

Overview of Cardiac Rehabilitation in ESC member countries (OCRE)

Ana Abreu

Past-Chair

EAPC Sec. Prev. & Rehab. section

Jorge Ruivo

Project Coordinator

OCRE

Joep Perk

Deputy-Chair

EAPC Prev. Impl. Committee

ESC country of the month



The ESC Congresses & Events Journals Guidelines Education Research

January 2019 country of the month: Luxembourg

Discover

European Society of Cardiology > Subspecialty communities > European Association of Preventive Cardiology > Advocacy > Prevention in your country

European Association of Preventive Cardiology

About EAPC

Advocacy

Congresses

Education

Membership & Communities

Research & Publications

Country of the month

Regular reports written by cardiovascular prevention experts from ESC member countries

The EAPC publishes CVD prevention reports, prepared by National CVD Prevention Coordinators, to facilitate the sharing of best practice and inspire health professionals in the field of preventive cardiology.

The overall objective of this initiative is to facilitate implementation of CVD prevention by providing web-based information on prevention among the ESC member states and to inspire both national coordinators and others in the field of preventive cardiology. Every other month, two countries will be highlighted, providing full reports and detailed analysis of the state of CVD prevention and rehabilitation in those countries.



Previous country reports

- [Israel](#) (October 2013) and [Turkey](#) (updated November 2014)
- [Germany](#) (update "prevention activities" February 2017) and [Iceland](#) (December 2013)
- [Ireland](#) and [the Netherlands](#) (Feb 2014)
- [Estonia](#) and [Sweden](#) (April 2014)
- [Bulgaria](#) and [Poland](#) (June 2014)
- [Latvia](#) and [Lithuania](#) (August 2014)
- [Egypt](#) and [Lebanon](#) (October 2014)
- [Russia](#) and [Kazakhstan](#) (December 2014)
- [Portugal](#) (February 2015) and [Spain](#) (update "prevention activities" June 2018)
- [Malta](#) and [United Kingdom](#) (April 2015)
- [Slovakia](#) and [Slovenia](#) (June 2015)
- [Greece](#) and [Italy](#) (August 2015)
- [Bosnia & Herzegovina](#) and [Croatia](#) (December 2015)
- [Belgium](#) and [France](#) (February 2016)
- [Hungary](#) and [Romania](#) (April 2016)
- [Denmark](#) (June 2016)
- [Austria](#) and [Switzerland](#) (October 2016)
- [Norway](#) (December 2016)
- [Belarus](#) and [Ukraine](#) (February 2017)
- [Serbia](#) (April 2017)
- [Georgia](#) (August 2017)

EAPC publishes CVD prevention reports, prepared by National CVD Prevention Coordinators, to facilitate the sharing of best practice and inspire health professionals in the field of preventive cardiology.

Every other month, two countries will be highlighted, providing full reports and detailed analysis of the state of CVD prevention and rehabilitation in those countries.

Overview of Cardiac Rehabilitation (OCRE) in ESC member countries

Highlights and comparisons of phase II programmes according to the “Country of the Month” reports of National CVD Prevention Coordinators

The importance of Cardiac Rehabilitation (CR):

The WHO report “Rehabilitation 2030: A Call for Action” (1) demonstrated the importance of developing CR as a normal part of the treatment pathway of heart disease patients and highlighted the need to strengthen rehabilitation in health systems to meet the existing and future needs of populations.

Team structure

The multi-disciplinary structure of the CR team (usually comprising a physician, nurse, physiotherapist, dietician, psychologist and social worker) is relatively consistent across all countries.

Cardiologists are usually the programme coordinators



6 components:

- the team
- the patient
- the place
- the program
- the cost and control
- the future

Objective: to advance the knowledge about ESC affiliated national cardiac rehabilitation (CR) settings

1.0 version: synthesis of the data from the ESC “country of the month” reports

Compare, contrast, identify opportunities
no standard template: missing data

2.0 version: closed-format survey to complete missing data was unable to give full picture since there were incomplete submissions

Re.: ESC Prevention of CVD Programme and Overview of Cardiac Rehabilitation in Europe (OCRE 3.0)

Dear National CVD Prevention Coordinator, dear colleague and friend!

