

Country report Spain – February 2015



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I. Structure of Health care in Spain

With a population of 46.507.760 in 2013, Spain covers 505.955 km² and has the third largest surface area in Western Europe. The fertility rate is one of the lowest in the EU (1,27 in 2013). The inflow of migrant population in the last decade has had a demographic impact in rejuvenating a population that is otherwise rapidly ageing. Life expectancy in Spain is one of the highest in Europe, 85,61 years for women and 79,99 for men in 2013.

The statutory "Sistema Nacional de Salud" (National Health Service [NHS]) provides universal coverage and predominantly operates within the public sector. NHS is funded from taxes, and provision is free of charge at the point of delivery with the exception of the pharmaceuticals prescribed to people aged under 65, which entails a co-payment estimated according to the user income. Health competences were totally devolved to the regional level (Autonomous Communities) as from the end of 2002, this devolution resulted in 17 regional health ministries with primary jurisdiction over the organization and delivery of health services within their territory. The National Ministry of Health and Social Policy holds authority over certain strategic areas, such as pharmaceutical and public health legislation, and as a guarantor of the equitable functioning of health services across the country.

Everyone has equal access to these services, irrespective of the socioeconomic status. Equity is one of the best achievements of the Spanish NHS. The aim is to have a solidarity system where users pay taxes according to their incomes, in order to maintain a universal coverage system.

After the recent economic recession, Mariano Rajoy administration decided in 2012 to exclude illegal immigrants from the public health insurance, a decision that was contested by a large proportion of health professionals and other social sectors.

The Autonomous Communities financing scheme promotes regional autonomy both in expenditure and in revenue raising. Around 30-40% of the Autonomous Communities' public budget is dedicated to health services. The typical structure of regional health systems consists of a regional ministry (Consejería de Salud) holding health policy and health care regulations and planning responsibilities. The regional ministry of health is responsible for the territorial organization, and the design of health care areas and basic health zones. The most frequent model consists of two separate executive organizations,

one for primary and one for specialist care, covering every health area. Nevertheless, regional health services are increasingly creating single-area management structures integrating primary care and specialist care. Basic health zones are the smallest units of the organizational structure of health care, and are usually organized around a single primary care team, which exercises the gatekeeper function. Access to specialist care requires referral from a general practitioner. Each health area should cover a population of no less than 200.000 inhabitants and no more than 250.000. The population served by GP is on average 1410 persons. The estimated rate of cardiologists is $47 \pm 7,7$ per 1 million inhabitants, with a decrease over the last years in the context of the economic crisis and health budget cut back.

Nutritional and smoking cessation counselling are provided for free, but with some exceptions the cost of smoking cessation pharmacotherapy is not reimbursed.

Rehabilitation services are provided for free, but the waiting lists can sometimes be long.

The non-profit-making private sector plays a key role regarding care for work injuries and professional diseases. There are a number of mutual societies covering these contingencies, which are funded by the national social insurance treasury, largely through employers' contribution. Moreover, the public system has traditionally outsourced some 15-20% of specialized care provision to private hospitals providers (profit and non-profit-making) for some high-resolution diagnostic services and some surgical procedures as part of waiting list management. During the last decade, there have been some other private finance initiative formulas in some Autonomous Communities, implementing the administrative concession of the provision of care of an entire basic health area, to a corporation or a temporary union of enterprises.

Private voluntary insurance schemes play a relatively minor role within the Spanish health system and are independent from the public system. They cover some 13% of the population, though there is considerable regional variation.

Health expenditure in Spain in 2012 was 1.577€ per capita, a 7,08% of the gross domestic product, and is still below the European average. Most of the health expenditure relies on the public sector, sourced mainly from general taxation. Public health expenditure breaks down into 54% for specialist care (inpatient and outpatient), 16% for primary health care, 19,8% on pharmaceuticals and only 1,4% on prevention and public health.

