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# The EHRA White Book 2008

The Current Status of Cardiac Electrophysiology  
in ESC Member Countries

J. Brugada, P. Vardas, C. Wolpert



[www.escardio.org/EHRA](http://www.escardio.org/EHRA)



## **Acknowledgments**

EHRA would like to express its appreciation to BIOTRONIK GmbH & Co. KG for their support of this book.

## **Preface – The European White Book of Electrophysiology: The first necessary step towards equal access to therapy in Europe**

One of the roles of a European Association like the European Heart Rhythm Association (EHRA), a registered branch of the European Society of Cardiology (ESC), is to promote equal access to therapy for all patients across Europe. To do so, the first step is to compile data on the current situation in various ESC membership countries, compare them, and propose actions to move towards harmonization.

The current leadership of EHRA agreed on the importance of obtaining as much current information as possible concerning the situation of the practice of electrophysiology in Europe. A group was created under the leadership of Professors Christian Wolpert and Panos Vardas to begin work on this objective. To ensure up to date data, Presidents of the different Working Groups or National Societies were contacted and asked not only to provide data, but also to verify and authorize all the information that became available through various sources. The result is the „White Book of Electrophysiology in Europe“ that we present to you.

The book is intended to be the starting point in a move towards a homogeneous way of looking at data, resources, physicians, etc., across Europe. Comparison among the different ESC countries should help to standardize health resources by promoting knowledge of the status and bringing it to the attention of all public authorities. It is also the point of comparison for the future: by knowing where we are today, we will be able to benchmark in the future and see how diverse countries evolve. This means that this book must be an ongoing process, with updated information, new and additional data, and the inclusion of information from those countries that have not yet been able to collect and transmit their records.

Our objective is to include all countries that are members of the European Society of Cardiology, and we hope that the next edition will contain the data that missing in this version. Although all information has been validated and authorized by the National Working Groups' Representatives, some data may still be incomplete or reflect only a portion of the statistics. Because of the ongoing nature of this book, new editions will reflect updates and any additional information we may receive. We take this opportunity to express our appreciation to the European Heart House staff, and to all the National Working Group contributors who made the creation of this book possible.

We hope that this book will be useful to all electrophysiologists in Europe and will initiate an era of evolution towards a more unified Europe in terms of equal access to therapy for all patients, independently of their country of origin.

Josep Brugada, President EHRA (2007-2009)

Panos Vardas, President Elect

Christian Wolpert, Chairman National Societies

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## 1. Methodology used

A primary research was conducted by the means of a survey within National Cardiology Societies and Working Groups of Cardiac Pacing and Electrophysiology. A secondary research was conducted on third part sources.

All data is for the latest available year, at the time of the publication. Some countries, however, did not have available data for all of the sections of the book.

The book presents the following data:

**Demographic data:** Demographic data is sourced from governmental departments and international agencies, namely the World Health Organization, U.S Census Bureau.

**Economic data:** Economic data is sourced from governmental departments and the International Monetary Fund (IMF).

**Healthcare Statistics data:** Healthcare Statistics data is sourced from National Ministries of Health as well as third parties from agencies such as the World Health Organization.

**Healthcare System, Education, Cardiac Pacing and Interventional Electrophysiology data:** Healthcare System, Education, Cardiac Pacing and Interventional Electrophysiology data is sourced and authorized for publication from National Societies and National Working Groups on Arrhythmias as well from third parties from the medical devices industry.

The survey was undertaken from April 2008 until July 2008.







## 2. ESC Countries Overview





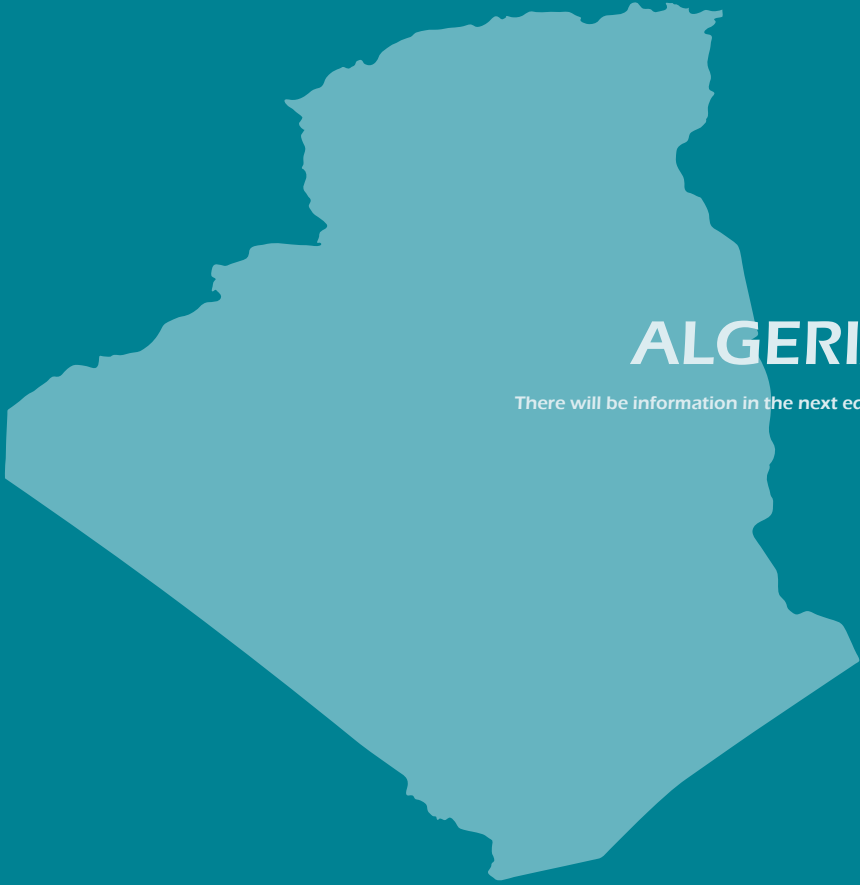


# ALBANIA

There will be information in the next edition.

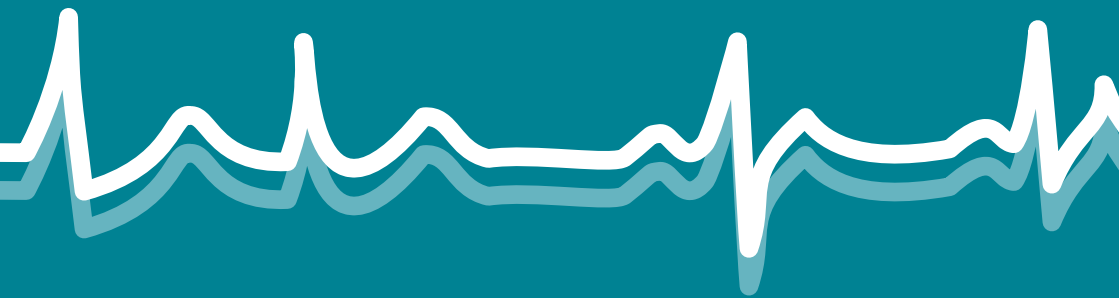






# ALGERIA

There will be information in the next edition.





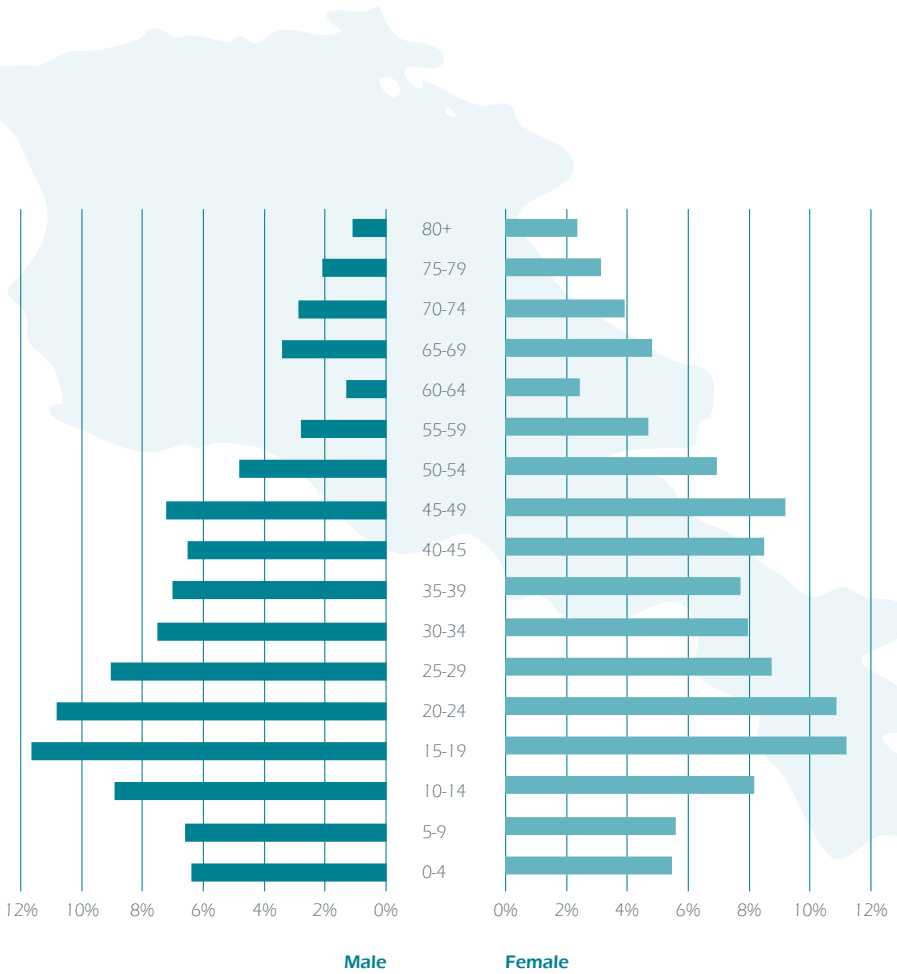
# ARMENIA



# 1. Statistics

## Age pyramid for Armenia (2007)

Source: US Census Bureau







### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	378059	333358	711713	19%
15-64	1244170	1427964	2672054	70%
65+	163771	252678	418000	11%
Total	1786000	2014000	3800000	100%

### Demographic information

Population	3800000	2007
Population annual growth rate (%)	0.70%	2005
Life expectancy at birth	73.08	2003
Death rate (per 1000 population)	34.54	2006
Live births (per 1000 population)	11.65	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	7974	2007
Gross domestic product per capita	2297.485*	2007
Total expenditure on health as % of GDP	7.1	2004
General government expenditure on health as % of total expenditure on health	69.2	2004
Private expenditure on health as % of total expenditure on health	30.8	2004

### Healthcare data

Hospitals (per 100000 population)	4.35	2006
Beds (per 100000 population)	443.2	2006
Number of physicians	10983	2003
Density of physicians (per 1000 population)	4.3	2003
Number of nurses	13320	2003
Density of nurses (per 1000 population)	4.35	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative

## 2. Healthcare System

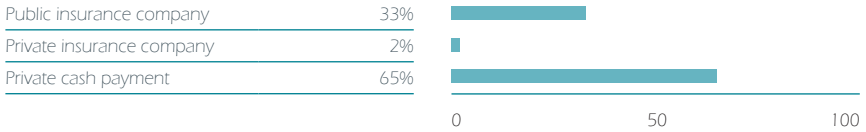
National Health System Fund

**Proportion of deaths resulting from cardiovascular disease** **42 181 per 100 000 persons**

---

### Part of population publicly and privately insured\*

---



\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

---

**Part of the population affected by cardiac arrhythmias** **8 to 12%\***

---

### Reimbursement for

---

ICD devices	<input type="checkbox"/>
Pacemakers	<input type="checkbox"/>
CRT devices	<input type="checkbox"/>

---

\* Exact data is not available



### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

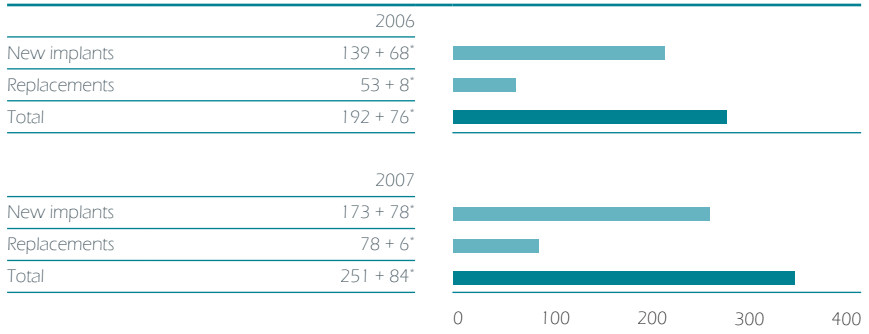
**Percentage of academic facilities among practicing EP and implant centres** **100%**

**Number of medical faculties** **5**

### 4. Pacemakers

**Number of implanting centres** **3**

#### Pacemaker units implanted



\* First figures refer to ACG Clinics only and second figures refer to Armenian Working Group of Arrhythmias

#### Specialty performing implants

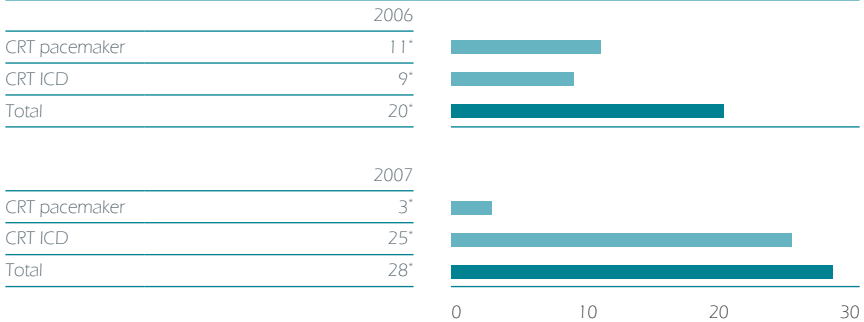
Cardiologists	95%
Surgeons	5%

## 5. Cardiac resynchronization therapy devices

### Number of implanting centres

1

#### CRT units implanted



\* ACG database only

#### Specialty performing implants

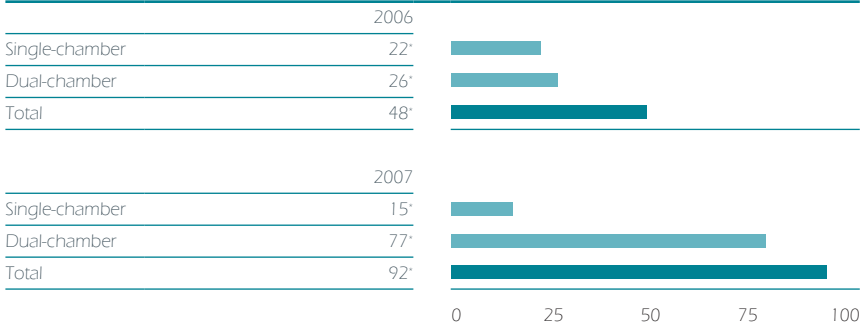
Cardiologists	95%
Surgeons	5%

## 6. Implantable Cardiac Defibrillator

### Number of implanting centres

1

#### ICD units implanted



\* ACG database only



### Specialists performing implant surgeries

Cardiologists	95%
Surgeons	5%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	108	165
Centres performing catheter ablation	1	1
Mean number (ablations/centres)	108	165
Number of AF ablations	0	0

## 8. Device specific

### Availability of remote monitoring of devices

### Availability of a national institution coordinating and guiding device recalls

**Yes**

Name of the institution: Armenian Drug & Medical Technology Agency

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

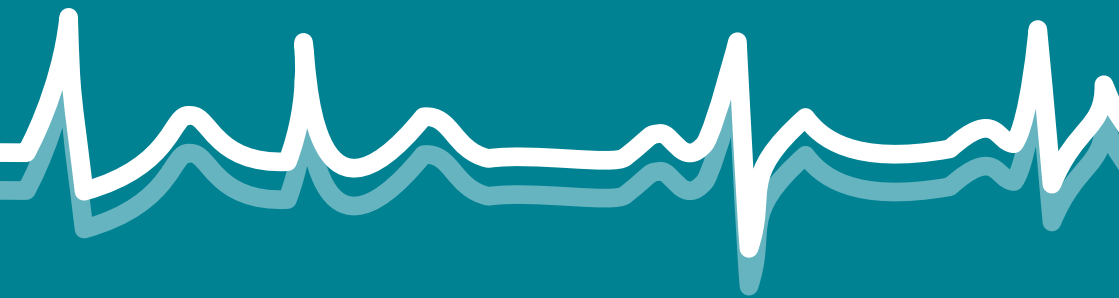
### Necessity of guideline translation to national language

**Yes**

Source: ACG Databases, Armenian Working Group of Cardiac Pacing & Electrophysiology



# AUSTRIA



# 1. Statistics

## Age pyramid for Austria (2007)

Source: US Census Bureau







### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	633 375	603 459	1 236 834	15%
15-64	2 781 291	2 749 539	5 530 830	67%
65+	585 747	846 372	1 432 119	17%
Total	4 000 413	4 199 370	8 199 783	100%

### Demographic information

Population	8 199 783	2007
Population annual growth rate (%)	0.20%	2005
Life expectancy at birth	80.24	2006
Death rate (per 1000 population)	8.97	2006
Live births (per 1000 population)	9.41	2006

### Economic information

Gross domestic product (U.S. dollars - billions)	373 943	2007
Gross domestic product per capita	45 181.123*	2007
Total expenditure on health as % of GDP	10.3	2004
General government expenditure on health as % of total expenditure on health	75.6	2004
Private expenditure on health as % of total expenditure on health	24.4	2004

### Healthcare data

Hospitals (per 100 000 population)	3.19	2006
Beds (per 100 000 population)	764.96	2006
Number of physicians	27 413	2003
Density of physicians (per 1 000 population)	3.38	2003
Number of nurses	76 161	2003
Density of nurses (per 1 000 population)	9.38	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative





### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

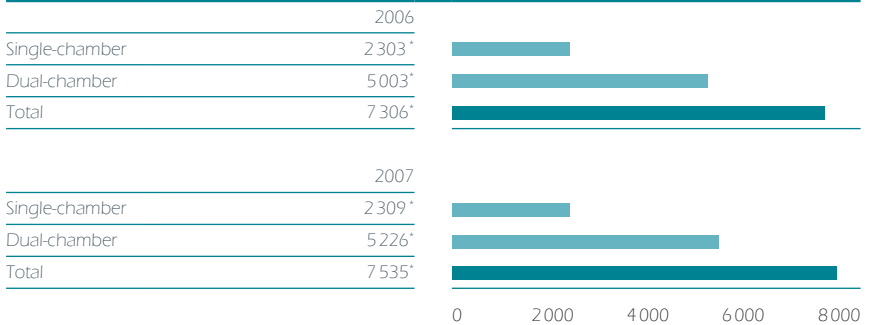
Percentage of academic facilities among practicing EP and implant centres **Not available**

Number of medical faculties **4**

### 4. Pacemakers

Number of implanting centres **65**

#### Pacemaker units implanted



\* Eucomed

#### Specialists performing implant surgeries

Cardiologists **Not available**

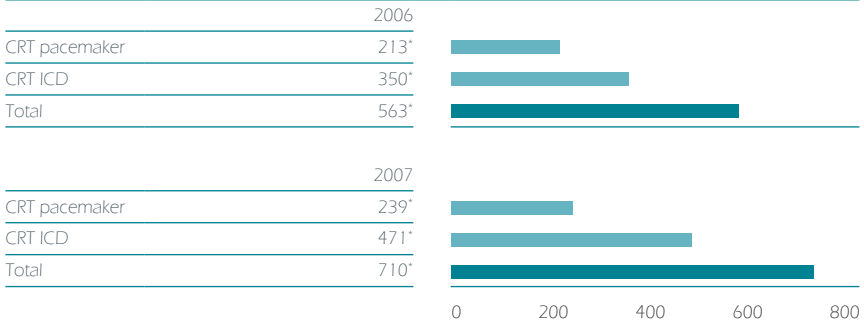
Surgeons **Not available**

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

65

### CRT units implanted



\* Eucomed

### Specialists performing implant surgeries

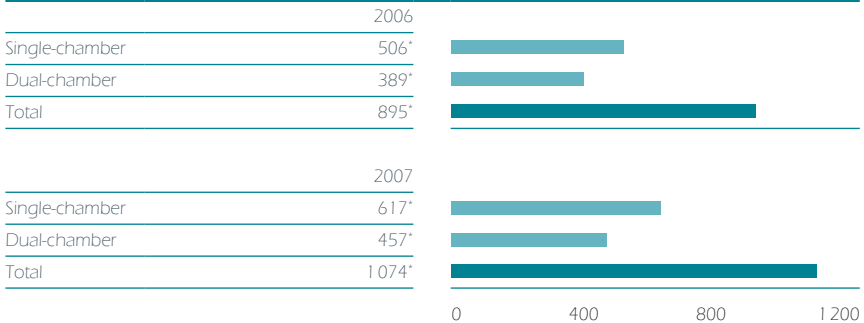
Cardiologists	Not available
Surgeons	Not available

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

Not available

### ICD units implanted



\* Eucomed



### Specialists performing implant surgeries

Cardiologists	Not available
Surgeons	Not available

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	Not available	1 509*
Centres performing catheter ablation	19	19
Mean number (ablations/centres)	Not available	79
Number of AF ablations	Not available	238

\* total value for 10 centres only, there is no data available from remaining 9 centres.  
Source: National Catheter Ablation Registry

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: Bundesamt für Sicherheit im Gesundheitswesen

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

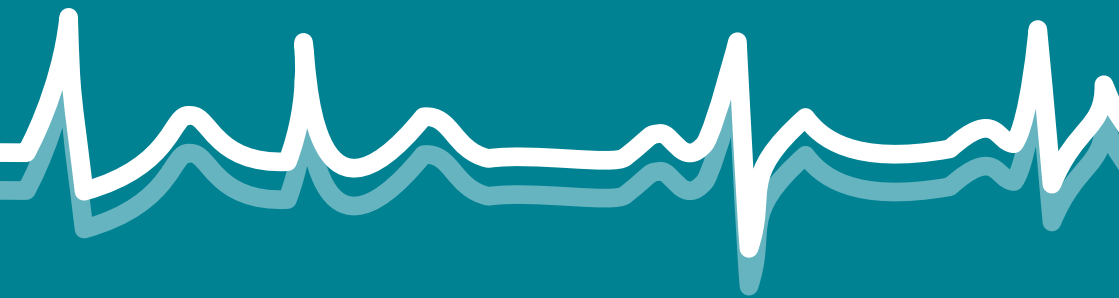
### Necessity of guideline translation to national language

No

National Working Group - Austria, National Registry, World Health Organisation and Eucomed



# BELARUS



# 1. Statistics

## Age pyramid for Belarus (2007)

Source: US Census Bureau







### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	7 178 85	6 772 54	13 951 39	14%
15-64	33 336 99	35 319 20	68 656 19	71%
65+	4 596 27	9 653 83	14 250 10	15%
Total	45 112 11	51 745 57	96 857 68	100%

### Demographic information

Population	9 685 768	2007
Population annual growth rate (%)	-0.50%	2005
Life expectancy at birth	68.84	2005
Death rate (per 1000 population)	14.50	2005
Live births (per 1000 population)	9.24	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	44 773*	2007
Gross domestic product per capita	4 641.365*	2007
GDP growth	6.90%	2007
Total expenditure on health as % of GDP	6.2	2004
General government expenditure on health as % of total expenditure on health	74.9	2004
Private expenditure on health as % of total expenditure on health	25.1	2004

### Healthcare data

Hospitals (per 100 000 population)	7.24	2006
Beds (per 100 000 population)	11 117.83	2006
Number of physicians	45 800	2004
Density of physicians (per 1 000 population)	4.60	2004
Number of nurses	75 685	2004
Density of nurses (per 1 000 population)	7.50	2004

Sources: Euro WHO, IMF, U.S. Census Bureau, International, World Fact Book

\* IMF estimative

## 2. Healthcare System


National Health System

**Proportion of deaths resulting from cardiovascular disease** **Not available**

---

### Part of population publicly and privately insured\*

---

Public insurance company	100%	
Private insurance company	0%	
Private cash payment	0%	

\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

---

**Part of the population affected by cardiac arrhythmias** **5%**

---

### Reimbursement for

---

ICD devices	<input type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input type="checkbox"/>



### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

**Percentage of academic facilities among practicing EP and implant centres** **Not available**

**Number of medical faculties** **4**

### 4. Pacemakers

**Number of implanting centres** **8**

#### **Pacemaker units implanted**

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	1 575	1 870

#### **Specialty performing implants**

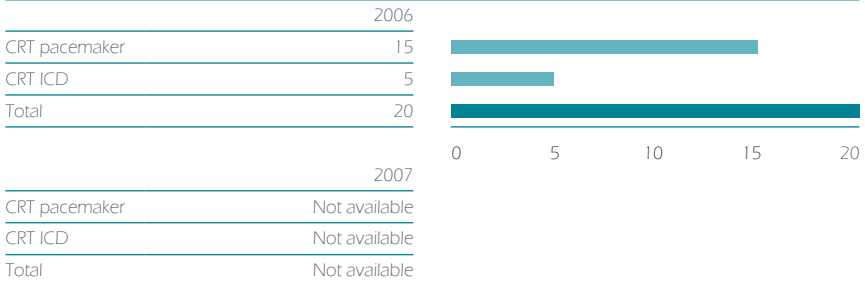
Cardiologists	0%
Surgeons	100%

## 5. Cardiac resynchronization therapy devices

### Number of implanting centres

1

#### CRT units implanted



#### Specialty performing implants

Cardiologists	0%
Surgeons	100%

## 6. Implantable Cardiac Defibrillator

### Number of implanting centres

2

#### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	5	25

#### Specialty performing implants

Cardiologists	0%
Surgeons	100%



## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	99	Not available
Centres performing catheter ablation	2	Not available
Mean number (ablations/centres)	49.5	Not available
Number of AF ablations	10	Not available

## 8. Device specific

**Availability of remote monitoring of devices**

**Availability of a national institution coordinating and guiding device recalls**

**Yes**

Name of the institution: Republican Scientific and Practical Institute of Cardiology and Ministry of Health

## 9. Guidelines

**Guidelines adhered to ICD implants and pacemaker implants**

National	<input checked="" type="checkbox"/>
U.S. / European	<input type="checkbox"/>

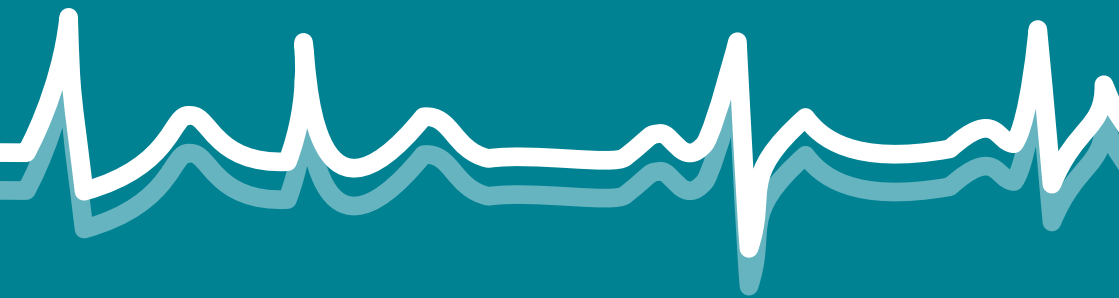
**Necessity of guideline translation to national language**

**Yes**

Source: Belarus National WG of Arrhythmias



# BELGIUM



# 1. Statistics

## Age pyramid for Belgium (2007)

Source: US Census Bureau







### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	873 130	836 785	1 709 915	16%
15-64	3 467 044	3 406 030	6 873 074	66%
65+	746 969	1 062 268	1 809 237	18%
Total	5 087 143	5 305 083	10 392 226	100%

### Demographic information

Population	10 392 226	2007
Population annual growth rate (%)	0.30%	2005
Life expectancy at birth	77.55	1997
Death rate (per 1000 population)	8.60	1997
Live births (per 1000 population)	11.26	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	45 3636	2007
Gross domestic product per capita	42 556.92	2007
GDP growth	2.70%	2007
Total expenditure on health as % of GDP	9.70	2004
General government expenditure on health as % of total expenditure on health	71.1	2004
Private expenditure on health as % of total expenditure on health	28.90	2004

### Healthcare data

Hospitals (per 100 000 population)	2.6	2006
Beds (per 100 000 population)	528.49	2006
Number of physicians	46 268	2002
Density of physicians (per 1 000 population)	4.49	2002
Number of nurses	60 142	2003
Density of nurses (per 1 000 population)	5.83	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International, World Fact Book  
 \* IMF estimative

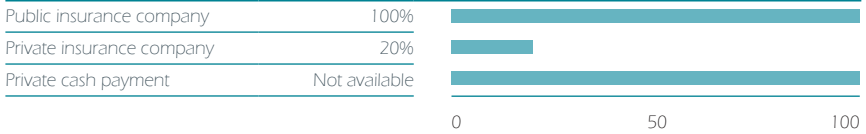
## 2. Healthcare System

Belgium has a compulsory health care system based on the social health insurance model. It is publicly funded and mainly provided privately. The federal government regulates and supervises the health insurance system. (Source: Highlights on health in Belgium. WHO, 2004)

**Proportion of deaths resulting from cardiovascular disease** **Not available**

---

### Part of population publicly and privately insured\*



\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

---

**Part of the population affected by cardiac arrhythmias** **Not available**

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### Reimbursement for

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>



### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

**Percentage of academic facilities among practicing EP and implant centres** **25%**

**Number of medical faculties** **7**

### 4. Pacemakers

**Number of implanting centres** **130**

#### **Pacemaker units implanted**

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	11 000*	11 000*

#### **Specialty performing implants**

Cardiologists	50%
Surgeons	50%

\* approx.

## 5. Cardiac resynchronization therapy devices

### Number of implanting centres

25

#### CRT units implanted

	2006	2007
CRT pacemaker	Not available	Not available
CRT ICD	Not available	Not available
Total	Not available	Not available

#### Specialty performing implants

Cardiologists	90%
Surgeons	10%

## 6. Implantable Cardiac Defibrillator

### Number of implanting centres

25

#### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	1 300	1 600

#### Specialty performing implants

Cardiologists	80%
Surgeons	20%



## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	4 000	4 061
Centres performing catheter ablation	30	37
Mean number (ablations/centres)	133	109
Number of AF ablations	Not available	Not available

## 8. Device specific

**Availability of remote monitoring of devices**



**Availability of a national institution coordinating and guiding device recalls**

**Yes**

Name of the institution: Federal Public Service Health, Food Chain Safety and Environment. Directorate  
General Public Health Protection: Medicinal Products Medical Devices Unit

## 9. Guidelines

**Guidelines adhered to ICD implants and pacemaker implants**

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

**Necessity of guideline translation to national language**

**No**

Belgian Heart Rhythm Association (BeHRA) - Belgium





# BOSNIA & HERZEGOVINA

There will be information in the next edition.







