

Country report Romania – April 2016



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Baseline Information about Romania



Romania is a [republic](#) in [Southeast Europe](#), bordering the [Black Sea](#), [Bulgaria](#), [Ukraine](#), [Hungary](#), [Serbia](#), and [Moldova](#). It has an area of 238,391 square kilometres (92,043 sq mi) and a [temperate-continental climate](#). With 19.94 million inhabitants, it is the [seventh most populous](#) member state of the [European Union](#). Its capital and largest city, [Bucharest](#), is the [sixth largest city](#) in the EU.^[1] The [River Danube](#), Europe's second longest river, rises in Germany and flows southeastwards for a distance of 2,857 km, coursing through ten countries before emptying in Romania's [Danube Delta](#). The [Carpathian Mountains](#), with their tallest peak [Moldoveanu](#) at 2,544 m (8,346 ft), cross Romania from the north to the southwest.^[2]

Modern Romania emerged within the territories of the ancient [Roman](#) province of [Dacia](#), and was formed in 1859 through a [personal union](#) of the Danubian Principalities of [Moldavia](#) and [Wallachia](#). The new state, officially named Romania since 1866, gained independence from the [Ottoman Empire](#) in 1877. At the end of [World War I](#), [Transylvania](#), [Bukovina](#) and [Bessarabia](#) united with the sovereign [Kingdom of Romania](#). In [World War II](#), Romania was an ally of [Nazi Germany](#) against the [Soviet Union](#), fighting side by side with the Wehrmacht until 1944, then joined the Allied powers after being occupied by the [Red Army](#) forces. Romania lost several territories, of which [Northern Transylvania](#) was regained after the war. Following the war, Romania became a [socialist republic](#) and member of the [Warsaw Pact](#). After the [1989 Revolution](#), Romania [began a transition back towards](#) democracy and a capitalist [market economy](#).

Following rapid economic growth in the 2000s, Romania has an economy predominantly based on services, and is a producer and net exporter of machines and electric energy, featuring companies like [Automobile Dacia](#) and [OMV Petrom](#). It has been a member of [NATO](#) since 2004, and part of the [European Union](#) since 2007. Around 90% of the population identify themselves as [Eastern Orthodox Christians](#), and are native speakers of [Romanian](#), a [Romance language](#). With a rich [cultural history](#), Romania has been the home of influential [artists](#), [musicians](#), [inventors](#) and [sportspeople](#), and features a variety of [tourist attractions](#).

References:

1. http://www.insse.ro/cms/files/statistici/comunicate/com_anuale/populatie/PopRez2014r.pdf (in Romanian language only)
2. "[Romania Geography](#)". aboutromania.com. Retrieved 4 April 2015.

I. Structure of Health care in Romania

The Romanian health system is organised as a Bismarck-type system, based on mandatory health insurance, paid both by employers and by employees. The system of statutory health insurance has been in place since 1999, having replaced the old soviet-style Semashko model. The Ministry of Health is the central administrative authority in the health sector, being responsible for the stewardship of the system and for its regulatory framework, and partly, for its financing for a series of conditions that are defined annually by the government. District public health authorities (DPHAs) are decentralised structures of the Ministry of Health at the district level. The other key actor at the central level is the National Health Insurance House (NHIH) and has 43 branches (DHIFs) at the district level. Regulatory functions are heavily concentrated in the hands of the Ministry of Health and the NHIH. The social health insurance system covers around 85% of the Romanian population. The insured individuals are entitled to a comprehensive benefits package ('basic benefits package') and the uninsured to a narrower one ('minimum benefits package').

The average length of hospital stay in all hospitals decreased from 11.4 days in 1990 to 7.5 days in 2013 and the bed occupancy rate increased from 68% in 1990 to 73% in 2013. In 2013 the numbers of physicians and nurses per 100 000 population were relatively low in Romania: 248 doctors compared to 347 in the EU and 581 nurses compared to 850 in the EU. In 2013, 23.5% of physicians were specialized in family medicine

In 2012, electronic prescription was introduced for all reimbursed pharmaceuticals and is currently used across the country and since May 2015 the National Health Insurance Card has been in use. The Electronic Health Record is currently being implemented. The ultimate regulatory oversight is granted in the parliament in forms of specific laws, which are implemented, in general, through governmental decision or ministerial order. In terms of financing, Romania is constantly ranked last among the EU countries in terms of health expenditure as a share of gross domestic product [GDP] (around 5%). In terms of total health expenditure in purchasing power parity (PPP)/capita, the value in Romania in 2014 was three times lower than the EU average. Preventive measures have been budgeted yearly with a share up to 3% of the total health budget. The share of total health expenditure spent on outpatient care is one of the lowest in Europe. Family doctors play an important role in diagnosing/detecting early stages of CVD and/or in referring the patients to the cardiovascular (CV) specialists.