References:

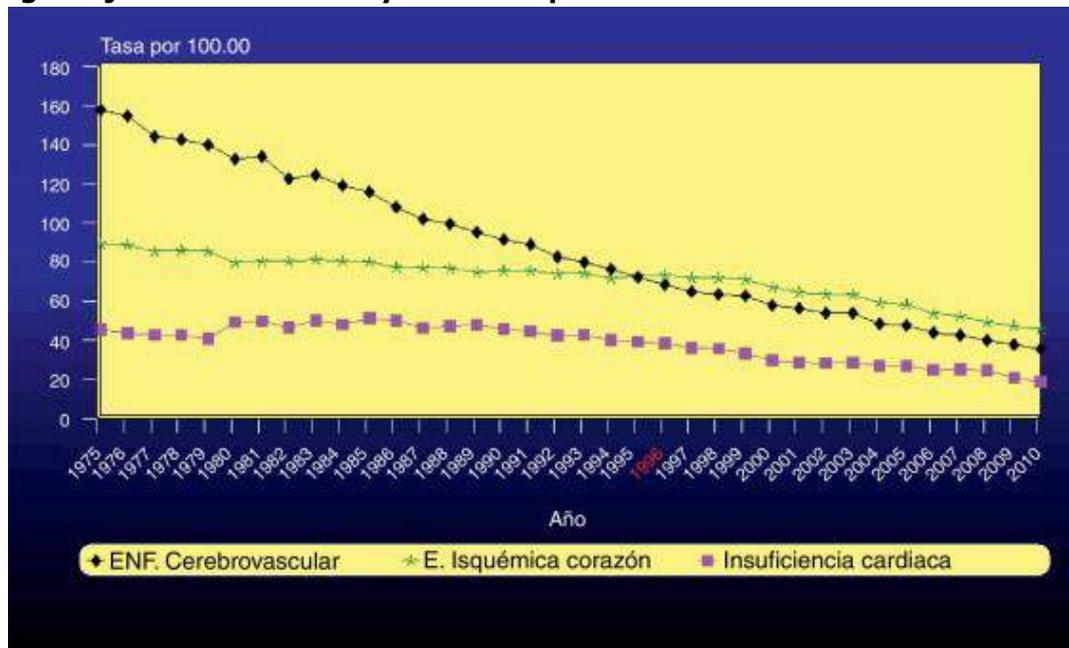
<https://www.msssi.gob.es/estadEstudios/estadisticas/sisInfSanSNS/finGastoSanit.htm>
(in Spanish)

<https://www.msssi.gob.es/organizacion/sns/planCalidadSNS/pdf/equidad/observatorioEuropeo/SpainHiT2010.pdf>

II. Risk factor statistics

Cardiovascular (CV) disease is the primary cause of death in the Spanish population, causing 31% of deaths (31% of them from coronary disease, 28% from cerebrovascular disease). CV mortality has experienced a decline (3,1% per year) since 1975.

Age-adjusted CV mortality rates in Spain from 1975 to 2010



Source:

http://www.searteriosclerosis.org/recursos/archivosbd/clinica_investigacion/4d34a5f3ab9cb226e076bb3b11abf587.pdf (in Spanish)

Mortality rates in Spain in 2012

	Both sexes	Men	Women
All cause mortality per 100.000 inhabitants	861,623	893,141	830,976
CV mortality 100.000 inhabitants	261,078	239,385	282,172