# BULGARIA



# 1. Statistics

## Age pyramid for Bulgaria (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	543 703	517 520	1 061 223	14%
15-64	2 579 582	2 666 887	5 246 469	69%
65+	546 356	786 192	1 332 548	17%
Total	3 669 641	3 970 599	7 640 240	100%

### Demographic information

Population	7 640 240	2007
Population annual growth rate (%)	-0,86%	2007
Life expectancy at birth	72,6	2004
Death rate (per 1000 population)	14,8	2007
Live births (per 1000 population)	9,86	2007

### Economic information

Gross domestic product (Euro-millions)	8 006,3	2007
Gross domestic product per capita (Euro)	1 047,9	2007
GDP growth	4,5%	2007
Total expenditure on health as % of GDP	4,4%	2007
General government expenditure on health as % of total expenditure on health	62,8	2007
Private expenditure on health as % of total expenditure on health	38,2	2007

### Healthcare data

Hospitals (per 100 000 population)	3,82	2007
Beds (per 100 000 population)	584,4	2007
Number of physicians	28 111	2007
Density of physicians (per 1 000 population)	3,67	2007
Number of nurses	48 112	2007
Density of nurses (per 1 000 population)	6,29	2007

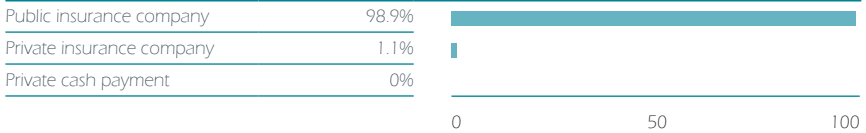
Sources: Bulgarian National Statistical Institute

## 2. Healthcare System

In Bulgaria, the health care system is organised through a Public Health Care System plus 13 private insurance funds. In the year 2007 the voluntary private insurance population was 150 000, which equals to 10 millions Euro.

### Proportion of deaths resulting from cardiovascular disease 971 per 100 000 population 2007

#### Part of population publicly and privately insured\*



\* estimative

### Possibility of subscribing to private health insurance plans Yes

### Part of the population affected by cardiac arrhythmias 238.3 per 100 000 population

#### Reimbursement for

ICD devices	<input type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input type="checkbox"/>



### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

**Percentage of academic facilities among practicing EP and implant centres** **71,4%**

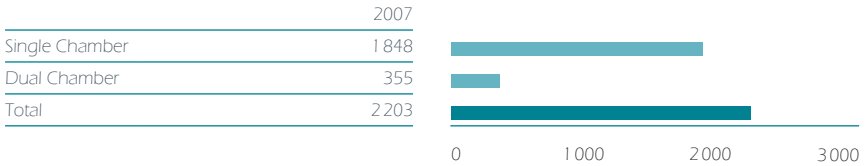
**Number of medical faculties** **10**

### 4. Pacemakers

**Number of implanting centres** **14**

#### Pacemaker units implanted

	2006
Single-chamber	Not available
Dual-chamber	Not available
Total	Not available



#### Specialty performing implants

Cardiologists	80%
Surgeons	20%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

3

### CRT units implanted

	2006
CRT pacemaker	Not available
CRT ICD	Not available
Total	Not available

	2007
CRT pacemaker	33
CRT ICD	0
Total	33



### Specialty performing implants

Cardiologists	85.8%
Surgeons	14.2%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

3

### ICD units implanted

	2006
Single-chamber	Not available
Dual-chamber	Not available
Total	Not available

	2007
Single-chamber	9
Dual-chamber	0
Total	9





### Specialty performing implants

Cardiologists	83.4%
Surgeons	16.6%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	Not available	299
Centres performing catheter ablation	Not available	1
Mean Number (ablations/centres)	Not available	299
Number of AF Ablations	Not available	18

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution:

Bulgarian Drug Agency

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	Not available
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

Yes

Source: Bulgarian Cardiac Stimulation Society, Society of Cardiology





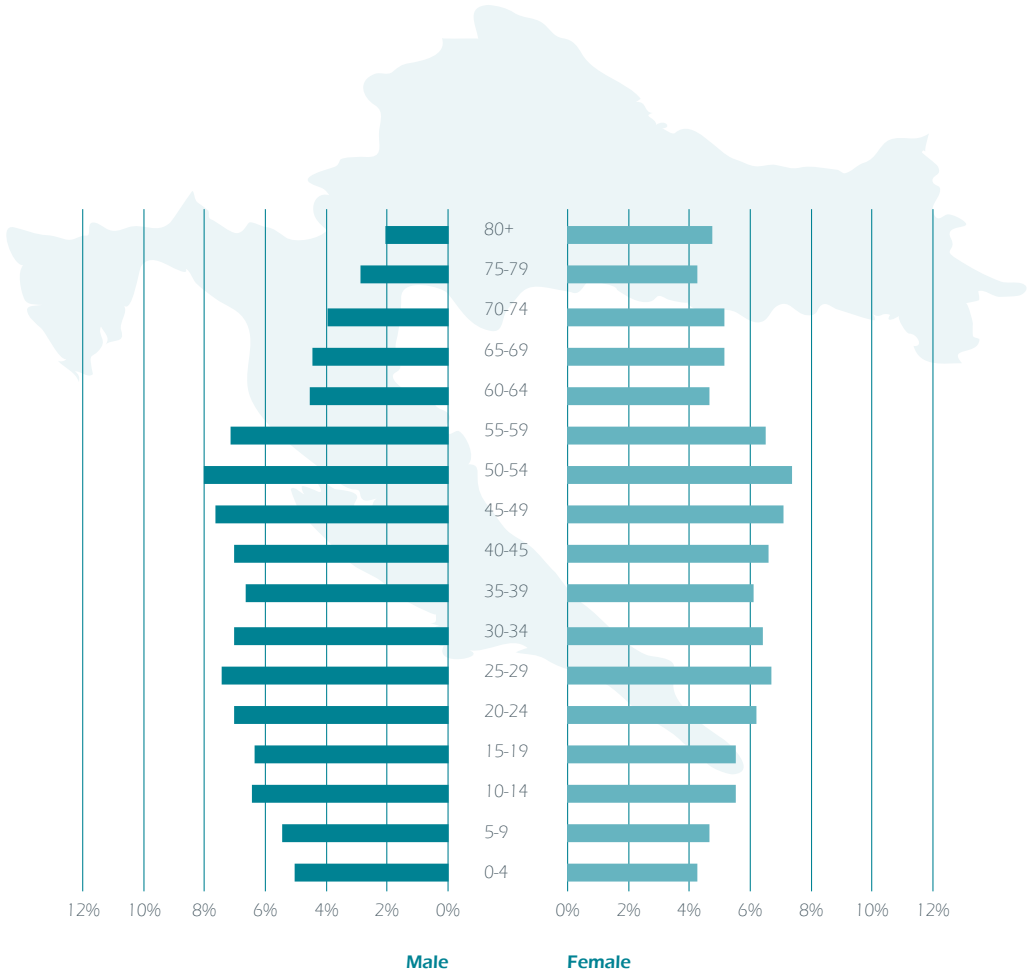
# CROATIA



# 1. Statistics

## Age pyramid for Croatia (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	368 639	349 703	718 342	16%
15-64	1 499 354	1 515 932	3 015 286	67%
65+	292 526	467 158	759 684	17%
Total	2 160 519	2 332 793	4 493 312	100%

### Demographic information

Population	4 493 312	2007
Population annual growth rate (%)	-0.30%	2005
Life expectancy at birth	76.01	2006
Death rate (per 1000 population)	11.35	2006
Live births (per 1000 population)	9.33	2006

### Economic information

Gross domestic product (U.S. dollars - billions)	51356*	2007
Gross domestic product per capita	11 576.008*	2007
GDP growth	4-6 %	2007
Total expenditure on health as % of GDP	7.70	2004
General government expenditure on health as % of total expenditure on health	81	2004
Private expenditure on health as % of total expenditure on health	19	2004

### Healthcare data

Hospitals (per 100 000 population)	1.76	2006
Beds (per 100 000 population)	545.88	2006
Number of physicians	10820	2003
Density of physicians (per 1 000 population)	2.44	2003
Number of nurses	22 372	2003
Density of nurses (per 1 000 population)	5.05	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International

\* IMF estimative





### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

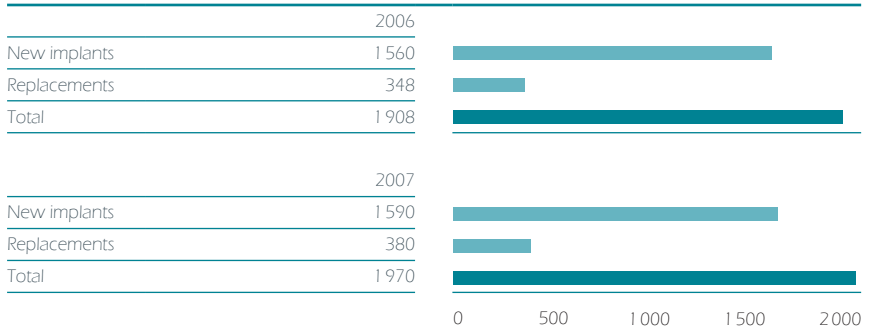
Percentage of academic facilities among practicing EP and implant centres **80%**

Number of medical faculties **4**

### 4. Pacemakers

Number of implanting centres **11**

#### Pacemaker units implanted



#### Specialty performing implants

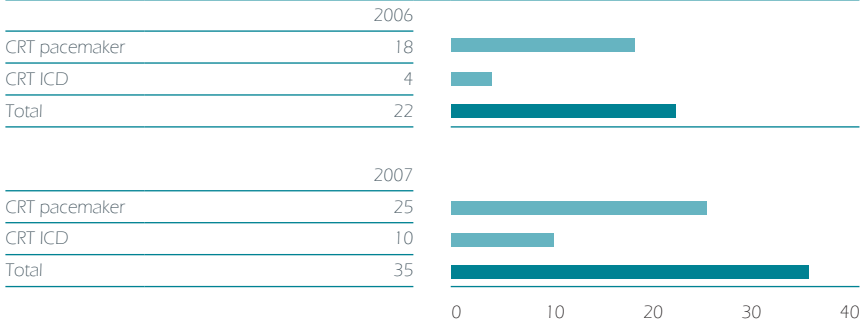
Cardiologists	50%
Surgeons	50%

## 5. Cardiac resynchronization therapy devices

### Number of implanting centres

6

#### CRT units implanted



#### Specialty performing implants

Cardiologists	50%
Surgeons	50%

## 6. Implantable Cardiac Defibrillator

### Number of implanting centres

7

#### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	53	70

#### Specialty performing implants

Cardiologists	50%
Surgeons	50%



## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	167	200
Centres performing catheter ablation	5	5
Mean number (ablations/centres)	33.4	40
Number of AF ablations	0	0

## 8. Device specific

### Availability of remote monitoring of devices

### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution:

Ministry of Health and Social Care

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

Yes

Source: National Working Group - Croatia







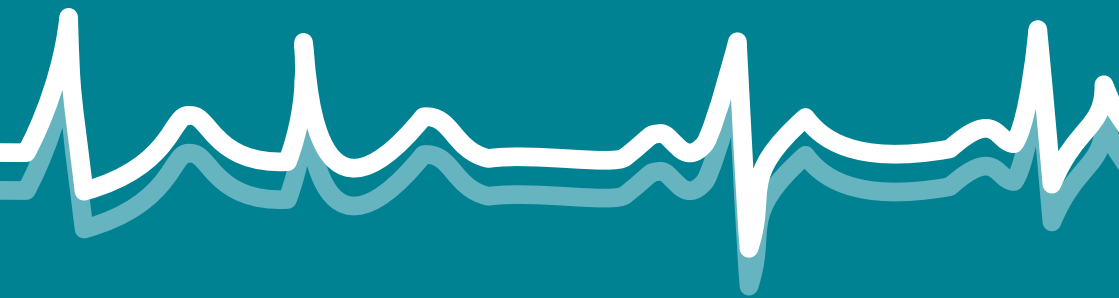
# CYPRUS

There will be information in the next edition.





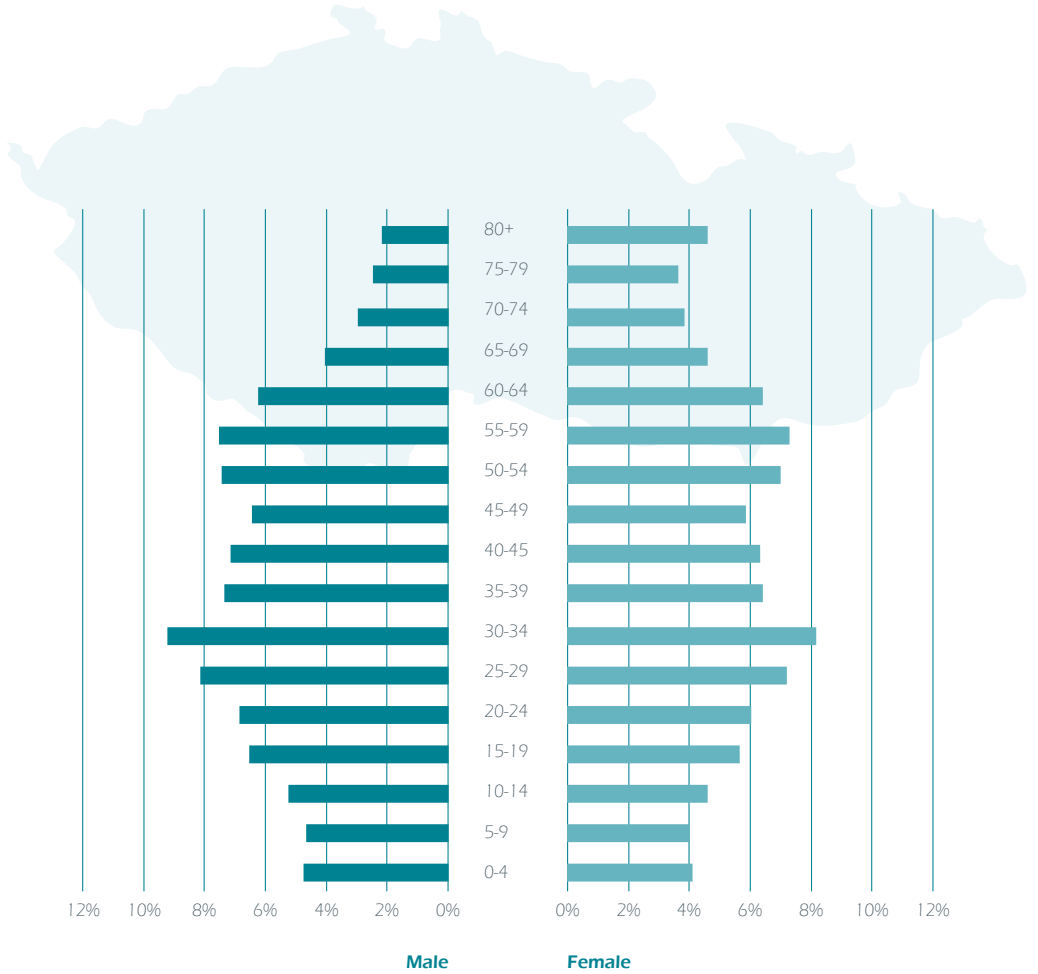
# CZECH REPUBLIC



# 1. Statistics

## Age pyramid for Czech Republic (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	749 391	709 413	1 458 804	14%
15-64	371 2371	3 681 535	7 393 906	71%
65+	597 299	931 121	1 528 420	15%
Total	5 059 062	5 322 068	10 381 130	100%

### Demographic information

Population	10 381 130	2007
Population annual growth rate (%)	-0.10%	2005
Life expectancy at birth	76.19	2005
Death rate (per 1000 population)	10.55	2005
Live births (per 1000 population)	9.99	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	175 309	2007
Gross domestic product per capita	17 069.744*	2007
GDP growth	5.70%	2007
Total expenditure on health as % of GDP	7.3	2004
General government expenditure on health as % of total expenditure on health	89.2	2004
Private expenditure on health as % of total expenditure on health	10.8	2004

### Healthcare data

Hospitals (per 100 000 population)	3.49	2006
Beds (per 100 000 population)	837.99	2006
Number of physicians	35 960	2003
Density of physicians (per 1 000 population)	3.56	2003
Number of nurses	99 351	2003
Density of nurses (per 1 000 population)	9.71	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International

\* IMF estimative

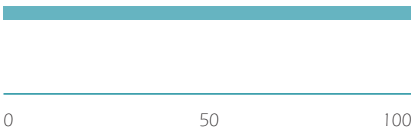
## 2. Healthcare System

National Health System

### Proportion of deaths resulting from cardiovascular disease

52 464

#### Part of population publicly and privately insured\*

Public insurance company	100%	
Private insurance company	0%	
Private cash payment	0%	

\* estimative

### Possibility of subscribing to private health insurance plans

No

### Part of the population affected by cardiac arrhythmias

Not available

#### Reimbursement for

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>



### 3. Education

**Is there an official recognition of subspecialties such as “electrophysiologists”?** **Yes\***

\* 4 licences - 2 for devices (implant and FU) and 2 for EP (diagnostics and ablations)

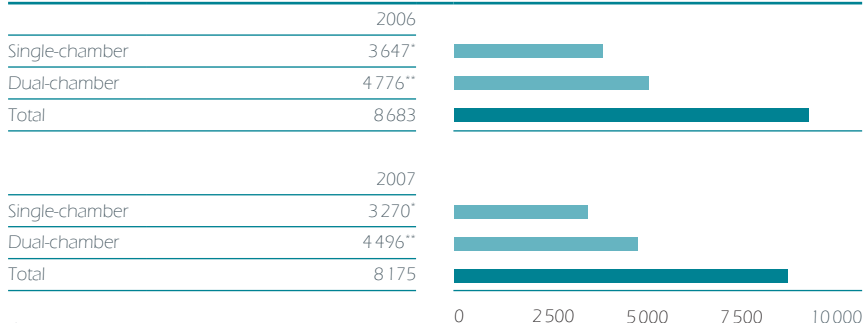
**Percentage of academic facilities among practicing EP and implant centres** **57%**

**Number of medical faculties** **7**

### 4. Pacemakers

**Number of implanting centres** **38**

#### Pacemaker units implanted



\* remaining 5% are CRT P

\*\* remaining 3% are CRT P

#### Specialty performing implants

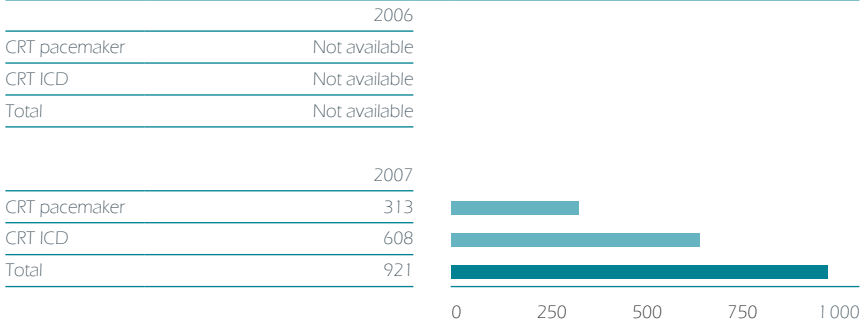
Cardiologists	80%
Surgeons	20%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

18

### CRT units implanted



### Specialty performing implants

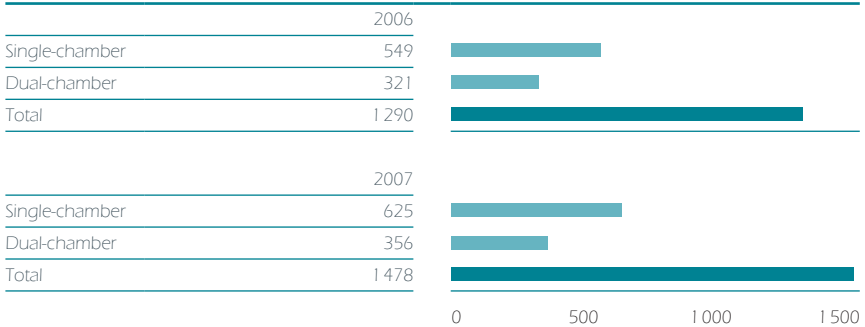
Cardiologists	80%
Surgeons	20%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

15

### ICD units implanted







### Specialty performing implants

Cardiologists	95%
Surgeons	5%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	2 769	2 901
Centres performing catheter ablation	Not available	16
Mean number (ablations/centres)	Not available	180
Number of AF ablations	Not available	540

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution:

State Institute for Drug Control

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input type="checkbox"/>

### Necessity of guideline translation to national language

Yes

Source: National Working Group on Arrhythmias and Cardiac Pacing – Czech Republic and National Registry



# DENMARK



# 1. Statistics

## Age pyramid for Denmark (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	520 669	494 228	1 014 897	19%
15-64	1 817 757	1 792 974	3 610 731	66%
65+	363 828	478 664	842 492	15%
Total	2 702 254	2 765 866	5 468 120	100%

### Demographic information

Population	5 468 120	2007
Population annual growth rate (%)	0.40%	2005
Life expectancy at birth	77.3	2001
Death rate (per 1 000 population)	3.06	2001
Live births (per 1 000 population)	65.5	2001

### Economic information

Gross domestic product (U.S. dollars - billions)	31 1905	2007
Gross domestic product per capita	57 260.949*	2007
GDP growth	1.70%	2007
Total expenditure on health as % of GDP	8.6	2004
General government expenditure on health as % of total expenditure on health	82.3	2004
Private expenditure on health as % of total expenditure on health	17.7	2004

### Healthcare data

Hospitals	76	2004
Beds (per 100 000 population)	4.30	2004
Number of physicians	18.043	2004
Density of physicians (per 1 000 population)	3.40	2004
Number of nurses	27.166	2004
Density of nurses (per 1 000 population)	5.2	2004

Sources: Euro WHO, IMF, U.S. Census Bureau, International, World Fact Book



\* IMF estimative

## 2. Healthcare System

Denmark has a decentralised healthcare system providing universal coverage for all residents. It is tax based. Hospital care, general practitioner services and healthcare services are free at the point of use. (Highlights on health in Denmark. WHO, 2004)

**Proportion of deaths resulting from cardiovascular disease** **0,19** **2006**

### Part of population publicly and privately insured\*

Public insurance company	99%	
Private insurance company	1%	
Private cash payment	0%	

0 50 100

\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

**Part of the population affected by cardiac arrhythmias** **Not available**

### Reimbursement for

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>



### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

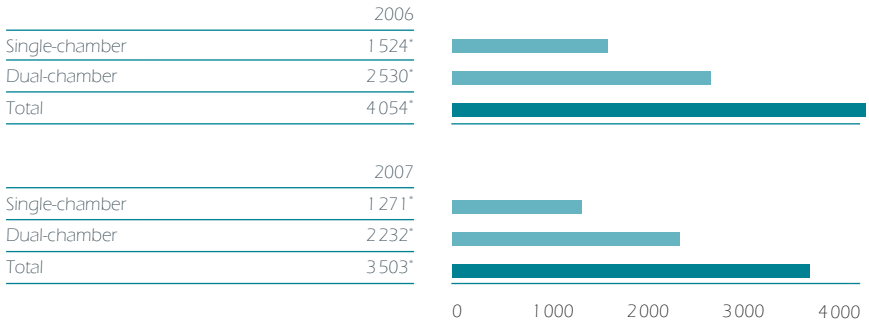
**Percentage of academic facilities among practicing EP and implant centres** **Not available**

**Number of medical faculties** **3**

### 4. Pacemakers

**Number of implanting centres** **14**

#### Pacemaker units implanted



\* Eucomed

#### Specialty performing implants

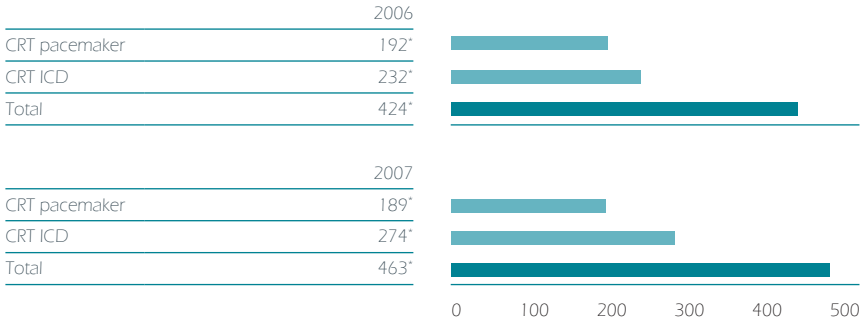
Cardiologists	100%
Surgeons	0%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

7

### CRT units implanted



\* Eucomed

### Specialty performing implants

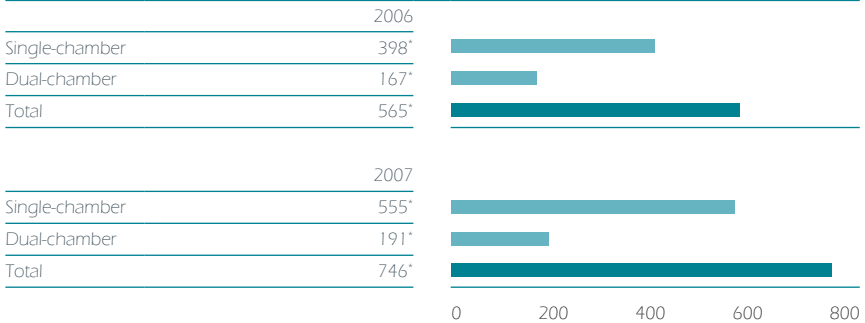
Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

5

### ICD units implanted



\* Eucomed





### Specialists performing implant surgeries

Cardiologists	100%
Surgeons	0%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	2550	Not available
Centres performing catheter ablation	6	Not available
Mean number (ablations/centres)	425	Not available
Number of AF ablations	1400	Not available

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution:

Danish Medicines Agency

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input type="checkbox"/>

### Necessity of guideline translation to national language

No

Source: National Arrhythmia Body, Eucomed and WHO





# EGYPT

There will be information in the next edition.





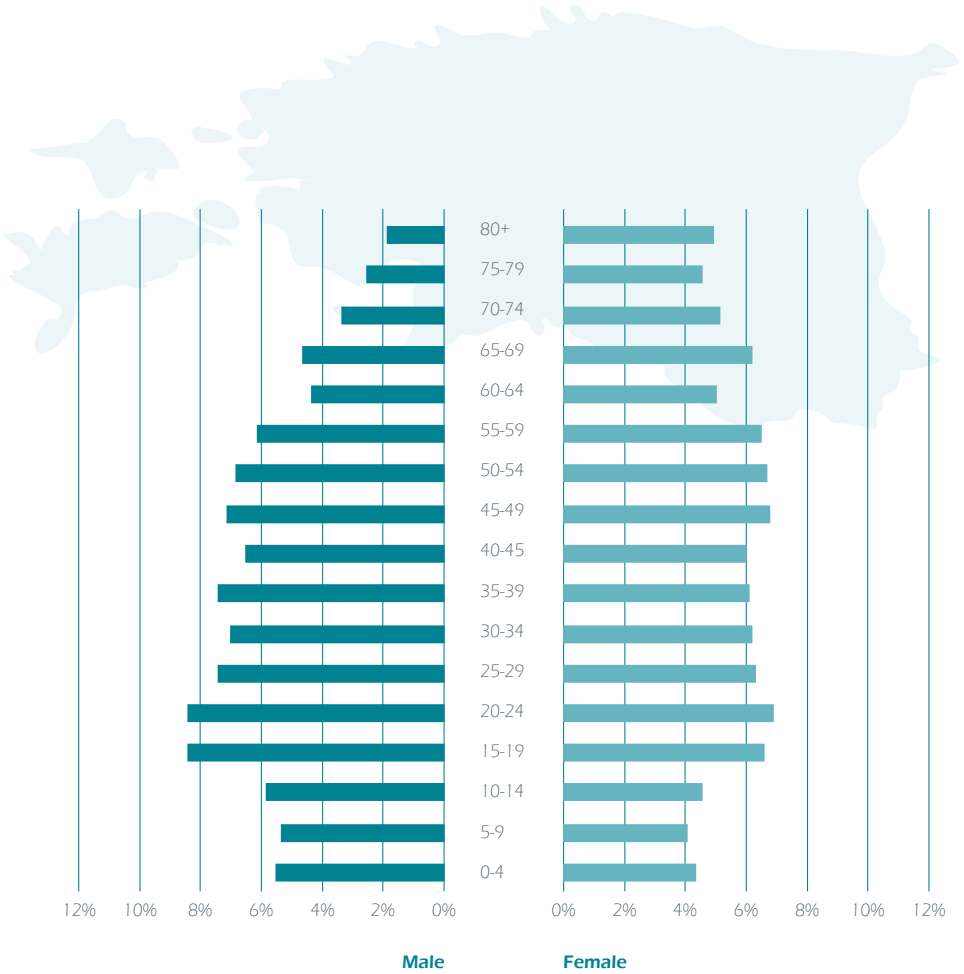
# ESTONIA



# 1. Statistics

## Age pyramid for Estonia (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	100 143	94 450	194 593	15%
15-64	420 896	462 072	882 968	68%
65+	76 171	153 873	230 044	18%
Total	597 210	710 395	1 307 605	100%

### Demographic information

Population	1 307 605	2007
Population annual growth rate (%)	-0.80%	2005
Life expectancy at birth	72.89	2005
Death rate (per 1000 population)	12.86	2005
Live births (per 1000 population)	10.66	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	21 278	2007
Gross domestic product per capita	15 850.71	2007
Total expenditure on health as % of GDP	5.3	2004
General government expenditure on health as % of total expenditure on health	76	2004
Private expenditure on health as % of total expenditure on health	24	2004

### Healthcare data

Hospitals (per 100 000 population)	4.9	2006
Beds (per 100 000 population)	564.77	2006
Number of physicians	6 118	2000
Density of physicians (per 1 000 population)	4.48	2000
Number of nurses	11 618	2000
Density of nurses (per 1 000 population)	8.50	2000

Sources: Euro WHO, IMF, U.S. Census Bureau, International







### 3. Education

Is there an official recognition of subspecialties such as “electrophysiologists”? **No**

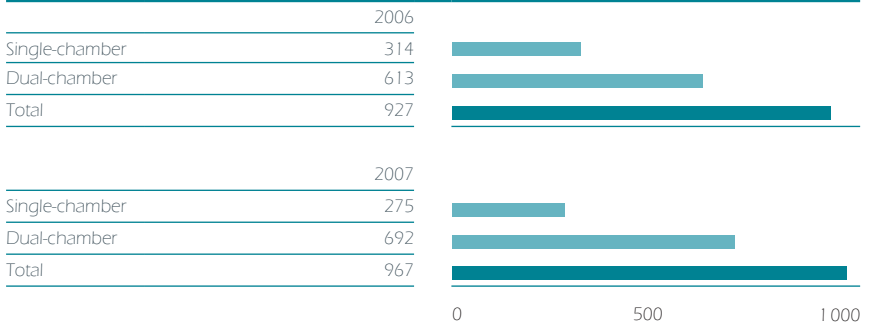
Percentage of academic facilities among practicing EP and implant centres **50%**

