources needed



https://www.juntadeandalucia.es/organismos/saludyfamilias/areas/planificacion/plan_andaluz_salud.html

Comprehensive Health Plans

- Identification main health problem
- Analysis of the situation and causes
- Definition of recommended interventions
- Development of activities in prevention, health education and promotion; health care delivery organization, training, research, etc
- Evaluation



<https://www.sspa.juntadeandalucia.es/servicioandaluzdesalud/el-sas/planes-integrales-y-de-salud>

Corporate information system and eHR



Integrated Available (time and place)

All health information for each citizen: 8.5 M eHR
440 M diagnoses

Primary HC:
43 M consultation sheet
3,6 M cons/month

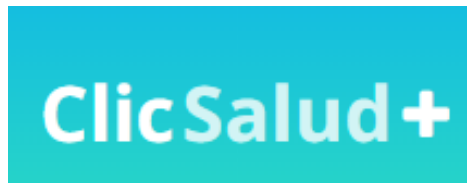
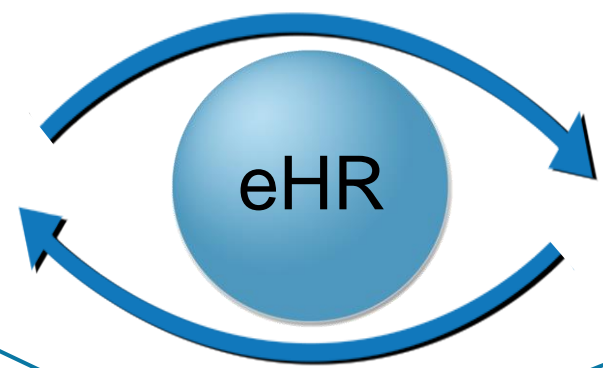
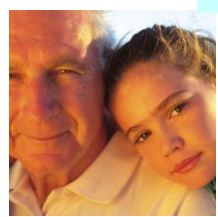


12,3 M Radiology
5,9 M Lab requests
72,8 M Lab results

Hospital care:
3,4 M emergencies
4,5 M outpatient visits
1,7 M episodes



106,8 M appointments (97 M PHC)



3.900 Pharmacies on-line:
162 M e-prescription/e-disp



Integrated care for complex chronic patients in Andalusia (Spain): Personalized care action plans (PAPs)

<https://www.sspa.juntadeandalucia.es/servicioandaluzdesalud/profesionales/sistemas-de-informacion/diraya>



Hospital Care in Andalusia

- Hospital **Network**. Patient **referral** by levels of complexity
- Financing based on capitation + level of complexity + foreign patients
- Professionals are **civil servants** or **salaried**
- % of salaries depends on outcomes (incentives & professional career)
- **Multidisciplinary teams** working by objectives
- Close coordination between hospitals and primary care districts*

** In 12 cases, the Hospital and the Primary Care District are unified as an "Integrated Area"*



Hospitals

5 Level I (>1.000 beds)

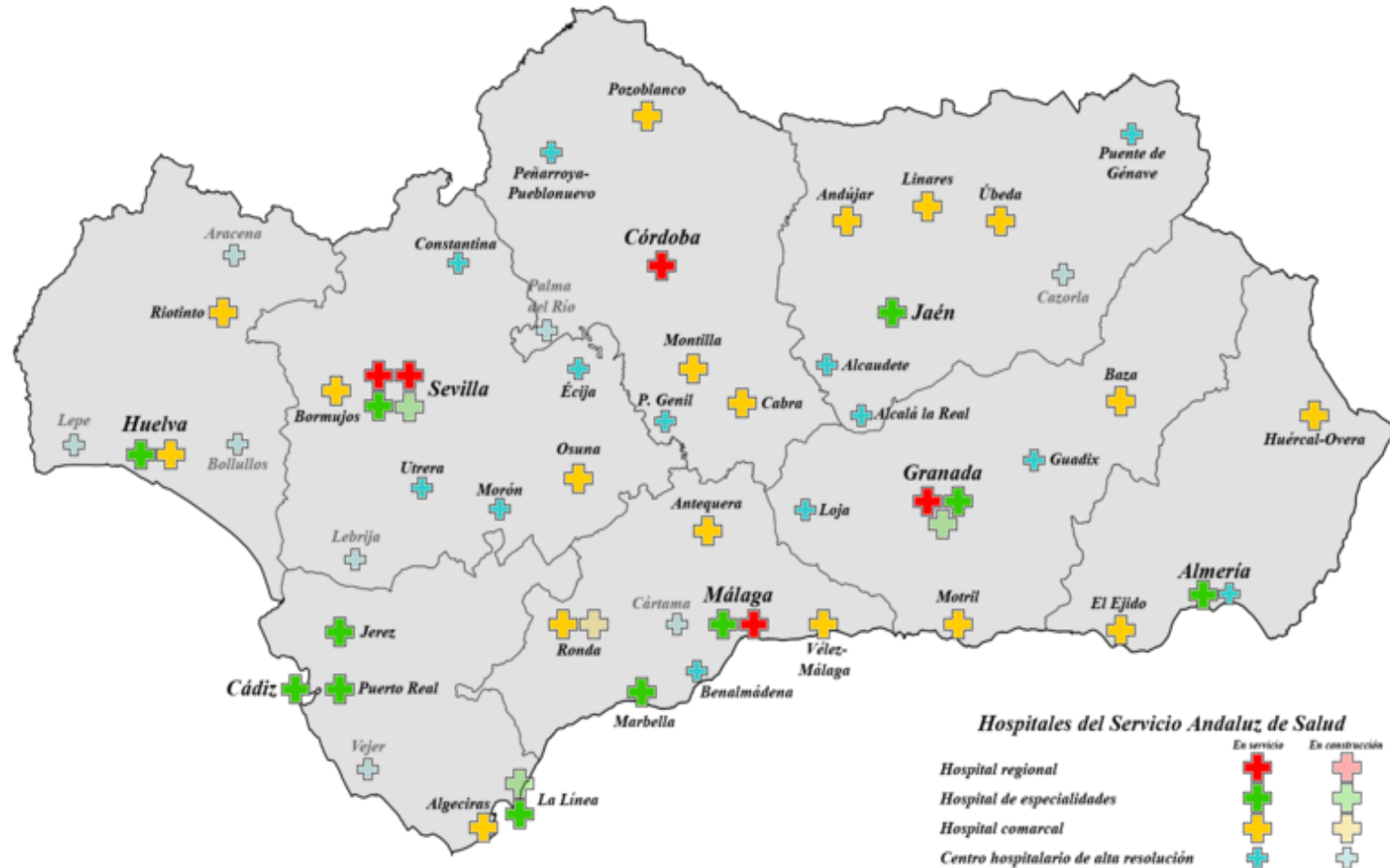
10 Level II (500-1,000 beds)