Source: National Institute of Statistics

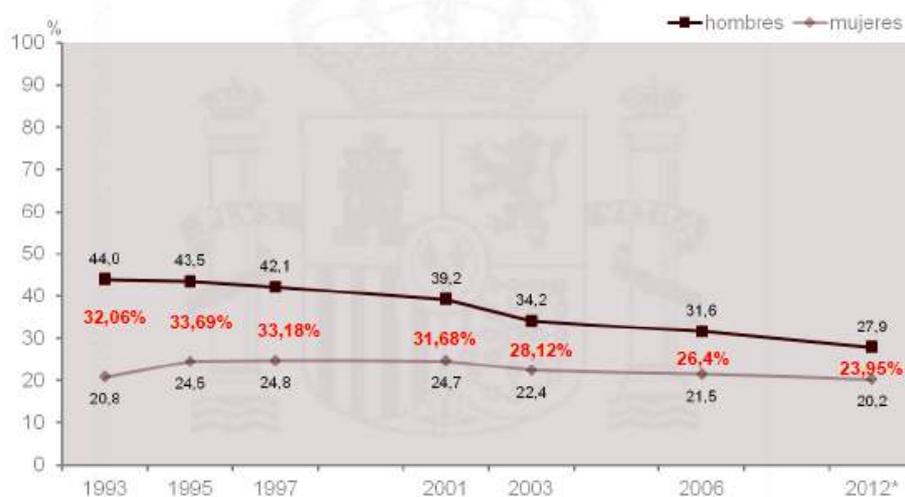
According to the [RECALCAR registry](#), 52% of Cardiac Care Units have a catheterization laboratory (1 cath-lab per 193.000 inhabitants), with important variations in the different autonomous communities.

The [Spanish National Health Survey](#) is updated every 5 years by the Spanish Ministry of Health and provides information regarding the Spanish population health status. The main conclusions of the last report, with data collected in 2011-2012, are:

- There has been a decrease in smoking prevalence over the last decade, 24% of people ≥ 15 are daily smokers (28% of men, 20% of women). The decrease in smoking prevalence is attenuated in women (figure 1) due to a variety of reasons. Smoking prevalence is higher in low-income categories.

- The Spanish smoking ban has been implemented in 2 phases (2005 with a partial smoking ban, and 2010 with a full smoking ban). Both bans have had an important impact on smoking prevalence and smoking morbidity.

Figure 1: Smoking prevalence evolution



Source: Spanish National Health Survey, <http://www.msssi.gob.es/estadEstudios/estadisticas/encuestaNacional/encuesta2011.htm> (in Spanish)

It is somewhat alarming that 22,5% of men and 21,0% of women 15-24 years of age are daily smokers. Mean age of smoking initiation is 17,2.

- There has been an increment in obesity prevalence, from 7,4% to 17% among adults over the last 25 years (figure 2). 53,7% of adults are either obese or have overweight. Obesity is more prevalent in low-income categories. 20% of children (2-17 year-olds) have overweight and 10% are obese.

Figure 2: Obesity and overweight evolution



Source: Spanish National Health Survey, <http://www.msssi.gob.es/estadEstudios/estadisticas/encuestaNacional/encuesta2011.htm> (in Spanish)

- 41,3% of Spanish population is sedentary (46,6% of women, 35,9% of men).
- 61,4% of Spanish population consumes fruits on a daily basis, and 45,8% vegetables.
- A rise in chronic conditions such as hypertension (18,5%), hypercholesterolemia (16,4%) and diabetes (7%) has been reported.

Nevertheless the National Health Survey is based on a questionnaire and doesn't consider any objective measures of the prevalence of risk factors such as hypertension, hypercholesterolemia or diabetes. This information can be drawn from population-based epidemiologic studies including anthropometric measures, blood pressure data and laboratory tests.

The [DARIOS study](#) is a pooled analysis with individual data from epidemiological studies that have been conducted in Spain on the population aged 35-74 since 2000 in 10 different autonomous communities. This cohort represents approximately 70% of the Spanish population, and is therefore a good reflection of the cardiovascular health status.