The present state of secondary preventive care through cardiac rehabilitation (CR) programmes remains still far from optimal in several European countries as can be seen in your most valuable contributions to the "Prevention in your Country" website of the EAPC. Therefore, the EAPC Secondary Prevention & Rehabilitation section has taken the initiative to collect an update of information on the content and quality of CR programmes in your countries.

Why this initiative? We feel that a concise overview of CR practice around Europe can be valuable for cardiologists, other categories of concerned health workers and decision makers alike: a comparison between countries may be an inspiration to improve local programmes and, equally important, could act as lever to convince politicians to provide the needed resources for a service that effectively reaches out to the broader population in need of support through participation in CR.

Therefore, we have created a short 13-questions digital format, the results of which will be presented at EuroPrevent in Lisbon, on the EAPC website and as a publication in our EIPC journal. Even a short information pamphlet will be made available which can be used in contact with the concerned political level.

We are well aware that there will be no exact answers on all 13 questions but here we ask your "best guess" as expert in the field of preventive cardiology. The deadline for your answer is set to 26th March.

Feel free to contact anyone of us if you have any questions or concerns and, in the mean time, we look much forward to meeting you all at EuroPrevent at lunchtime 12.30 on Friday 12th March. With cordial regards,

Ana Abreu

Past-Chair
EAPC Sec. Prev. & Rehab. section
ananabreu@hotmail.com

Jorge Ruivo

Project Coordinator
OCRE
jorgearsenioruivo@gmail.com

Joep Perk

Deputy-Chair
EAPC Prev. Integ. Commit.
joep@khalmar.se



3.0 version:

Online survey

13 provision and quality indicators from the 6 components

All questions mandatory to allow submission
Provision and quality indicators from the 6 components

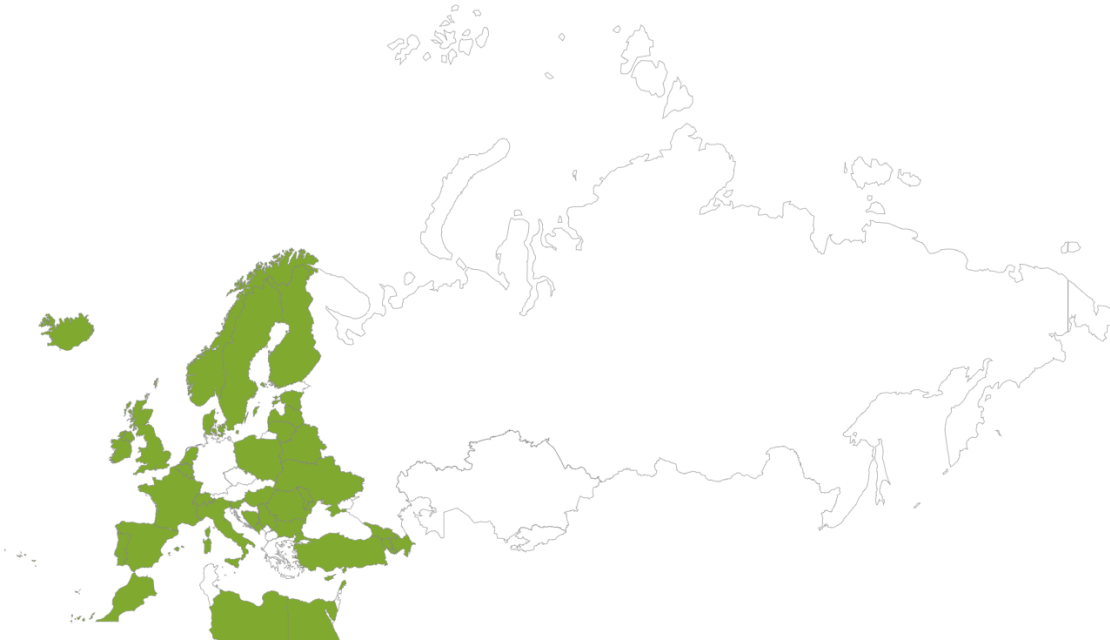
NCCP reporting based in published evidence or best estimate following national consensus
results were combined with data from previous 2.0 version for identical topics, when possible for the 51 countries