19 Level III (<500 beds)

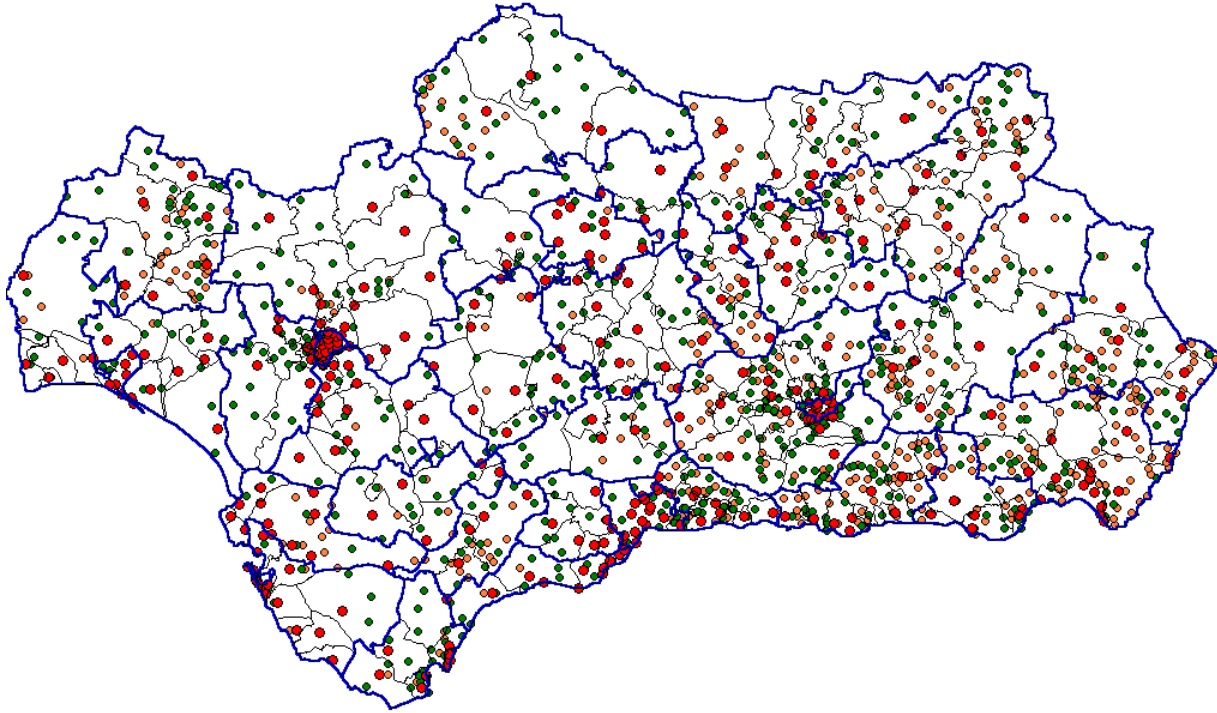
16 HRH (proximity hosp)

