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Older People with Chronic Diseases: A Vision of the Future

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1. Introduction

The Spanish Constitution in article 43 establishes the Right to Health and its development, through the General Law on Health, urges the National Health System (SNS) and the Health Services of the Autonomous Communities (CCAA), to develop Comprehensive Plans or Regional Health Plans.

In 2003, SNS Law 16/2003 on Cohesion and Quality was adopted, recommending the development of Comprehensive Health Plans for the most prevalent, relevant or special socio-family burdens, ensuring comprehensive health care that includes prevention, diagnosis, treatment and rehabilitation.

According to the World Health Organization (WHO), Chronic Diseases (EC) accounted for 63% of global mortality during 2008 and are expected to account for 75% by 2020. If these data indicate an improvement in health conditions with higher life expectancy, they also reflect that the pattern of diseases and their cares are changing. 45.6% of the population over the age of 16 suffers from a chronic process and 22% or more. With age, the presence of EC grows and at the same time the amount of services they need to care for the health of the elderly due to the number of EC they have.

The challenge is not EC but chronicity. It is not only to diagnose and treat a disease but to adapt the person who suffers from it to the environment in which he lives. Addressing chronicity should be protecting and promoting health, combining individualized care and the participation of different social actors at all levels of society.

For two decades, various EC [1] Management Models have been developed with the intention of preparing strategies against chronicity. All of them get the best results in health when the patient, active, informed and considered as a fundamental piece works in a practical, proactive and prepared professional team.

In the need to address the problems arising from ec care, different International Bodies such as the OECD, the UN or the European Parliament have addressed this issue [2]. In our country we must highlight the Strategy to face the challenge of Chronicity in the BasqueCountry [3] and the consensus reached in the "Declaration of Seville" [4] among sixteen Scientific Societies, the Health Services of seventeen CCAA, the Ministry of Health and, the Spanish Forum of Patients, lawyer for the realization of an Integral Regional Plan of Care for PATIENTS with EC in each of the CCAA; as well as the Health Plan of Catalonia 2011-2015 [5], the Care Plan for patients with EC of the Valencian Community (CV) [6] or the Health Plans of CV [7] themselves; integrated and approved by the SNS Interterritorial Council on 27 June 2012.

Currently the predominant epidemiological pattern is that of EC due to increased life expectancy, improvement in public health and health care. These demographic and epidemiological changes have made the SNS act not only from a biomedical perspective but also work with a model of prevention and management of chronic health conditions to be sustainable and fulfil its social function.

Timeline and Dependence are closely related, producing the need for health and social services. From the change of model, with integral management and coordination of the different social agents

arises the Strategy for the Approach of the Timeline of the Ministry of Health, Social Services and Equality, with the participation of Scientific Societies, Patient Associations and CCAA Health Counseling.

With multipathology, comoritability or special complexity are the patients who find it most difficult to access and move around the health system, usually elderly and functionally limited people, which generate the highest demand for care and greater consumption of health and social resources.

These patients do not need discontinuous follow-up and care, but addressing their timeline requires working in interdisciplinary teams (health and social professionals) that ensure continuity with maximum patient participation and environment.

It is not so important to apply a theoretical or provision model to develop healthcare chronicity [8], but to enhance Primary Care Teams (PAPs), to reorganize care and involve patients in the knowledge and care of their disease.

In terms of figures relating to Spain, in 2011 17% of the population was over 65 years old, estimated 20% by 2020 (one in five Spaniards), reaching 35% by 2050.

Currently, 35% of the Spanish population (5% of the total) are people over the age of 80 and have two or more EC.

According to WHO, in 2005, EC accounted for 60% of global mortality, including 70-80% of total health expenditure, 80% of Primary Care (AP) consultations, 60% of income and 75% of hospital emergencies.

The costs of patients with more than one EC increased six times compared to patients with one or no EC. More than five EC increased health spending by seventeen times and hospital spending by twenty-five [9] (Figure 1).