If conflicting data, the most recent was preferred

Outputs in graphs and map cards

Countries participating in 3.0 survey

■ Valid participation □ N/A



Survey

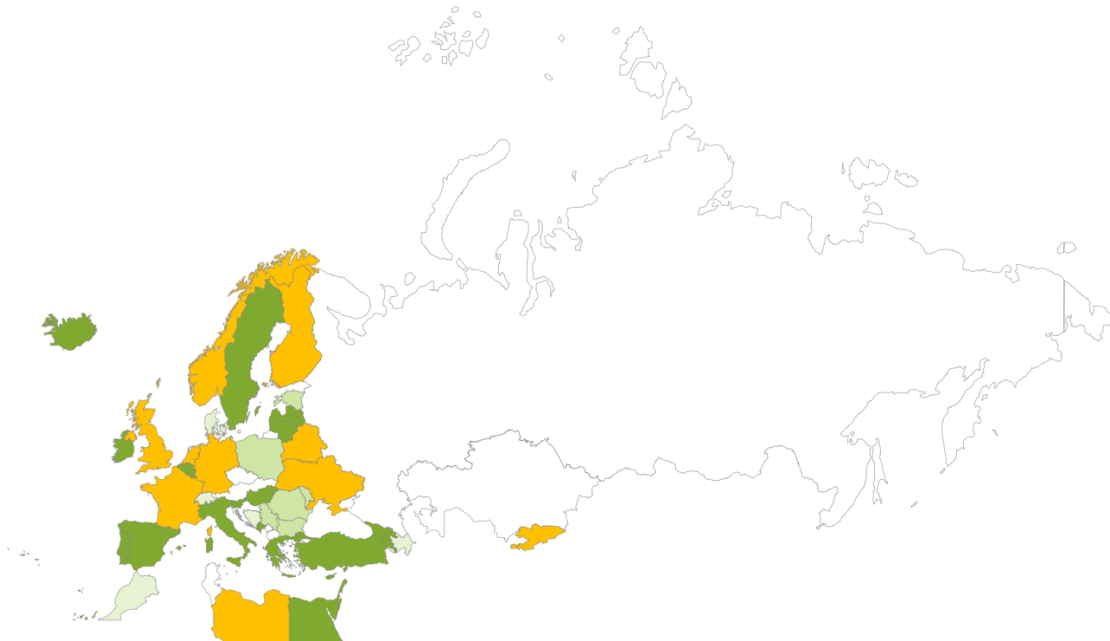
51 invited EAPC associated countries

- 41 valid survey answers

80% participation rate

Cardiovascular prevention and rehabilitation guidelines

■ ESC ■ ESC-based ■ ESC-translated ■ national □ N/A



Cardiovascular prevention and rehabilitation guidelines

- 67% follow European guidelines (45% ESC, 10% ESC-based, 11% ESC translated)
- 21% follow national guidelines