The distribution of most cardiovascular risk factors presents <20% variability in the population aged 35-74 years in the Spanish autonomous communities. In this range of age, standardised prevalence of:

- high blood pressure: 43%
- dyslipidaemia (total cholesterol ≥ 250 mg/dl): 41% (50,3% considering the cut-off >200 mg/dl)
- smoking: 25%
- obesity: 29%
- diabetes: 13%

40% of hypertension is non-diagnosed, 20% do not receive any drug therapy, and 50% of treated patients do not reach the goals recommended in guidelines. Therefore, blood pressure is well controlled only in 1 of every 4 hypertensive patients. Hypercholesterolemia is non-diagnosed in 50% of the cases, and treated only in 41,7% of known cases. Over 75% of the population is far from the cut-off points of total cholesterol <190 mg/dl or LDL-c <115 mg/dl proposed by the main clinical practice guidelines. The prevalence of non-diagnosed diabetes is estimated in 20%, and the glycaemic control goals are reached in 69%.

The autonomous communities of the Canary Islands, Andalusia and Extremadura have a greater prevalence of risk factors, and a higher mortality for ischemic heart diseases.

References:

[Cardiovascular risk factors in Spain in the first decade of the 21st Century, a pooled analysis with individual data from 11 population-based studies: the DARIOS study].

Grau M *et al.*, Rev Esp Cardiol. 2011, Apr;64(4):295-304. doi:

10.1016/j.recesp.2010.11.005. Spanish. PubMed PMID: 21397375.

See also: The [DARIOS study](#)

[Laws restricting smoking in public places reduce the incidence of acute coronary syndrome in Spain]. Fernández de Bobadilla J, Dalmau R, Galve E; Legislation on Tobacco and Acute Coronary Syndrome in Spain group. Rev Esp Cardiol (Engl Ed). 2014 May;67(5):349-52. doi:10.1016/j.rec.2013.08.018. Epub 2013 Dec 17. PubMed PMID: 24774726

III. Main actors and Prevention methods

At an institutional level, the main national scientific societies with an area dedicated to cardiovascular prevention have a key role in promoting the study of cardiovascular risk factors and determining the best way to tackle them. Some examples:

- The [Spanish Society of Cardiology](#) is a non-profit scientific and professional organisation that is fully involved in cardiovascular prevention. The main activities are aimed at promoting the study of cardiovascular mortality and morbidity in Spain, and facilitating the knowledge and implementation of the cardiovascular prevention guidelines. Coordinating the cardiovascular prevention activities in a multidisciplinary approach is also a priority, placing great importance on the collaboration with Primary Care Physicians.
- Promoted by The Spanish Society of Cardiology, the [Spanish Heart Foundation](#) is a non-profit institution fully dedicated to preventing cardiovascular diseases through educational programmes so as to promote a healthy life style. The Spanish Heart Foundation provides fund-raising entities to stimulate cardiovascular investigation and to promote the rehabilitation of cardiovascular patients.
- The Spanish Society of Family and Community Medicine has a Working Group on Cardiovascular Prevention with a Program on Preventive Activities and Health Promotion ([PAPPS](#)). The main objective is to organise preventive activities in the primary care setting.
- The Spanish Interdisciplinary Committee of Cardiovascular Prevention, with representatives from 14 scientific societies implicated in cardiovascular prevention, and the Public Health Area of the Ministry of Health and the Health Institute Carlos III, have a key role in encouraging the study of cardiovascular risk factors and determining the best way to implement the CV prevention guidelines in our context.
- The [Spanish National Committee for Smoking Prevention](#) is a non-profit organisation that represents 29 scientific societies implicated in smoking prevention and treatment. The main objective of the committee is to promote the control of tobacco epidemic.

At the delivery of care level, the main actors in cardiovascular prevention are primary care physicians, playing an important role in risk factor detection and control. Secondary prevention management is tackled through a multidisciplinary approach involving primary care physicians, Cardiologists, Specialists in Internal Medicine, Nephrologists, Neurologists, Cardiovascular Surgeons, Nurses...