Number of medical faculties **1**

### 4. Pacemakers

Number of implanting centres **3**

#### Pacemaker units implanted



#### Specialty performing implants

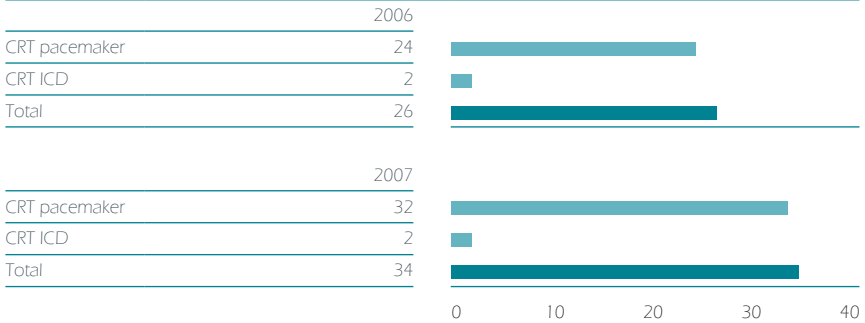
Cardiologists	75%
Surgeons	25%

## 5. Cardiac resynchronization therapy devices

### Number of implanting centres

2

#### CRT units implanted



#### Specialty performing implants

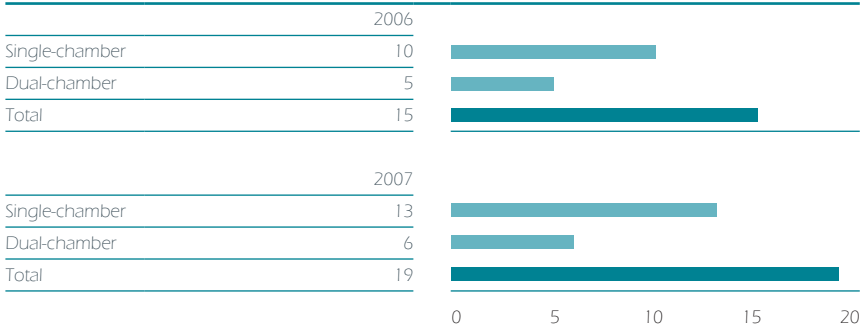
Cardiologists	50%
Surgeons	50%

## 6. Implantable Cardiac Defibrillator

### Number of implanting centres

2

#### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	66%
Surgeons	33%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	389	406
Centres performing catheter ablation	2	2
Mean number (ablations/centres)	195	203
Number of AF ablations	Not available	30

## 8. Device specific

### Availability of remote monitoring of devices

### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution:

State Agency of Medicines

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

No

Source: National Working Group of Arrhythmias – Estonia



# FINLAND



# 1. Statistics

## Age pyramid for Finland (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	449 548	433 253	882 801	17%
15-64	1 768 996	1 727 143	3 496 139	67%
65+	344 798	514 722	859 520	16%
Total	2 563 342	2 675 118	5 238 460	100%

### Demographic information

Population	5 238 460	2007
Population annual growth rate (%)	0.30%	2005
Life expectancy at birth	79.36	2005
Death rate (per 1 000 population)	9.1	2005
Live births (per 1 000 population)	11.01	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	245 013	2007
Gross domestic product per capita	46 601.865*	2007
Total expenditure on health as % of GDP	7.1	2004
General government expenditure on health as % of total expenditure on health	77.2	2004
Private expenditure on health as % of total expenditure on health	22.80	2004

### Healthcare data

Hospitals (per 100 000 population)	6.63	2006
Beds (per 100 000 population)	696.67	2006
Number of physicians	16 446	2002
Density of physicians (per 1 000 population)	3.16	2002
Number of nurses	74 450	2002
Density of nurses (per 1 000 population)	14.33	2002

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative

## 2. Healthcare System

Finland has a compulsory healthcare system which is tax based. It provides comprehensive coverage for the entire population. The Ministry of Social Affairs and Health issues the legislation on health and social care policies and monitors the implementation. At a local level, the municipal health committee and council make decisions on the planning and organization of healthcare. (Source: Highlights on health in Finland. WHO, 2004)

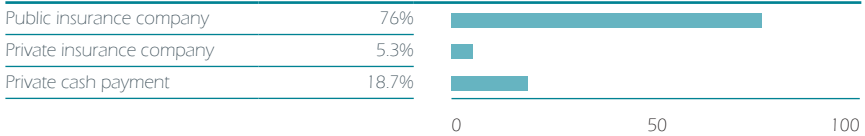
### Proportion of deaths resulting from cardiovascular disease 20.7 men / 12.2 female\*

---

\* in working age

### Part of population publicly and privately insured\*

---



\* estimative

### Possibility of subscribing to private health insurance plans Yes

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### Part of the population affected by cardiac arrhythmias Not available

---

### Reimbursement for

---

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>





### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

**Percentage of academic facilities among practicing EP and implant centres** **20%**

**Number of medical faculties** **5**

### 4. Pacemakers

**Number of implanting centres** **25**

#### **Pacemaker units implanted**

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	3 405	3 891

#### **Specialty performing implants**

Cardiologists	90%
Surgeons	10%*

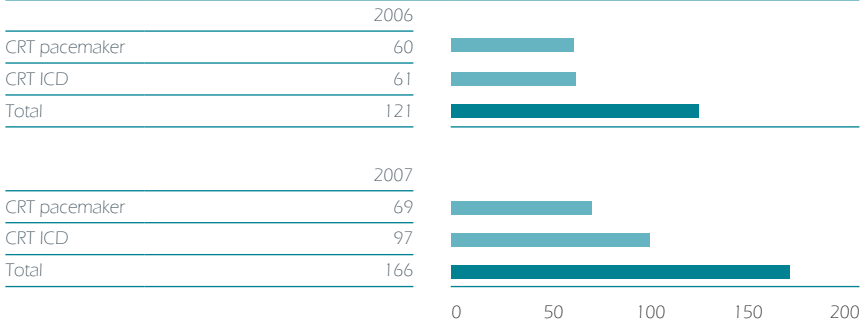
\* surgeons + internal medicine

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

8

### CRT units implanted



### Specialty performing implants

Cardiologists	95%
Surgeons	5%*

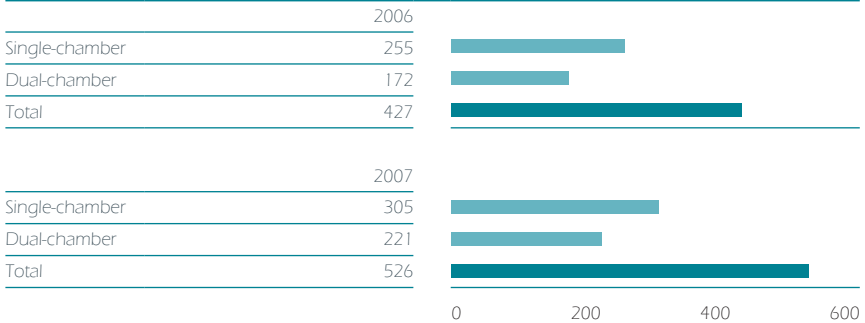
\* epicardial leads during open heart surgery

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

16

### ICD units implanted





### Specialty performing implants

Cardiologists	95%
Surgeons	5%*

\* surgeons + internal medicine

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	1160	1184
Centres performing catheter ablation	7	7
Mean number (ablations/centres)	166	169
Number of AF ablations	215	Not available

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: National Agency for Medicines Medical Devices Department

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

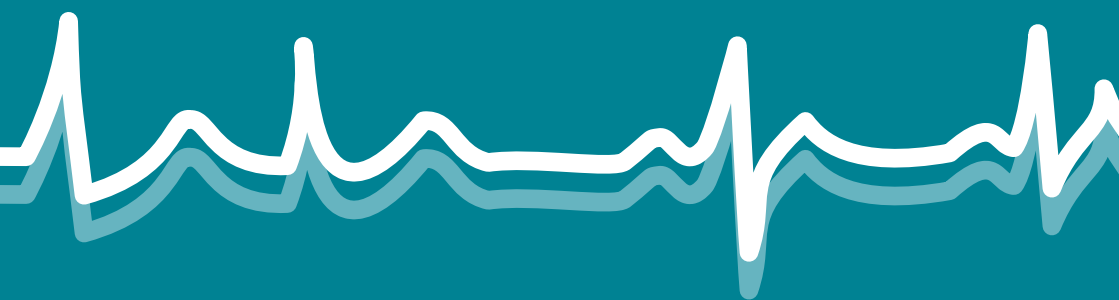
### Necessity of guideline translation to national language

No

Source: Working Group on Arrhythmias and Cardiac Pacing - Finland



Former Yugoslav Republic of  
**MACEDONIA**



# 1. Statistics

## Age pyramid for FYROM (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	205827	191 449	397 276	19%
15-64	7 12345	700 790	1 413 135	69%
65+	100 002	129 814	229 817	11%
Total	1 018 175	1 022 053	2 040 228	100%

### Demographic information

Population	2 040 228	2006
Population annual growth rate (%)	Not available	Not available
Life expectancy at birth	73	2005
Death rate (per 1000 population)	Not available	Not available
Live births (per 1000 population)	11.04	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	7 497*	2007
Gross domestic product per capita	3 658.972*	2007
Total expenditure on health as % of GDP	8	2004
General government expenditure on health as % of total expenditure on health	71	2004
Private expenditure on health as % of total expenditure on health	29	2004

### Healthcare data

Hospitals (per 100 000 population)	0.05	2006
Beds (per 100 000 population)	Not available	Not available
Number of physicians	5 176	2006
Density of physicians (per 1 000 population)	2.5	2006
Number of nurses	6 118	2006
Density of nurses (per 1 000 population)	3.0	2006

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative

## 2. Healthcare System

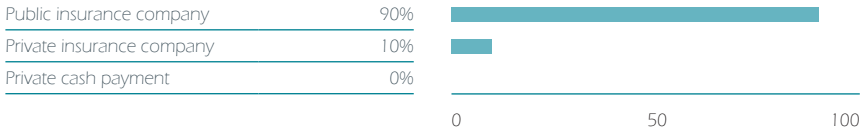
National Health System

**Proportion of deaths resulting from cardiovascular disease** **58.7%** **2006**

---

### Part of population publicly and privately insured\*

---



\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

---

**Part of the population affected by cardiac arrhythmias** **Not available**

---

### Reimbursement for

---

ICD devices	<input type="checkbox"/>
Pacemakers	<input type="checkbox"/>
CRT devices	<input type="checkbox"/>



### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

---

Percentage of academic facilities among practicing EP and implant centres **Not available**

---

Number of medical faculties **1**

---

### 4. Pacemakers

Number of implanting centres **1**

---

#### Pacemaker units implanted

---

	2006	2007
New implants	Not available	Not available
Replacements	Not available	Not available
Total	185	194

---

#### Specialty performing implants

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Cardiologists	100%
Surgeons	0%

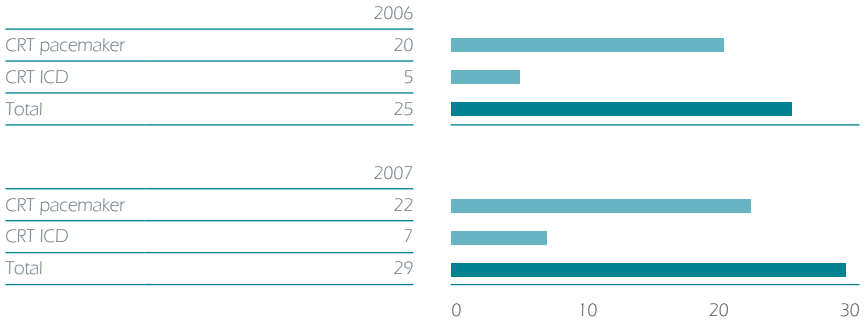
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## 5. Cardiac resynchronization therapy devices

Number of implanting centres

1

### CRT units implanted



### Specialty performing implants

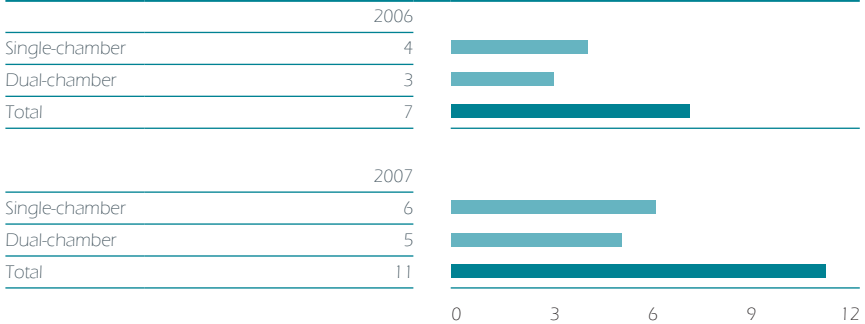
Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

1

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	100%
Surgeons	0%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	Not available	69
Centres performing catheter ablation	1	1
Mean number (ablations/centres)	Not available	69
Number of AF ablations	Not available	0

## 8. Device specific

### Availability of remote monitoring of devices

### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution:

Ministry of Health

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

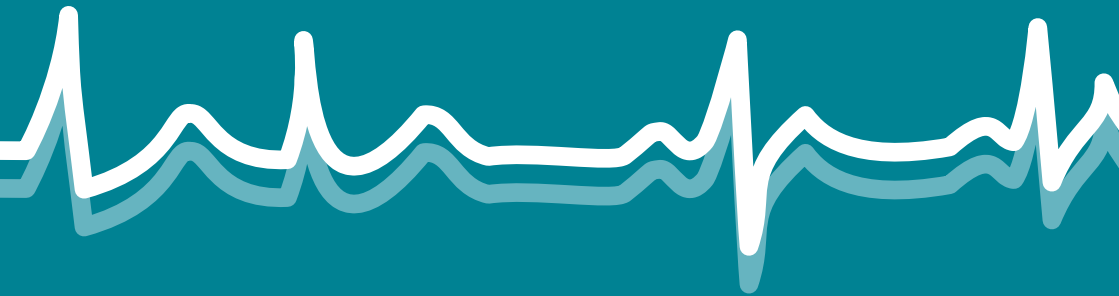
### Necessity of guideline translation to national language

No

Source: National Working Group - National Society of Cardiology of the Former Yugoslav Republic of Macedonia



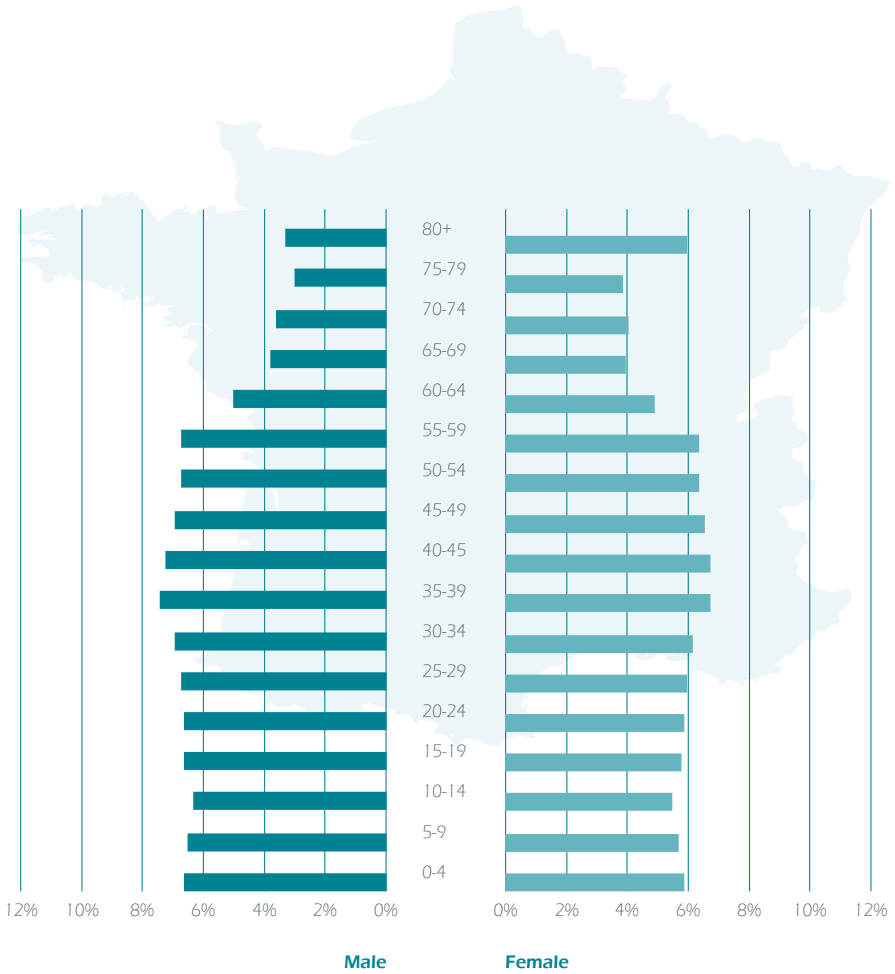
# FRANCE



# 1. Statistics

## Age pyramid for France (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	6 058 571	5 771 667	11 830 238	19%
15-64	20 787 603	20 750 779	41 538 382	65%
65+	4 275 215	6 037 907	10 313 122	16%
Total	31 121 389	32 560 353	63 681 742	100%

### Demographic information

Population	63 681 742	2007
Population annual growth rate (%)	0.40%	2005
Life expectancy at birth	80.5	2004
Death rate (per 1 000 population)	6.9	2004
Live births (per 1 000 population)	Not available	Not available

### Economic information

Gross domestic product (U.S. dollars - billions)	2 560.26	2007
Gross domestic product per capita	41 511.154*	2007
Total expenditure on health as % of GDP	10.5	2004
General government expenditure on health as % of total expenditure on health	78.4	2004
Private expenditure on health as % of total expenditure on health	21.6	2004

### Healthcare data

Hospitals	3 055	2004
Beds (per 1 000 population)	8.0	2004
Number of physicians	196 000	2004
Density of physicians (per 1 000 population)	3.46	2004
Number of nurses	397 506	2004
Density of nurses (per 1 000 population)	7.24	2004

Sources: Euro WHO, IMF, U.S. Census Bureau, International

\* IMF estimative







### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** No

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**Percentage of academic facilities among practicing EP and implant centres** Not available

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**Number of medical faculties** Not available

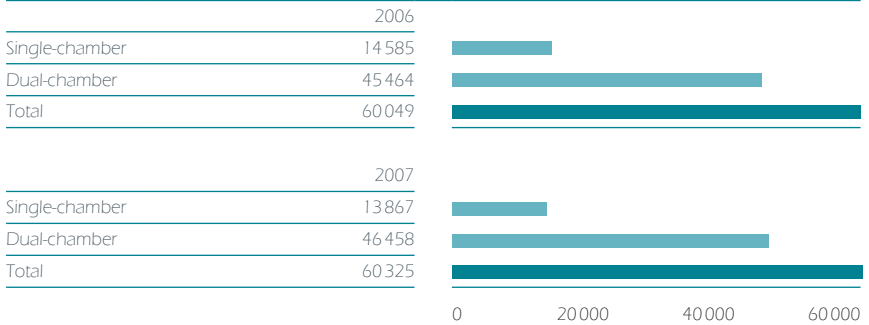
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### 4. Pacemakers

**Number of implanting centres** 545

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#### Pacemaker units implanted



#### Specialists performing implant surgeries

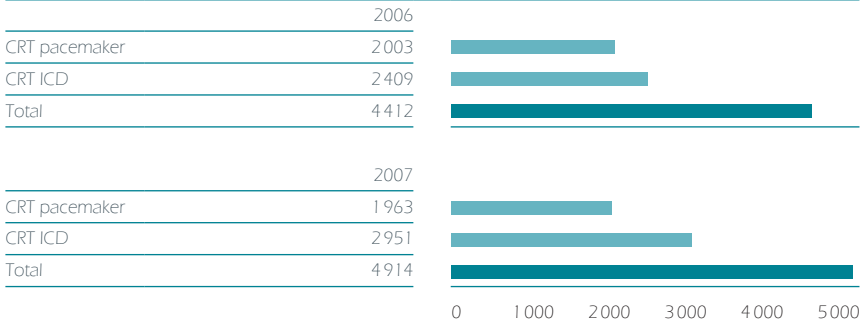
Cardiologists	Not available
Surgeons	Not available

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

121

### CRT units implanted



### Specialists performing implant surgeries

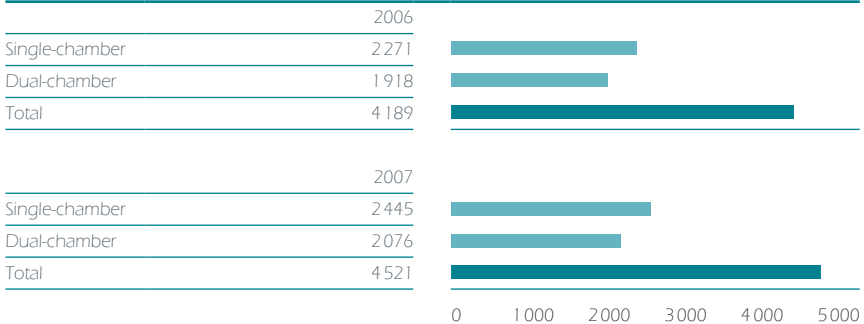
Cardiologists	95%
Surgeons	5%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

Not available

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	98%
Surgeons	2%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	17 680	18 223
Centres performing catheter ablation	207	207
Mean number (ablations/centres)	85	85
Number of AF ablations	Not available	Not available

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: Agence Française de Sécurité Sanitaire des Produits de Santé

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

Yes

Source: Working Group on Arrhythmias - France.



# GEORGIA



# 1. Statistics

## Age pyramid for Georgia (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	402 961	352 735	755 696	16%
15-64	1 496 802	1 610 725	3 107 527	67%
65+	307 795	459 823	767 618	17%
Total	2 207 558	2 423 283	4 630 841	100%

### Demographic information

Population	4 630 841	2007
Population annual growth rate (%)	1.20%	2005
Life expectancy at birth	73.1	2005
Death rate (per 1 000 population)	22.99	2006
Live births (per 1 000 population)	10.66	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	10 293	2007
Gross domestic product per capita	2 355.168*	2007
Total expenditure on health as % of GDP	5.3	2004
General government expenditure on health as % of total expenditure on health	27.4	2004
Private expenditure on health as % of total expenditure on health	72.6	2004

### Healthcare data

Hospitals (per 100 000 population)	5.96	2006
Beds (per 100 000 population)	374.15	2006
Number of physicians	20 962	2003
Density of physicians (per 1 000 population)	4.09	2003
Number of nurses	17 807	2003
Density of nurses (per 1 000 population)	3.47	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative







### 3. Education

Is there an official recognition of subspecialties such as “electrophysiologists”? **No**

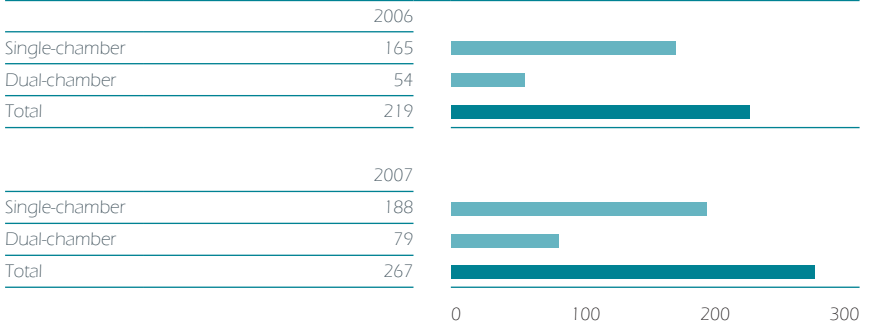
Percentage of academic facilities among practicing EP and implant centres **60%**

Number of medical faculties **2**

### 4. Pacemakers

Number of implanting centres **4**

#### Pacemaker units implanted



#### Specialists performing implant surgeries

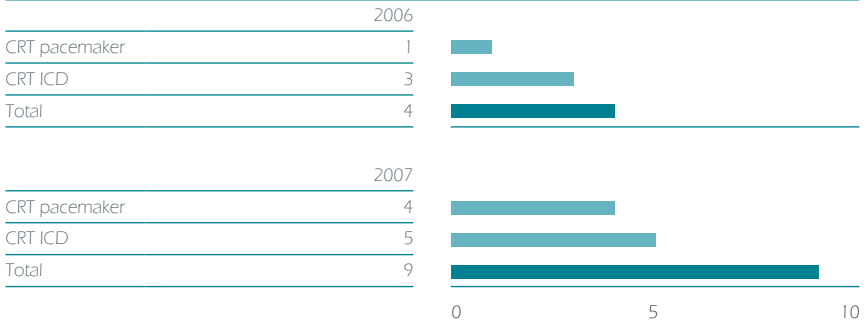
Cardiologists	90%
Surgeons	10%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

3

### CRT units implanted



### Specialists performing implant surgeries

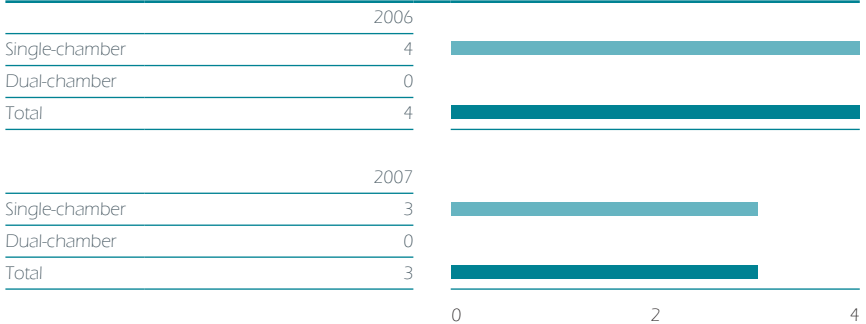
Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

15

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	100%
Surgeons	0%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	17	64
Centres performing catheter ablation	3	Not available
Mean number (ablations/centres)	27	Not available
Number of AF ablations	0	0

## 8. Device specific

### Availability of remote monitoring of devices

### Availability of a national institution coordinating and guiding device recalls

**Yes**

Name of the institution:

Ministry of Health

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input type="checkbox"/>
U.S. / European	<input type="checkbox"/>

### Necessity of guideline translation to national language

**Yes**

Source: Working Group on Arrhythmias of the Georgian College of Cardiology



# GERMANY



# 1. Statistics

## Age pyramid for Germany (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	5 894 724	5 590 373	11 485 097	14%
15-64	27 811 357	26 790 222	54 601 579	66%
65+	6 771 972	9 542 348	16 314 320	20%
Total	40 478 053	41 922 943	82 400 996	100%

### Demographic information

Population	82 400 996	2007
Population annual growth rate (%)	0.10%	2005
Life expectancy at birth	79.36	2004
Death rate (per 1000 population)	6.09	2006
Live births (per 1000 population)	Not available	Not available

### Economic information

Gross domestic product (U.S. dollars - billions)	3 322.15	2007
Gross domestic product per capita	40 415.41	2007
Total expenditure on health as % of GDP	10.6	2004
General government expenditure on health as % of total expenditure on health	76.9	2004
Private expenditure on health as % of total expenditure on health	23.1	2004

### Healthcare data

Hospitals (per 100 000 population)	4.6	2006
Beds (per 100 000 population)	826.3	2006
Number of physicians	277 885	2003
Density of physicians (per 1 000 population)	3.37	2003
Number of nurses	801 677	2003
Density of nurses (per 1 000 population)	9.72	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International







### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

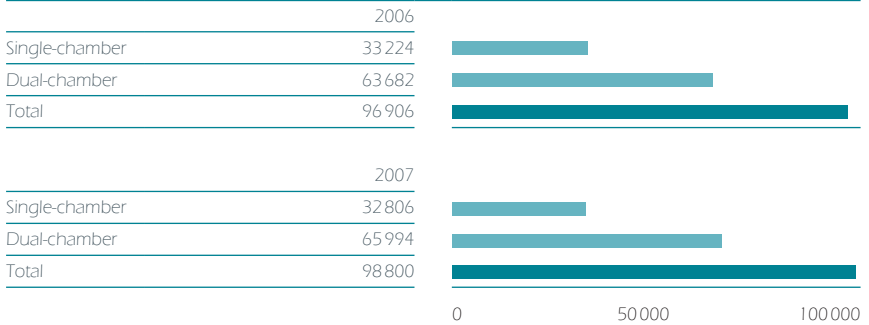
**Percentage of academic facilities among practicing EP and implant centres** **76%**

**Number of medical faculties** **34**

### 4. Pacemakers

**Number of implanting centres** **1037**

#### Pacemaker units implanted



#### Specialists performing implant surgeries

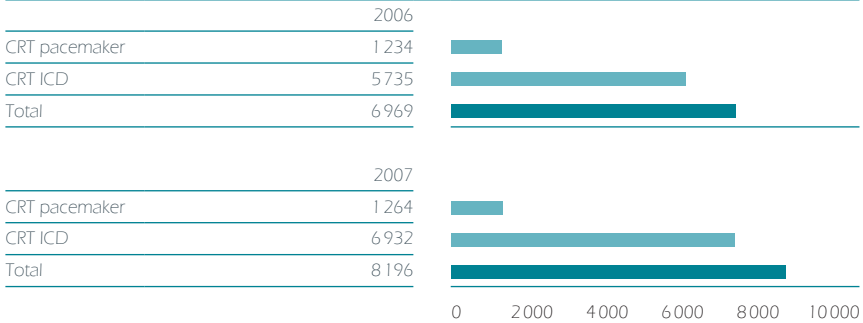
Cardiologists	Not available
Surgeons	Not available

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

132\* and 200\*\*

### CRT units implanted



\* only for CRT-P

\*\* only for CRT-D

### Specialists performing implant surgeries

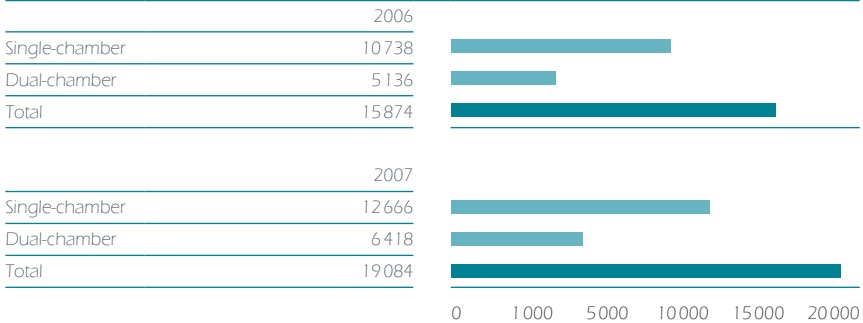
Cardiologists	90%
Surgeons	10%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

360

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	30%
Surgeons	70%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	27 456	30202
Centres performing catheter ablation	250	250
Mean number (ablations/centres)	361	397
Number of AF ablations	Not available	Not available

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls



Name of the institution: Federal Institute for Drugs and Medical Devices (BfArM)

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input type="checkbox"/>

### Necessity of guideline translation to national language

Yes

Source: Working Group on Arrhythmias - Germany, Eucomed (2005-2008), Euro WHO (2005)