OCRE

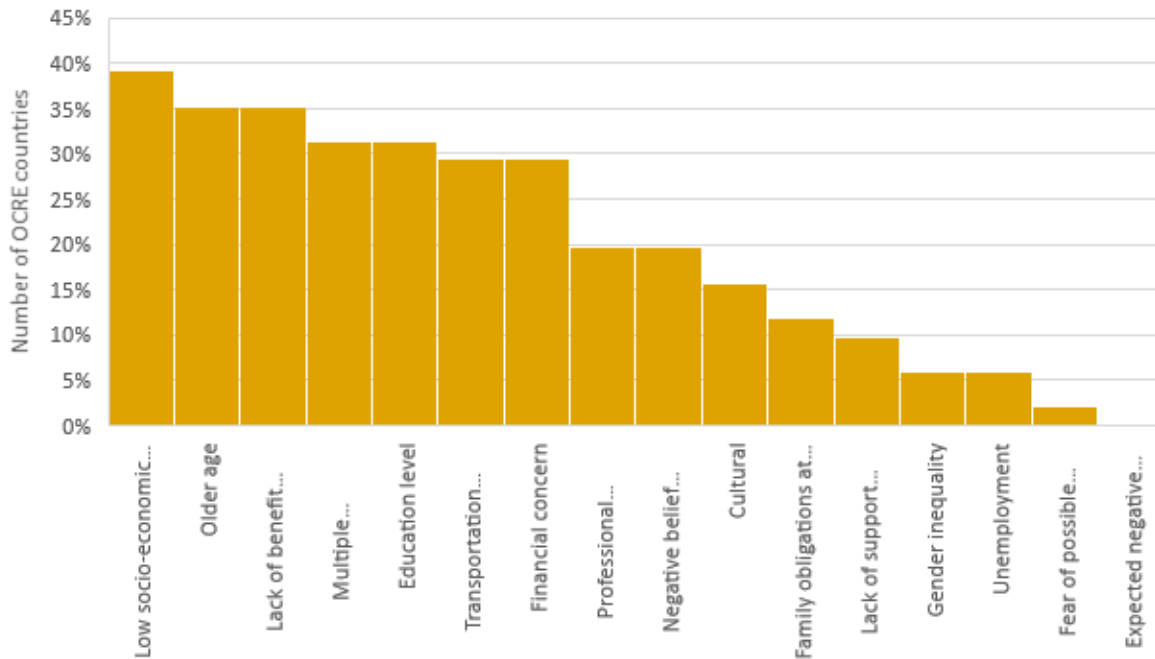
ESC	ESC-based	ESC-translated	National
Armenia	Azerbaijan	Bulgaria	Belarus
Belgium	Bosnia and Herzegovina	Estonia	Finland
Cyprus	Denmark	Moldova, Republic of	France
Egypt	Morocco	Poland	Germany
Georgia	Switzerland	Romania	Kyrgyzstan
Greece		Serbia	Libya
Hungary			Netherlands
Iceland			Norway
Ireland			Ukraine
Italy			United Kingdom
Latvia			
Lebanon			
Lithuania			
Luxembourg			
Montenegro			
Portugal			
Republic of Malta			
Republic of San Marino			
Slovenia			
Spain			
State of Israel			
Sweden			
Turkey			

Cardiovascular prevention and rehabilitation guidelines

3 evidence URL (Azerbaijan, France, United kingdom)

Major barriers to implementation of CVD guidelines

PATIENT LEVEL



Major PATIENT-LEVEL barriers to implementation and use of cardiovascular prevention and rehabilitation guidelines

Top 4 obstacles (% OCRE countries)

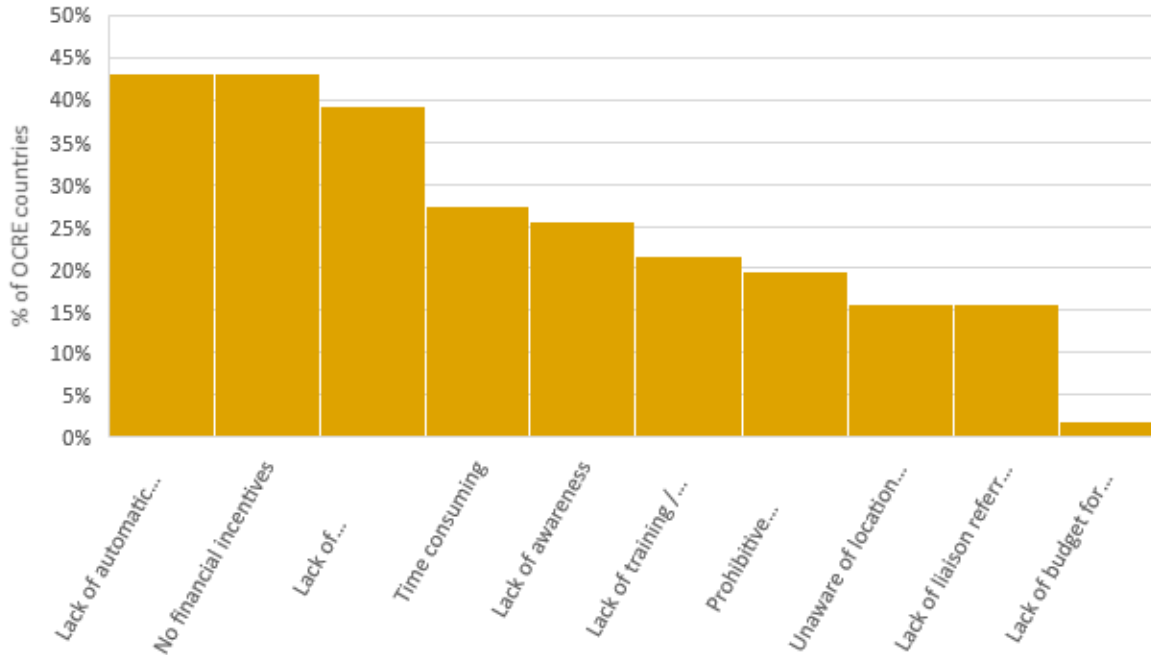
- low economic status, older age, lack of benefits awareness, multiple comorbidities