IV. Main Prevention activities

- [The Prevention and Health Promotion Strategy of the Spanish NHS](#) proposes the progressive development of interventions aimed at improving health and preventing diseases, injuries and disability. This initiative approved in December 2013 tries to facilitate a common framework for health promotion and primary prevention in the course of life, harmonising its integration in the portfolio of services of the National Health System and getting other sectors of society actively involved, promoting participation of individuals and population in order to raise their autonomy and capacity to have a greater control over their own health.
- [The Observatory for the Study of Nutrition and Obesity](#) is a strategy of the Spanish NHS approved in February 2013 in order to promote the policy development and decision-making needed to avoid obesity and to improve children's dietary situation. Dr Valentin Fuster is the Chair Person of the Observatory.
- The Spanish Society of Family and Community Medicine has a Working Group on Cardiovascular Prevention with a Program on Preventive Activities and Health Promotion ([PAPPS](#)). The main objective is to promote preventive activities in the primary care setting. Every 2 years and after analysing the cardiovascular morbidity and mortality in our country, a document is published setting the evidence-based priorities in cardiovascular prevention in the main areas: hypertension, diabetes, dyslipidaemia and smoking (1).
The screening for hypertension and diabetes mellitus has been encouraged leading to a drop in the prevalence of non-diagnosed diabetes and hypertension. The Working Group recommends the use of the [SCORE risk charts](#) in order to determine the individual cardiovascular risk and set the risk factor management.
- The Spanish Society of Cardiology and the Spanish Heart Foundation are fully involved in cardiovascular prevention activities. Some examples of their cardiovascular prevention programmes are:
 - [Mimocardio](#): coordinated by Dr Almudena Castro, the current President of the Cardiovascular Risk and Cardiac Rehabilitation working group. This on-going project tries to emphasise the role of the cardiac patient in improving his cardiovascular prognosis, by understanding the key points in lifestyle correction and risk factor control. Firstly, the project tries to raise awareness among Spanish cardiologists of the need to optimise the level of communication with the patient, in order to facilitate the adherence to lifestyle and drug recommendations. Secondly, the project focuses the patient by providing different kinds of training materials in order to facilitate his knowledge of cardiovascular disease and prevention (brochures, web sites, social network...).
 - [R-EURCa](#) (Spanish Registry of Cardiac Rehabilitation Units): coordinated by Dr Carmen de Pablo, the main objective is to clarify the real implementation of cardiac rehabilitation in our country, to determine the staff qualification and performance of the existing units, and to analyse whether these programs cover the care demands of cardiac rehabilitation, and fulfill the minimum quality requirements.

Unfortunately anti-smoking campaigns are presently not a priority on the national level. The last National Tobacco Prevention Campaign took place in 2005. The economic recession has thoroughly caused budget cuts for prevention activities and this has even had a negative impact on anti-smoking activities.

Much can still be done: to claim for a continuous effort, supervise the implementation of our smoking ban, urge the health professionals to play an active role in smoking prevention and treatment, raise awareness throughout public opinion about tobacco harms, promote other legislation initiatives (plain packaging, electronic cigarettes use banned in public places...), promote smoking cessation drugs reimbursement...

References:

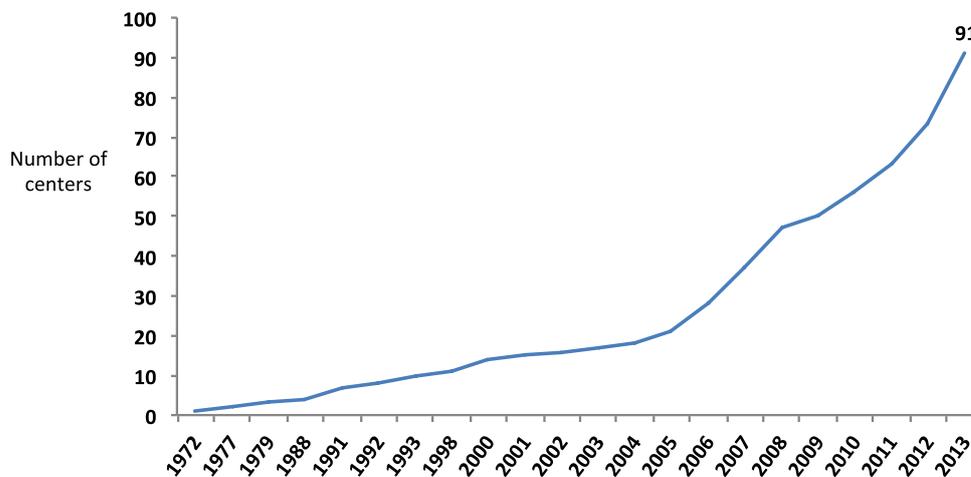
(1) Recomendaciones preventivas cardiovasculares
Aten Primaria. 2014;**46** (Supl 4):3-15. PMID: 24950627, doi: 10.1016/S0212-6567(14)70047-2.