II. Risk factor statistics

CVD Mortality

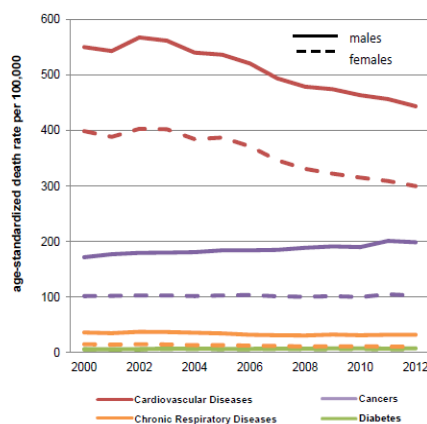
Mortality from cardiovascular disease (CVD) has decreased with 25,2 % in the last 10 year, but it's still high, Romania being in the fifth position according to recent statistic report and being listed among the high CVD risk countries according to the ESC. The death rates per 100.000 are 594,6 for CVD, 242,9 for coronary heart disease (CHD), 167 for stroke, and a total rates of 1427.8 (last reported data from 2012). Life expectancy (LE) at birth in 2013 was 71,6 for male and 78,7 for female.

Romania

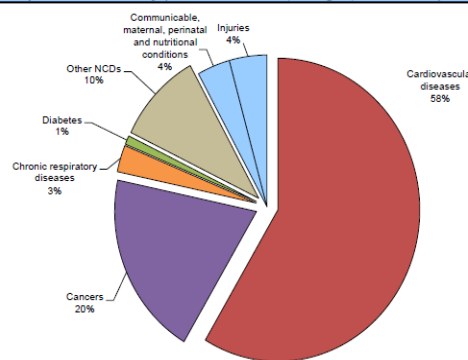
Total population: 21 755 000
Income Group: Upper middle

Percentage of population living in urban areas: 52.8%
Population proportion between ages 30 and 70 years: 53.8%

Age-standardized death rates



Proportional mortality (% of total deaths, all ages, both sexes)



Total deaths: 254,000
NCDs are estimated to account for 92% of total deaths.

Reference: WORLD HEART ORGANIZATION – Noncommunicable Diseases (NCD) Country Profiles 2014

Main CVD risk factors

According to a previous cross-sectional study in 2006, the global prevalence of major risk factors was: hypertension 39.1 %, known diabetes 11.8%, hypercholesterolemia 39,1%, smoking 21.7% and obesity 26.3%.

Adult risk factors

	males	females	total
Current tobacco smoking (2011)	38%	18%	28%
Total alcohol per capita consumption, in litres of pure alcohol (2010)	22.6	6.8	14.4
Raised blood pressure (2008)	41.3%	39.6%	40.4%
Obesity (2008)	16.9%	21.2%	19.1%

Reference: WORLD HEART ORGANIZATION – Noncommunicable Diseases (NCD) Country Profiles 2014

According to more recent statistics the burden of risk factors consist of:

- **Smoking:** The prevalence of smoking is 37.4% in males, 16.7% in females and 26.7 % for both sexes, representing 4.85million persons.
- **Physical activity.** Age-standardised prevalence of insufficient physical activity in adults aged 18 years and over is 25.3% (2010).
- **Obesity:** Obesity (BMI ≥ 30 kg/m²) is more frequent in men (23%) than in women (20,3%), with a prevalence in general population of 21,3%.

- **Hypertension:** In the last national survey for prevalence of hypertension in the general population: 40.4% of cases, of which 28.1 were known hypertensives;
- **Diabetes:** The prevalence of diabetes is estimated to be 11.6% of the population between 20 and 79 years old (between 535.413-1.967.200 people). New reported cases are representing 20.69%.
- **Dyslipidaemia:** In the general population, hypercholesterolemia represents 39,1% decade ago. In subjects with ischemic heart disease, lipid abnormalities were seen in 65%. Nowadays, the prevalence of lipid abnormalities is estimated at 80%.

Percutaneous coronary intervention (PCI) Resources

In 2015, 1800 cardiologists are listed (9 per 100 000 inhabitants). In 2010, Romania joined the "Stent for Life" program having a tremendous impact on CV mortality which has decreased from 13.5% to 8.15% in 2013.

Currently, there are 35 public and private centers in Romania for interventional cardiology, representing an average of 0.8 PCI centers/million inhabitants (the estimated number of PCI procedures /million inhabitants is 325).