Low socio-economic status	Lack of benefits awareness	Older age	Multiple comorbidities
Armenia	Belgium	Armenia	Belgium
Belgium	Bulgaria	Belgium	Bosnia and Herzegovina
Bosnia and Herzegovina	Cyprus	Bosnia and Herzegovina	Cyprus
Bulgaria	Egypt	Bulgaria	Denmark
Denmark	Estonia	Cyprus	Egypt
Egypt	Iceland	Denmark	Hungary
Estonia	Latvia	France	Ireland
Georgia	Montenegro	Hungary	Italy
Hungary	Morocco	Ireland	Latvia
Italy	Netherlands	Italy	Lithuania
Latvia	Poland	Luxembourg	Luxembourg
Moldova, Republic of	Republic of Malta	Netherlands	Montenegro
Netherlands	Romania	Norway	Netherlands
Norway	Serbia	Poland	Romania
Poland	Slovenia	Republic of Malta	Serbia
Portugal	State of Israel	Romania	Spain
Republic of Malta	Sweden	Slovenia	
Serbia	Turkey	Switzerland	
Sweden		United Kingdom	
Turkey			
Ukraine			

Major PATIENT-LEVEL barriers to implementation and use of cardiovascular prevention and rehabilitation guidelines

4 evidence URL out of 28 possible (Netherlands, Norway, Spain, United Kingdom)

Major barriers to implementation of CVD guidelines STAFF LEVEL



Major STAFF-LEVEL barriers to implementation and use of cardiovascular prevention and rehabilitation guidelines

Top 4 obstacles (% OCRE countries)