An example of the impact of EC in our country is Chronic Heart Failure (ICC): [10]

- Prevalence of 10% in over 70 years.
- The most common cause of hospitalization and re-entry in people over 65 years of age.
- Cost per hospitalization twice as much as cancer.
- 3rd cause of death in Spain.
- Consume 1-2% of total health expenditure.
- 10% of hospital beds with an average stay of 7 days.
- High comobility: 78% is associated with two or more EC and 54% to three or more (Figure 2)
- 60% of patients are 80 years of age or older.
- High drug consumption: 8.69 on average with a range of 1-23 (Figure 3)

2. The Strategy for the Approach to Timeline in the SNS Has as:

- **Mission:**_establish objectives and recommendations to improve the health of the population, prevent health conditions and limitations in chronic activity and comprehensive care.
- **Vision:** adapt the health system to respond to the needs of socio-health care that cause aging, the chronicity of health conditions and the limitation of activity, guaranteeing quality, safety, continuity in care, equity and social participation.

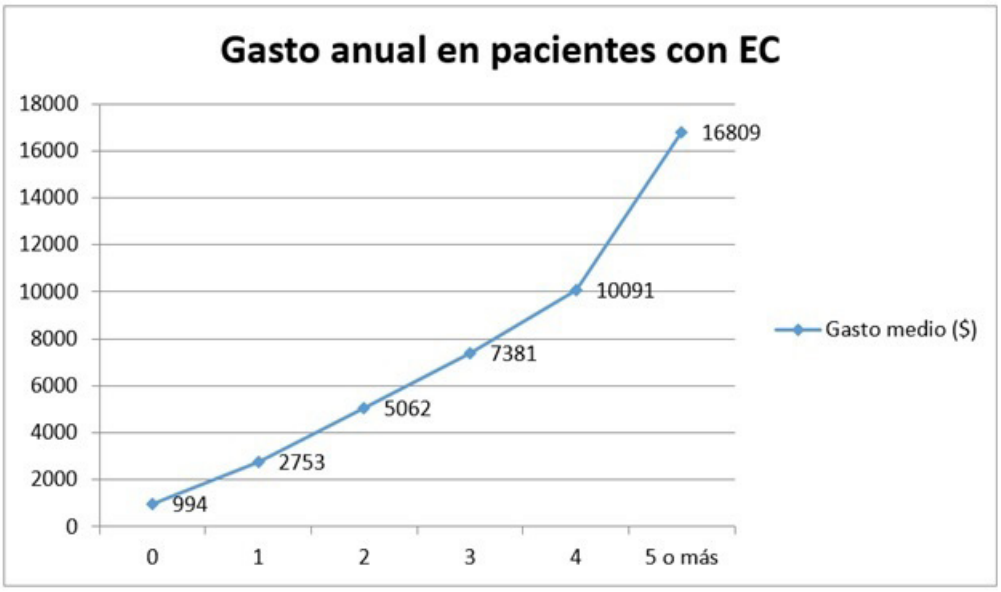

Figure 1

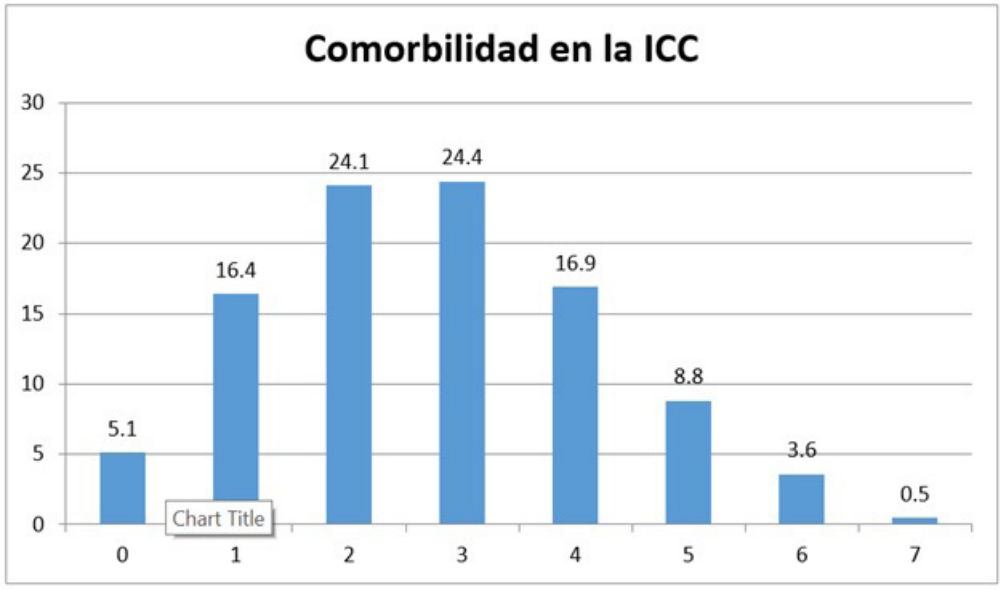

Figure 2

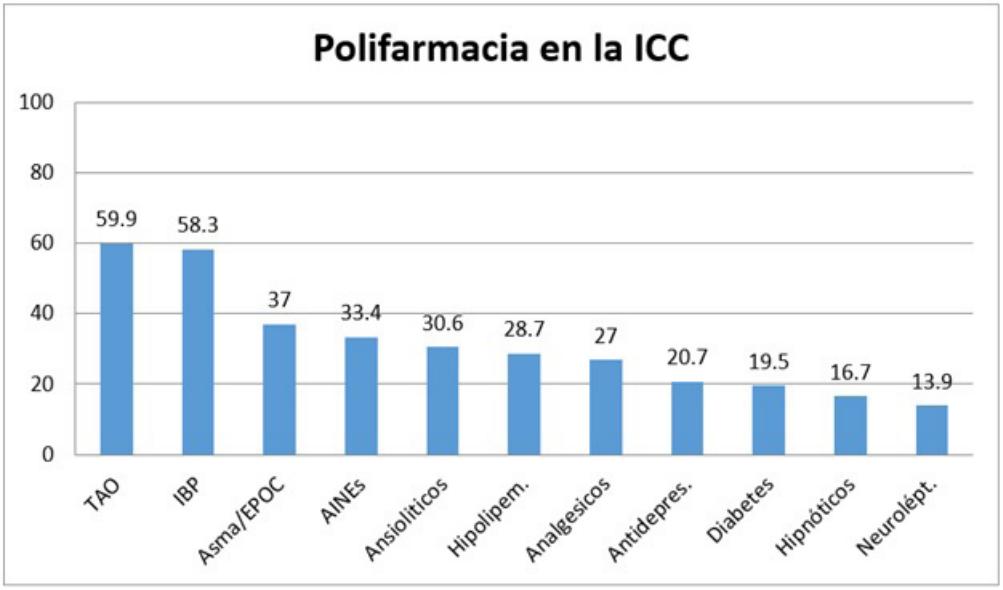

Figure 3

2.1. Objectives:

- Decrease the prevalence of EC.
- Reduce premature mortality.
- Prevent associated complications.
- Improve quality of life.

2.2. Guiding principles:

- People are the center of SNS.
- Population health approach.
- Life cycle perspective and social determinants of health.
- AP as the focus of chronic care.
- Continuity of care.
- Health professionals and citizens sharing responsibility in health care and in the use of socio-health resources.

The strategic lines, developed in 20 recommendations and 101 objectives, are:

- Health promotion.
- Prevention of chronic conditions.
- Continuity of care.
- Reorientation of health care.

- Equity in health and equal treatment.
- Research and innovation.