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1. European Commission, Eurostat database
<http://ec.europa.eu/eurostat/data/database>
2. GlobalAdultTobaccoSurveyRomania2011
http://www.who.int/tobacco/surveillance/survey/gats/gats_romania_report_2011.pdf
3. Romanian National Study PREDATORR - 2014
4. Special Eurobarometer 412. Sport and physical activity. 2014
5. SEPHAR II (http://societate-hipertensiune.ro/RJIM_EN.pdf)

III. Main actors and Prevention methods

Who delivers?

General practitioners are the key actors of both primary and secondary prevention, but their main role is to detect cardiovascular risk factors in the general population. School doctors are also important for the implementation of a healthy lifestyle during childhood. Secondary prevention is offered to the public by cardiologists, internal medicine specialists and general practitioners.

At the national level primary prevention is provided by the Ministry of Health through the “National program for the prevention of chronic disease”. National prevention programs are also jointly developed by the Romanian Society of Cardiology (RSC), namely the Working Group for Prevention and Rehabilitation, and the Romanian Heart Foundation. There are two national coordinators for these programs.

The Romanian Society of Cardiology and Romanian Heart Foundation are members of World Heart Federation. The Romanian Heart Foundation is member of the European Heart Network and the National Forum for CVD Prevention is member of European Network for Smoking and Tobacco Prevention.

Where?

Primary prevention is delivered at the national level through mass-media (broadcast and digital media), but it is also enforced by law, as the Parliament recently decided to ban smoking in all indoor public spaces. In primary care, including in schools, general advice for a healthy lifestyle is provided, but there isn't a dedicated national program.

The main arena for both primary and secondary prevention is the country's hospitals, through their departments of Cardiology and Internal Medicine. During admission and before discharge the patient receives recommendations for the prevention and treatment of the main cardiovascular risk factors, which include printed flyers.

The Romanian Heart Foundation made a habit of initiating public campaigns targeting the detection of cardiovascular risk factors and promotion of physical activity, on a yearly basis with the occasion of the World Heart Day. The main radio stations and TV channels are also involved in everyday advertising for a healthy lifestyle (via popular shows like “The Health Pill”).

Plenty of associations, clubs and foundations are also committed to promoting cardiovascular prevention, but they are not working in a synchronised and quantifiable manner. Such an initiative is “The Athletic Club of the Romanian Society of Cardiology”, a real success story in promoting daily physical activity.

There aren't any national prevention and rehabilitation guidelines, because the RSC has fully embraced and translated the European ones on [Cardiovascular Prevention](#), Dyslipidemia, and Hypertension etc. It is also promoting the use of the SCORE risk charts in both primary prevention and cardiology practice.

The Working Group for Prevention and Rehabilitation of the RSC published a "Heart Manual" which is meant for both healthy individuals and cardiovascular patients. Now this tool is on its way to becoming available on an electronic platform. Other ingenious initiatives of the RSC include the development of a program for ambulatory monitoring of the blood pressure using the patient's own mobile phone.

Quality control

Unfortunately we don't have an audit system to evaluate the results of nationwide cardiovascular prevention. Data is available only from reports of the National Statistics Institute concerning some cardiovascular risk factors (smoking, alcohol etc), or from annual statements regarding cardiovascular mortality.

There is an ongoing national survey called SEPHAR, organised by the Romanian Society of Hypertension, regarding the prevalence and control of arterial hypertension in Romania, which is now at its third edition.

Romania has also participated through one of its elite cardiology centers (Timișoara) to EUROASPIRE editions II, III and IV.

References:

1. CARDIOPORTAL –The Romanian Society of Cardiology official site –Professional Documents: <http://www.cardioportal.ro/> (in Romanian language only)
2. Athletic Cardio Club: <http://roacc.ro/en/>

IV. Main Prevention activities

Campaigns

- Alianta "Romania Respira": the largest national campaign designed to approve and implement the smoking ban in closed public places
- "PROFI iubeste sanatatea": smoking-cessation project delivered to the first private company member of National Forum for CVD Prevention
- "Romanian Heart Week": consisted of series of events taking place during the whole week which include World Heart Day, raising awareness regarding the importance of physical activity (in partnership with Rotary District 2241)
- "Promenada Inimilor" (based on "Sli na Slainte" project of Irish Heart Foundation): project meant to identify accessible walking routes and to encourage people of all ages to exercise, as a daily part of cardiovascular prevention measures (project implemented in more than 30 cities across the country during World Heart Day, in partnership with Rotary District 2241)
- "Alearga pentru inima ta": AthleticCardioClub activities during the entire year
- World Hypertension Day: joint venture of Alianta Romana de Control al Hipertensiunii Arteriale (ARCHA) and Romanian Heart Foundation, celebrating every year World Hypertension Day: checking blood pressure, determining cardiovascular risk and distributing educational materials ("Campionii Inima TA").
- "CLIPA": early detection and management of familial hypercholesterolemia, designed by Romanian Heart Foundation and implemented by CardioPrevent Foundation www.cardioprevent.org
- "Heart Failure Awareness Day": annual initiative dedicated to a correct and clear communication about heart failure disastrous impact (2013 Award offered by Heart Failure Association) – in partnership with Servier and Novartis Romania.