Total: 50 Hospitals

Hospital Care in Andalusia: Map

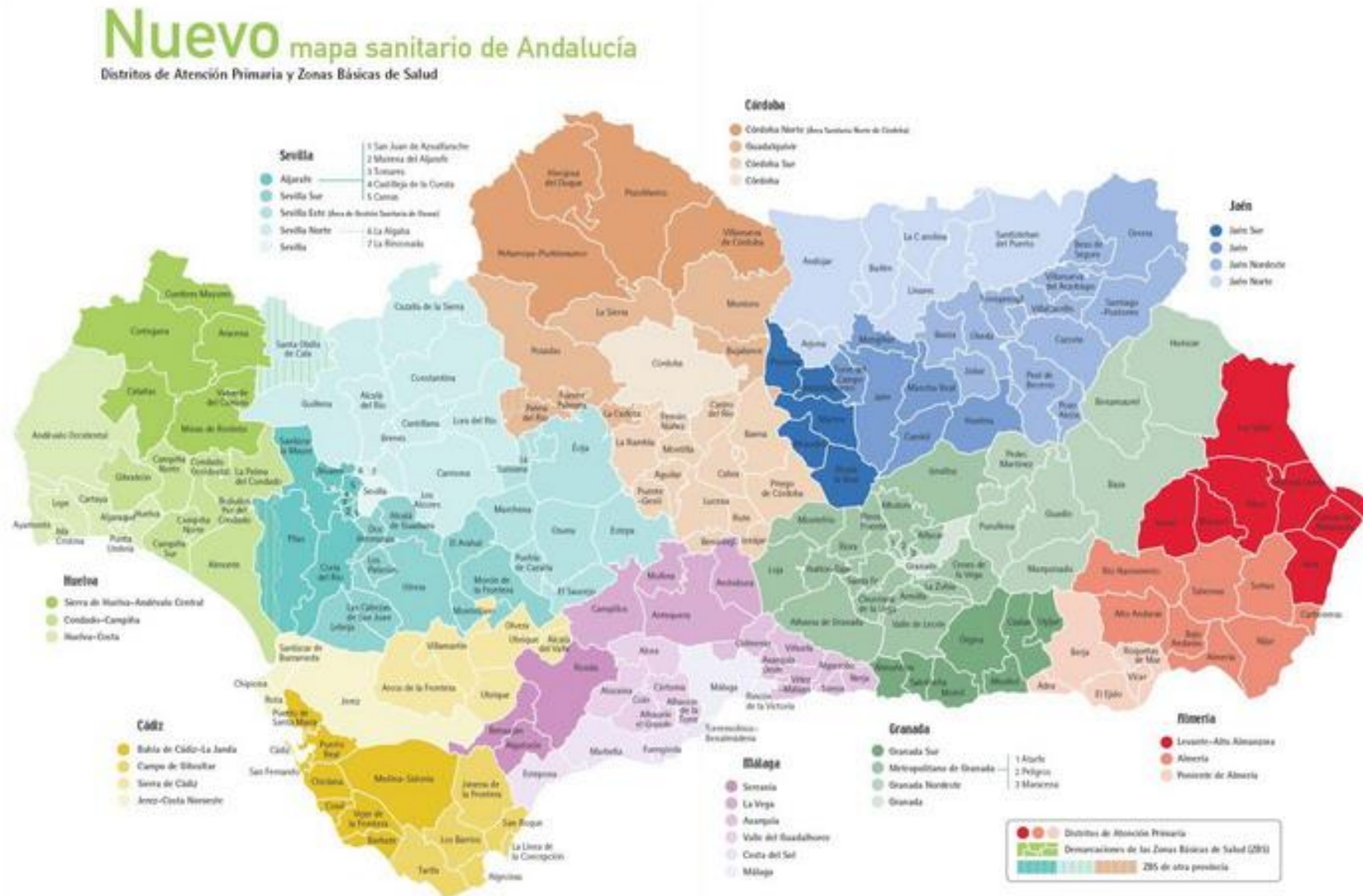


Primary Healthcare in Andalusia

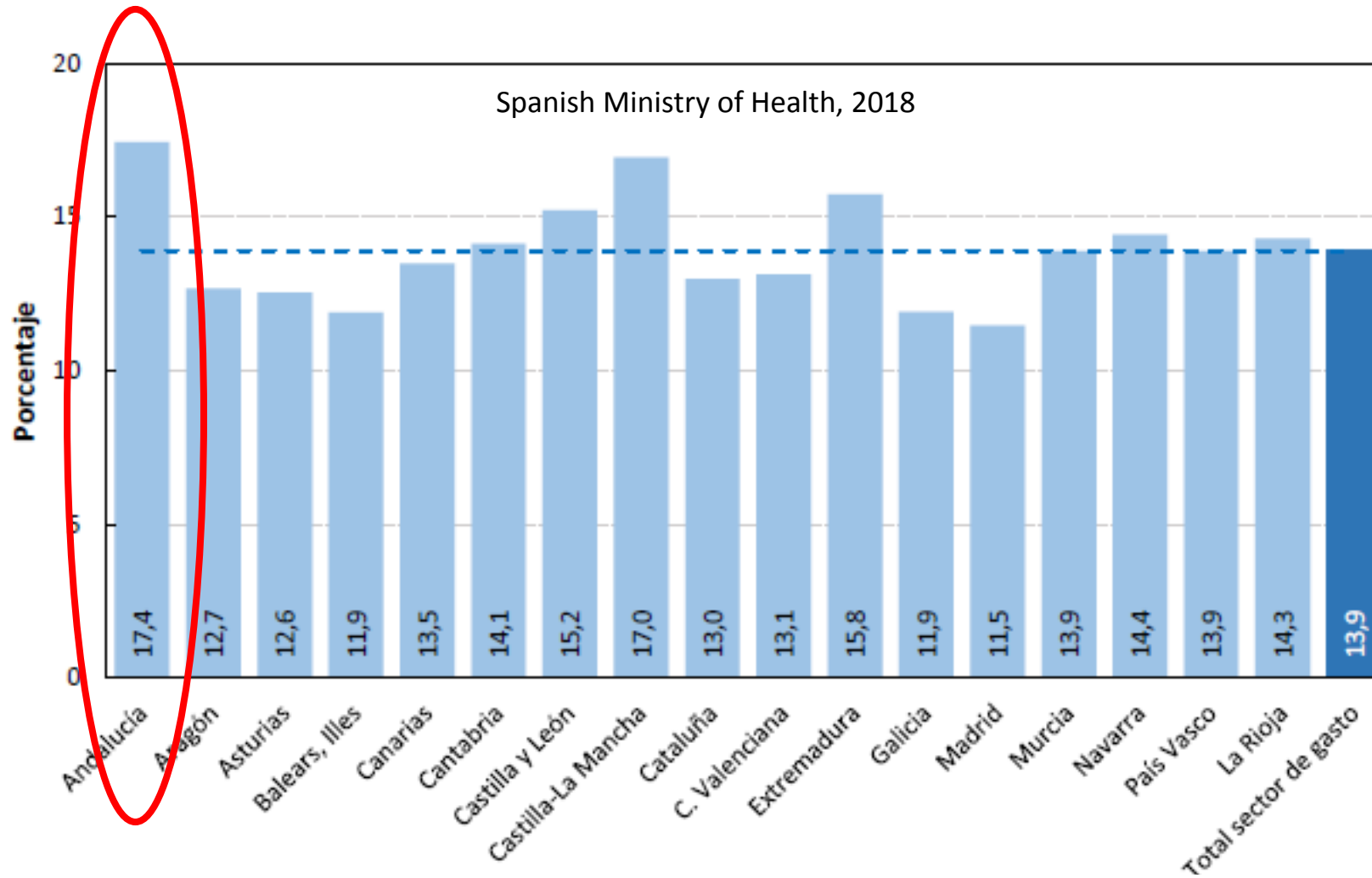


- Healthcare system **Backbone**
- **Capitation:** 1 GP/1,400 inhabitants
- Team of professionals working in a **PC Centre**
- Homogeneous **territorial distribution**
- Aggregation of PC Centres in “**Districts**”
- **Supportive teams** at Districts for Public Health purposes: Epidemiologists, Vets, Pharmacists...