V. Cardiac rehabilitation

Despite the high level of recommendation in guidelines for Cardiac Rehabilitation Programs (CRP), the implementation of such programs has risen slowly in Spain. Only over the last few years has an important increment been noted.

R- EURECa

Date of start of the cardiac rehabilitation activities

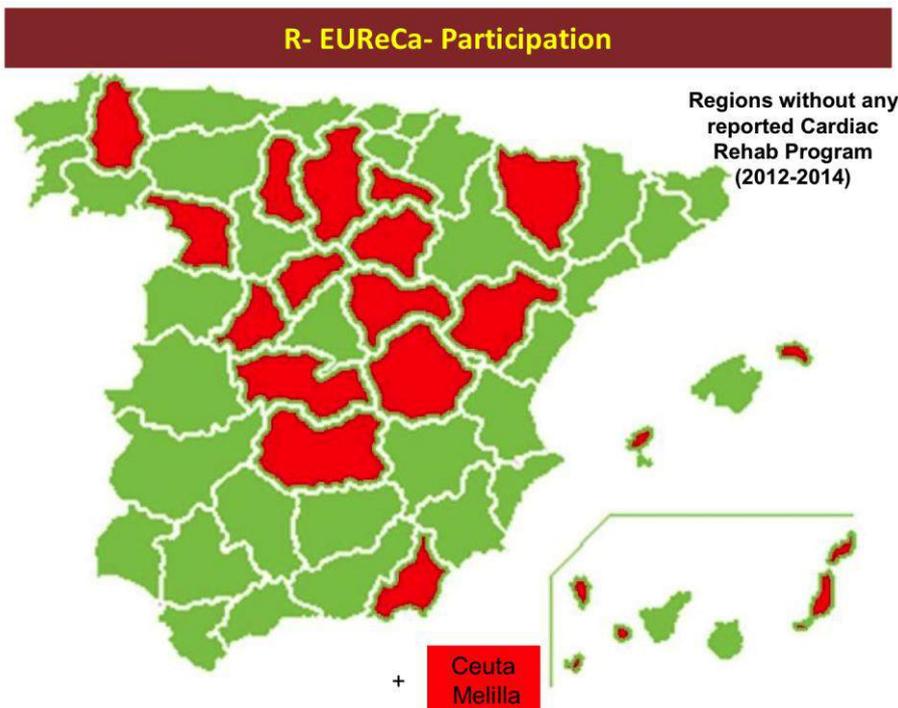
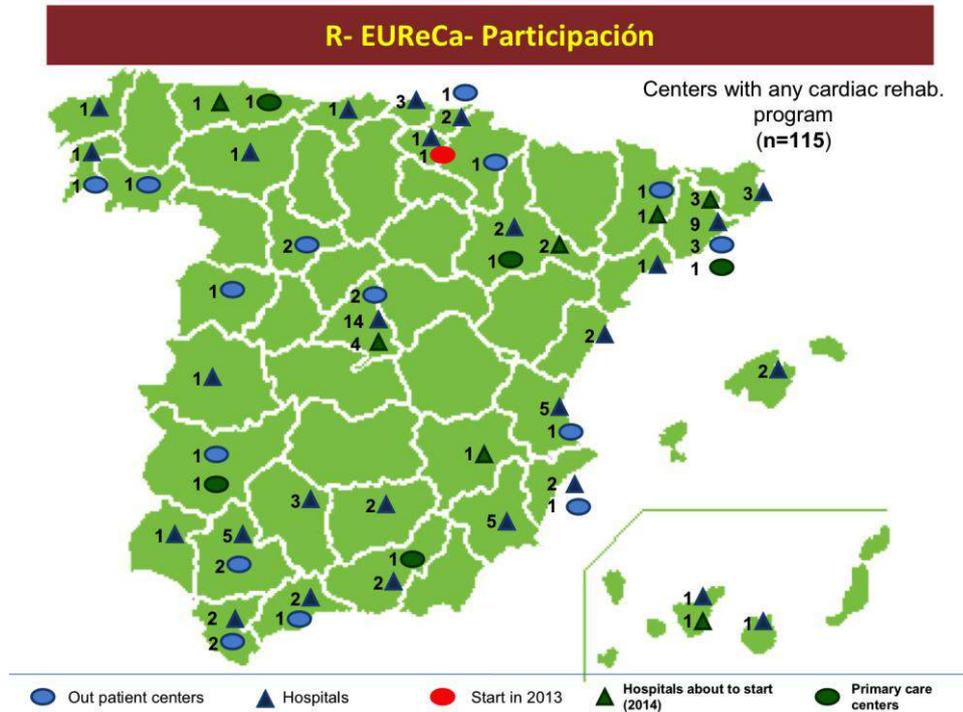