In the context of chronicity, at the level of the Valencian Community, and as estimated in its III Health Plan [11] 78% of health care will be directed to chronic pathology and this must be adapted to a proactive management model, focused on prevention and care and that defines the segmentation or stratification of the population according to the needs identifying three levels of intervention according to the complexity of the chronic patient:

- Level 3: patients with greater complexity and frequent comorability. Comprehensive case management.
- Level 2: High-risk patients with less comorability. Disease management.
- Level 1: PATIENTS with EC in incipient stages. Self. (Figure 4).

According to data from the National Statistical Institute (INE), in 2009, life expectancy in the CV was 81.19 years on average (84.11 years for women and 78.27 for men) consolidating a progressive ageing population, aged between 80 ears and older (aging). (Figure 5).

This progressive aging is associated with an increase in the number of chronically ill and therefore disability, dependence and increased morbidity.

In cv, it is currently estimated that approximately 60% of the adult population suffers from some EC, which consumes between 70 and 80% of total health expenditure, requiring adequate management of chronicity to ensure the sustainability of the health system.

Chronic CV pathology accounts for 80% of AP visits, 60% of hospital admission and 2/3 parts of emergency visits, most of which are chronic polymedicated patients. Major EC include BCI, COPD, Asthma, Ischemic Heart Disease, HTA and Diabetes (Table 1).

The ESCARVAL (Predictive Project) project, objective of the Cardiovascular Prevention Plan of the Ministry of Sanitat de la CV, investigates in the clinical practice of the AP, tracks the Valencian population through the Electronic Health History Management Tool (HSE) such as Abucasis II and performs a specific scale of vascular risk for CV.