- Professionals are **civil servants**
- Focus on **health promotion** and prevention

Primary Healthcare in Andalusia: Map



Public healthcare expenditure in PHC in Spain



<https://www.mscbs.gob.es/estadEstudios/estadisticas/sisInfSanSNS/tablasEstadisticas/InfAnSNS.htm>

Management of complex chronic patients in Andalusia: PAPs in PHC



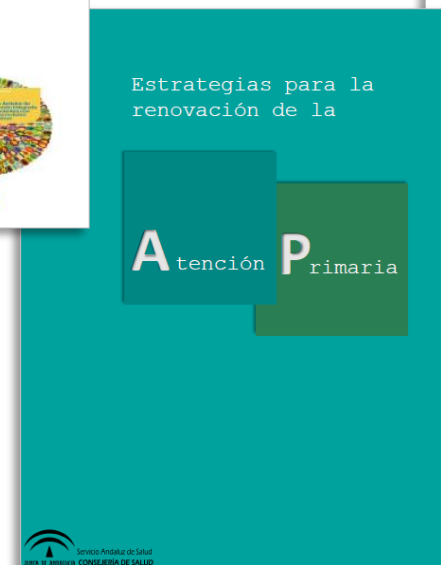
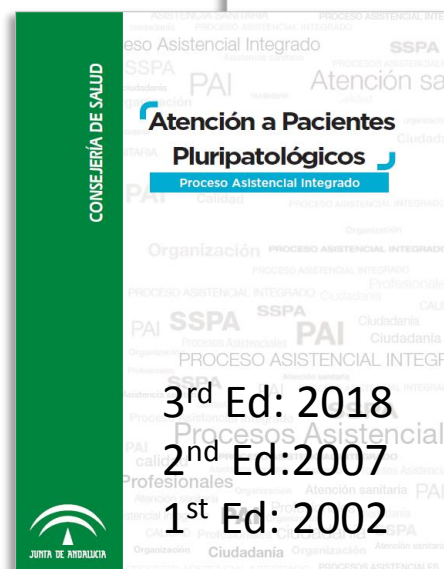
2012