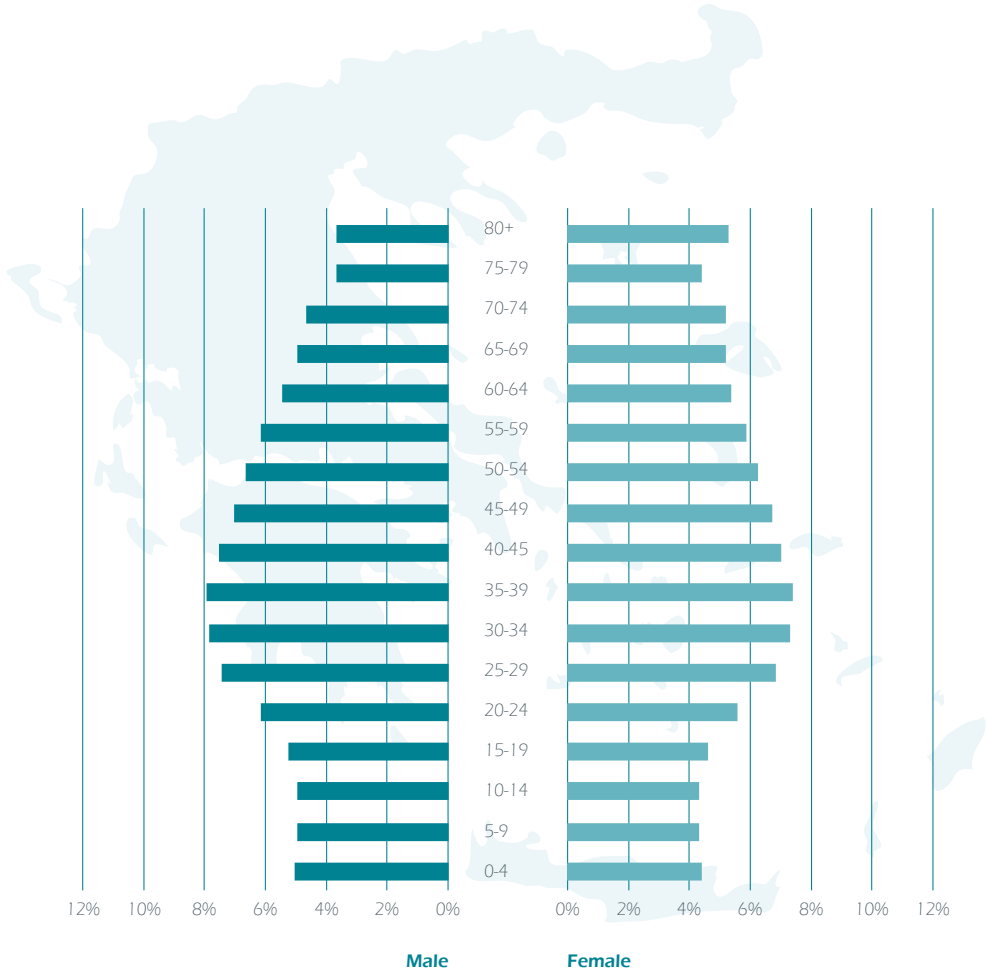
# GREECE



# 1. Statistics

## Age pyramid for Greece (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	789 637	742 535	1 532 172	14%
15-64	3 565 237	3 570 630	7 135 867	67%
65+	895 384	1 142 867	2 038 251	19%
Total	5 250 258	5 456 032	10 964 020	100%

### Demographic information

Population	10 964 020	2007
Population annual growth rate (%)	0.40%	2005
Life expectancy at birth	79.79	2006
Death rate (per 1 000 population)	9.42	2005
Live births (per 1 000 population)	10.05	2006

### Economic information

Gross domestic product (U.S. dollars - billions)	314 615*	2007
Gross domestic product per capita	28 273.295*	2007
GDP growth	3.70%	2007
Total expenditure on health as % of GDP	7.9	2004
General government expenditure on health as % of total expenditure on health	52.8	2004
Private expenditure on health as % of total expenditure on health	47.2	2004

### Healthcare data

Hospitals (per 100 000 population)	2.9	2006
Beds (per 100 000 population)	489.8	2006
Number of physicians	55 558	2005
Density of physicians (per 1 000 population)	5.1	2005
Number of nurses	45 543	2006
Density of nurses (per 1 000 population)	4.1	2006

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative







### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

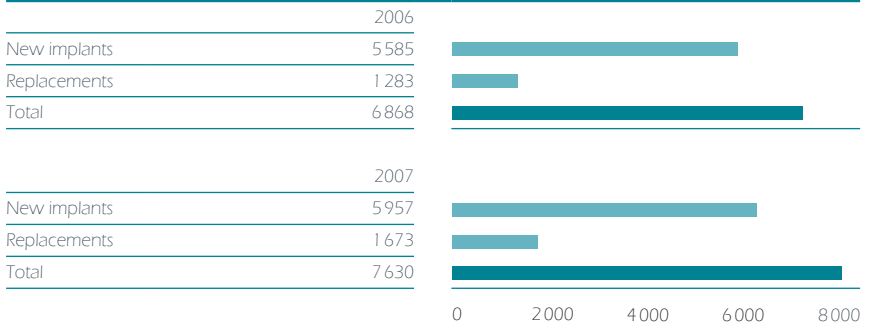
Percentage of academic facilities among practicing EP and implant centres **35%**

Number of medical faculties **7**

### 4. Pacemakers

Number of implanting centres **67**

#### Pacemaker units implanted



#### Specialty performing implants

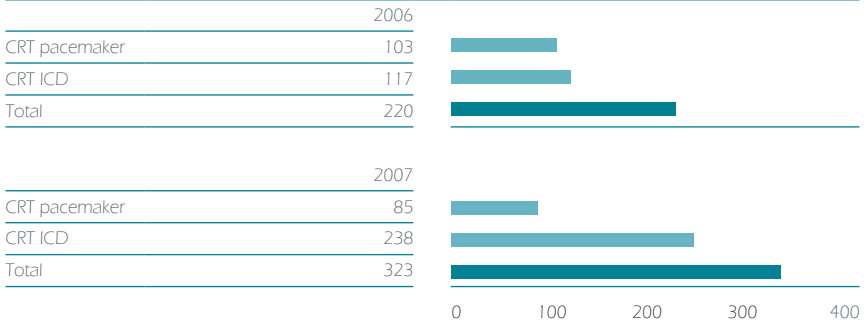
Cardiologists	90%
Surgeons	10%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

19

### CRT units implanted



### Specialty performing implants

Cardiologists	99%
Surgeons	1%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

22

### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	408	636

### Specialty performing implants

Cardiologists	99%
Surgeons	1%



## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	Not available	1275
Centres performing catheter ablation	Not available	23
Mean number (ablations/centres)	Not available	55
Number of AF ablations	Not available	166

## 8. Device specific

**Availability of remote monitoring of devices**



**Availability of a national institution coordinating and guiding device recalls**

**Yes**

Name of the institution: Ministry of Health, Welfare and Social / National Pharmacy Organization (EOF)

## 9. Guidelines

**Guidelines adhered to ICD implants and pacemaker implants**

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

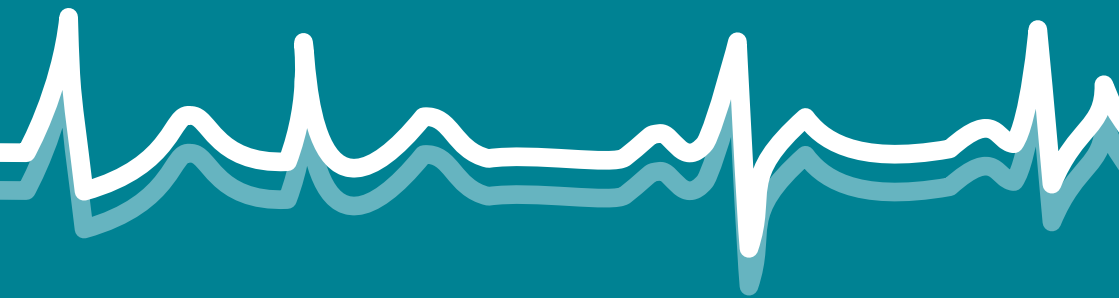
**Necessity of guideline translation to national language**

**Yes**

Source: Hellenic National Statistical Service and Greek Pacemaker and ICD Registry



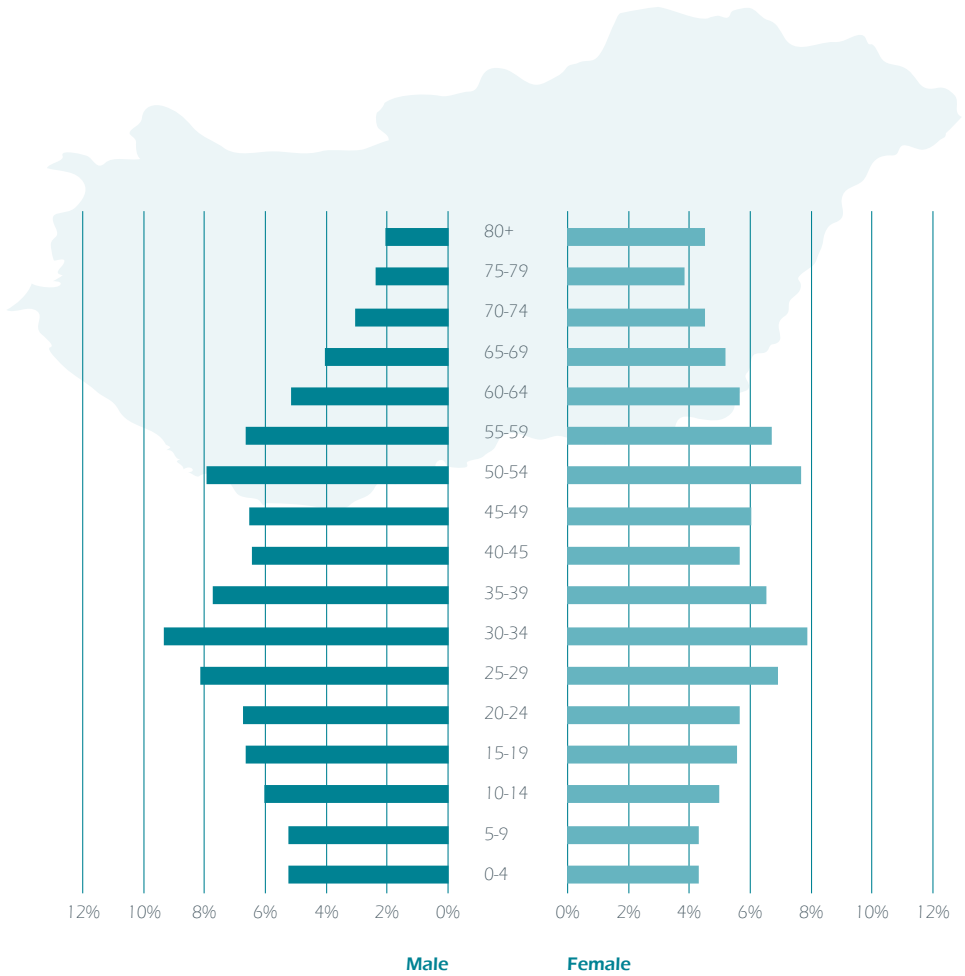
# HUNGARY



# 1. Statistics

## Age pyramid for Hungary (2007)

Source: US Census Bureau



**Population by age and sex (2007)**

Age	Male	Female	Both sexes	Percent
0-14	785 643	741 907	1 527 550	15%
15-64	3 399 926	3 498 403	6 898 329	69%
65+	554 356	975 873	1 530 229	15%
Total	4 739 925	5 216 183	9 956 108	100%

**Demographic information**

Population	9 956 108	2007
Population annual growth rate (%)	-0.20%	2005
Life expectancy at birth	73.02	2005
Death rate (per 1 000 population)	13.46	2005
Live births (per 1 000 population)	9.67	2005

**Economic information**

Gross domestic product (U.S. dollars - billions)	138 388*	2007
Gross domestic product per capita	13 762.243*	2007
Total expenditure on health as % of GDP	7.90	2004
General government expenditure on health as % of total expenditure on health	71.6	2004
Private expenditure on health as % of total expenditure on health	28.4	2004

**Healthcare data**

Hospitals (per 100 000 population)	1.79	2006
Beds (per 100 000 population)	791.68	2006
Number of physicians	32 877	2003
Density of physicians (per 1 000 population)	3.33	2003
Number of nurses	87 381	2003
Density of nurses (per 1 000 population)	8.85	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International

\* IMF estimative

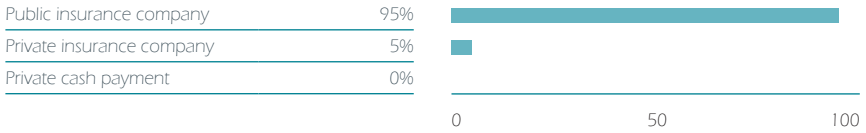
## 2. Healthcare System

National Health System

### Proportion of deaths resulting from cardiovascular disease

Not available

### Part of population publicly and privately insured\*



\* estimative

### Possibility of subscribing to private health insurance plans

Yes

### Part of the population affected by cardiac arrhythmias

3.1

### Reimbursement for

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>





### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **Yes**

Official name: Arrhythmologist and cardiac electrophysiologist

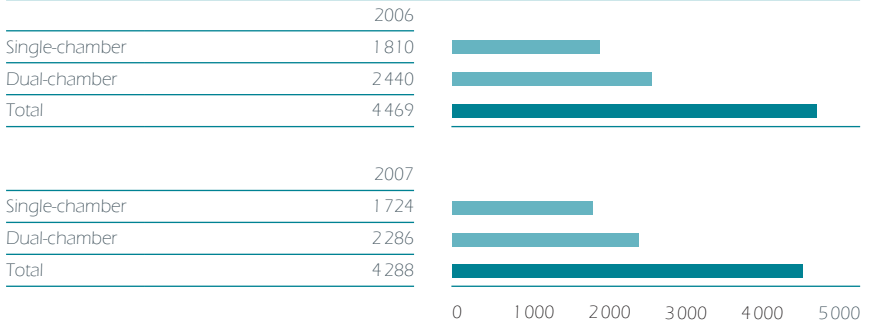
**Percentage of academic facilities among practicing EP and implant centres** **33%**

**Number of medical faculties** **4**

### 4. Pacemakers

**Number of implanting centres** **15**

#### Pacemaker units implanted



#### Specialty performing implants

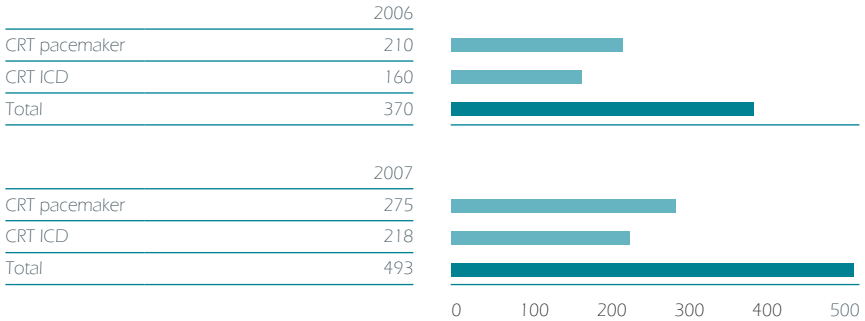
Cardiologists	95%
Surgeons	5%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

12

### CRT units implanted



### Specialty performing implants

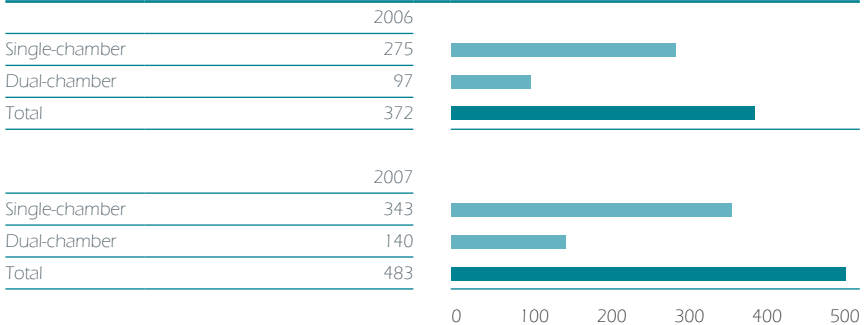
Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

12

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	95%
Surgeons	5%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	2 683	2 371
Centres performing catheter ablation	12	12
Mean number (ablations/centres)	224	198
Number of AF ablations	309	237

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution:

Authority for Medical Devices

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

No

Source: Working Group of Arrhythmias and Cardiac Pacing Hungarian Society of Cardiology





# ICELAND

There will be information in the next edition.





# IRELAND



# 1. Statistics

## Age pyramid for Ireland (2007)

Source: US Census Bureau







### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	456 751	426 716	883 467	21%
15-64	1 431 967	1 428 157	2 861 407	67%
65+	219 553	276 892	494 974	12%
Total	2 108 271	2 131 577	4 239 848	100%

### Demographic information

Population	4 239 848	2006
Population annual growth rate (%)	1.60%	2006
Life expectancy at birth	77.70	2005
Death rate (per 1 000 population)	7.0	2004
Live births (per 1 000 population)	15.3	2004

### Economic information

Gross domestic product (U.S. dollars - billions)	258 574*	2007
Gross domestic product per capita	59 924.415*	2007
Total expenditure on health as % of GDP	7.2	2004
General government expenditure on health as % of total expenditure on health	79.5	2004
Private expenditure on health as % of total expenditure on health	20.50	2004

### Healthcare data

Hospitals	Not available	Not available
Beds (per 1 000 population)	Not available	Not available
Number of physicians	11 141	2004
Density of physicians (per 1 000 population)	2.79	2004
Number of nurses	60 774	2004
Density of nurses (per 1 000 population)	15.2	2004

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF Estimative





### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **Yes**

Official name: Cardiac Electrophysiologist

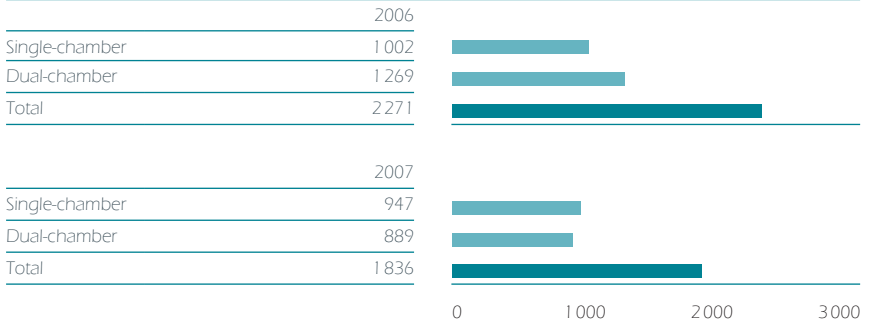
**Percentage of academic facilities among practicing EP and implant centres** **80%**

**Number of medical faculties** **Not available**

### 4. Pacemakers

**Number of implanting centres** **13**

#### Pacemaker units implanted



#### Specialty performing implants

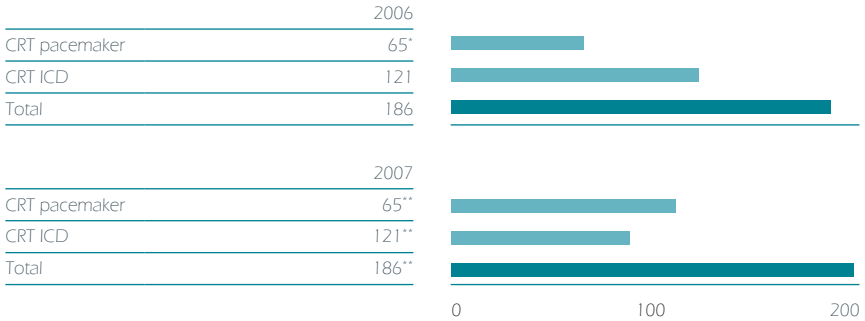
Cardiologists	100%
Surgeons	0%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

Not available

### CRT units implanted



\* Refers to 2005

\*\* approx.

### Specialty performing implants

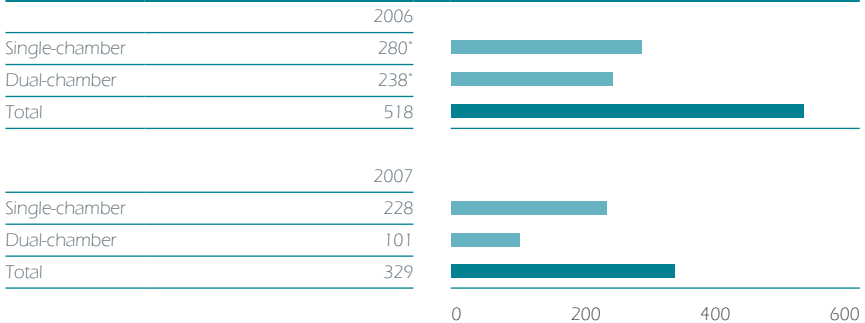
Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

12

### ICD units implanted



\* Refers to 2005



### Specialists performing implant surgeries

Cardiologists	100%
Surgeons	0%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	1 500*	1 600*
Centres performing catheter ablation	7	8
Mean number (ablations/centres)	214	228
Number of AF ablations	400*	400*

\* approx.

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: Irish Medicines Board Medical Devices Department

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

No

Source: Irish Cardiac Society  
Irish Healthcare Executive - HSE



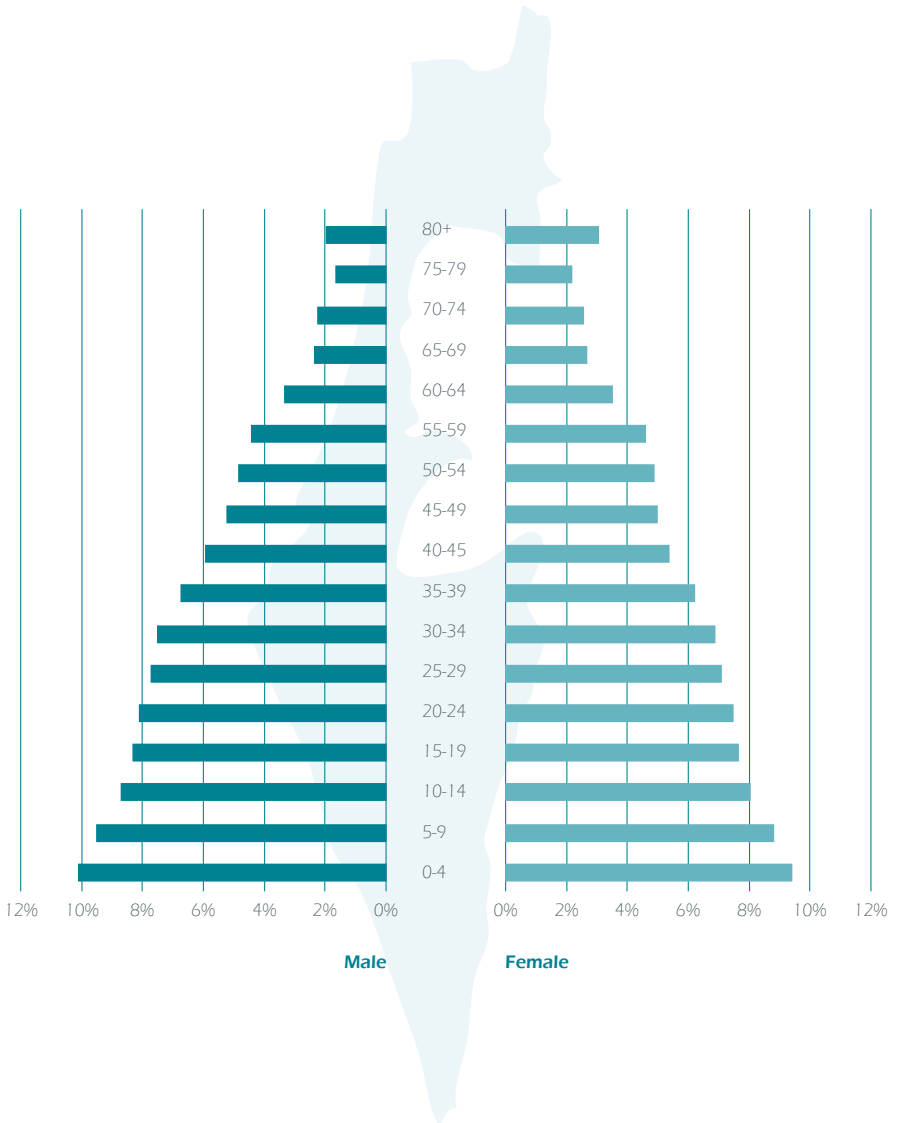
# ISRAEL



# 1. Statistics

## Age pyramid for Israel (2007)

Source: US Census Bureau







### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	1 018 229	971 083	1 989 312	28%
15-64	2 242 928	2 183 688	4 426 616	62%
65+	303 289	393 142	696 431	10%
Total	3 564 446	3 547 913	7 112 359	100%

### Demographic information

Population	7 112 359	2007
Population annual growth rate (%)	2.30%	2005
Life expectancy at birth	79.73	2003
Death rate (per 1000 population)	Not available	Not available
Live births (per 1000 population)	20.77	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	161 935	2007
Gross domestic product per capita	22 475.074*	2007
Total expenditure on health as % of GDP	8.7	2004
General government expenditure on health as % of total expenditure on health	7	2004
Private expenditure on health as % of total expenditure on health	30	2004

### Healthcare data

Hospitals (per 100 000 population)	5.27	2004
Beds (per 100 000 population)	596.74	2004
Number of physicians	24 577	2003
Density of physicians (per 1 000 population)	3.82	2003
Number of nurses	40 280	2003
Density of nurses (per 1 000 population)	6.26	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative





### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

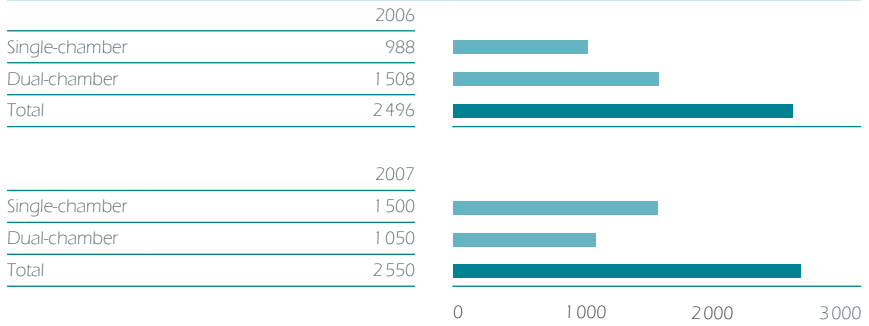
Percentage of academic facilities among practicing EP and implant centres **90%**

Number of medical faculties **4**

### 4. Pacemakers

Number of implanting centres **18**

#### Pacemaker units implanted



#### Specialty performing implants

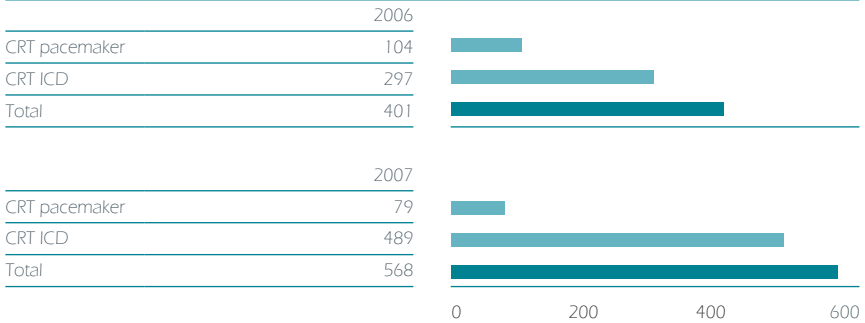
Cardiologists	95%
Surgeons	5%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

18

### CRT units implanted



### Specialty performing implants

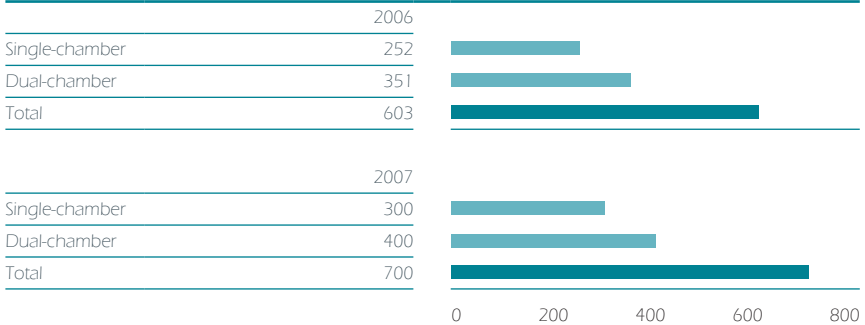
Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

17

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	90%
Surgeons	10%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	900	1 640
Centres performing catheter ablation	12	12
Mean number (ablations/centres)	75	136.7
Number of AF ablations	Not available	350

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: The Department of Medical Devices - The Pharmaceutical administration, Ministry of Health

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input type="checkbox"/>

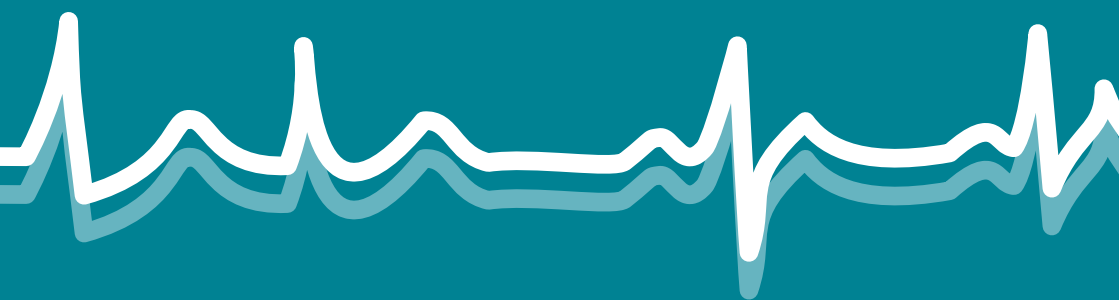
### Necessity of guideline translation to national language

Not available

Source: Israel Group of Pacing and Electrophysiology



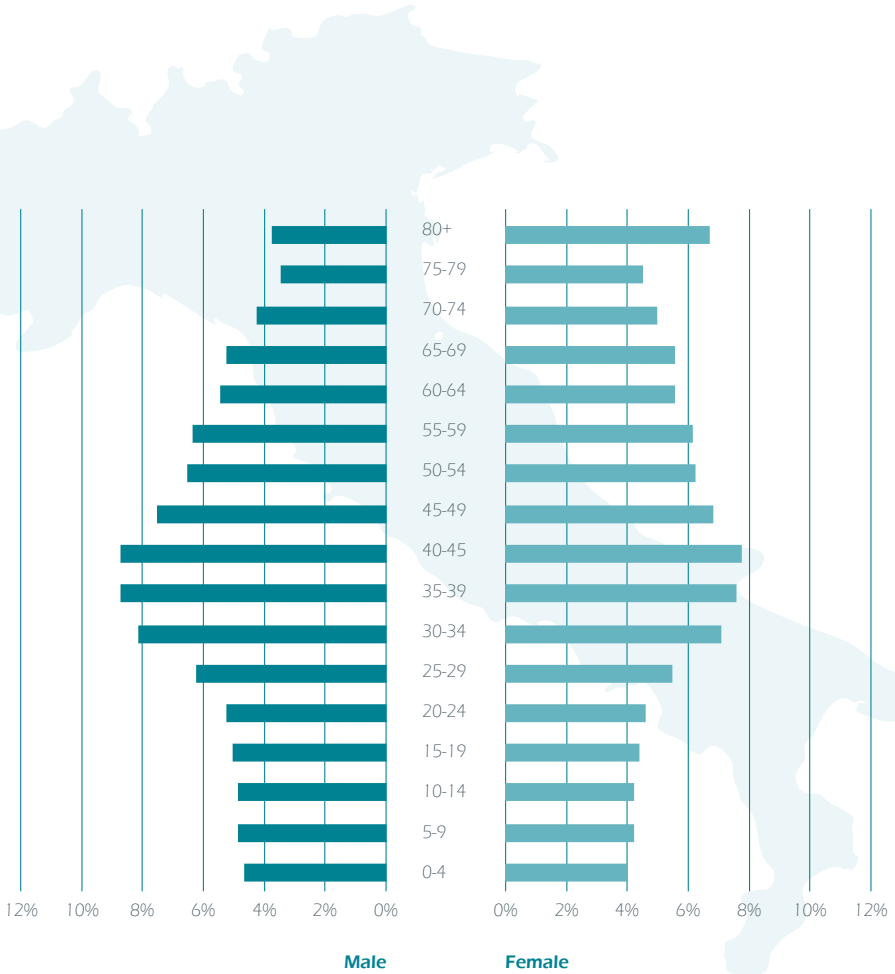
# ITALY



# 1. Statistics

## Age pyramid for Italy (2007)

Source: US Census Bureau







### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	4 121 246	3 874 971	7 996 217	14%
15-64	19 527 203	19 059 897	38 587 100	66%
65+	4 823 244	6 741 172	11 564 416	20%
Total	28 471 693	29 676 040	58 147 733	100%

### Demographic information

Population	58 147 733	2007
Population annual growth rate (%)	0.10%	2005
Life expectancy at birth	80.38	2002
Death rate (per 1000 population)	3.17	2002
Live births (per 1000 population)	9.45	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	2 104.67	2007
Gross domestic product per capita	35 872.42	2007
Total expenditure on health as % of GDP	8.70	2004
General government expenditure on health as % of total expenditure on health	75.1	2004
Private expenditure on health as % of total expenditure on health	24.90	2004

### Healthcare data

Hospitals	1 410	2004
Beds (per 1 000 population)	5.0	2004
Number of physicians	339 098	2004
Density of physicians (per 1 000 population)	7.00	2007
Number of nurses	232 522	2004
Density of nurses (per 1 000 population)	5.44	2004

Sources: Euro WHO, IMF, U.S. Census Bureau, International





### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

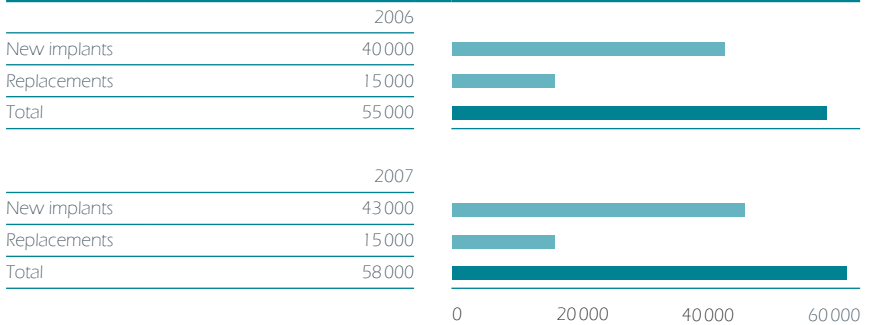
Percentage of academic facilities among practicing EP and implant centres **10%**

Number of medical faculties **38**

### 4. Pacemakers

Number of implanting centres **400**

#### Pacemaker units implanted



#### Specialty performing implants

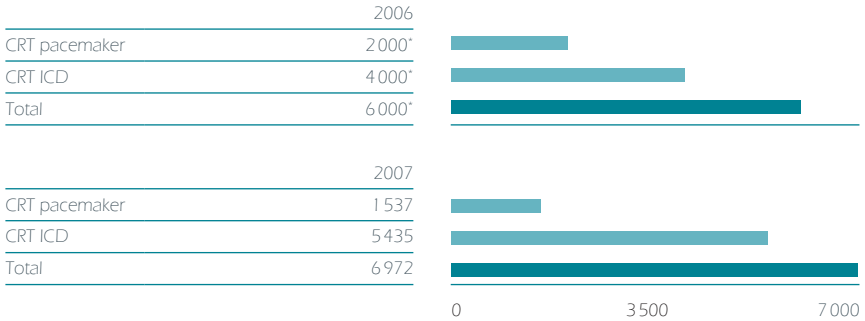
Cardiologists	98%
Surgeons	2%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

300

### CRT units implanted



\* approx.