Source: [R-EURECa](#) (registro Español de Unidades de Rehabilitación Cardíaca, Spanish Registry of Cardiac Rehabilitation Units), <http://es.slideshare.net/casadelcorazon/registro-nacional-de-unidades-de-rehabilitacin> (in Spanish)

According to a recent registry run by the Spanish Society of Cardiology ([RECALCAR registry](#)), only 36% of the cardiac care units have their own CRP, with important geographical variations. In order to clarify the real implementation of cardiac rehabilitation in our country, the Cardiac Rehabilitation working group of the Spanish Society of Cardiology has performed a registry called [R-EURECa](#) (registro Español de Unidades de Rehabilitación Cardíaca, Spanish Registry of Cardiac Rehabilitation Units), whose main results have been recently presented by its main investigator, Dr Carmen de Pablo, at the Spanish National Congress of Cardiology (Santiago de Compostela October 2014). The main objectives of the project are:

1. To determine the number and location of the Cardiac Rehabilitation Units in Spain, their characteristics and resources.
2. To determine the staff qualification and performance in those units.
3. To analyse the number and type of patients seen.
4. To analyse whether these programs cover the care demands of cardiac rehabilitation.

115 centres have been identified as having some kind of CRP in Spain, 96 of them were active in 2013, and 18 of them were about to start their activity in 2014. 96% of the centres have answered the study questionnaire, 59% are public centres, 32% private, 9% belong to mutual insurance societies. The geographical distribution is not uniform, with many CRP available in some regions, whereas some other regions are totally lacking in these programs.



Source: [R-EURECa](http://www.es.slideshare.net/casadelcorazon/registro-nacional-de-unidades-de-rehabilitacin) (registro Español de Unidades de Rehabilitación Cardíaca, Spanish Registry of Cardiac Rehabilitation Units), <http://es.slideshare.net/casadelcorazon/registro-nacional-de-unidades-de-rehabilitacin> (in Spanish)

A cardiologist is the coordinator in 80% of the CRP, but only 27% of coordinators are fully dedicated to the CRP. Phase II is performed in all the centres, phase I in 35,2% and phase III in 42,9%. 68% of the centres are hospital-based. The different CRP have important differences in resources, 52,7% have their own ergometer, 29,7% have an ergo-spirometer, 34,1% have their own echocardiographer, 72,5% have access to a conference room with audio-visual facilities. In 96,7% of the centres a gymnasium is available. In contrast 4,5% of the centres lack defibrillator, and 12,5% electrocardiographer. As cardiac rehabilitation requires a multidisciplinary approach, most of the CRP (75%) have at least a cardiologist, a nurse and a physiotherapist.