Projects

- SOS Cardio: www.soscardio.ro , www.romanianheart.ro - is aiming to raise cardiovascular disease risk factors awareness and to encourage people to do their annual check to GP doctor (global CV risk).
- „Bike for your heart!": www.romanianheart.ro - promoting physical exercise exclusively via social media channels (in partnership with MediaMed Publicis)
- "Heart Ball": www.romanianheart.ro - bringing the attention to the importance of preventive interventions to reduce cardiovascular mortality (organised in the House of the Parliament) - special guests: decision makers in health care, mass media and political authorities
- "Your Heart Agenda": www.romanianheart.ro - educational tool for encouraging healthy habits: fruit and vegetable intake, daily exercise routine, weight management, smoking cessation, leisure activities.
- "Young Health Programme": <http://ihs.jaromania.org/> - a unique focus on young people and primary prevention of the most common non-communicable diseases (NCDs), such as type 2 diabetes, cancer, heart and respiratory disease (organised in partnership with AstraZeneca and Junior Achievement Romania)
- "UEFA – Multy European City Initiative": www.romanianheart.ro – implemented in partnership with World Heart Federation

- “Act now. Save a life”: www.romanianheart.ro – implemented in partnership with “Stent for Life” initiative

Education

- CVD Prevention (together with rehabilitation) is part of the training in cardiology but few universities included it their curriculum for students. (Universitatea de Medicina si Farmacie Victor Babes din Timisoara has also an accredited Master in Prevention and Rehabilitation in Cardiovascular and Respiratory Diseases)
- “MasterClass” – interdisciplinary educational conferences (cardio-diabetes-nephro-pneumology) organised by the National Forum for CVD Prevention

V. Cardiac rehabilitation

For whom

Cardiac rehabilitation (CR) is recommended after cardiovascular surgery and after acute myocardial infarction but in CR programs patients are also enrolled with stable coronary artery disease, peripheral arterial disease, heart failure, arterial hypertension and metabolic syndrome.

Two-three weeks duration of inpatient rehabilitation is recommended after cardiovascular surgery and complicated myocardial infarction. In all other patients CR is applied directly as outpatient, usually 36 sessions during 12 weeks, but is not fully reimbursed.

By whom and how

There are three specialised rehabilitation clinics in Bucharest, Timisoara, Cluj and Iasi for inpatients well as for outpatient rehabilitation. There also outpatient rehabilitation clinics in other few centers (Bucuresti, Sibiu) and in the last years even smaller private units. The overall referral rate is about 10-20%, the compliance is decreased and the drop-out rate is 40-60%, mainly because phase-2 rehabilitation is only partially reimbursed (10 of 36 sessions).

In all centers, cardiac rehabilitation consists not only of physical training, but in comprehensive secondary prevention offered by a multidisciplinary team (cardiologist, physiotherapist, dietician, +/- psychologist). All patients undergo an initial noninvasive evaluation (clinical assessment, electrocardiography [ECG], echocardiography, Ambulatory Blood Pressure Monitoring [ABPM] and/or Holter monitoring if needed, stress testing and cardiopulmonary exercise testing, if necessary). Risk stratification is performed and an individualised program of physical training is indicated.

Covasna has a special and unique rehabilitation hospital of 700 beds where the programme is fully reimbursed. It is a hospital for extended phase-2 rehabilitation and for phase-3 rehabilitation, CR is provided as two or three weeks hospitalisation, once a year and consists in a non-invasive evaluation (ECG, exercise stress testing, ECG Holter monitoring, echocardiography), followed by 10 to 50 sessions of physical training together with other secondary prevention measures.

In the Covasna hospital physiotherapy services is provided, consisting of laser therapy, ultrasound, interferential, magneto-therapy diaflux, diadinamic (galvanic current) as well as mofetta or fizzy mineral water. They also admit referred patients with hypertension, peripheral arterial disease, congenital and valvular heart disease and there is a small department for the rehabilitation of children with congenital heart disease mainly after corrective surgery.