2016



2016



2016

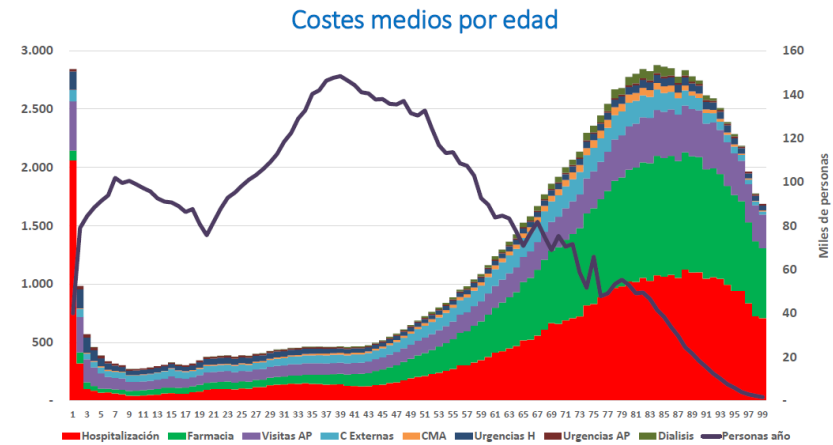
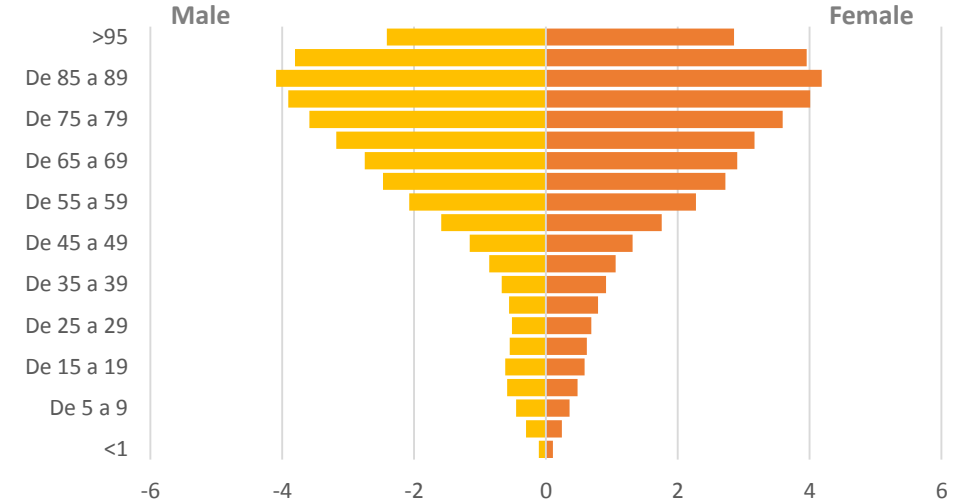
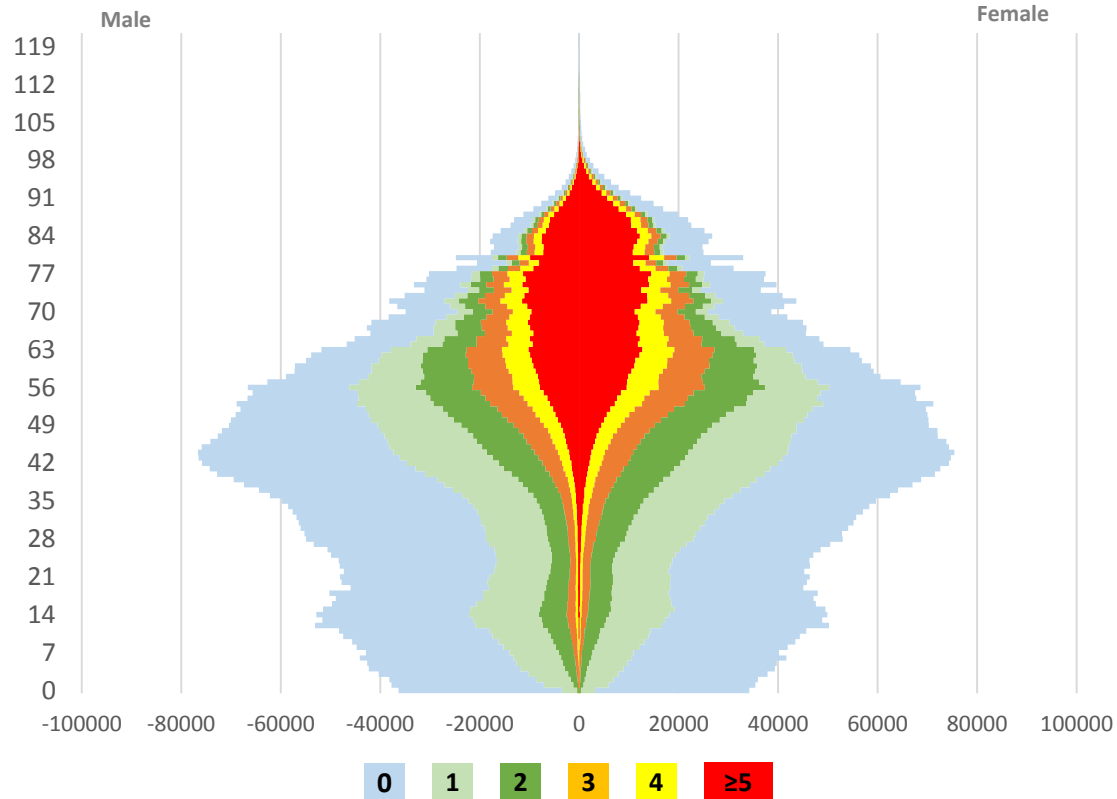
<https://www.juntadeandalucia.es/organismos/saludyfamilias/areas/planificacion/plan-integral/paginas/paier.html>

Integrated care for complex chronic patients in Andalusia (Spain): Personalized care action plans (PAPs)

Patients with chronic conditions in Andalusia

Average nº of chronic diseases per person, age group and gender (2020)

Number of chronic diseases by age and gender (2020)



Personalized care action plans (PAPs): main characteristics

- **Written plans** (within eHR-Diraya)
- **Multidisciplinary teams** (Fam Dr, RN, Internists, case managers, pharma, social w, ...)
- **Agreed with pat + family/caregiver**
- **Comprehensive assessment** (target symptoms, functional ability, quality of life, ...)
- **Patient preferences** (desired pat outcomes)
- **Recorded and stored** in the corporate information system and eHR (Diraya)
- **Regularly monitored and revised**

PAPs in Andalusia



Personalized care action plans (PAPs): implementation

Activities for PHC professionals to ensure the success of the practice deployment and implementation:

- Awareness-raising sessions,
- Training sessions on CCPs management and PAPs elaboration.