Main indications for cardiac rehabilitation are ischemic heart disease, mostly after Acute Coronary Syndrome (ACS), and a growing number of other indications such as heart failure, congenital heart diseases, or valve surgery. In general, no age-limit is considered, and referral rates for well-established indications may vary from 80% to 0%.

Main indications of cardiac rehabilitation

n=91	%
Acute coronary syndrome (STEMI or NSTEMI)	64,25
CABG	10,24
Staged PCI	6,57
Heart failure	6,34
Chronic stable coronary disease	4,33
Valvular surgery	4,03
Patients at high CV risk	1,53
After ICD implantation	0,48
After heart transplant	0,43
After pacemaker implantation	0,34
Peripheral vascular disease	0,21
Congenital Heart disease	0,12
Other	1,10

Source: [R-EURCa](#) (registro Español de Unidades de Rehabilitación Cardíaca, Spanish Registry of Cardiac Rehabilitation Units), <http://es.slideshare.net/casadelcorazon/registro-nacional-de-unidades-de-rehabilitacin> (in Spanish)

Despite the fact that most patients are given a final report with recommendations on lifestyle and drug treatment, in most cases Phase III of cardiac rehabilitation is not supervised, nor coordinated with other centres.

Cardiac rehabilitation has formed part of the training program for residents in cardiology since 2007, nevertheless not all the university hospitals have a CRP, and only 23% of the centres carrying out cardiac rehabilitation are certified for teaching activities.

The Spanish Society of Cardiology is making a special effort focused on quality programs ([Incardio](#)), in order to establish the minimal quality standards for every clinical area in cardiac care, including cardiac rehabilitation.

VI. The Future

Spain has achieved one of the highest life expectancy rates in the world (82.1 years) however other countries in the region are ahead in terms of healthy life expectancy (in Spain, 61.5 years old among men and 59.4 years old among women). Cardiovascular prevention is a key point in facilitating a healthy life expectancy. Unfortunately, the economic recession has put serious constraints on the financing of CV prevention activities and campaigns. Scientific societies need to make our health authorities and other government representatives understand that cardiovascular prevention deserves a continuous effort, which in turn will have an impact on the quality of life and the healthy life expectancy.

The principal aims for the future are:

- To implement a common agreed cardiovascular prevention guide in the primary care setting, and to encourage physicians to implement CV risk in electronic clinical history.
- To include CV risk assessment and control as quality indicators in the professional incentive systems, focusing on lifestyle management.
- To reinforce the collaboration between primary care physicians, cardiologists and other specialists in order to reach the goals defined in guidelines for CV prevention and to improve patients' adherence.
- In Spain there is still a lack of cardiac rehabilitation programs in many regions, a situation that needs to be solved in order to preserve the equity of cardiac care in our NHS. Moreover, the Spanish Society of Cardiology needs to set the minimum quality standards of a cardiac rehabilitation program and to audit the existing units.
- The main obstacle in CV prevention is the deterioration of life-style, with a loss of traditional dietary patterns, a growing consumption of junk food, and a growing tendency to sedentarism, leading to a growing prevalence of obesity and diabetes. To overcome this barrier, we need to understand cardiovascular prevention from an educational point of view, and set the basis of a healthy lifestyle from childhood to adulthood. Scientific Societies have a key role in making our health authorities understand that we need to switch the focus to primordial prevention, aimed not to reduce the current risk but to inhibit the future risk. To achieve this purpose, we need to shift the efforts from preventing disease to promoting health.
- Health authorities need to advocate for policies with an impact on cardiovascular health (trans fatty acids and salt content).
- The Spanish Smoking Ban has had an important impact on public health and CV morbidity, but its achievements shouldn't be an excuse for not progressing in the control of tobacco epidemic.