In general, the number of visits to AP is seen as the number of chronic pathologies suffered by the patient grows (Figure 6).

Screening to identify the main risk factors in cv such as alcohol consumption, smoking, HTA, DM or Dyslipemia, by acting on them has a major impact on the prevention of EC.

By way of example and schematically the evolution according to the data collected in the HSE from January 2007 to June 2011 for the HTA was of increasing control and inertia (Chart 1)

The goal of the CV EC patient care strategy is comprehensive care, reduce the consequences of disease and dependence, tailor services to every time and situation to achieve better health outcomes, greater socio-care satisfaction and better quality of life.

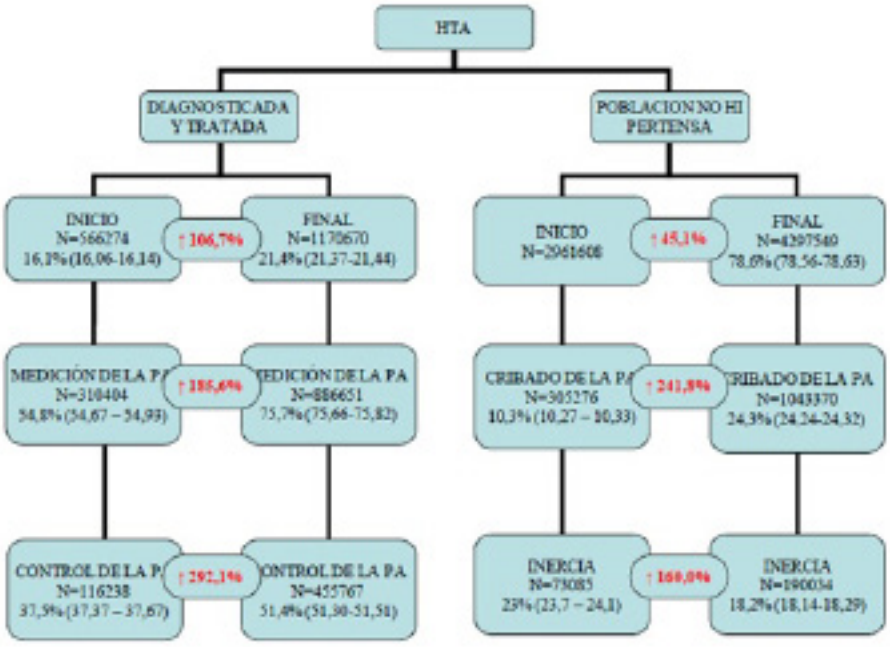

Chart 1

Problema de salud	Prevalencia	Nº de pacientes estimados
Hipertensión arterial	35% (población de 18 y más años)	1.471.512
Diabetes	8% (población de 16 y más años)	344.334
EPOC	10% (población de 40 y más años)	254.179
Insuficiencia Cardiaca	4% (población de 16 y más años)	172.167
Asma	5% (población de 16 y más años)	215.209
Cardiopatía Isquémica	5,5% (población de 45 y más años)	117.080

Fuente: En función de estudios de prevalencia a nivel estatal. Datos de población: INE. Revisión del Padrón municipal 2011. Comunidad Valenciana.