At the national level there are no specific training programs for cardiac rehabilitation even if in the rehabilitation centers of Timisoara, Cluj and Iasi there are research programs. Such programs are offered by the Working Group of cardiovascular prevention

and rehabilitation (Romanian Society of Cardiology). The national curriculum of training in cardiology includes theoretically only three months of training in CR.

The European Joint Guidelines are currently used to guide the CR activity in the dedicated centers.

Audit and costs

There is not a specific audit for cardiac rehabilitation programs, but we aim to create a national registry of cardiac rehabilitation, based on data from the public (and private) units of CR mentioned above. As already stated, the cost is reimbursed only for inpatient rehabilitation and one-third (10 sessions) of outpatient rehabilitation programs. As to research: the EuroAspire III & IV & V initiatives covered Institutul de Boli Cardiovasculare Timisoara and Spitalul Universitar Bucuresti.

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3. Bjarnason-Wehrens B, McGee H... Zdrenghea D et al; [Cardiac rehabilitation in Europe: results from the European Cardiac Rehabilitation Inventory Survey.](#) Eur J Cardiovasc Prev Rehabil. 2010;17(4):410-8.
4. Mitu F. Recuperarea bolnavilor cu cardiopatie ischemică. Ed. Dosoftei 2002.

VI. The Future

Needs

More funding is necessary in order to reach out all Romanian citizens (especially those living in small villages; Romanian diaspora has a singular project dedicated in Novarra, Italy, delivered by Gheorghe Cerin and Marco Diena)

Possibilities

We strongly believe that the possibilities for success are high - the human resources and the high level of education ensure the achievement of our goals.

Obstacles

Nowadays the main obstacle is the stressful economic situation that hinders the achievement of our goals.

Plans

The Romanian Society of Cardiology (RSC) works according to a pre-established programme that was launched by its newly elected Board in Bucharest on 11 December 2014. The present Programme covers the time period October 2014—September 2017. It includes amongst its objectives, a move to a more pragmatic approach for the issues now facing Romanian Cardiology.

In addition to its continuing concern for raising its members' professional level, RSC intends—and first steps have already been taken—to become actively involved in the concrete implementation of the Programme at a national level, aiming to provide insight into cardiovascular disease in Romania and then take action to improve the morbidity-mortality figures that remain high. The keywords of this strategy are 'Applied Cardiology', an 'art with tendency' strategy, instead of 'pure art for art's sake'. This strategy established primary prevention as its main priority and involves close cooperation with the Romanian Health Ministry and Romanian Ministry of Education. According to this Programme RSC and its 10 Working Groups, together with the Romanian Heart Foundation and the Athletic CardioClub (an Association founded by SRC and 17 cardiologists to promote physical activity as a priority for the prevention of cardiovascular disease), are and they will be actively involved in the implementation of the 'Applied Cardiology' strategy. Specific programs have been launched and are continuously developed for each of the four major risk factors:

1. **Smoking:** RSC actively participated to a national campaign that resulted in a law that bans smoking in all closed public spaces. A national anti-smoking campaign is developed for the next future;
2. **Hypertension:** an on-line original application (www.tensiuneamea.ro) for self-diagnosis of hypertension was developed. This application (also available on the smartphones) will be continuously promoted
3. **Lack of exercise:** an original association (Athletic CardioClub [ACC], www.roacc.ro) was founded for promoting the benefits of the physical activity having cardiologists in the first line. Based on an original application ("Objective: 600 km/year) also available on the mobile devices, ACC members are daily involved in a competition of walking/running/cycling/swimming/other sports. Diplomas and special awards are offered in the end of each year. This original way for promoting exercise proved to be a very

successful one; in this very moment ACC has more than 650 members and their number increases with 1-2 new members every day.

4. **High cholesterol:** a set of writing materials was developed by RSC.

A strong national campaign on cardiovascular disease prevention will be at the center of our activity:

1. Different video clips on smoking cessation will be continuously disseminated by the national TV channels. A RSC on-line TV educational channel will be also opened in 2016.
2. The applications on hypertension and physical activity will be promoted throughout Romania.
3. Conferences on primary prevention and dedicated to the general population will be launched on April 23rd

We are very confident that the Romanian Society of Cardiology not only has the necessary skills, knowledge, and determination, but can also count on the support of the Romanian Heart Foundation, other Professional Societies and the Ministry of Health, Ministry of Education and other public organisations in Romania for achieving its objectives and will transform the ambitious Programme for 2014 – 2017 into a success.