### Specialty performing implants

Cardiologists	98%
Surgeons	2%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

400

### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	13 400	15 200

### Specialty performing implants

Cardiologists	98%
Surgeons	2%



## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	17 977	Not available
Centres performing catheter ablation	81	Not available
Mean number (ablations/centres)	222	Not available
Number of AF ablations	5341	Not available

## 8. Device specific

**Availability of remote monitoring of devices**



**Availability of a national institution coordinating and guiding device recalls**

**Yes**

Name of the institution:

Ministry of Health and AIAC (Scientific Association)

## 9. Guidelines

**Guidelines adhered to ICD implants and pacemaker implants**

National



U.S. / European



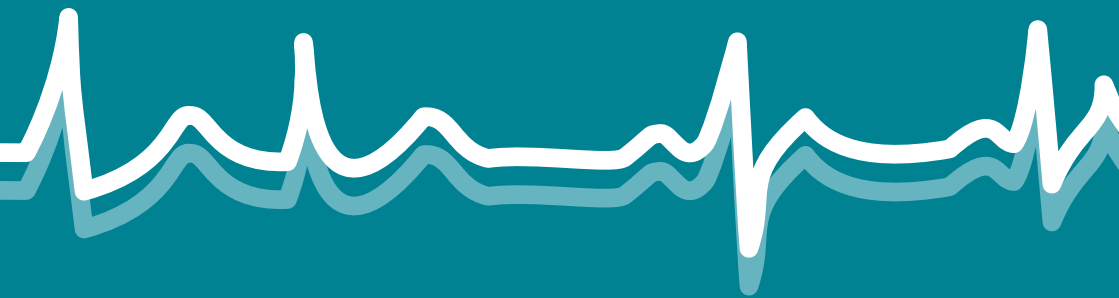
**Necessity of guideline translation to national language**

**No**

Source: National Working Group on Arrhythmia and Cardiac Pacing - Italy



# LATVIA



# 1. Statistics

## Age pyramid for Latvia (2007)

Source: US Census Bureau







### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	156 539	149 171	305 710	13%
15-64	773 135	815 938	1 589 073	70%
65+	126 650	259 868	386 518	17%
Total	1 056 323	1 224 977	2 281 300	100%

### Demographic information

Population	2 281 300	2007
Population annual growth rate (%)	-0.80%	2005
Life expectancy at birth	70.96	2006
Death rate (per 1000 population)	14.47	2005
Live births (per 1000 population)	9.75	2006

### Economic information

Gross domestic product (U.S dollars - billions)	27 341*	2007
Gross domestic product per capita	11 984.761*	2007
GDP growth	8.80%	2007
Total expenditure on health as % of GDP	7.1	2004
General government expenditure on health as % of total expenditure on health	56.6	2004
Private expenditure on health as % of total expenditure on health	43.4	2004

### Healthcare data

Hospitals (per 100 000 population)	4.12	2007
Beds (per 100 000 population)	767.41	2007
Number of physicians	8 014	2007
Density of physicians (per 1 000 population)	3.51	2007
Number of nurses	14 564	2007
Density of nurses (per 1 000 population)	6.38	2007

Sources: Euro WHO, IMF, U.S. Census Bureau, International, Ministry of Foreign Affairs Latvia  
\* IMF estimative





### 3. Education

Is there an official recognition of the subspecialty such as "electrophysiologist"? **Yes**

Official name: Cardiologist - electrophysiologist

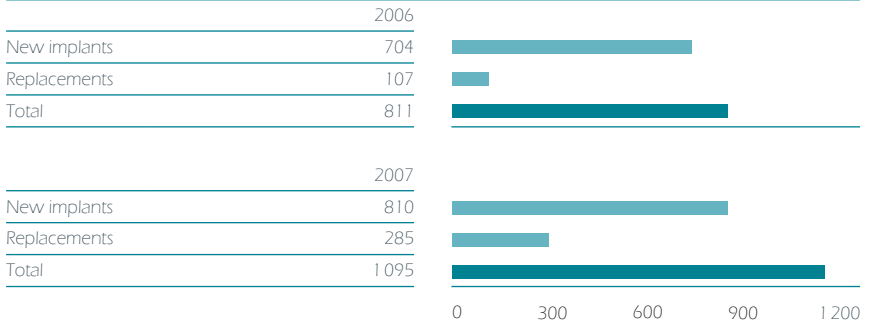
Percentage of academic facilities among practicing EP and implant centres **66.6%**

Number of medical faculties **2**

### 4. Pacemakers

Number of implanting centres **3**

#### Pacemaker units implanted



#### Specialty performing implants

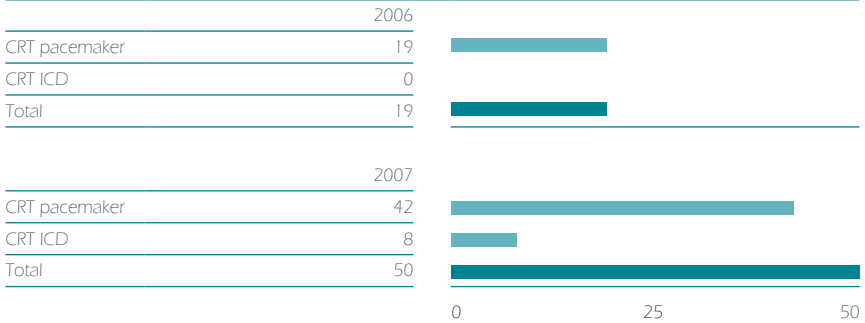
Cardiologists	66.6%
Surgeons	33.3%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

2

### CRT units implanted



### Specialty performing implants

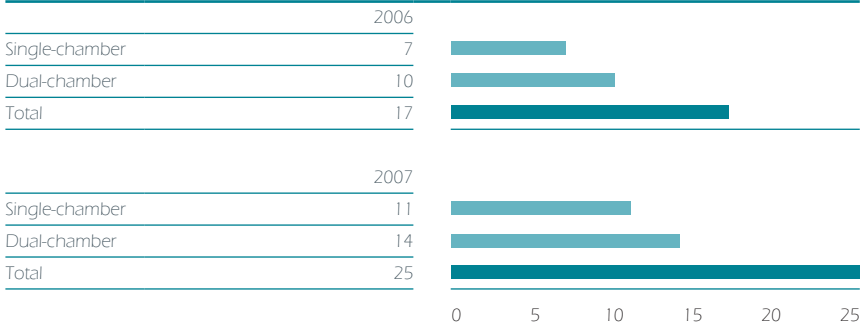
Cardiologists	50%
Surgeons	50%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

2

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	50%
Surgeons	50%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	145	215
Centres performing catheter ablation	2	2
Mean number (ablations/centres)	72.5	107.5
Number of AF ablations	42	18

## 8. Device specific

### Availability of remote monitoring of devices

### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: Health Statistics and Medical Technologies State Agency  
Medical Devices Board for Latvia

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

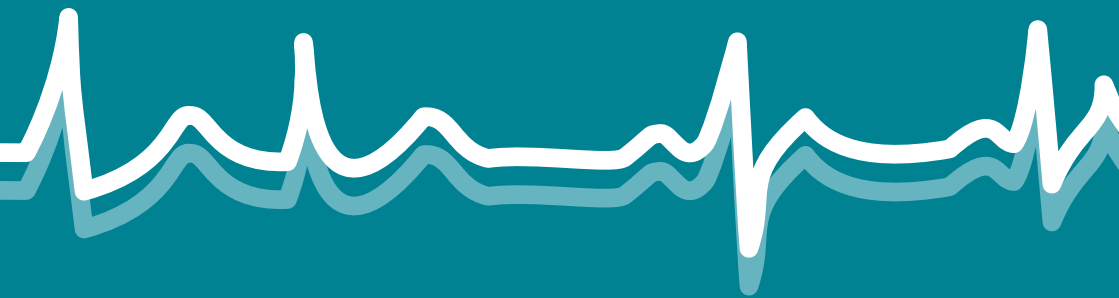
### Necessity of guideline translation to national language

Yes

Source: The registry of the European Working Group on Cardiac Pacing (EWGCP)



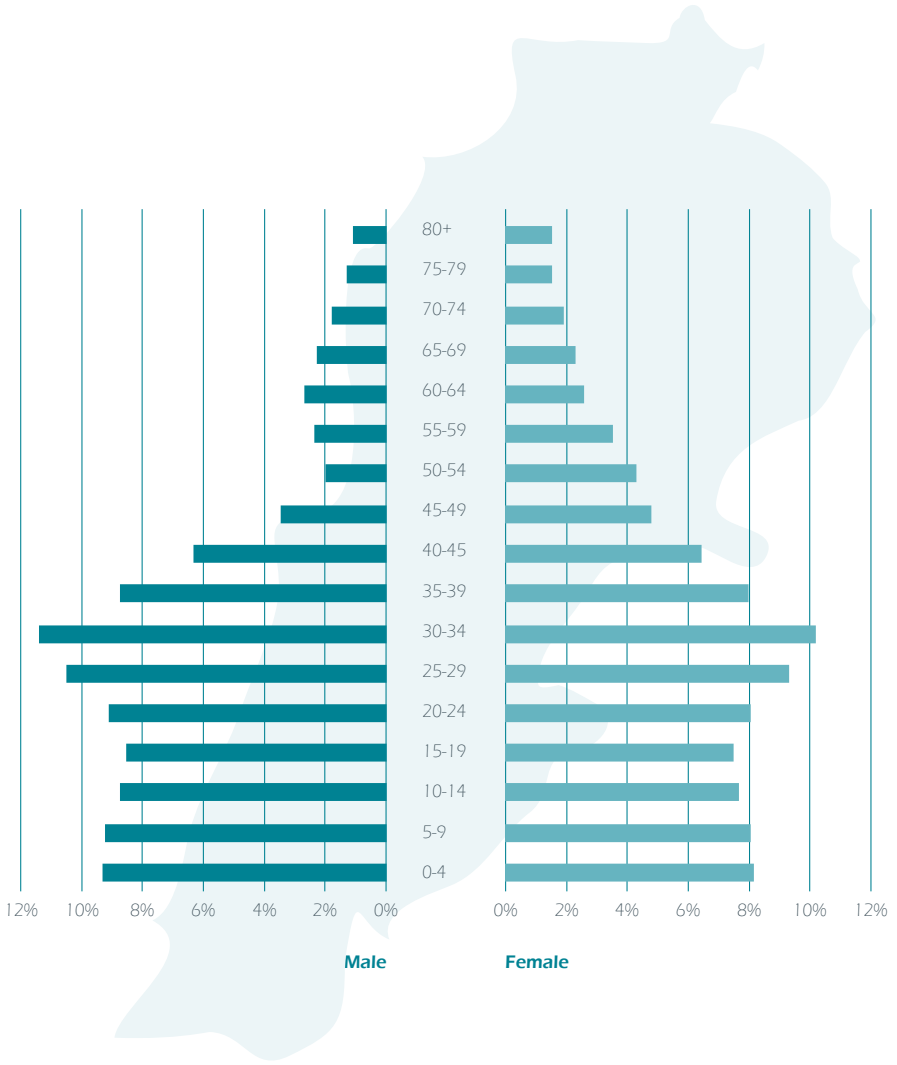
# LEBANON



# 1. Statistics

## Age pyramid for Lebanon (2007)

Source: US Census Bureau







### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	526 994	505 894	1 032 888	26%
15-64	1 275 021	1 380 131	2 655 152	67%
65+	128 002	155 899	283 901	7%
Total	1 930 017	2 041 924	3 971 941	100%

### Demographic information

Population	3 971 941	2007
Population annual growth rate (%)	1.60%	2003
Life expectancy at birth	71.3	2003
Death rate (per 1000 population)	4.1	2004
Live births (per 1000 population)	Not available	Not available

### Economic information

Gross domestic product (U.S. dollars - billions)	24 640*	2007
Gross domestic product per capita	6 569.347*	2007
Total expenditure on health as % of GDP	10.2	2003
General government expenditure on health as % of total expenditure on health	29.3	2003
Private expenditure on health as % of total expenditure on health	56.2	2003

### Healthcare data

Hospitals (per 100 000 population)	Not available	Not available
Beds (per 100 000 population)	Not available	Not available
Number of physicians	Not available	Not available
Density of physicians (per 1 000 population)	2.36	2003
Number of nurses	Not available	Not available
Density of nurses (per 1 000 population)	1.32	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative

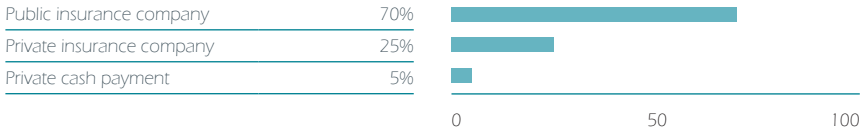
## 2. Healthcare System

National Health System

### Proportion of deaths resulting from cardiovascular disease

Not available

### Part of population publicly and privately insured\*



\* estimative

### Possibility of subscribing to private health insurance plans

Yes

### Part of the population affected by cardiac arrhythmias

10%

### Reimbursement for

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>



### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

**Percentage of academic facilities among practicing EP and implant centres** **3%**

**Number of medical faculties** **6**

### 4. Pacemakers

**Number of implanting centres** **30**

#### **Pacemaker units implanted**

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	300	350

#### **Specialty performing implants**

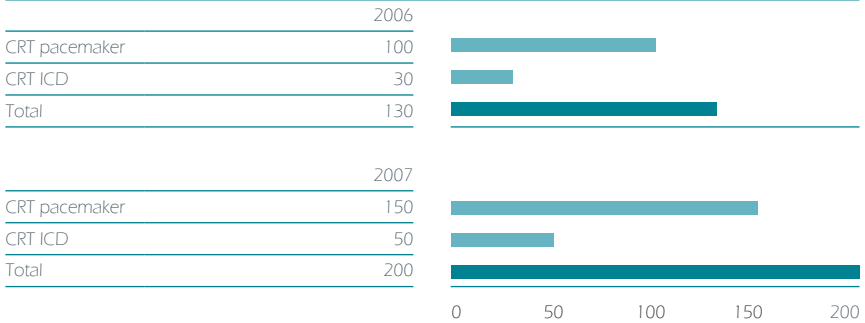
Cardiologists	100%
Surgeons	0%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

10

### CRT units implanted



### Specialty performing implants

Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

10

### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	120	Not available

### Specialty performing implants

Cardiologists	100%
Surgeons	0%



## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	60	90
Centres performing catheter ablation	3	3
Mean number (ablations/centres)	20	30
Number of AF ablations	0	0

## 8. Device specific

**Availability of remote monitoring of devices**

**Availability of a national institution coordinating and guiding device recalls**

**Yes**

Name of the institution:

Ministry of Public Health

## 9. Guidelines

**Guidelines adhered to ICD implants and pacemaker implants**

National

U.S. / European

**Necessity of guideline translation to national language**

**No**

Source: Lebanese Working Group on Electrophysiology





# LIBYA

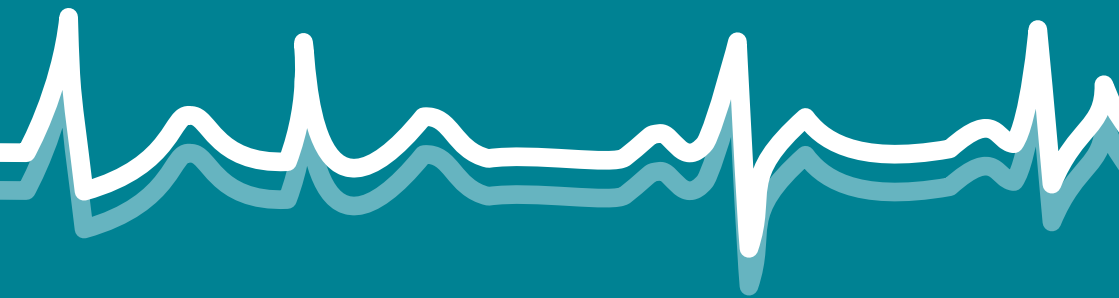
There will be information in the next edition.







# LITHUANIA



# 1. Statistics

## Age pyramid for Lithuania (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	264 668	250 997	515 665	14%
15-64	1 214 236	1 263 198	2 477 434	69%
65+	197 498	374 608	572 106	16%
Total	1 676 402	1 888 803	3 565 205	100%

### Demographic information

Population	3 565 205	2007
Population annual growth rate (%)	-0.60%	2005
Life expectancy at birth	71.33	2005
Death rate (per 1000 population)	12.83	2005
Live births (per 1000 population)	8.95	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	38 345*	2007
Gross domestic product per capita	11 354.354*	2007
Total expenditure on health as % of GDP	6.5	2004
General government expenditure on health as % of total expenditure on health	75	2004
Private expenditure on health as % of total expenditure on health	25	2004

### Healthcare data

Hospitals (per 100 000 population)	5.13	2006
Beds (per 100 000 population)	798.86	2006
Number of physicians	13 682	2003
Density of physicians (per 1 000 population)	3.97	2003
Number of nurses	26 229	2003
Density of nurses (per 1 000 population)	7.62	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International

\* IMF estimative

## 2. Healthcare System


National obligatory health insurance fund

**Proportion of deaths resulting from cardiovascular disease** **54.7** **2007**

---

### Part of population publicly and privately insured\*

---

Public insurance company	100%	
Private insurance company	0%	
Private cash payment	0%	

\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

---

**Part of the population affected by cardiac arrhythmias** **18%**

---

### Reimbursement for

---

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>

---



### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

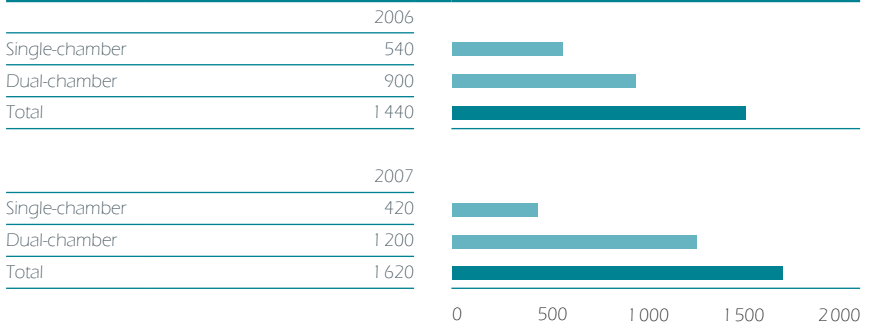
Percentage of academic facilities among practicing EP and implant centres **67%**

Number of medical faculties **2**

### 4. Pacemakers

Number of implanting centres **3**

#### Pacemaker units implanted



#### Specialty performing implants

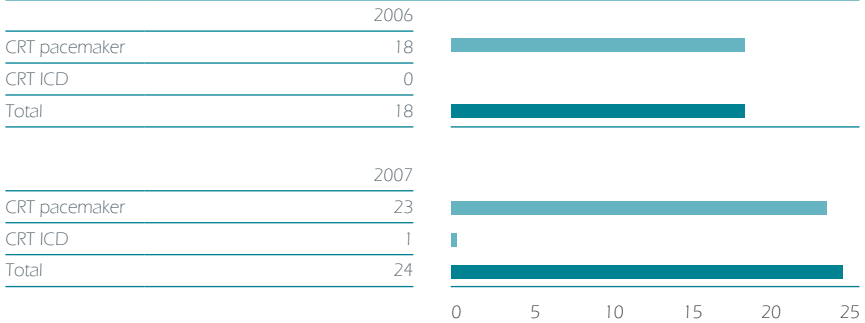
Cardiologists	100%
Surgeons	0%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

3

### CRT units implanted



### Specialty performing implants

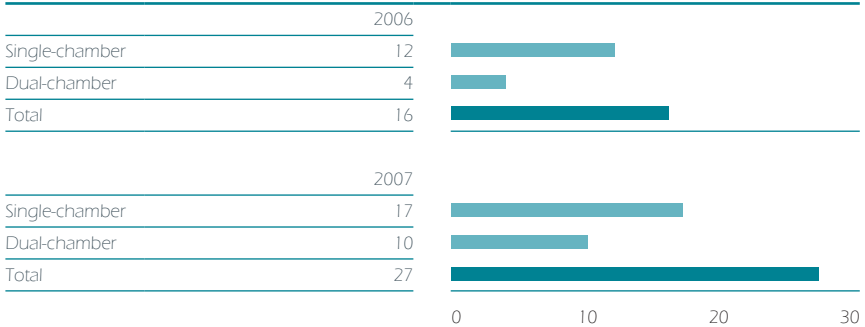
Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

3

### ICD units implanted





### Specialty performing implants

Cardiologists	100%
Surgeons	0%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	632	580
Centres performing catheter ablation	3	3
Mean number (ablations/centres)	211	193
Number of AF ablations	32	32

## 8. Device specific

### Availability of remote monitoring of devices

### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: State Health Care Accreditation Agency under Ministry of Health of the Republic of Lithuania

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

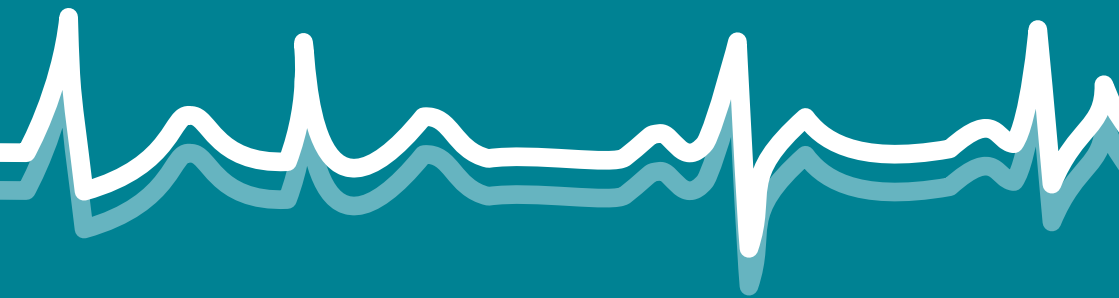
Yes

Source: National Working Group – Lithuania





# LUXEMBOURG



# 1. Statistics

## Age pyramid for Luxembourg (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	46 478	43 656	90 134	19%
15-64	161 466	158 261	319 727	67%
65+	28 530	41 831	70 361	15%
Total	236 474	243 748	480 222	100%

### Demographic information

Population	480 222	2007
Population annual growth rate (%)	1,4%	2005
Life expectancy at birth	79.71	2005
Death rate (per 1 000 population)	7.86	2005
Live births (per 1 000 population)	11.75	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	50 160*	2007
Gross domestic product per capita	104 673.281*	2007
Total expenditure on health as % of GDP	8	2004
General government expenditure on health as % of total expenditure on health	90.4	2004
Private expenditure on health as % of total expenditure on health	9.6	2004

### Healthcare data

Hospitals	19	2004
Beds (per 1 000 population)	6.8	2004
Number of physicians	1 206	2003
Density of physicians (per 1 000 population)	3.9	2006
Number of nurses	4 151	2003
Density of nurses (per 1 000 population)	9.16	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative



## 2. Healthcare System

Luxembourg's healthcare system is based on three principles: compulsory health insurance, free choice of provider for patients and compulsory provider compliance with the fixed set of fees for services. (Highlights on health. WHO 2004)

**Proportion of deaths resulting from cardiovascular disease** **38.95%** **2005**

---

### Part of population publicly and privately insured\*

Public insurance company	100%	
Private insurance company	58%	
Private cash payment	Not available	
		0                      50                      100

\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

---

**Part of the population affected by cardiac arrhythmias** **Not available**

---

### Reimbursement for

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>



### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

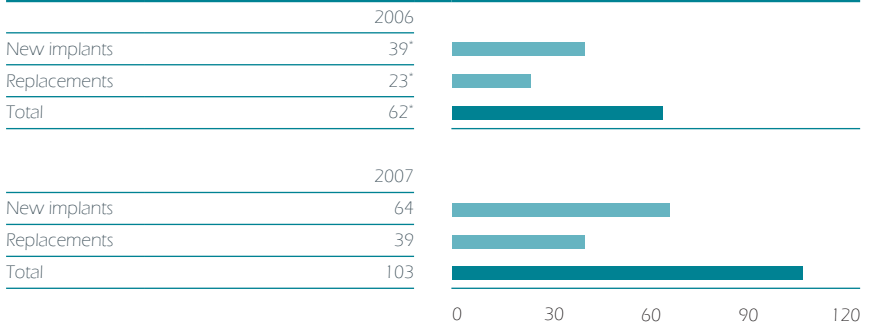
Percentage of academic facilities among practicing EP and implant centres **0%**

Number of medical faculties **0**

### 4. Pacemakers

Number of implanting centres **7**

#### Pacemaker units implanted



\* These numbers refer to only one center

#### Specialty performing implants

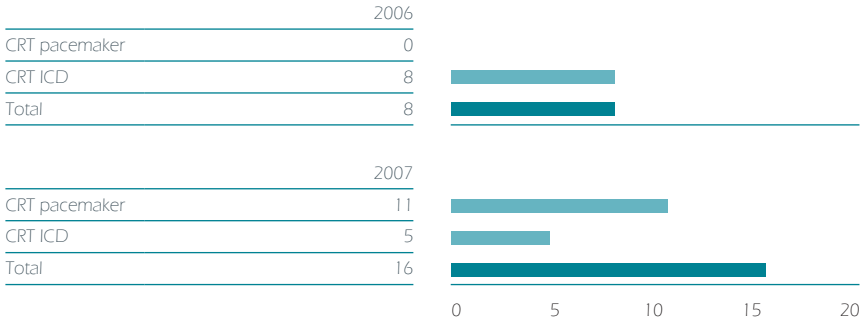
Cardiologists	80%
Surgeons	20%

## 5. Cardiac resynchronization therapy devices

### Number of implanting centres

1

#### CRT units implanted



#### Specialty performing implants

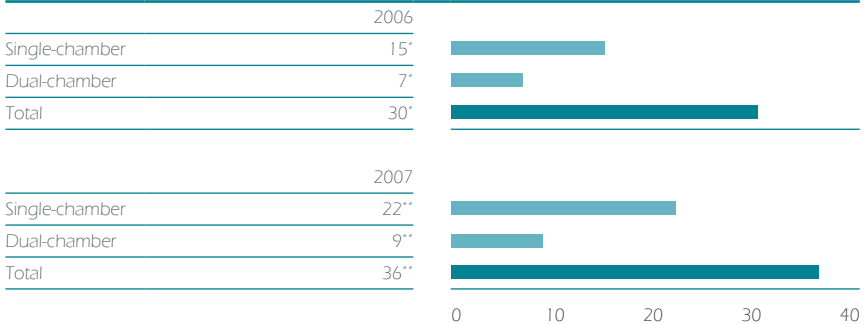
Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

### Number of implanting centres

1

#### ICD units implanted



\* refers to 8 additional biventr.

\*\* refers to additional 5 biventr.



### Specialists performing implant surgeries

Cardiologists	100%
Surgeons	0%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	66	80
Centres performing catheter ablation	1	1
Mean number (ablations/centres)	66	80
Number of AF ablations	0	Not available

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: Ministère de la Santé Direction de la Santé

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

Yes

Source: Institut National de Chirurgie Cardiaque et de Cardiologie Interventionnelle and Luxembourg Society of Cardiology







# MALTA

There will be information in the next edition.





# MOROCCO

There will be information in the next edition.