Table 1

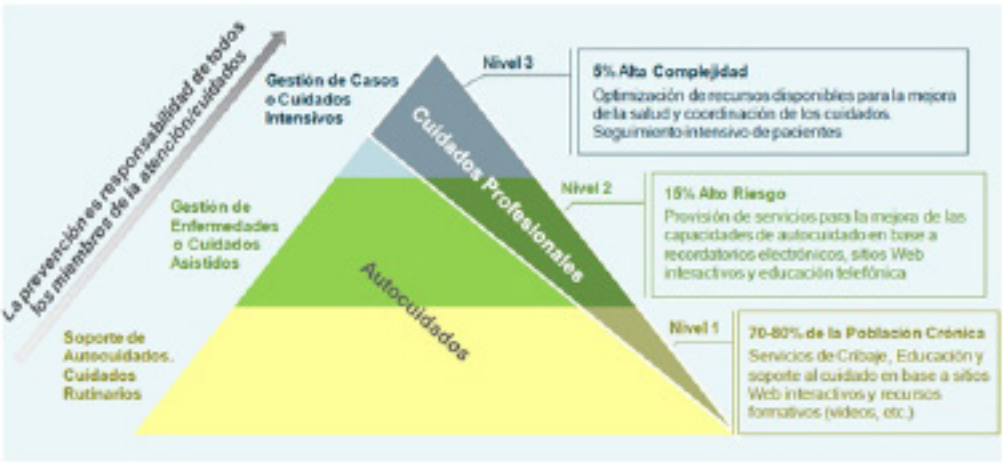

Figure 4

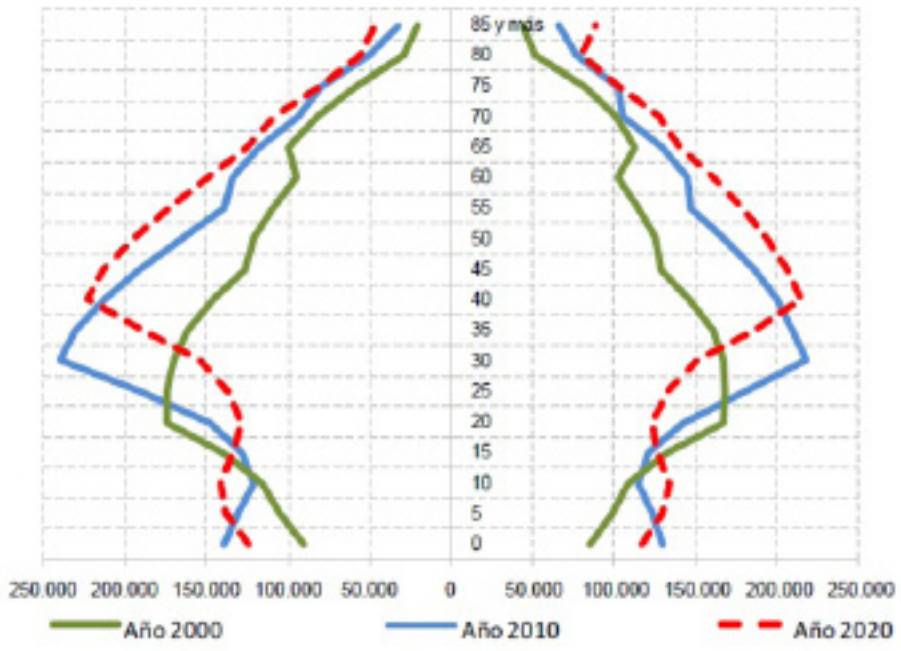

Figure 5

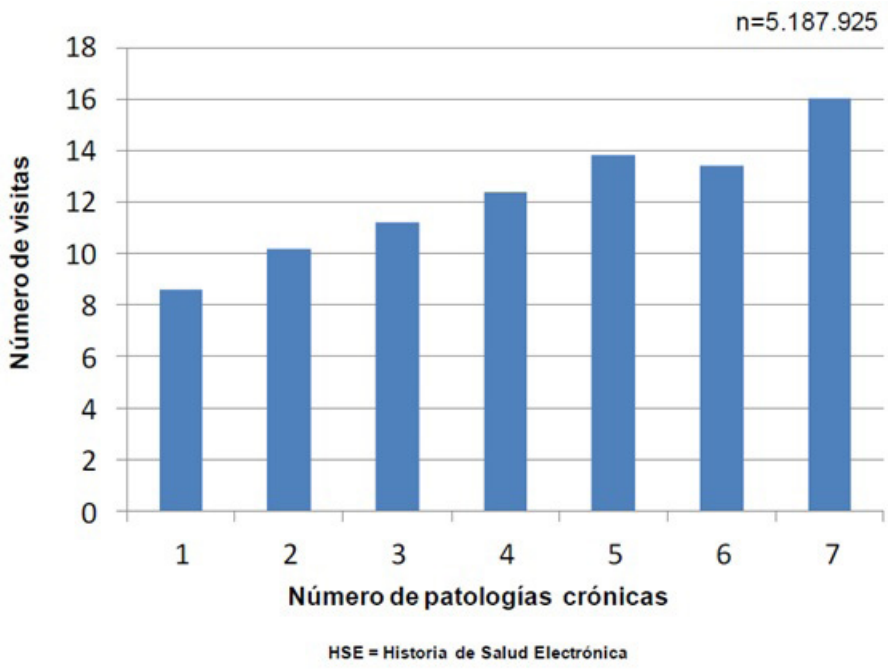

Figure 6

2.3 His vision includes:

- A model of care adapted to the real needs of these patients, offering the best care.
- To enhance in AP its patient management work and provide the professional with working tools in the best conditions.
- Organizational improvements with the support of technologies, adequate and more rational management of resources.