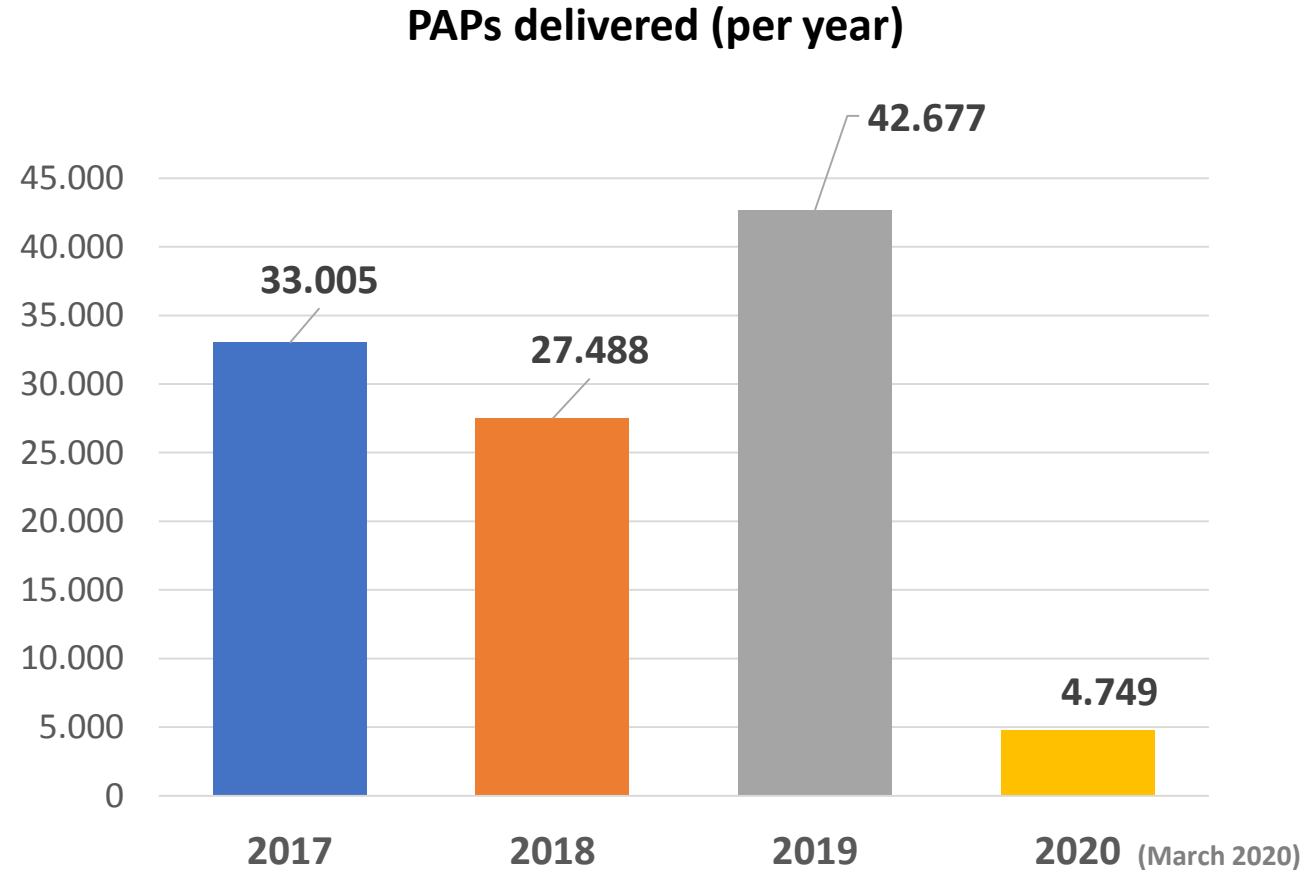
<https://www.opimec.org/>

Awareness and training sessions (total number)	2017	2018	2019
Awareness-raising sessions	0	48	0
Attendees to the awareness-raising sessions	0	154	0
Training sessions (OPIMEC)	5	6	4
Healthcare professionals trained (OPIMEC)	2,711	3,107	2,570



<https://www.picuida.es/>

Personalized care action plans (PAPs): Overall results

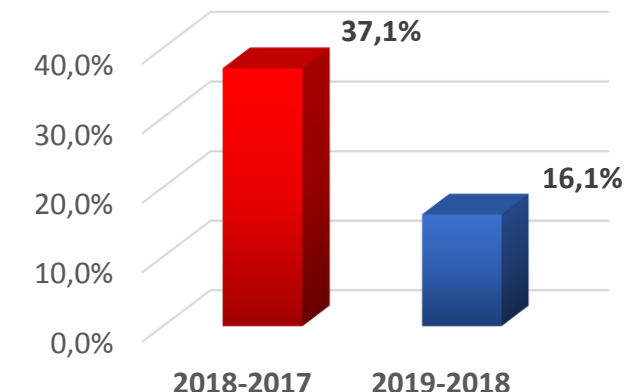


- **Overall: 2788 CC Patients** included (PAPs initiated between Dec. 2018-Feb. 2019).
 - CCPs followed for **12 month**, data routinely collected in the corporate eHR-DIRAYA.
 - **Key Indicators:**
 - Potentially preventable unplanned hospitalisations
 - Primary healthcare visits
 - Inpatient episodes
 - Outpatient visits
 - Emergency episodes
- **PACIC+ (patients' perception)**
- **Quality assessment of drafted PAPs**
 - **Study design:** transversal descriptive study
 - **Subjects:** random sample of **350 anonymized PAPs**
 - **Criteria:** agreed by expert group (Score: 0-5)