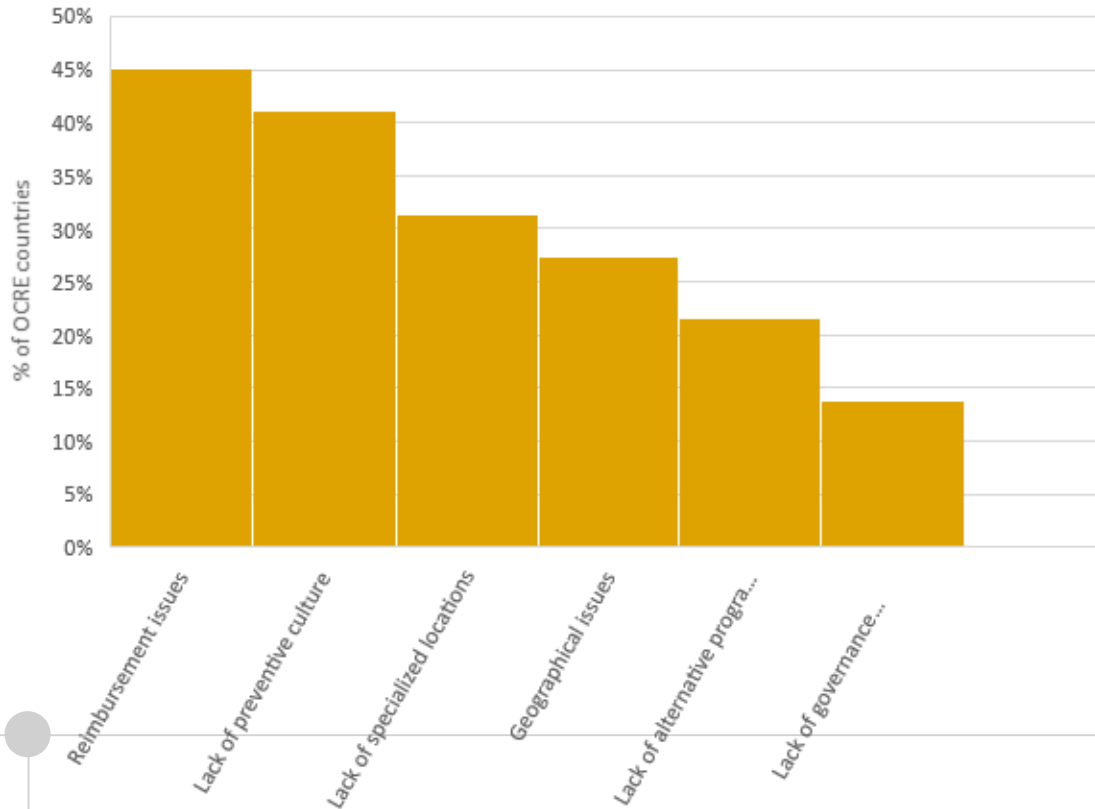
- No financial incentives
- Lack of automatic referral system
- Lack of multidisciplinary teams
- Time consuming

No financial incentives	Lack of automatic referral system	Lack of multidisciplinary teams	Time consuming
Armenia	Azerbaijan	Azerbaijan	Belarus
Belarus	Belgium	Cyprus	Bosnia and Herzegovina
Bosnia and Herzegovina	Bosnia and Herzegovina	Finland	Bulgaria
Bulgaria	Bulgaria	Hungary	Cyprus
Cyprus	Cyprus	Ireland	Denmark
Estonia	Estonia	Latvia	Egypt
Finland	Hungary	Libya	Lithuania
France	Ireland	Lithuania	Morocco
Georgia	Latvia	Luxembourg	Poland
Hungary	Lebanon	Moldova, Republic of	Portugal
Italy	Libya	Montenegro	Republic of Malta
Latvia	Moldova, Republic of	Republic of Malta	Serbia
Lebanon	Netherlands	Republic of San Marino	Spain
Lithuania	Norway	Romania	State of Israel
Moldova, Republic of	Poland	Serbia	Sweden
Norway	Portugal	Slovenia	
Poland	Republic of Malta	Spain	
Portugal	Romania	State of Israel	
Republic of Malta	Slovenia	Sweden	
Romania	Spain	Ukraine	
Spain	State of Israel		
State of Israel	Sweden		
Ukraine	Turkey		

Major STAFF-LEVEL barriers to implementation and use of cardiovascular prevention and rehabilitation guidelines

4 evidence URL (Netherlands, Norway, Spain, United Kingdom)

Major barriers to implementation of CVD guidelines HEALTHCARE LEVEL



Major HEALTHCARE-LEVEL barriers to implementation and use of cardiovascular prevention and rehabilitation guidelines

Top 4 obstacles (% OCRE countries)

- Reimbursement issues
- Lack of preventive culture
- Lack of specialized locations
- Geographical issues

Reimbursement issues	Lack of preventive culture	Lack of specialized locations	Geographical issues
Armenia	Bulgaria	Azerbaijan	Azerbaijan
Azerbaijan	Cyprus	Belarus	Belgium
Belarus	Egypt	Cyprus	Denmark
Belgium	Estonia	Estonia	France
Bosnia and Herzegovina	France	France	Hungary
Bulgaria	Georgia	Georgia	Ireland
Egypt	Germany	Ireland	Libya
Estonia	Iceland	Latvia	Luxembourg
Finland	Ireland	Moldova, Republic of	Morocco
Greece	Italy	Morocco	Netherlands
Hungary	Lebanon	Poland	Portugal
Iceland	Libya	Portugal	Slovenia
Latvia	Montenegro	Romania	Spain
Lebanon	Portugal	Slovenia	Sweden
Lithuania	Republic of San Marino	Spain	
Moldova, Republic of	Romania	State of Israel	
Portugal	Serbia	Turkey	
Republic of Malta	State of Israel		
Romania	Sweden		
Slovenia	Switzerland		
State of Israel	Ukraine		
Sweden	United Kingdom		
Turkey			
United Kingdom			