2.4. Specific objectives indicate:

- Care strategies adapted to the characteristics of EC patients.
- Proper use of health resources.
- Telemedicine and new technological tools.
- Self-management of the disease and improve the quality of life.
- Promote patient management in EAP.
- To implement coordination between different welfare and social resources.
- New professional skills through training and new care roles.

The implementation of this Plan should achieve a better quality of life, reduce unnecessary and preventable hospital admissions, delay as much as possible the evolution of the disease, enhance self-care and active participation of the patient on their disease, contributing to the sustainability of the system optimizing the activity and resources dedicated to the care of chronicity.

To achieve its objectives this Plan is divided into 3 strategic axes [12] (Figure 7)

Figure 7

3. Transform the Organization

3.1. Plans [13-16] and Strategies

+ Comprehensive health care plan for the elderly and chronically ill in the CV (2007-2011).

+ CV stroke care plan (2011-2015).

+ Comprehensive CV Palliative Care Plan (2010-2013).

+ Prevention plan for cardiovascular CV diseases (PPEV-CV).

+ COPD Health Plan (2010-2014).

+ CV Diabetes Plan (2006-2010).

3.2. Office for Innovation in the Management of EC Patients.

Established in 2011 to coordinate the different services, units and programs that serve the chronocy, respecting the operability of each of them.

3.3. Segmentation at risk levels.

With two projects developed:

+ The Directorate-General for Pharmacy has developed a program based on creating a classification in clinical risk groups (CGRs).

+ The Polytechnic University of Valencia has developed the CARS model for the segmentation of the entire population of the CV according to the level of risk related to chronicity.

3.4. Information systems

+ HSE.

+ Electronic recipe.

+ Terapeutic observatories.

3.5. Project Valencian

4. Involve Professionals

4.1. Integration and continuity of care.

+Multidisciplinary teamwork.

4.2. Professional competences.

+ Empower the AP and develop new figures such as liaison nurses or hospital management personnel working in collaboration with AP Basic Care Units (UBAs).

+The reference internist physician must gain prominence in care for patients with complex EC.

4.3. Computer tools to support the professional.

4.4. Training, Research and Dissemination of Experiences.

5. Involve The Citizen

The Plan should encourage shared decision-making between physician and patient, for which the latter must be informed, involve you in your care and ensure that your condition is monitored.

The patient must be active, committed and responsible for their illness and care.

5.1. Patient-centered care model.

5.2. Training of patients and caregivers.

+ Group health education and training.

5.3. Develop the patient's social environment.

+ Forums and Self-Help Groups.

5.4. Take responsibility for each patient's health.

+ Promotion of self-care.

In the CV, the Timeline Plan is based on the evolution of the organizational model and the effective integration of care grades, taking into account not only the needs of EC patients but also the optimization of resources (Table 2) and the incorporation of new technologies based on information and knowledge (Figure 8).

Chronic patients are already cared for at UBAs by nursing and family doctors in consultation and at home, and it is in that second healthcare step that the referring internist is important to correlate with other specialties and coordinate the follow-up of patients with the family doctor. This effective interconnection improves interconsultes through the HSE of the Abucasis II program and prevents patient displacement.

The CV has implemented, as a model, the Valcrónic program that incorporates innovative technologies that enable remote monitoring, tele-care and support for clinical decisions, offering patients included and their professionals different services. It also stratifies the population to identify levels of risk related to chronicity to act on them and develops effective coordination of resources and degrees of care in a comprehensive and continuous manner (Figure 9).

In this programme, information and communication technologies are key to improving chronicity management (Figure 10).

The chronic pathologies included have been selected both for the health problems they cause and for the associated health cost they produce in a comprehensive care process (Figure 11).

To perform the stratification of patients, the CARS model adapted for the program has been used together with the Polytechnic University of Valencia (Figure 12).

In the Chronocyticity-Aging binomial but with a vision of the future but actually implemented in different Health Departments of the Ministry of Sanitat de la CV this program allows to follow and know the evolution of patients in a non-face-to-face way, being articulated through a management platform that provides technological support to the functions of the same. Depending on the level of risk and chronic pathologies, a matrix with 16 programs (8 high risk, 6 medium risk and 2 low risk) is available to act adapting to the needs of the patient.