Main results: Healthcare services utilisation

Indicator	2017 (n)	2018 (n)	2019 (n)	2018 Vs 2017 (%)	2019 Vs 2018 (%)
Unplanned potentially preventable inpatient episodes	472	647	751	37,1%	16,1%
Family physicians' visits at PHC	35,471	39,630	36,049	11,7%	-9,0%
Family nurses' visits at PHC	33,331	41,767	40,350	25,3%	-3,4%
Family physician home-visitis	543	903	1,499	66,3%	66,0%
Family nurses home-visitis	8,431	12,176	13,746	44,4%	12,9%
Emergency episodes at PHC	3,408	3,841	3,716	12,7%	-3,3%
Emergency episodes at hospitals	2,647	3,032	3,102	14,5%	2,3%
Outpatient visits	14,635	16,048	15,421	9,7%	-3,9%
Inpatient episodes	1,121	1,382	1,402	23,3%	1,4%

Reduction in the increment of unplanned potentially preventable inpatient episodes



Economic impact estimation

	O 2018	O 2019	E 2019	(O-E)/O
Costs	19.897.248,63 €	20.541.162,59 €	24.726.246,52 €	23,51%



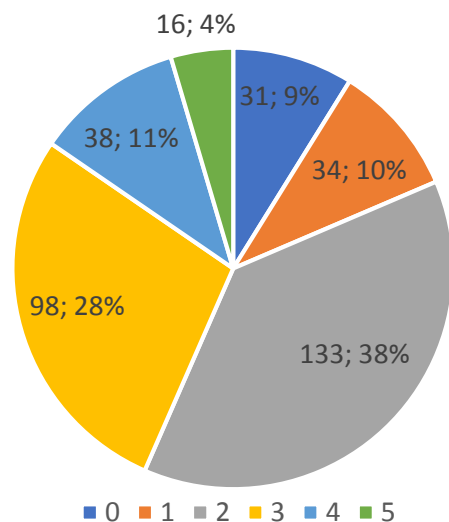
O: Observed; E: Estimated

Qualitative assessment: PACIC+ questionnaire

Subscale	PACIC component	PRE (n=51)	POST (n=42*)	IMPROVEMENT
Patient Activation	1-3	2.8	3.4	22.6%
Delivery System Design / Decision Support	4-6	3.6	3.9	10.7%
Goal Setting	7-11	2.8	3.4	19.7%
Problem-solving / Contextual Counseling	12-15	3.1	3.7	19.6%
Follow-up / Coordination	16-20	2.4	3.1	25.7%
Items derived from the 'Patient-centered model of behavioral counseling'	21-26	2.6	3.2	25.4%
Health status change perceived by patients		5.3		



Assessing the Pilot Implementation of the Integrated Multimorbidity Care Model in Five European Settings: Results from the Joint Action CHRODIS-PLUS. Rodriguez-Blazquez et al, Int J Environ Res Public Health. 2020 Jul 22;17(15):5268.



Average score
2.36

PAPs that meet all PAP requirements	4.6%
PAPs that are fully filled but do not meet all PAP requirements	76.9%
PAPs that are not fully filled	18.5%

- Scores:**

- **0: PAP No field filled-up** (no text to be assessed)
- **1: PAP Some but not all compulsory fields filled-up**
- **2: PAP All compulsory fields are filled-up**
- **3: PAP, with all compulsory fields filled-up, but one criterium** addressed adequately or according to patient's situation and diseases (a, b or c)
- **4: PAP, with all compulsory fields filled-up, and two criteria** addressed adequately or according to patient's situation and diseases (a+b, a+c, b+c)
- **5: PAP, with all compulsory fields filled-up, and all criteria** addressed adequately or according to patient's situation and diseases (a, b y c)

Areas of improvement identified



Barriers

- Deployment of the methodology at the same time throughout the territory: Andalusia extension is 87.597 km², with 8.5 M inhabitants (average size of an EU MS)
- Variability in PAP drafting by healthcare professionals (lack of systematization)
- Unclear IT PAP form, with many compulsory fields to be filled within the corporate eHR “Diraya” to register a PAP without direct explanations
- Healthcare professionals’ agendas have to include all activities and daily tasks

Enablers

- Teams of experts developed training materials (on-line training courses and guidelines) to tackle CCPs as well as to perform PAPs
- Availability of standard documents and guidelines and on-line training courses
- Each field to be filled in the IT PAP form can display a help window including an explanation of the needed information
- Healthcare professionals' agendas were adapted to include time for performing PAPs

New PAP solution within eHR-Diraya

Healthcare professional - HISTORIA DE SALUD DIGITAL DEL CIUDADANO - Centro de atención primaria-Historia de salud de un usuario

Atención al usuario | Atención clínica | Historias | Profesionales y agendas | Consultas generales | Pruebas Analíticas | Ayuda | Salir

Historia de salud | Informes clínicos | Informes recibidos

Patient Name: Hombre, 45 años, Medicina, Enfermería, GP Name, Nurse Name

Fecha de consolidación en servicios centrales: 01/07/2020 21:10:55

Usuario de alta

Problemas activos del usuario:

Centro	F. inicio	F. cierre	Descripción	Estado	Op.
	14/05/2010		Active healthcare issues	Aceptado	
	16/01/2003			Aceptado	
	16/01/2003			Aceptado	
	16/01/2003			Aceptado	