# NETHERLANDS



# 1. Statistics

## Age pyramid for Netherlands (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	1 505 931	1 436 532	2 942 463	18%
15-64	5 683 877	5 557 745	11 241 622	68%
65+	1 015 731	1 370 797	2 386 528	14%
Total	8 205 539	8 365 074	16 570 613	100%

### Demographic information

Population	16 570 613	2007
Population annual growth rate (%)	0.50%	2005
Life expectancy at birth	79.42	2004
Death rate (per 1000 population)	8.11	2006
Live births (per 1000 population)	11.51	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	768 704*	2007
Gross domestic product per capita	46 260.689*	2007
Total expenditure on health as % of GDP	9.2	2004
General government expenditure on health as % of total expenditure on health	62.4	2004
Private expenditure on health as % of total expenditure on health	37.6	2004

### Healthcare data

Hospitals (per 100 000 population)	1.18	2006
Beds (per 1 000 population)	4.8	2004
Number of physicians	50 854	2003
Density of physicians (per 1 000 population)	3.15	2003
Number of nurses	221 783	2003
Density of nurses (per 1 000 population)	13.73	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative

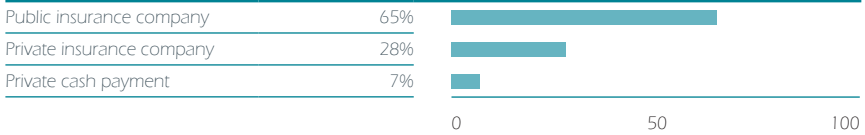
## 2. Healthcare System

In the Netherlands the system was changed to a national healthcare system in 2006. It has a basic insurance for everyone and the possibility to add extra insurances.

**Proportion of deaths resulting from cardiovascular disease** **41 354** **2007**

---

### Part of population publicly and privately insured\*



\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

---

**Part of the population affected by cardiac arrhythmias** **1,9%\***

---

\* of total heart diseases

### Reimbursement for

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>





### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **Yes**

Official name: Electrophysiologist

**Percentage of academic facilities among practicing EP and implant centres** **80%**

**Number of medical faculties** **8**

### 4. Pacemakers

**Number of implanting centres** **102**

#### **Pacemaker units implanted**

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	9765	Not available

#### **Specialty performing implants**

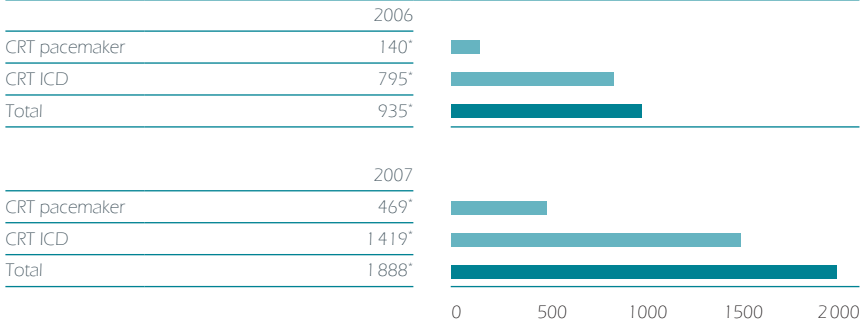
Cardiologists	99%
Surgeons	1%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

16

### CRT units implanted



\* Eucomed

### Specialty performing implants

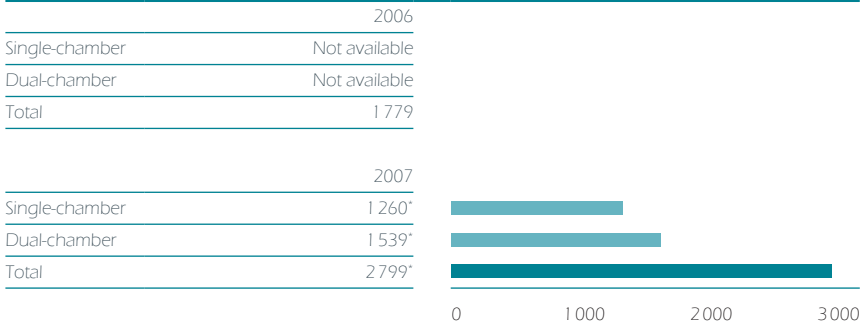
Cardiologists	99%
Surgeons	1%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

16

### ICD units implanted



\* Eucomed



### Specialists performing implant surgeries

Cardiologists	99%
Surgeons	1%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	2 296*	Not available
Centres performing catheter ablation	7*	Not available
Mean number (ablations/centres)	328*	Not available
Number of AF ablations	512*	Not available

\* Eucomed

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution:

Health Care Inspectorate

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input type="checkbox"/>

### Necessity of guideline translation to national language

No

Source: Leiden University Medical Center, Department of Cardiology, National Working Group of arrhythmia and Eucomed



# NORWAY



# 1. Statistics

## Age pyramid for Norway (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	450612	430126	880738	19%
15-64	1552473	1507638	3060111	66%
65+	291659	395418	687077	15%
Total	2294744	2333182	4627926	100%

### Demographic information

Population	4627926	2007
Population annual growth rate (%)	0.60%	2005
Life expectancy at birth	80.48	2005
Death rate (per 1000 population)	8.9	2005
Live births (per 1000 population)	12.28	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	391498	2007
Gross domestic product per capita	83922.497*	2007
Total expenditure on health as % of GDP	9.7	2004
General government expenditure on health as % of total expenditure on health	83.5	2004
Private expenditure on health as % of total expenditure on health	16.5	2004

### Healthcare data

Hospitals (per 100 000 population)	1.51	2006
Beds (per 100 000 population)	413.37	2006
Number of physicians	14200	2003
Density of physicians (per 1 000 population)	3.13	2003
Number of nurses	67274	2003
Density of nurses (per 1 000 population)	14.84	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International

\* IMF estimative

## 2. Healthcare System




In Norway, the healthcare system is nationally organised. The hospitals have free admission. There are very few private actors.

**Proportion of deaths resulting from cardiovascular disease** **3.2%\*** **2005**

---

\* of total population

### Part of population publicly and privately insured\*

Public insurance company	99%	
Private insurance company	1%	
Private cash payment	0%	

0 50 100

\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

---

**Part of the population affected by cardiac arrhythmias** **Not available**

---

### Reimbursement for

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>





### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

Percentage of academic facilities among practicing EP and implant centres **Not available**

Number of medical faculties **Not available**

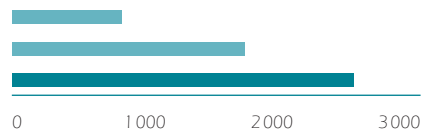
### 4. Pacemakers

Number of implanting centres **25**

#### Pacemaker units implanted

	2006
Single-chamber	Not available
Dual-chamber	Not available
Total	1 976

	2007
Single-chamber	807
Dual-chamber	1 705
Total	2 512



#### Specialists performing implant surgeries

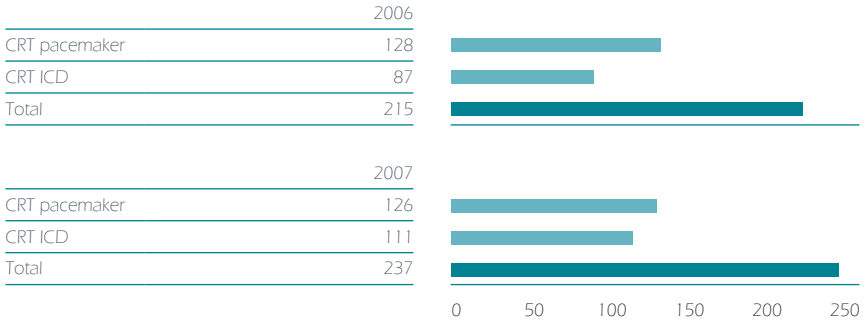
Cardiologists	100%
Surgeons	0%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

12

### CRT units implanted



### Specialists performing implant surgeries

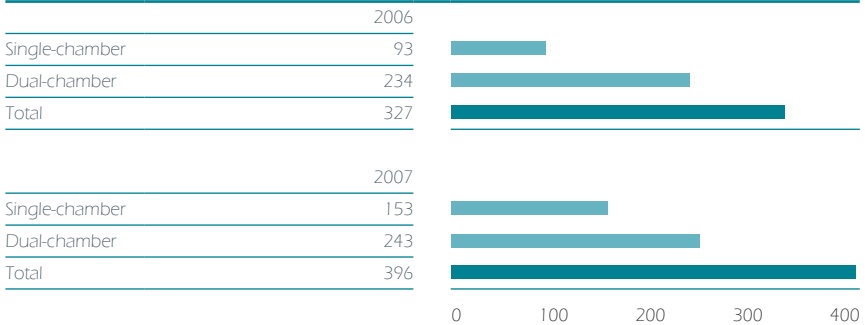
Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

12

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	100%
Surgeons	0%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	1 146	Not available
Centres performing catheter ablation	5	Not available
Mean number (ablations/centres)	230	Not available
Number of AF ablations	294	Not available

## 8. Device specific

### Availability of remote monitoring of devices

### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: Norwegian Directorate of Health

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

No

Source: Working Group on Arrhythmias - Norway and Eucomed (2005-2008)



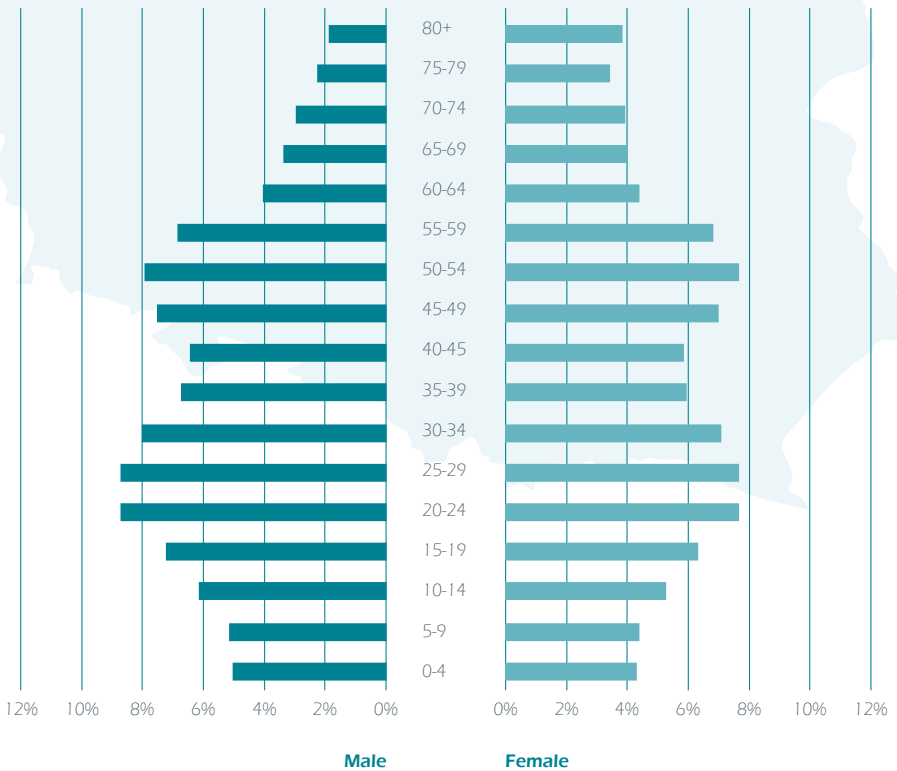
# POLAND



# 1. Statistics

## Age pyramid for Poland (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	3 070 388	2 906 121	5 976 509	16%
15-64	13 639 012	13 761 154	27 400 166	71%
65+	1 964 429	3 177 137	5 141 566	13%
Total	18 673 829	19 844 412	38 518 241	100%

### Demographic information

Population	38 518 241	2007
Population annual growth rate (%)	0%	2005
Life expectancy at birth	75.12	2005
Death rate (per 1 000 population)	9.65	2005
Live births (per 1 000 population)	9.55	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	420 284	2007
Gross domestic product per capita	11,041.216*	2007
Total expenditure on health as % of GDP	6.2	2004
General government expenditure on health as % of total expenditure on health	68.6	2004
Private expenditure on health as % of total expenditure on health	31.4	2004

### Healthcare data

Hospitals	736	2004
Beds (per 1 000 population)	4.9	2004
Number of physicians	95 272	2003
Density of physicians (per 1 000 population)	3.1	2003
Number of nurses	188 898	2003
Density of nurses (per 1 000 population)	4.9	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative







### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

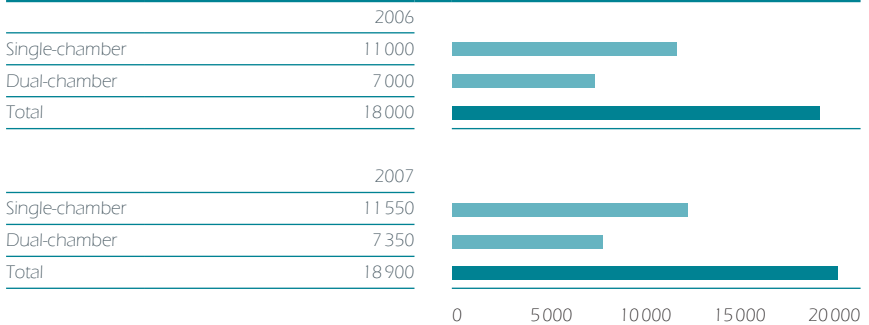
**Percentage of academic facilities among practicing EP and implant centres** **20%**

**Number of medical faculties** **15**

### 4. Pacemakers

**Number of implanting centres** **86**

#### Pacemaker units implanted



#### Specialty performing implants

Cardiologists	99%*
Surgeons	1%**

\* or trained in cardiology

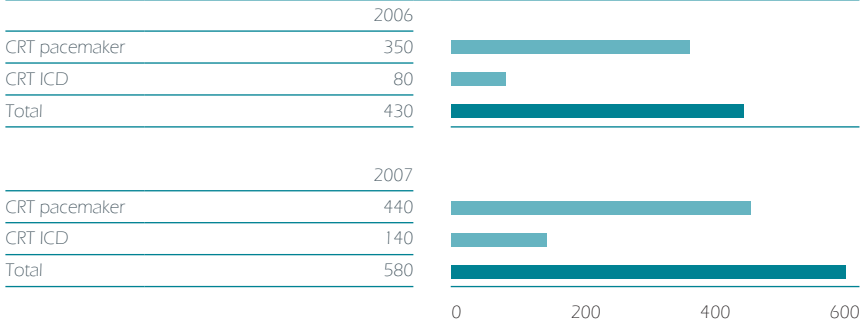
\*\* only intraoperatively

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

48

### CRT units implanted



### Specialty performing implants

Cardiologists	95%
Surgeons	5%*

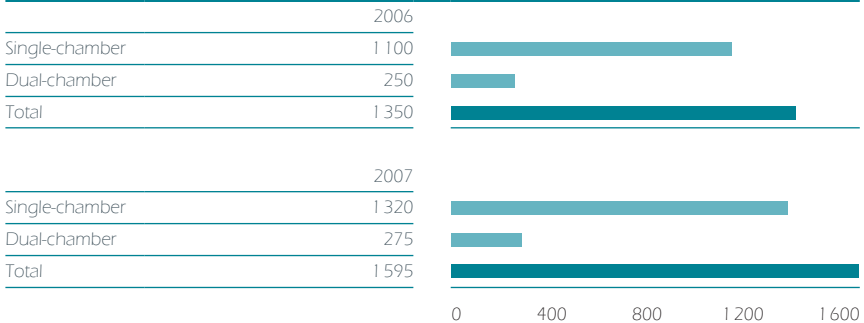
\* as second one procedure or occasion revascularisation

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

45

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	99%
Surgeons	1%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	2882	3 100
Centres performing catheter ablation	29	29
Mean number (ablations/centres)	99	107
Number of AF ablations	Not available	Not available

## 8. Device specific

### Availability of remote monitoring of devices

### Availability of a national institution coordinating and guiding device recalls **Yes**

Name of the institution: Urząd Rejestracji Produktów Medycznych (National Consultant for Cardiology) / Office for Registration of Medicinal Product, Medical Devices and Biocidal Products

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

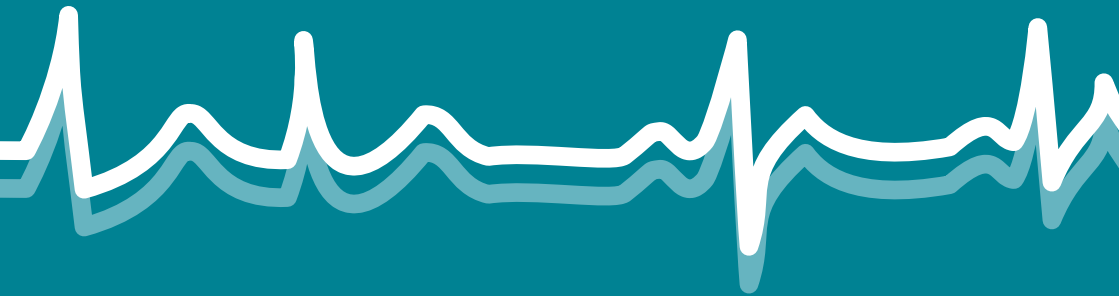
National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language **No**

Source: Polish National Registries



# PORTUGAL



# 1. Statistics

## Age pyramid for Portugal (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	914 480	837 525	1 752 005	16%
15-64	3 501 206	3 551 706	7 052 912	66%
65+	757 220	1 080 699	1 837 919	17%
Total	5 172 906	5 469 930	10 642 836	100%

### Demographic information

Population	10 642 836	2007
Population annual growth rate (%)	0.50%	2005
Life expectancy at birth	78.31	2004
Death rate (per 1 000 population)	8.23	2004
Live births (per 1 000 population)	10.38	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	223 303	2007
Gross domestic product per capita	21 018.83	2007
Total expenditure on health as % of GDP	9.8	2004
General government expenditure on health as % of total expenditure on health	71.6	2004
Private expenditure on health as % of total expenditure on health	28.4	2004

### Healthcare data

Hospitals	221	2004
Beds (per 1 000 population)	4.0	2004
Number of physicians	34 440	2003
Density of physicians (per 1 000 population)	3.42	2003
Number of nurses	43 860	2003
Density of nurses (per 1 000 population)	4.36	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International







### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **Yes**

Official name: Cardiac Electrophysiology

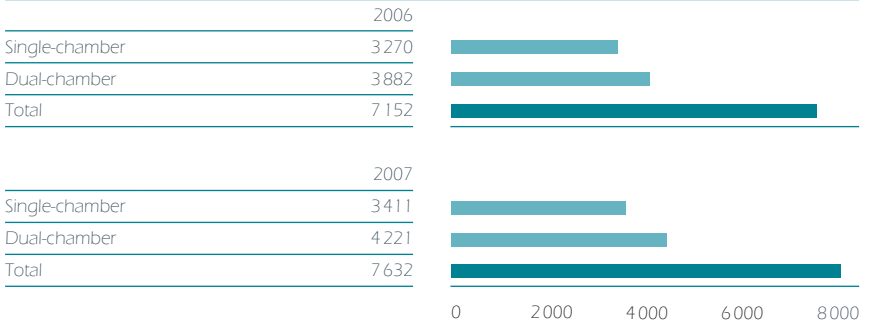
**Percentage of academic facilities among practicing EP and implant centres** **8%**

**Number of medical faculties** **6**

### 4. Pacemakers

**Number of implanting centres** **41**

#### Pacemaker units implanted



#### Specialty performing implants

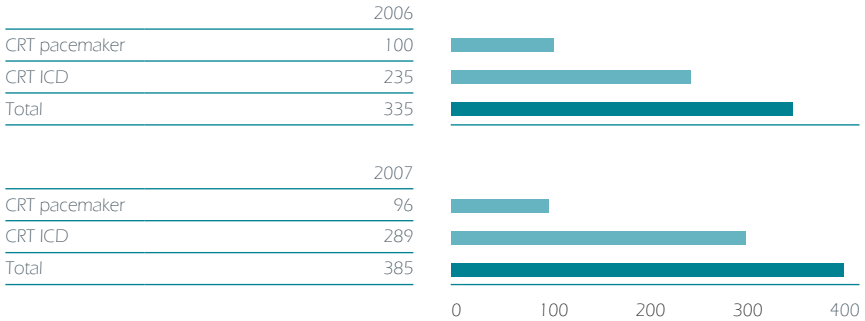
Cardiologists	95%
Surgeons	5%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

22

### CRT units implanted



### Specialty performing implants

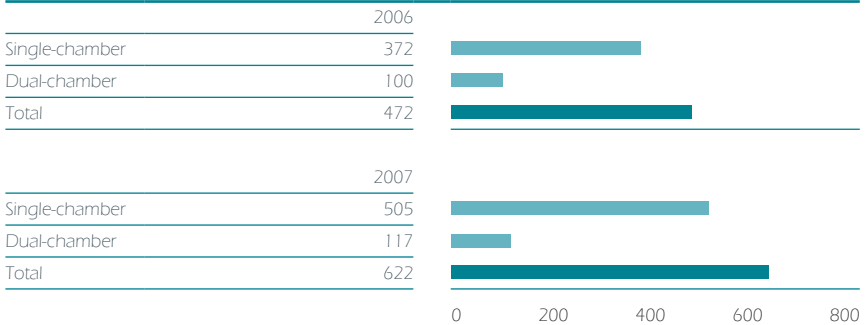
Cardiologists	99%
Surgeons	1%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

19

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	99%
Surgeons	1%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	1 360	1 480
Centres performing catheter ablation	15	15
Mean number (ablations/centres)	91	99
Number of AF ablations	296	Not available

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

**Yes**

Name of the institution: Unidade de Vigilância de Produtos de Saúde (Healthcare Products Vigilance Unit)  
INFARMED

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

**No**

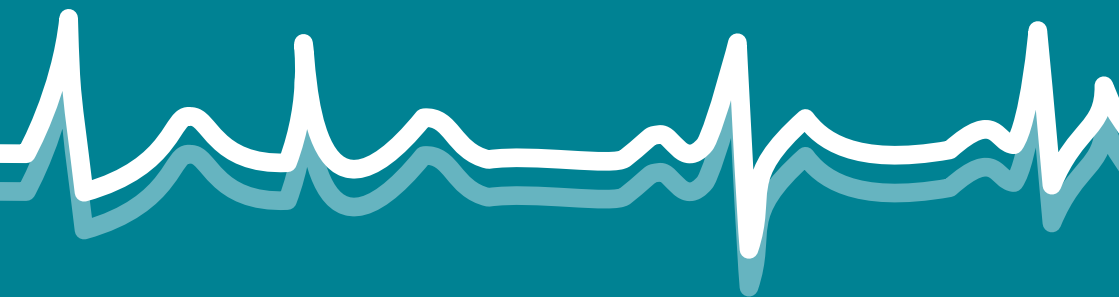
Source: WHO, Eucomed and APAPE Portugal





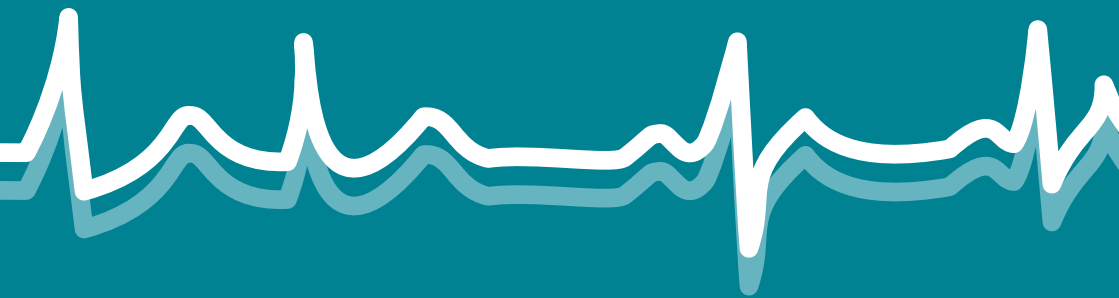
# REPUBLIC OF MOLDAVIA

There will be information in the next edition.





# ROMANIA



# 1. Statistics

## Age pyramid for Romania (2007)

Source: US Census Bureau





**Population by age and sex (2007)**

Age	Male	Female	Both sexes	Percent
0-14	1 778 864	1 687 659	3 466 523	16%
15-64	7 718 125	7 791 102	15 509 227	70%
65+	1 337 915	1 933 197	3 271 112	15%
Total	10 834 904	11 411 958	22 246 862	100%

**Demographic information**

Population	22 246 862	2007
Population annual growth rate (%)	-0.40%	2005
Life expectancy at birth	72.69	2006
Death rate (per 1 000 population)	11.96	2006
Live births (per 1 000 population)	10.17	2006

**Economic information**

Gross domestic product (U.S. dollars - billions)	165 983*	2007
Gross domestic product per capita	7 697.208*	2007
Total expenditure on health as % of GDP	5.1	2004
General government expenditure on health as % of total expenditure on health	66.1	2004
Private expenditure on health as % of total expenditure on health	33.9	2004

**Healthcare data**

Hospitals (per 100 000 population)	1.94	2004
Beds (per 100 000 population)	654.29	2004
Number of physicians	42 538	2003
Density of physicians (per 1 000 population)	1.9	2003
Number of nurses	86 802	2003
Density of nurses (per 1 000 population)	3.89	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International

\* IMF estimative

## 2. Healthcare System

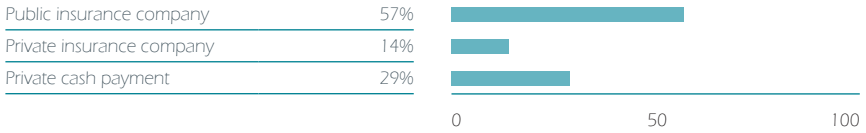
National Health System

**Proportion of deaths resulting from cardiovascular disease** **61%** **2005**

---

### Part of population publicly and privately insured\*

---



\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

---

**Part of the population affected by cardiac arrhythmias** **Not available**

---

### Reimbursement for

---

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>

---



### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

Percentage of academic facilities among practicing EP and implant centres **100%**

Number of medical faculties **10**

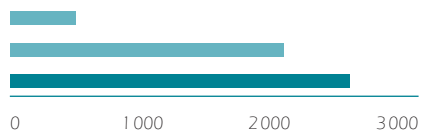
### 4. Pacemakers

Number of implanting centres **17**

#### Pacemaker units implanted

	2006
Single-chamber	Not available
Dual-chamber	Not available
Total	1995

	2007
Single-chamber	2008
Dual-chamber	484
Total	2492



#### Specialty performing implants

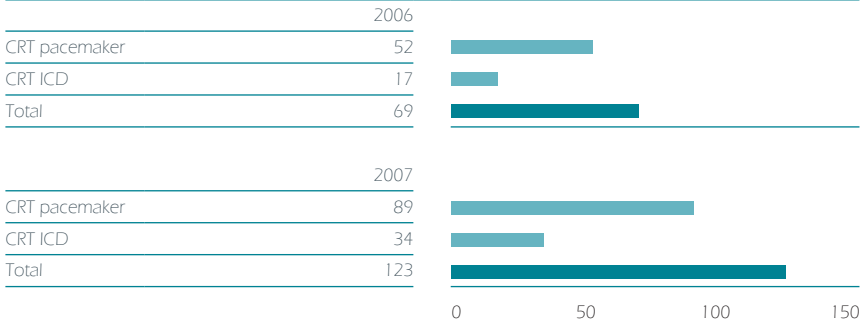
Cardiologists	100%
Surgeons	0%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

9

### CRT units implanted



### Specialty performing implants

Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

10

### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	65	113

### Specialty performing implants

Cardiologists	100%
Surgeons	0%



## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	1 600*	1 600*
Centres performing catheter ablation	9*	9*
Mean number (ablations/centres)	178*	178*
Number of AF ablations	0*	0*

\* Reflects 2006 + 2007

## 8. Device specific

**Availability of remote monitoring of devices**

**Availability of a national institution coordinating and guiding device recalls** **Yes**

Name of the institution: Ministry for Health and Family

## 9. Guidelines

**Guidelines adhered to ICD implants and pacemaker implants**

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

**Necessity of guideline translation to national language** **Yes**

Source: Romanian National Working Group of Arrhythmia



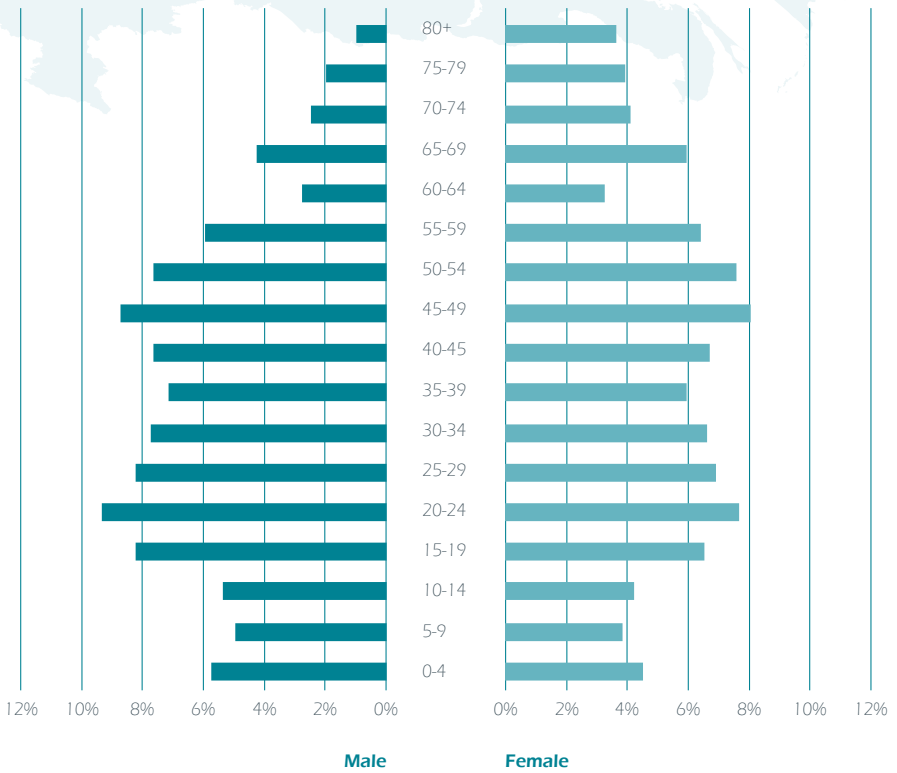
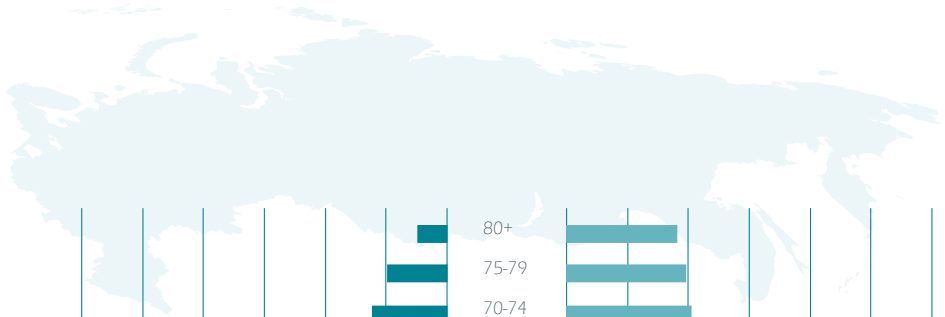
# RUSSIAN FEDERATION



# 1. Statistics

## Age pyramid for Russian Federation (2007)

Source: US Census Bureau







### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	10 577 858	10 033 254	20 611 112	15%
15-64	48 187 807	52 045 102	100 232 909	71%
65+	6 162 400	13 695 673	19 858 073	14%
Total	64 928 065	75 774 029	140 702 094	100%