Patients are controlled by tele-monitoring with biomeasure taking, completing health questionnaires and has associated an educational and training component, making it key self-control and responsibility of these.

Figure 8

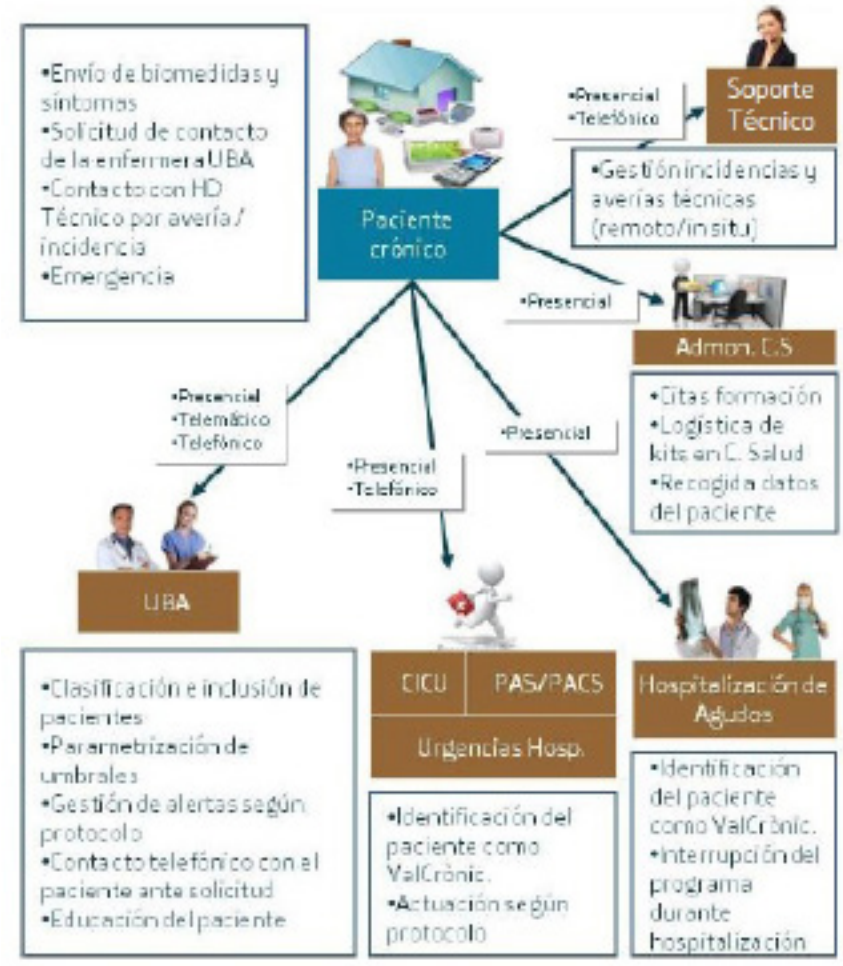

Figure 9

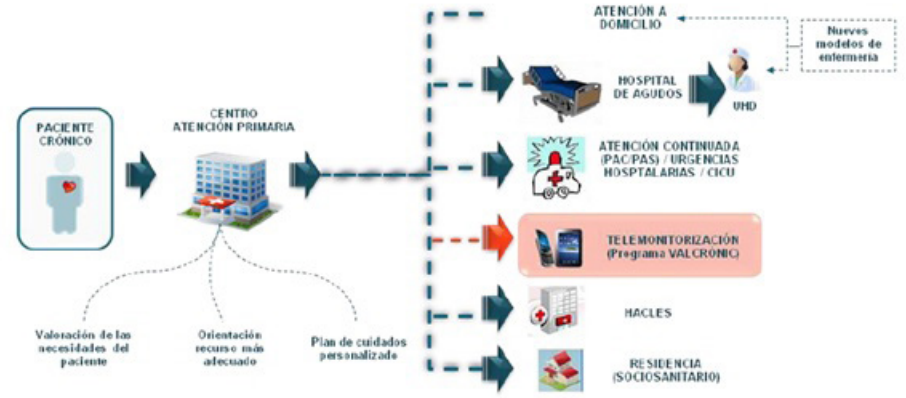

Figure 10

Figure 11

Figure 12

In support of professionals, they have protocols and clinical-practical guides for each of the chronic pathologies.

Ten main and four secondary indicators are defined for the evaluation of the programme.