Centro	Fármaco	Posología	Fecha Fin	Demanda	Op.
	IBUPROFENO 600MG, 40 COMPRIMIDOS	1.00	10/09/2021	-	



New PAP solution within eHR-Diraya

The screenshot displays the 'Historia de Salud Digital' interface for a patient. The top navigation bar includes 'Atención al usuario', 'Atención clínica', 'Historias', 'Profesionales y agendas', 'Consultas generales', 'Pruebas Analíticas', 'Ayuda', and 'Salir'. The patient's profile shows 'Hombre', '45 años', 'Medicina', and 'GP Name'. The main content area is divided into several sections:

- Healthcare data...:** A section on the left side of the main area.
- Episodes...:** A section below 'Healthcare data...'.
- Problemas activos del usuario:** A section titled 'Problemas activos del usuario' with sub-sections for 'Plan de atención personalizado', 'Medicaciones', and 'Mensajería'. It features a 'VALORACIÓN INTEGRAL EXHAUSTIVA (VIE)' section with five categories: 'Valoración pronóstica', 'Valoración social', 'Valoración del dolor', 'Valoración funcional', and 'Valoración cognitiva'. Each category is currently marked as 'No informado'.
- INTERVENCIONES/RECOMENDACIONES:** A section at the bottom with buttons for 'Intervenciones', 'Recomendaciones', 'Guardar', and 'Publicar'.

A red circle highlights a tree icon in the top navigation bar, and a blue arrow points from it to the 'VALORACIÓN INTEGRAL EXHAUSTIVA (VIE)' section. The 'Diraya' logo is visible in the bottom left corner of the screenshot.

New PAP solution within eHR-Diraya

ClicSalud+ | Usuario: Joaquín González Barrios | Medicina: Ricardo Martínez L...

USUARIO XXXI CRONICO CRONICO
68 años, 45 años, 45/100/100/100

Plan de atención personalizado | Mediciones | Mensajería

VALORACIÓN INTEGRAL EXHAUSTIVA (VIE) ⓘ


Valoración pronóstica ⓘ Riesgo alto / Riesgo alto 01/07/2020 23:19	Valoración social ⓘ Riesgo social intermedio / Riesgo o problema social 01/07/2020 10:15	Valoración del dolor ⓘ Presenta dolor 01/07/2020 10:14	Valoración funcional + Presenta incontinencia urinaria 26/05/2020 10:32	Valoración cognitiva + SIN deterioro 22/05/2020 13:52
Valoración afectiva + Depresión moderada / Depresión leve-moderada 22/05/2020 13:33				

New PAP solution within eHR-Diraya

The screenshot displays the ClicSalud+ interface for a user named 'USUARIO XXXI CRONICO CRONICO'. The interface includes a navigation bar with 'Plan de atención personalizado', 'Mediciones', and 'Mensajería'. The main content area is titled 'INTERVENCIONES/RECOMENDACIONES' and features a tabbed interface with 'Intervenciones' and 'Recomendaciones' tabs. Below the tabs, there are buttons for 'Guardar' and 'Publicar'. The 'Intervenciones' tab is active, showing a list of intervention categories: 'Pronóstica (1/1)', 'Sociales (4/4)', 'Dolor (2/2)', 'Funcionales (1/1)', 'Cognitivas (0/0)', 'Afectivas (2/2)', 'Generales (6/20)', and 'Problemas (0/0)'. The 'Afectivas (2/2)' category is selected, displaying a list of interventions. The first intervention is 'Higiene del sueño, vigilancia activa, intervenciones psicosociales y psicoemocionales de baja intensidad', which includes a description: 'Puedo ayudarme a mí mismo a mejorar mi estado de animo. Debería: expresar mi estado de animo, dormir las horas necesarias, mantenerme activo, realizar relajación, mantener vínculos afectivos con familiares y amigos ()'. The second intervention is 'Añadir a la terapia o ajustar ISRS, deprescripción ADT en su caso, si no hubo respuesta a intervenciones no farmacológicas en 3 meses o repercusión funcional'.

New PAP solution within eHR-Diraya

PAP delivered to the patient



Servicio Andaluz de Salud
CONSEJERÍA DE SALUD Y FAMILIAS

Plan de atención personalizado
ClicSalud+

DATOS IDENTIFICATIVOS

USUARIO XXXI CRONICO CRONICO
Fecha de nacimiento: 15 enero de 1971
Número de historia de salud de Andalucía (NUHSA) AN1: [REDACTED] 36 - DNI 099999999R

En este documento usted podrá consultar su 'Plan de atención personalizado'. Este plan incluye el conjunto de recomendaciones que usted y los profesionales de salud que le atiende han acordado poner en marcha para mejorar su salud. Su equipo de salud le acompañará y le ayudará siempre que lo necesite.

Estas son las recomendaciones que he acordado con el profesional que me atiende y que voy a realizar con la ayuda que necesito para mejorar mi salud:

- Puedo ayudarme a mí mismo a mejorar mi estado de ánimo. Debería: expresar mi estado de ánimo, dormir las horas necesarias, mantenerme activo, realizar relajación, mantener vínculos afectivos con familiares y amigos

Estas son las recomendaciones que también serían convenientes para mejorar mi salud pero que no podré realizar por el momento:

Thank you Merci Dzięki **Gracias**

Merci Dzięki Thanks **Aitäh** Grazie **Takk**

Vd'aka *Ευχαριστώ* **Vielen Dank**

Merci Thanks **Grazie** *ευχαριστίες* **Dík**

Köszönöm Merci