### Demographic information

Population	140 702 094	2007
Population annual growth rate (%)	-0.30%	2005
Life expectancy at birth	65.37	2005
Death rate (per 1000 population)	16.1	2005
Live births (per 1000 population)	10.18	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	1 289.58	2007
Gross domestic product per capita	9 075.052*	2007
Total expenditure on health as % of GDP	6	2004
General government expenditure on health as % of total expenditure on health	61.3	2004
Private expenditure on health as % of total expenditure on health	38.7	2004

### Healthcare data

Hospitals (per 100 000 population)	4.5	2006
Beds (per 100 000 population)	965.52	2006
Number of physicians	680 200	2004
Density of physicians (per 1 000 population)	4.7	2004
Number of nurses	156 400	2004
Density of nurses (per 1 000 population)	1.10	2004

Sources: Euro WHO, IMF, U.S. Census Bureau, International

\* IMF estimative

## 2. Healthcare System

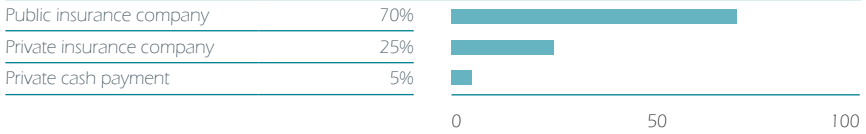
National Health System

**Proportion of deaths resulting from cardiovascular disease** **56.5%** **2007**

---

### Part of population publicly and privately insured\*

---



\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

---

**Part of the population affected by cardiac arrhythmias** **25%**

---

### Reimbursement for

---

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>

---



### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

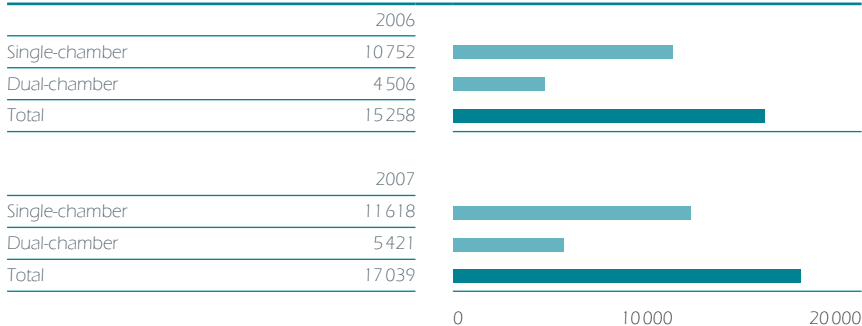
Percentage of academic facilities among practicing EP and implant centres **Not available**

Number of medical faculties **25**

### 4. Pacemakers

Number of implanting centres **99**

#### Pacemaker units implanted



#### Specialists performing implant surgeries

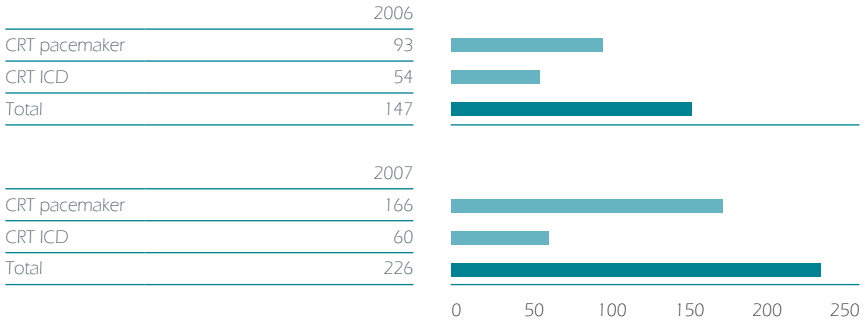
Cardiologists	80%
Surgeons	20%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

17

### CRT units implanted



### Specialists performing implant surgeries

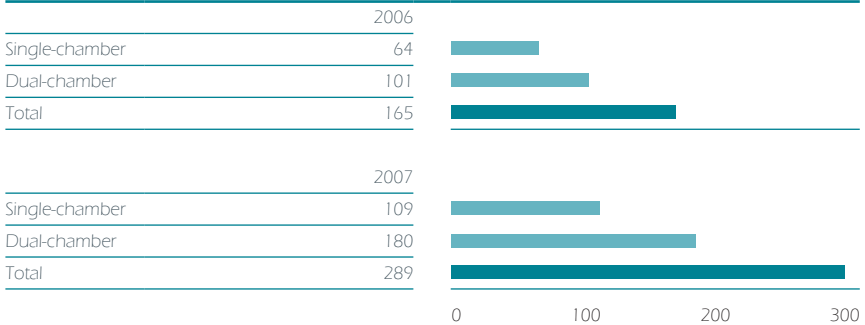
Cardiologists	80%
Surgeons	20%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

39

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	80%
Surgeons	20%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	6 654	9 022
Centres performing catheter ablation	53	58
Mean number (ablations/centres)	126	170
Number of AF ablations	Not available	1 426

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: Federal center of interventional and surgical arrhythmology

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

Yes

Source: Russian Society of Arrhythmology





# SAN MARINO

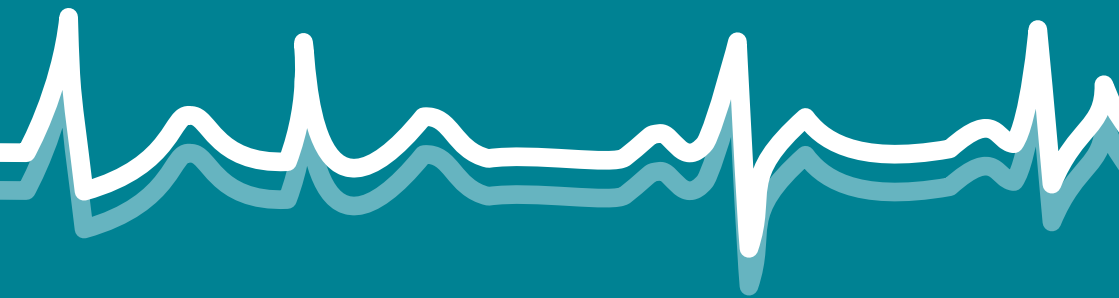
There will be information in the next edition.







# SERBIA



# 1. Statistics

## Age pyramid for Serbia (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	702 690	649 922	1 352 611	18%
15-64	2 532 218	2 555 976	5 088 194	67%
65+	496 668	662 527	1 159 195	15%
Total	3 731 576	3 868 424	7 600 000	100%

### Demographic information

Population	7 600 000	2007
Population annual growth rate (%)	0.1%	2005
Life expectancy at birth	73.48	2006
Death rate (per 1 000 population)	13.88	2006
Live births (per 1 000 population)	9.7	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	4 1 679	2007
Gross domestic product per capita	5 595.906*	2007
Total expenditure on health as % of GDP	8	2005
General government expenditure on health as % of total expenditure on health	Not available	Not available
Private expenditure on health as % of total expenditure on health	Not available	Not available

### Healthcare data

Hospitals (per 100 000 population)	1.39	2006
Beds (per 100 000 population)	542.83	2006
Number of physicians	Not available	Not available
Density of physicians (per 1 000 population)	3.3	2007
Number of nurses	Not available	Not available
Density of nurses (per 1 000 population)	Not available	Not available

Sources: Euro WHO, IMF, U.S. Census Bureau, International

\* IMF estimative





### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

**Percentage of academic facilities among practicing EP and implant centres** **40%**

**Number of medical faculties** **3**

### 4. Pacemakers

**Number of implanting centres** **16**

#### **Pacemaker units implanted**

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	3 400	3 800

#### **Specialty performing implants**

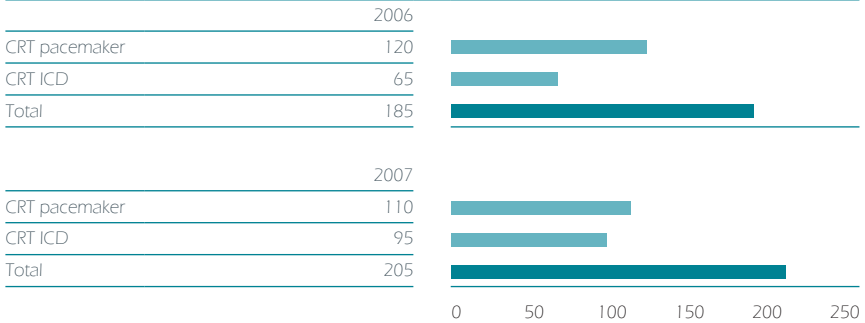
Cardiologists	95%
Surgeons	5%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

5

### CRT units implanted



### Specialty performing implants

Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

5

### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	140	240

### Specialty performing implants

Cardiologists	100%
Surgeons	0%



## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	550	650
Centres performing catheter ablation	3	3
Mean number (ablations/centres)	183	217
Number of AF ablations	30	Not available

## 8. Device specific

**Availability of remote monitoring of devices**

**Availability of a national institution coordinating and guiding device recalls** **Yes**

Name of the institution: Ministry of Health of Serbia

## 9. Guidelines

**Guidelines adhered to ICD implants and pacemaker implants**

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

**Necessity of guideline translation to national language** **No**

Source: National Working Group of Arrhythmia of Serbia





# SLOVAKIA



# 1. Statistics

## Age pyramid for Slovakia (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	456 105	435 154	883 859	16%
15-64	1 913 138	1 919 259	3 861 895	71%
65+	247 728	414 287	656 518	12%
Total	2 620 738	2 781 535	5 402 273	100%

### Demographic information

Population	5 402 273	2007
Population annual growth rate (%)	0.10%	2005
Life expectancy at birth	74.3	2005
Death rate (per 1000 population)	9.92	2005
Live births (per 1000 population)	10.1	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	74 988	2007
Gross domestic product per capita	13 857.472	2007
Total expenditure on health as % of GDP	7.2	2004
General government expenditure on health as % of total expenditure on health	73.8	2004
Private expenditure on health as % of total expenditure on health	26.20	2004

### Healthcare data

Hospitals (per 100 000 population)	2.67	2006
Beds (per 100 000 population)	681	2006
Number of physicians	17 172	2003
Density of physicians (per 1 000 population)	3.18	2003
Number of nurses	36 569	2003
Density of nurses (per 1 000 population)	6.77	2003

Sources: Euro WHO, IMF, U.S. Census Bureau, International

## 2. Healthcare System

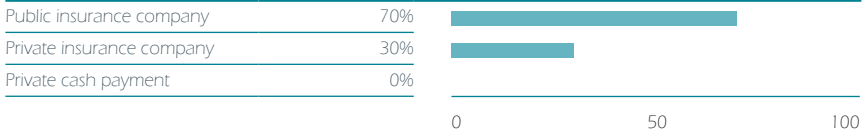
National health system with universal health insurance coverage, major hospitals (incl. university hospitals) owned and operated by government, regional hospitals mostly non-profit organizations or privately owned. General practitioners and most specialists work in private offices (on the basis of agreements with insurance companies), no (or very little) cash contribution from the patients. No patient financial contribution for arrhythmia devices or interventions.

**Proportion of deaths resulting from cardiovascular disease** **53%** **2007**

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### Part of population publicly and privately insured\*

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\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

---

**Part of the population affected by cardiac arrhythmias** **Not available**

---

### Reimbursement for

---

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>



### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **Yes**

Official name: Certified clinical activity in diagnostic and interventional electrophysiology and Certified clinical activity in implantation and management of pacemaker

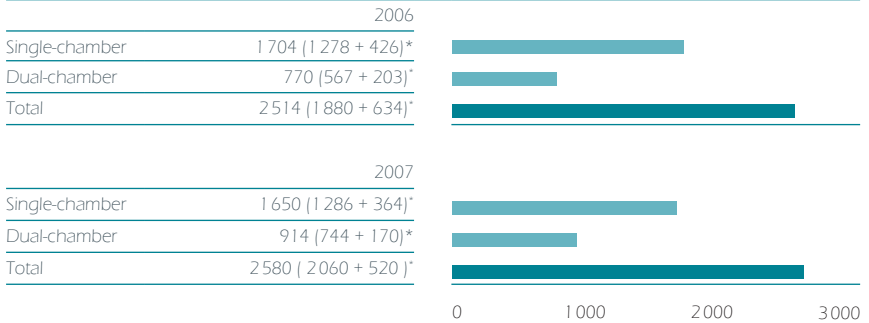
**Percentage of academic facilities among practicing EP and implant centres** **6 / 13**

**Number of medical faculties** **4**

### 4. Pacemakers

**Number of implanting centres** **14**

#### Pacemaker units implanted



\* refers to new implants and to replacements accordingly.

#### Specialty performing implants

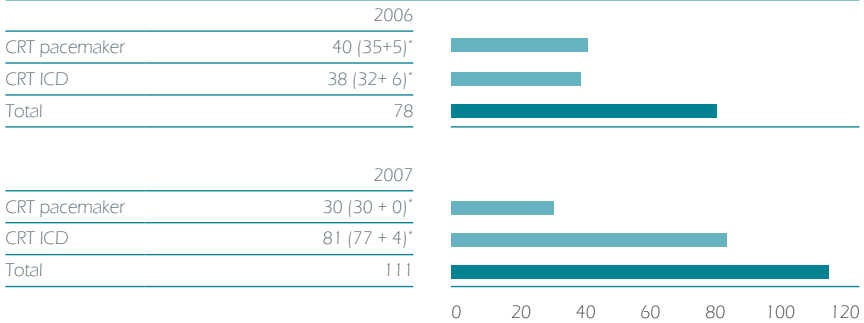
Cardiologists	44%
Surgeons	56%

## 5. Cardiac resynchronization therapy devices

### Number of implanting centres

4

#### CRT units implanted



\* refers to new implants and to replacements accordingly.

#### Specialty performing implants

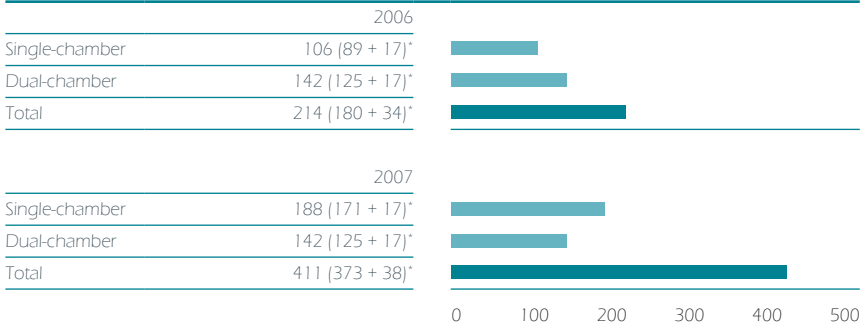
Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

### Number of implanting centres

4

#### ICD units implanted



\* refers to new implants and to replacements accordingly.



### Specialists performing implant surgeries

Cardiologists	90%
Surgeons	10%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	622	640
Centres performing catheter ablation	3	3
Mean number (ablations/centres)	207	213
Number of AF ablations	Not available	109

## 8. Device specific

**Availability of remote monitoring of devices**

**Availability of a national institution coordinating and guiding device recalls** **No**

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

**Necessity of guideline translation to national language** **Yes**

Source: Slovak Heart Rhythm Association

National WG - Slovakia

The registry of the European Working Group on Cardiac Pacing (EWGCP)

National registry





# SLOVENIA



# 1. Statistics

## Age pyramid for Slovenia (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	141 670	133 720	275 390	14%
15-64	712 409	700 844	1 413 253	70%
65+	124 264	196 338	320 602	16%
Total	978 343	1 030 902	2 009 245	100%

### Demographic information

Population	2 009 245	2007
Population annual growth rate (%)	0	2005
Life expectancy at birth	78.35	2006
Death rate (per 1 000 population)	9.05	2005
Live births (per 1 000 population)	Not available	Not available

### Economic information

Gross domestic product (U.S. dollars - billions)	46 084	2007
Gross domestic product per capita	22 932.70	2007
Total expenditure on health as % of GDP	9.43	2006
General government expenditure on health as % of total expenditure on health	75.6	2004
Private expenditure on health as % of total expenditure on health	24.40	2004

### Healthcare data

Hospitals (per 100 000 population)	1.44	2006
Beds (per 100 000 population)	476.32	2006
Number of physicians	4 475	2002
Density of physicians (per 1 000 population)	2.25	2002
Number of nurses	14 327	2002
Density of nurses (per 1 000 population)	7.21	2002

Sources: Euro WHO, IMF, U.S. Census Bureau, International

## 2. Healthcare System

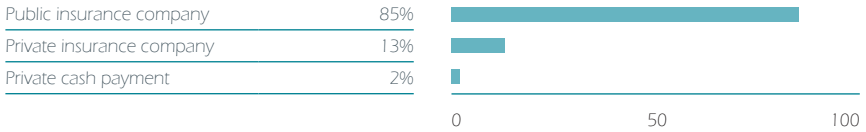
Public healthcare system. National health insurance institute is an autonomous fund.

**Proportion of deaths resulting from cardiovascular disease** **36%** **2006**

---

### Part of population publicly and privately insured\*

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\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

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**Part of the population affected by cardiac arrhythmias** **Not available**

---

### Reimbursement for

---

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>

---



### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

**Percentage of academic facilities among practicing EP and implant centres** **Not available**

**Number of medical faculties** **2**

### 4. Pacemakers

**Number of implanting centres** **2**

#### **Pacemaker units implanted**

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	1 044	870

#### **Specialty performing implants**

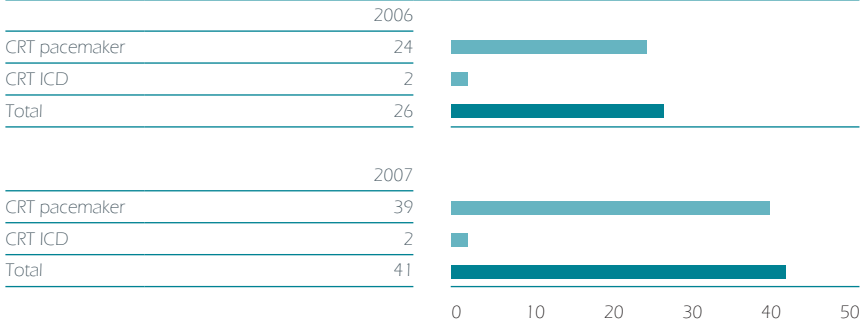
Cardiologists	0%
Surgeons	100%

## 5. Cardiac resynchronization therapy devices

### Number of implanting centres

2

#### CRT units implanted



#### Specialty performing implants

Cardiologists	95%
Surgeons	5%

## 6. Implantable Cardiac Defibrillator

### Number of implanting centres

2

#### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	78	87

#### Specialty performing implants

Cardiologists	25%
Surgeons	75%



## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	254	262
Centres performing catheter ablation	2	2
Mean number (ablations/centres)	127	131
Number of AF ablations	51	Not available

## 8. Device specific

**Availability of remote monitoring of devices**



**Availability of a national institution coordinating and guiding device recalls**

**Yes**

Name of the institution: Committee / Agency for Medicinal Products and Medical Devices of the Republic of Slovenia

## 9. Guidelines

**Guidelines adhered to ICD implants and pacemaker implants**

National

U.S. / European

**Necessity of guideline translation to national language**

**No**

Source: Slovenian National Working Group of Arrhythmia





# SPAIN



# 1. Statistics

## Age pyramid for Spain (2007)

Source: US Census Bureau



**Population by age and sex (2007)**

Age	Male	Female	Both sexes	Percent
0-14	3 358 993	3 158 946	6 517 939	14%
15-64	15 375 496	15 266 458	30 641 954	68%
65+	3 355 380	4 685 463	8 040 843	18%
Total	22 089 870	23 110 867	45 200 737	100%

**Demographic information**

Population	45 200 737	2007
Population annual growth rate (%)	0.80%	2005
Life expectancy at birth	80.44	2005
Death rate (per 1 000 population)	8.93	2005
Live births (per 1 000 population)	10.75	2005

**Economic information**

Gross domestic product (U.S. dollars - billions)	1 438.96	2007
Gross domestic product per capita	32 066.96	2007
Total expenditure on health as % of GDP	8.1	2004
General government expenditure on health as % of total expenditure on health	70.9	2004
Private expenditure on health as % of total expenditure on health	29.1	2004

**Healthcare data**

Hospitals	802	2004
Beds (per 1 000 population)	4.0	2004
Number of physicians	135 300	2003
Density of physicians (per 1 000 population)	4.61	2003
Number of nurses	315 200	2003
Density of nurses (per 1 000 population)	7.68	2003

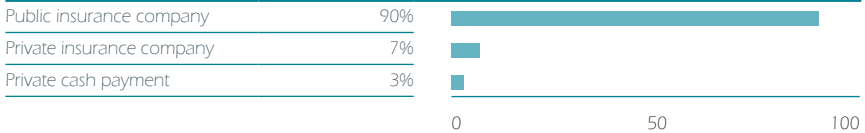
Sources: Euro WHO, IMF, U.S. Census Bureau, International

## 2. Healthcare System

Spain's healthcare system is tax based and it is devolved to its 17 autonomous communities, one for each region. Private insurance companies offer complementary healthcare coverage. The number of people acquiring private insurance is increasing in some communities due to the services not included in the basic package of the public services. The autonomous communities decide how to organise and deliver health services and implement the national legislation. (Highlights on health. WHO 2004)

**Proportion of deaths resulting from cardiovascular disease** **26,51 per 100 000 persons**

### Part of population publicly and privately insured\*



\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

**Part of the population affected by cardiac arrhythmias** **Not available**

### Reimbursement for

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>



### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

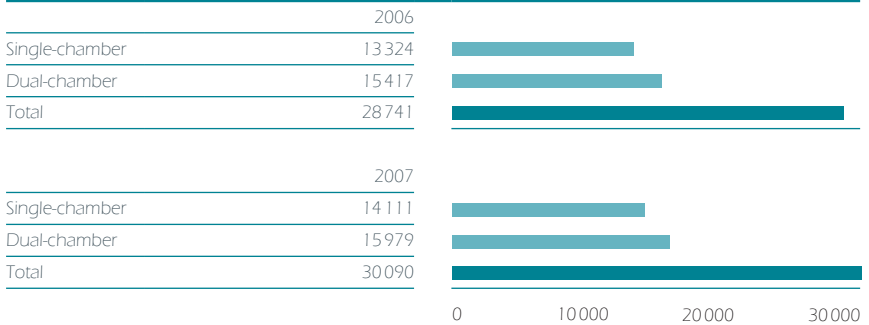
Percentage of academic facilities among practicing EP and implant centres **Not available**

Number of medical faculties **30**

### 4. Pacemakers

Number of implanting centres **105**

#### Pacemaker units implanted



#### Specialty performing implants

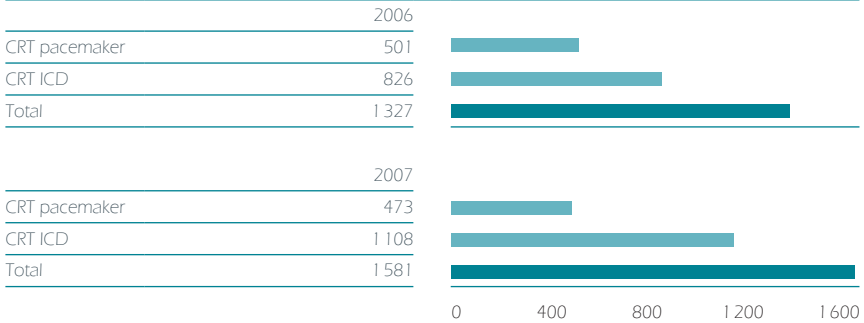
Cardiologists	Not available
Surgeons	Not available

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

50

### CRT units implanted



### Specialty performing implants

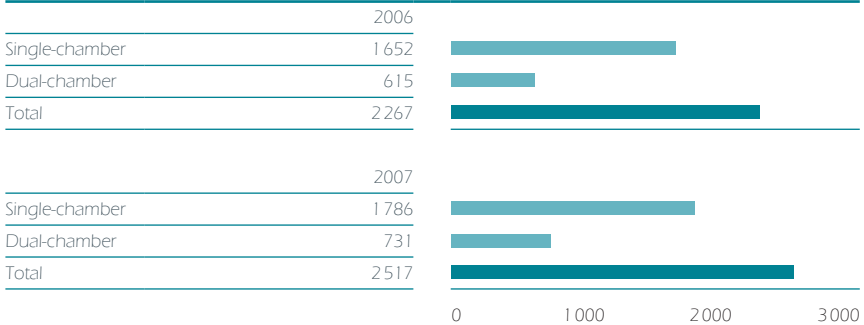
Cardiologists	Not available
Surgeons	Not available

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

89

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	72.40%
Surgeons	24.40%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	6 778	7 456
Centres performing catheter ablation	46	Not available
Mean number (ablations/centres)	147	Not available
Number of AF ablations	480	Not available

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: Ministerio de Sanidad y Consumo Agencia Española de Medicamentos y Productos Sanitarios

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

Yes

Sources: The registry of the European Working Group on Cardiac Pacing (EWGCP), Spanish Catheter Ablation Registry, Eucomed





# SWEDEN



# 1. Statistics

## Age pyramid for Sweden (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	759 488	717 812	1 477 300	16%
15-64	3 007 899	2 926 220	5 934 119	66%
65+	707 687	911 982	1 619 669	18%
Total	44 750 74	4 556 014	9 031 088	100%

### Demographic information

Population	9 031 088	2007
Population annual growth rate (%)	0.20%	2005
Life expectancy at birth	80.55	2004
Death rate (per 1 000 population)	1.98	2004
Live births (per 1 000 population)	11.22	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	455 319	2007
Gross domestic product per capita	49 654.869*	2007
Total expenditure on health as % of GDP	9.10	2004
General government expenditure on health as % of total expenditure on health	84.9	2004
Private expenditure on health as % of total expenditure on health	15.1	2004

### Healthcare data

Hospitals	84	2004
Beds (per 1 000 population)	3.7	2004
Number of physicians	27 400	2004
Density of physicians (per 1 000 population)	3.1	2004
Number of nurses	90 758	2002
Density of nurses (per 1 000 population)	10.24	2002

Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative





### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

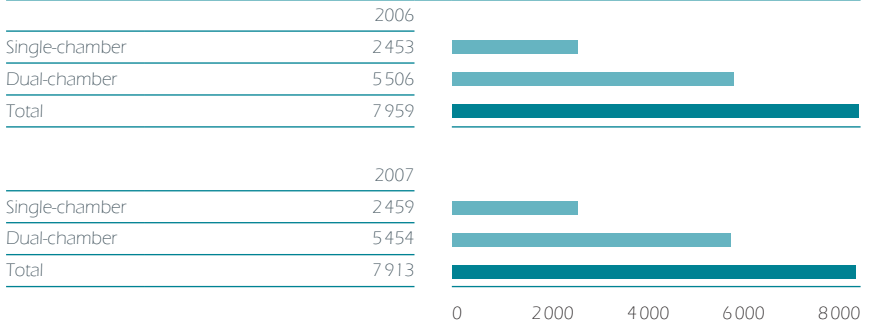
Percentage of academic facilities among practicing EP and implant centres **14%**

Number of medical faculties **6**

### 4. Pacemakers

Number of implanting centres **44**

#### Pacemaker units implanted



#### Specialists performing implant surgeries

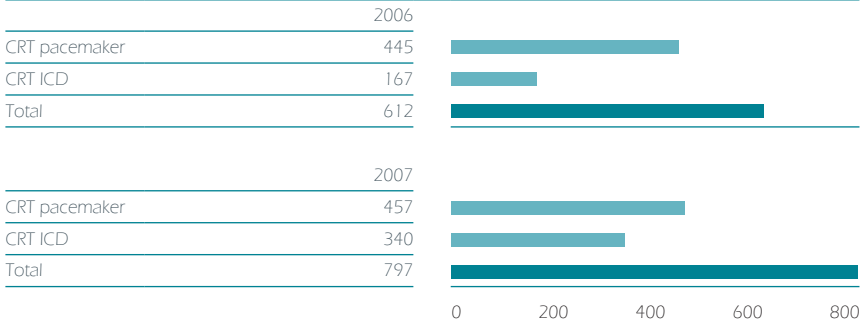
Cardiologists	90%
Surgeons	10%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

12

### CRT units implanted



### Specialists performing implant surgeries

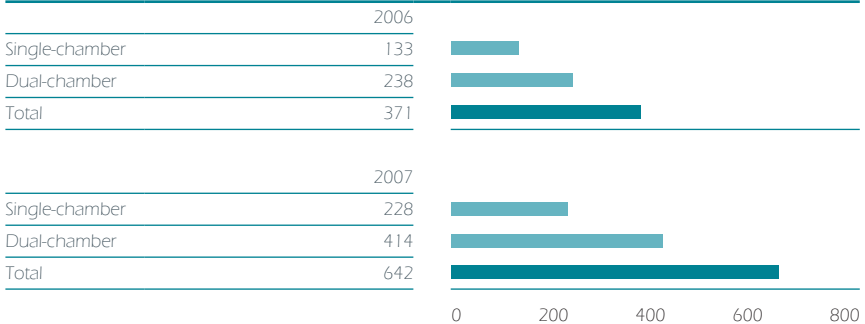
Cardiologists	95%
Surgeons	5%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

15

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	95%
Surgeons	5%

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	2 100	2 314
Centres performing catheter ablation	8	8
Mean number (ablations/centres)	263	289
Number of AF ablations	Not available	514

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: MPA - Medical Products Agency

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

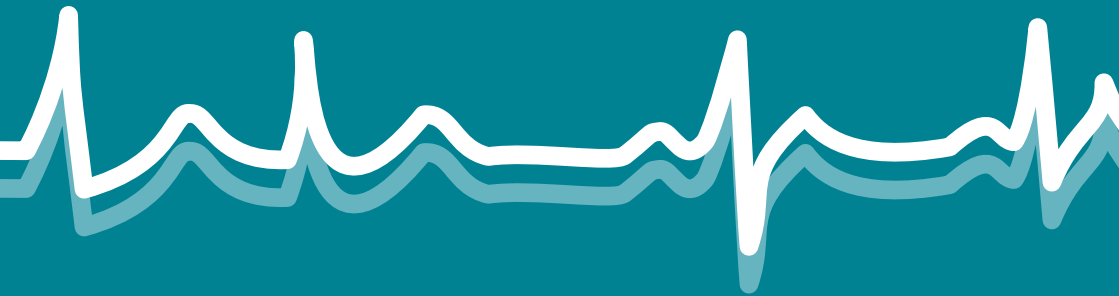
No

Source: Arrhythmia Working Group, Swedish Society of Cardiology, Eucomed





# SWITZERLAND



# 1. Statistics

## Age pyramid for Switzerland (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	630 341	584 167	1 214 508	16%
15-64	2 596 996	2 553 108	5 150 104	68%
65+	489 895	700 154	1 190 049	16%
Total	3 717 232	3 837 429	7 554 661	100%

### Demographic information

Population	7 554 661	2007
Population annual growth rate (%)	0.40%	2005
Life expectancy at birth	81.44	2004
Death rate (per 1 000 population)	5.49	2005
Live births (per 1 000 population)	9.8	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	423 938	2007
Gross domestic product per capita	58 083.574*	2007
Total expenditure on health as % of GDP	11.50	2004
General government expenditure on health as % of total expenditure on health	58.5	2004
Private expenditure on health as % of total expenditure on health	41.5	2004

### Healthcare data

Hospitals (per 100 000 population)	8	2006
Beds (per 1 000 population)	6.3	2004
Number of physicians	25 921	2002
Density of physicians (per 1 000 population)	3.61	2002
Number of nurses	77 120	2002
Density of nurses (per 1 000 population)	10.75	2002