There are a large number of chronic patients and there are many CEs suffered, so in the future of present and future solutions, their management that is transversal to the organization should consider shared clinical information as a key part of the technology managing care activity.

Table 2

Recurso	Nº	Descripción
Centro de salud	245	Constituyen el acceso inicial al sistema sanitario y en ellos se articulan los recursos necesarios para desarrollar las siguientes prestaciones orientadas a los pacientes crónicos: • Atención sanitaria, a demanda, programada y urgente, tanto en la consulta como en el domicilio del paciente. • Realización de programas de salud específicos. • Promoción y educación para la salud. • Prevención enfocada fundamentalmente a la realización de actividades dirigidas a la detección precoz de las patologías de mayor incidencia y prevalencia de la zona. • Atención a problemas de salud mental y conductas adictivas. • Rehabilitación básica. • Trabajo social. • Odontopediatría. • Centros de salud sexual y reproductiva.
Consultorios	620	
Centros sanitarios integrados	34	Prestan la atención a la población, fundamentalmente en régimen ambulatorio, integrando a los profesionales y las técnicas propias de los centros de salud y del hospital, con el objetivo de acercar aquellas prestaciones más especializadas al usuario. Su cartera de servicios incluye tanto prestaciones propias del ámbito de la Atención Primaria como de la especializada, pudiendo prestar atención de hospitalización de corta estancia.
Centros de especialidades	25	Prestan la atención a la población en régimen ambulatorio, estando integrados totalmente en el hospital como una prolongación de las consultas externas. El personal de estos centros de especialidades depende de los correspondientes servicios del hospital en el que se integran.
Hospitales	28	Atienden la demanda de la población con problemas de salud de mayor complejidad o especificidad o que requiere internamiento, actuando como soporte de otras estructuras sanitarias y garantizando la continuidad de la atención integral al paciente.
Unidades de Hospitalización a Domicilio (UHD)	24	Prestan Atención Especializada de rango hospitalario en el domicilio del paciente, tras una primera fase de estabilización en el hospital, o cuando, por su estadio evolutivo, se considere el propio domicilio como el mejor lugar terapéutico. Los pacientes atendidos en estas unidades se consideran como ingresados en el hospital a todos los efectos administrativos y asistenciales incluidas las prestaciones farmacéuticas, recibiendo los tratamientos y cuidados homólogos a los dispensados en el hospital.
Hospitales de Asistencia a Crónicos y Larga Estancia (HACLE)	6	Son hospitales especializados que identifican los problemas y planifican los cuidados individualizados a pacientes mayores en un estado de dependencia avanzado. Ofrecen una cobertura asistencial a aquellas demarcaciones territoriales superiores al Departamento de Salud, según los criterios de planificación que se establezcan.
Unidades Médicas de Corta Estancia	15	Su misión es la de seleccionar, estabilizar y posteriormente ubicar a determinados pacientes con procesos susceptibles de soluciones rápidas al margen de los circuitos convencionales del hospital, así como la coordinación con los servicios sociosanitarios de la Comunidad Valenciana la valoración y atención integral de los pacientes frágiles, crónicos de larga evolución y terminales (programa PALET) que acudan al hospital en demanda de asistencia sanitaria, así como la observación de pacientes médicos y quirúrgicos que precisan de medios diagnósticos y terapéuticos rápidos para definir su situación mórbida en un tiempo limitado.
Servicio de Emergencias Sanitarias	9	Está compuesto por unidades medicalizadas terrestres y aéreas u otros dispositivos destinados al efecto con personal especializado y entrenado en la atención a las urgencias vitales y catástrofes, que actúan de manera coordinada con el resto de dispositivos de la cadena asistencial y con las fuerzas y cuerpos de seguridad y rescate que participan en las emergencias intersectoriales. Las prestaciones de los servicios de emergencias sanitarias son entre otras: • Atención e información sanitaria. • Consulta y consejo médico. • Coordinación de servicios sanitarios y de urgencias. • Asistencia in situ. • Transporte sanitario primario y secundario. • Asistencia y coordinación en Accidente de Múltiples Víctimas (AMV) y catástrofes. • Organización de dispositivos de riesgo previsible y cobertura a determinados programas o actividades.
Centros de Información y Coordinación de Urgencias (CICU)	3	Son centros reguladores en los que recae la dirección y coordinación de la atención sanitaria urgente, con responsabilidad y actuación permanente sobre los dispositivos asistenciales destinados a este tipo de atención, teniendo un ámbito provincial.

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