Sources: Euro WHO, IMF, U.S. Census Bureau, International

\* IMF estimative





### 3. Education

Is there an official recognition of the subspecialty such as “electrophysiologist”? **No**

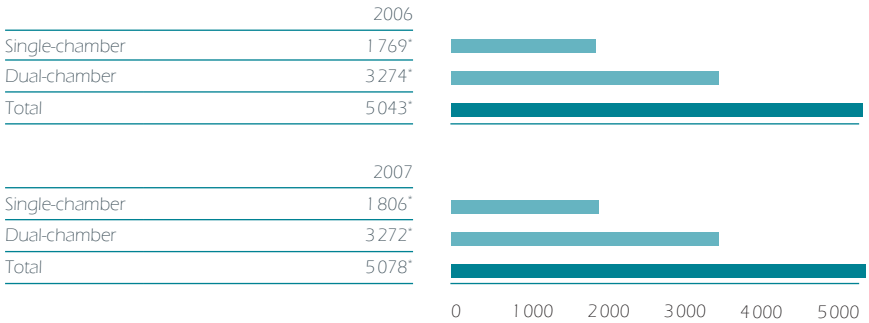
Percentage of academic facilities among practicing EP and implant centres **30%**

Number of medical faculties **5**

### 4. Pacemakers

Number of implanting centres **69**

#### Pacemaker units implanted



\* Eucomed

#### Specialty performing implants

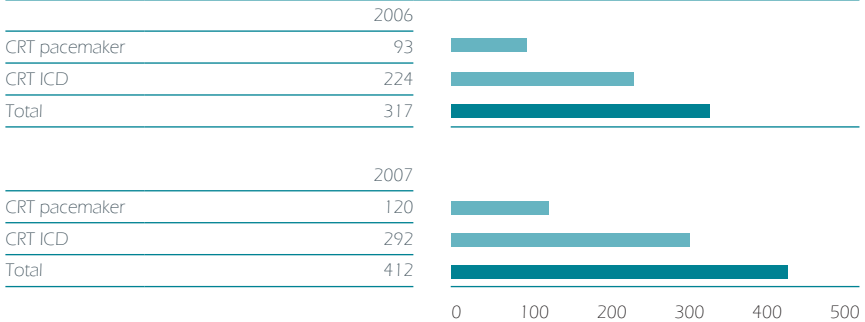
Cardiologists	Not available
Surgeons	Not available

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

27

### CRT units implanted



### Specialty performing implants

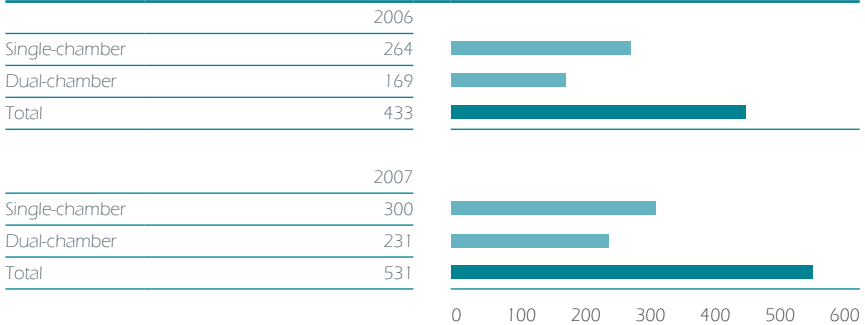
Cardiologists	Not available
Surgeons	Not available

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

25

### ICD units implanted





### Specialists performing implant surgeries

Cardiologists	Not available
Surgeons	Not available

## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	2 581	3 123
Centres performing catheter ablation	18	18
Mean number (ablations/centres)	143	174
Number of AF ablations	Not available	829

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: Swissmedic Swiss Agency for Therapeutic Products

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

Yes

Source: Swiss Working Group for Pacing and Electrophysiology

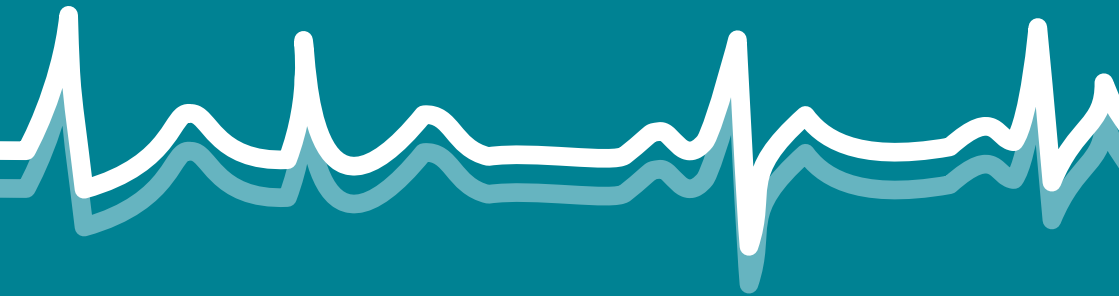






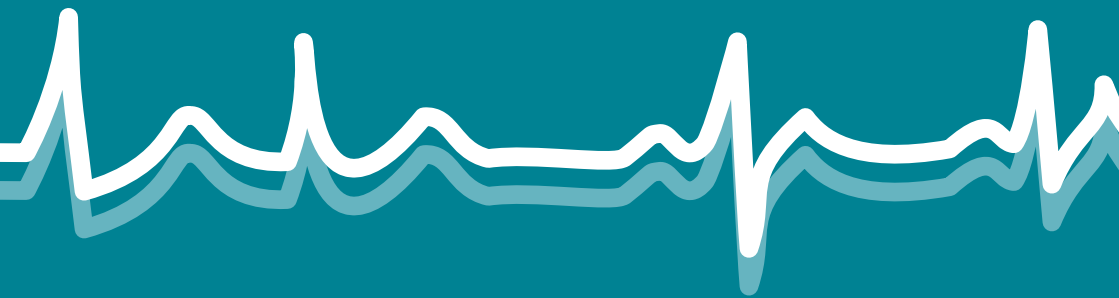
# SYRIA

There will be information in the next edition.





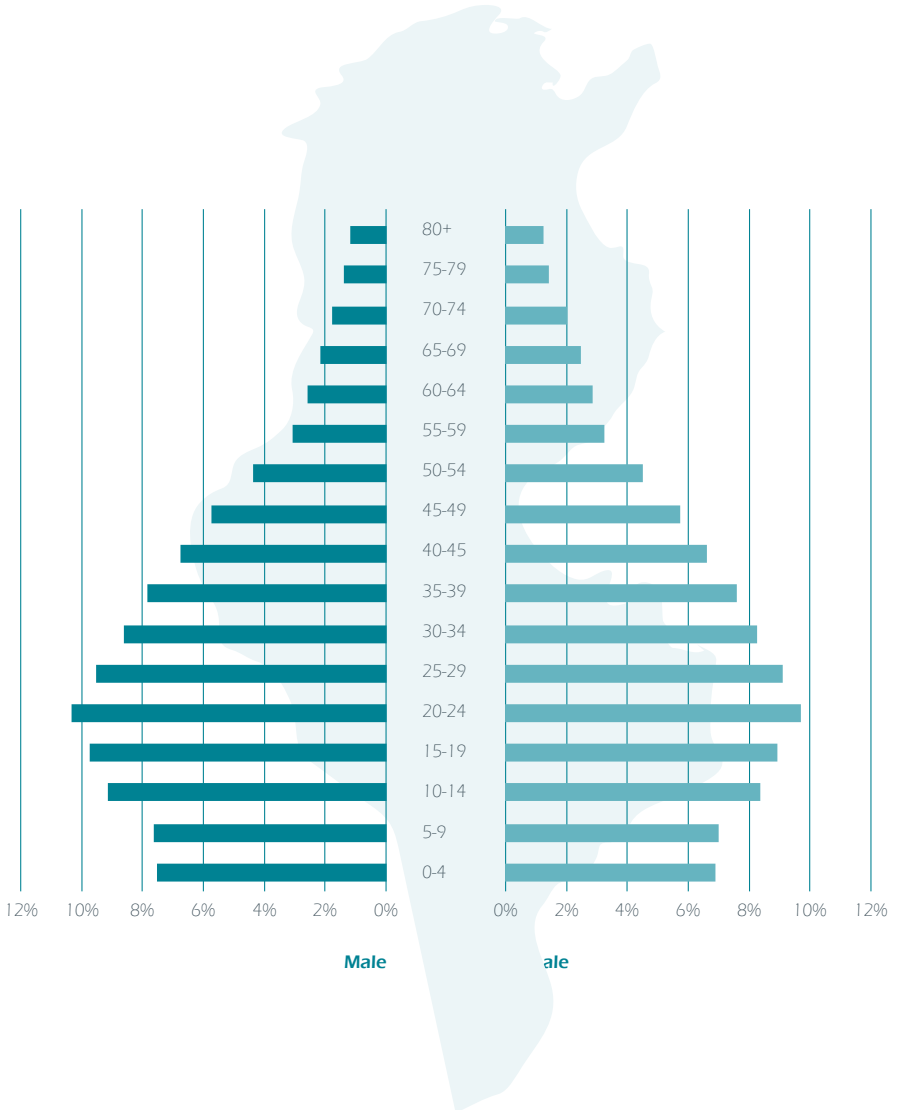
# TUNISIA



# 1. Statistics

## Age pyramid for Tunisia (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	1 246 105	1 167 379	2 413 484	23%
15-64	3 638 062	3 595 254	7 233 316	70%
65+	345 590	391 187	736 777	7%
Total	5 229 757	5 153 820	10 383 577	100%

### Demographic information

Population	10 383 577	2007
Population annual growth rate (%)	1.10%	2004
Life expectancy at birth	73.4	2004
Death rate (per 1000 population)	Not available	Not available
Live births (per 1000 population)	Not available	Not available

### Economic information

Gross domestic product (U.S. dollars - billions)	35010*	2007
Gross domestic product per capita	3,397.630*	2007
Total expenditure on health as % of GDP	5.4	2003
General government expenditure on health as % of total expenditure on health	45.7	2003
Private expenditure on health as % of total expenditure on health	45.1	2003

### Healthcare data

Hospitals (per 100 000 population)	1.76	2004
Beds (per 100 000 population)	Not available	Not available
Number of physicians	Not available	Not available
Density of physicians (per 1 000 population)	0.98	2004
Number of nurses	Not available	Not available
Density of nurses (per 1 000 population)	2.98	2004

Sources: Euro WHO, IMF, U.S. Census Bureau, International

\* IMF estimative





### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **Yes**

Official name: CEC de rythmologie et de stimulation cardiaque

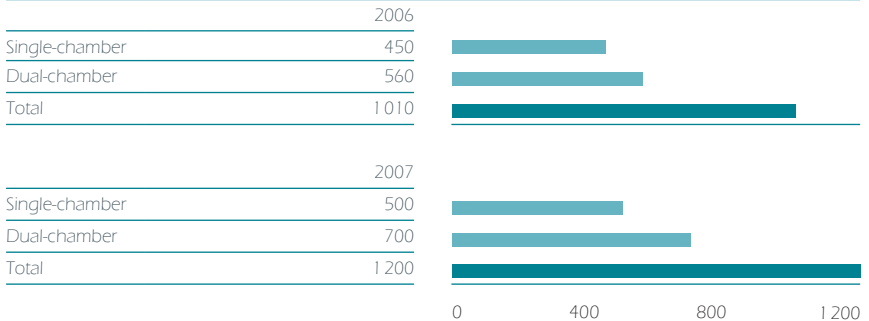
**Percentage of academic facilities among practicing EP and implant centres** **80%**

**Number of medical faculties** **4**

### 4. Pacemakers

**Number of implanting centres** **15**

#### Pacemaker units implanted



#### Specialty performing implants

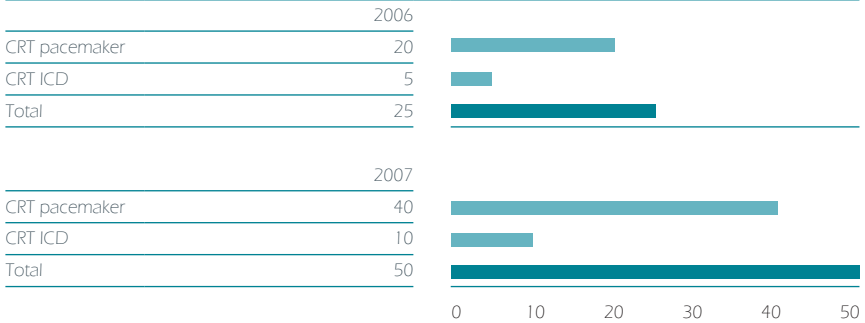
Cardiologists	95%
Surgeons	5%

## 5. Cardiac resynchronization therapy devices

### Number of implanting centres

8

#### CRT units implanted



#### Specialty performing implants

Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

### Number of implanting centres

7

#### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	40	50

#### Specialty performing implants

Cardiologists	100%
Surgeons	0%





## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	300	400
Centres performing catheter ablation	6	6
Mean number (ablations/centres)	50	67
Number of AF ablations	none	none

## 8. Device specific

**Availability of remote monitoring of devices**



**Availability of a national institution coordinating and guiding device recalls**

**Yes**

Name of the institution:

Tunisia Ministry of Public Health

## 9. Guidelines

**Guidelines adhered to ICD implants and pacemaker implants**

National



U.S. / European



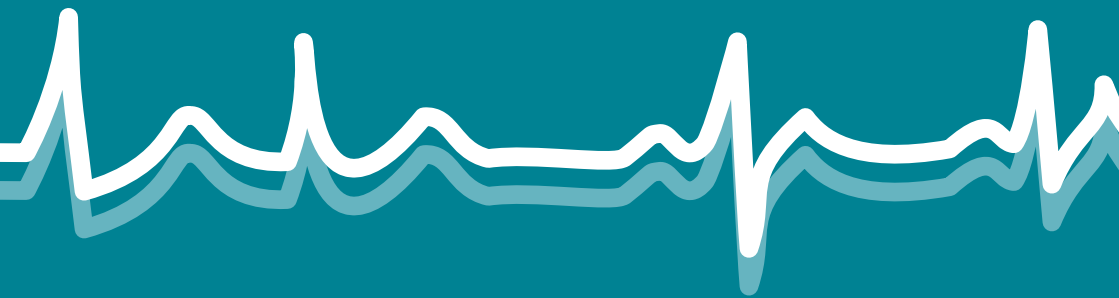
**Necessity of guideline translation to national language**

**No**

Source: Tunisian National Working Group of Arrhythmia



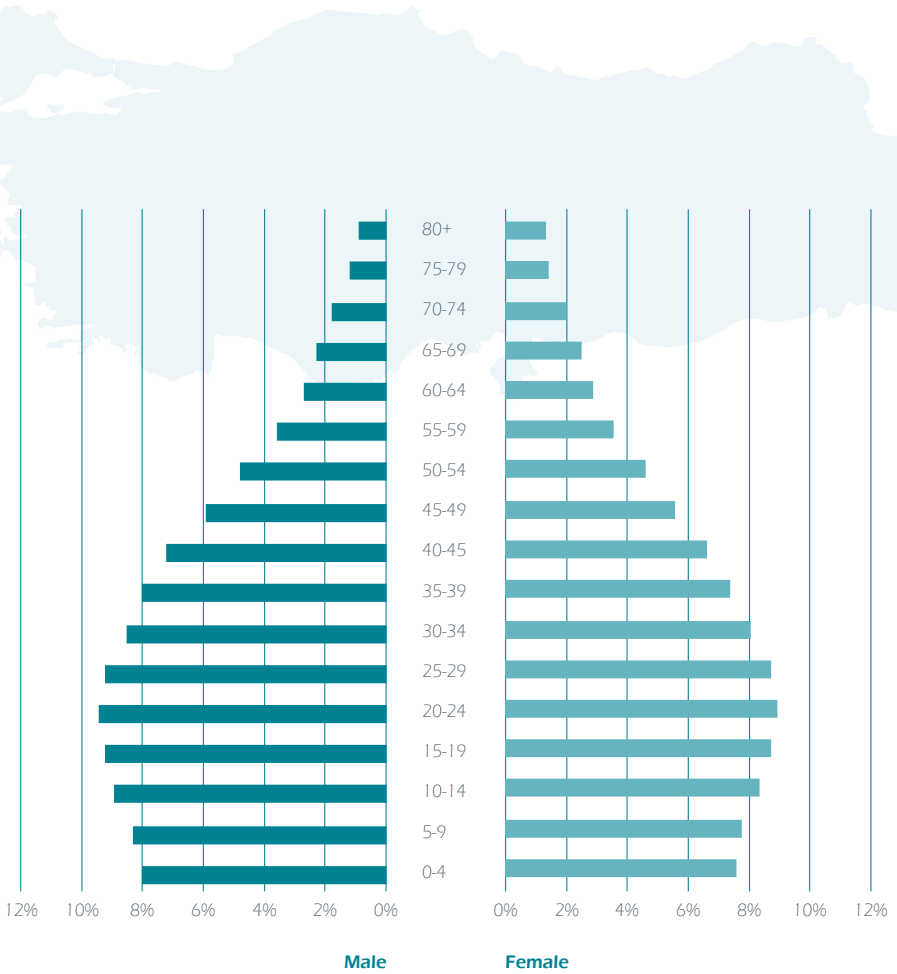
# TURKEY



# 1. Statistics

## Age pyramid for Turkey (2007)

Source: US Census Bureau



**Population by age and sex (2007)**

Age	Male	Female	Both sexes	Percent
0-14	8 937 515	8 608 375	17 545 890	24%
15-64	25 030 793	24 253 312	49 284 105	69%
65+	2 307 236	2 755 576	5 062 812	7%
Total	36 275 544	35 617 263	71 892 807	100%

**Demographic information**

Population	71 892 807	2007
Population annual growth rate (%)	1.60%	2005
Life expectancy at birth	73	2008
Death rate (per 1000 population)	28.50	2005
Live births (per 1000 population)	18.89	2005

**Economic information**

Gross domestic product (U.S. dollars - billions)	663 419	2007
Gross domestic product per capita	9 629.137	2007
Total expenditure on health as % of GDP	7.7	2006
General government expenditure on health as % of total expenditure on health	72.3	2004
Private expenditure on health as % of total expenditure on health	27.7	2004

**Healthcare data**

Hospitals (per 100 000 population)	1.65	2007
Beds (per 100 000 population)	269.5	2007
Number of physicians	90 757	2004
Density of physicians (per 1 000 population)	1.19	2007
Number of nurses	121 000	2003
Density of nurses (per 1 000 population)	1.7	2003

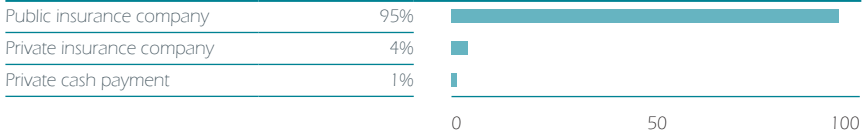
Sources: Euro WHO, IMF, U.S. Census Bureau, International, Turkish National Health Account Study

## 2. Healthcare System

Healthcare is provided by public, semi-public and private organisations however, there is limited coordination amongst them. Healthcare is financed by the government by tax and by premium and out of pocket payments. In 2007, a new Social Security Institution was established by a law that combined four major different social insurance organisations and reassigned structural responsibilities for health and social insurance in Turkey. (Source: Imaging Management, vol. 8 Issue 1 / 2008 February - March)

**Proportion of deaths resulting from cardiovascular disease** **45%** **2006**

### Part of population publicly and privately insured\*



\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

**Part of the population affected by cardiac arrhythmias** **Not available**

### Reimbursement for

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>



### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

**Percentage of academic facilities among practicing EP and implant centres** **30%**

**Number of medical faculties** **54**

### 4. Pacemakers

**Number of implanting centres** **120**

#### **Pacemaker units implanted**

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	5 000*	5 000*

\* approx.

#### **Specialty performing implants**

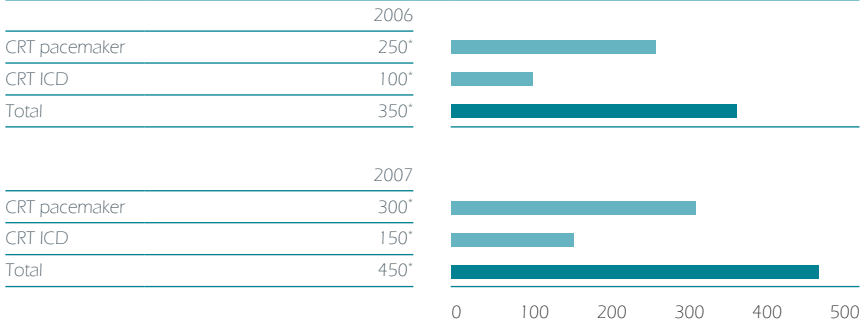
Cardiologists	100%
Surgeons	0%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

25

### CRT units implanted



\* approx.

### Specialists performing implant surgeries

Cardiologists	100%
Surgeons	0%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

35

### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	800*	900*

### Specialty performing implants

Cardiologists	100%
Surgeons	0%

\* approx





## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	2000*	Not available
Centres performing catheter ablation	40*	Not available
Mean number (ablations/centres)	50	Not available
Number of AF ablations	30*	Not available

\* approx.

## 8. Device specific

### Availability of remote monitoring of devices

### Availability of a national institution coordinating and guiding device recalls **Yes**

Name of the institution: Ministry of Health General Directorate of the Curative Services - Biomedical Engineering - Department Market Surveillance Section

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language **Yes**

Source: Turkish National Working Group on Arrhythmia, The Ministry of Health of Turkey





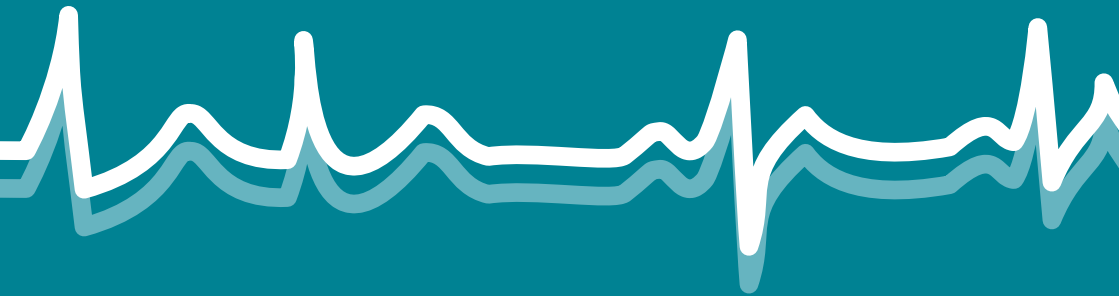
# UKRAINE

There will be information in the next edition.





# UNITED KINGDOM



# 1. Statistics

## Age pyramid for United Kingdom (2007)

Source: US Census Bureau





### Population by age and sex (2007)

Age	Male	Female	Both sexes	Percent
0-14	5 349 053	5 095 837	10 444 890	17%
15-64	20 605 031	20 104 313	40 709 344	67%
65+	4 123 464	5 498 540	9 622 004	16%
Total	30 077 548	30 698 690	60 776 238	100%

### Demographic information

Population	60 776 238	2007
Population annual growth rate (%)	0.30%	2005
Life expectancy at birth	79.29	2005
Death rate (per 1 000 population)	9.68	2005
Live births (per 1 000 population)	12	2005

### Economic information

Gross domestic product (U.S. dollars - billions)	2 772.57	2007
Gross domestic product per capita	45,574.744*	2007
Total expenditure on health as % of GDP	8.1	2004
General government expenditure on health as % of total expenditure on health	86.3	2004
Private expenditure on health as % of total expenditure on health	13.70	2004

### Healthcare data

Hospitals	1 400	2004
Beds (per 1 000 population)	4.3	2004
Number of physicians	124 631	2004
Density of physicians (per 1 000 population)	2.1	2004
Number of nurses	548 730	2004
Density of nurses (per 1 000 population)	9.3	2004

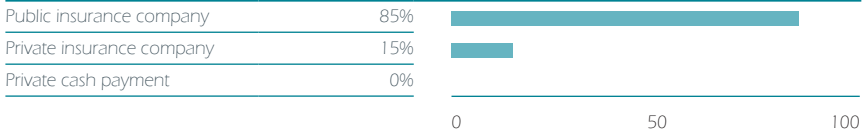
Sources: Euro WHO, IMF, U.S. Census Bureau, International  
\* IMF estimative

## 2. Healthcare System

A National Health System (NHS) covers 100% of the population. It is mainly funded through national taxation. All legal residents of the United Kingdom, residents of the European economic area and citizens of other countries with which the UK has reciprocal agreements are covered under the United Kingdom NHS. Therefore, the subscription to private health insurance is very low. WHO 2004

**Proportion of deaths resulting from cardiovascular disease** **3,5 per 1 000** **2007**

### Part of population publicly and privately insured\*



\* estimative

**Possibility of subscribing to private health insurance plans** **Yes**

**Part of the population affected by cardiac arrhythmias** **25%**

### Reimbursement for

ICD devices	<input checked="" type="checkbox"/>
Pacemakers	<input checked="" type="checkbox"/>
CRT devices	<input checked="" type="checkbox"/>





### 3. Education

**Is there an official recognition of the subspecialty such as “electrophysiologist”?** **No**

**Percentage of academic facilities among practicing EP and implant centres** **30%**

**Number of medical faculties** **35**

### 4. Pacemakers

**Number of implanting centres** **200**

#### **Pacemaker units implanted**

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	35 100	36 600

#### **Specialty performing implants**

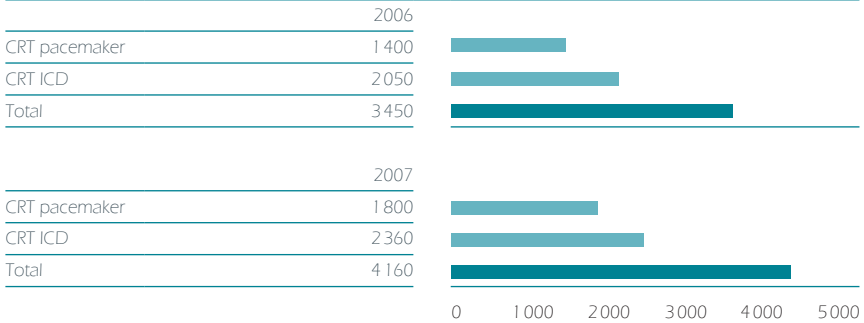
Cardiologists	98%
Surgeons	2%

## 5. Cardiac resynchronization therapy devices

Number of implanting centres

53

### CRT units implanted



### Specialty performing implants

Cardiologists	99%
Surgeons	1%

## 6. Implantable Cardiac Defibrillator

Number of implanting centres

53

### ICD units implanted

	2006	2007
Single-chamber	Not available	Not available
Dual-chamber	Not available	Not available
Total	3 800	3 900

### Specialty performing implants

Cardiologists	99%
Surgeons	1%



## 7. Interventional electrophysiology

	2006	2007
Number of ablations performed	6 600	7 300
Centres performing catheter ablation	38	38
Mean number (ablations/centres)	174	192
Number of AF ablations	1 120	1 200

## 8. Device specific

### Availability of remote monitoring of devices



### Availability of a national institution coordinating and guiding device recalls

Yes

Name of the institution: Medicines and Healthcare products Regulatory Agency

## 9. Guidelines

### Guidelines adhered to ICD implants and pacemaker implants

National	<input checked="" type="checkbox"/>
U.S. / European	<input checked="" type="checkbox"/>

### Necessity of guideline translation to national language

Yes

Source: British Cardiovascular Society - National Working Group

### 3. Appendix

#### Sources

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The data in the White Book has been collected from a wide number of sources. Most important are the National Societies and National Working Groups. Every data published was authorised by the National Societies or National Working Groups of each participating country.

The National Societies and National Working Groups are listed below:

- Working Group on Arrhythmias – Armenia
- Working Group of Cardiac Pacing & Electrophysiology – Armenia
- Working Group of Electrophysiology – Austria
- Scientific Laboratory of Heart Arrhythmias – Belarus
- Belgian Heart Rhythm Association (BeHRA) – Belgium
- Working Group on Arrhythmias, Society of Cardiology – Bulgaria
- Working Group on Arrhythmias and Cardiac Pacing – Croatia
- National Working Group on Arrhythmias and Cardiac Pacing – Czech Republic
- Working Group on Arrhythmias – Denmark
- National Working Group of Arrhythmias – Estonia
- Working Group on Arrhythmias and Cardiac Pacing – Finland
- Working Group on Electrophysiology and Cardiac Pacing – Former Yugoslav Republic of Macedonia
- Working Group on Arrhythmias and Cardiac Pacing – France
- Working Group on Cardiac Pacing and Arrhythmia – Germany

## Sources

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- Working Group on Arrhythmias of the Georgian College of Cardiology – Georgia
- Hellenic Working Group on Electrophysiology and Pacing – Greece
- Working Group of Arrhythmias – Hungary
- Working Group on Arrhythmias and Pacemaker – Hungary
- Working Group on Electrophysiology and Cardiac Pacing – Israel
- Italian Association on Arrhythmias and Cardiac Pacing – Italy
- The registry of the European Working Group on Cardiac Pacing (EWGCP) – Latvia
- Working Group on Arrhythmology and Cardiac Pacing – Latvia
- Working Group on Electrophysiology – Lebanon
- Working Group on Arrhythmias Pacing and Electrophysiology – Lithuania
- National Institute of Cardiac Surgery and Interventional Cardiology (INCCI) – Luxembourg
- Dutch Working Group on Cardiac Pacing – Netherlands
- Working Group on Pacing and Electrophysiology – Norway
- Heart Rhythm Division Polish Cardiac Society – Poland
- Portuguese Association on Arrhythmology and Cardiac Pacing – Portugal
- Arrhythmia Working Group, Romanian Society of Cardiology – Romania
- Clinical Electrophysiology, Arrhythmology and Cardiac Pacing – Russian Federation

## Sources

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- National Working Group on Cardiac Pacing – Serbia
- Slovak Heart Rhythm Association (SHRA) – Slovakia
- Working Group on Arrhythmias and Pacing – Slovenia
- Working Group on Arrhythmias – Sweden
- Working Group on Cardiac Pacing and Electrophysiology – Switzerland
- Working Group on Arrhythmias – Tunisia
- Working Group on Arrhythmias, Electrophysiology and Pacing, Turkish Society of Cardiology – Turkey
- Heart Rhythm UK – United Kingdom

## Additional sources

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- Armenian Ministry of Health
- European Medical Technology Industry Association (EUROMED), Brussels, Belgium. 2005 – Q1/2008
- Greek Pacemaker and ICD registry
- Hellenic National Statistical Service
- International Monetary Fund (IMF), Washington DC, USA. <http://www.imf.org>
- Medical Markets Fact Book, Espicom Business Intelligence, 2004
- Revista española de cardiología. Sociedad Española de Cardiología 2007; 60 (12): 129–1301 3

## Additional sources

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- Sección de Estimulación Cardíaca. Madrid, Spain. <http://www.marcapasossec.org/>
- Spanish Catheter Ablation Registry
- Statistical Information System (WHOSIS). World Health Organization, Geneva, Switzerland. <http://www.who.int/whosis/en/>
- U.S. Census Bureau, International. Atlanta, USA. <http://www.census.gov/>
- World Health Statistics. World Health Organization, Geneva, Switzerland. <http://www.who.org>









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