Major HEALTHCARE-LEVEL barriers to implementation and use of cardiovascular prevention and rehabilitation guidelines

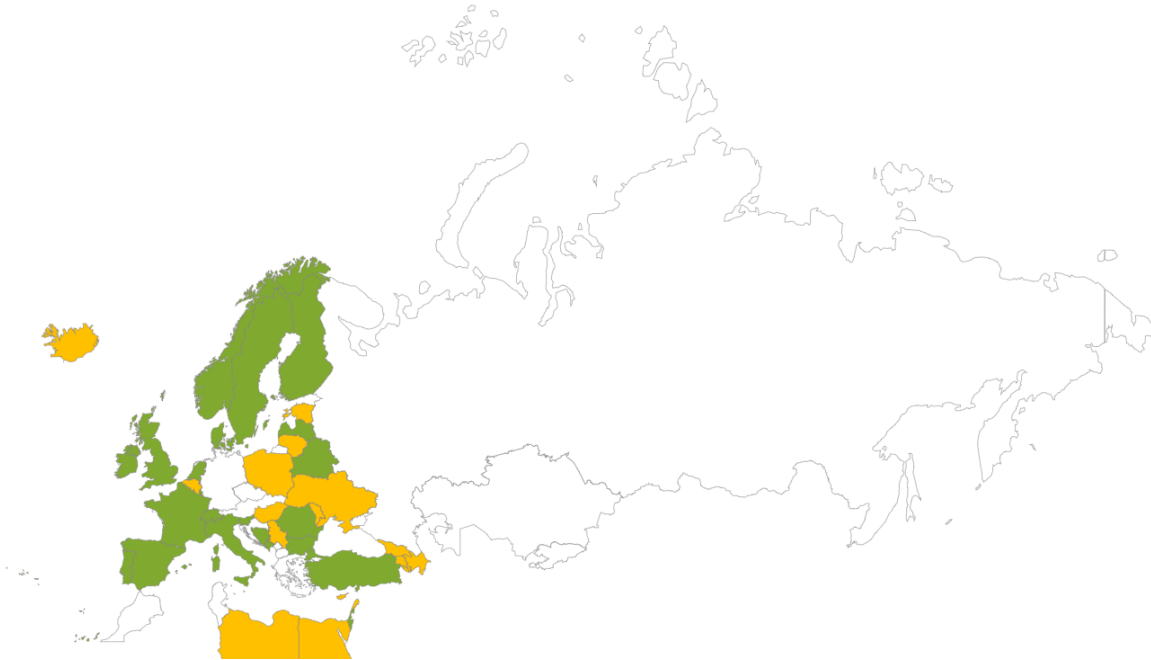
4 evidence URL (Netherlands, Norway, Spain, United Kingdom)

The use of CR delivery as an established national health system quality indicator (Israel)	referral of non-classical CR indications (Israel)	risk factor counselling reimbursement by insurance companies (Germany)
continued reinforced intervention up to 3 years after rehabilitation (Italy)	development of tele and web-based programs (The Netherlands, Slovenia)	establishment of individualized models of CR (Sweden)
Full establishment of appropriate registries (Slovenia)	Setup of local EAPC masterclasses for CR training (Georgia)	Payment by results (United Kingdom)
Setup of an educational programme for pupils and their parents (Portugal)	centre certification to incorporate improvement in exercise capacity/risk reduction outcomes (United Kingdom)	the support of lagging programmes by the top performing programmes (France)
	frailty tailored CR programs	

Strategies for Secondary Prevention and CR

Guidance documents based in CVD guidelines

■ Yes ■ No □ N/A



Implementation of guidance documents

43% countries have guidance documents

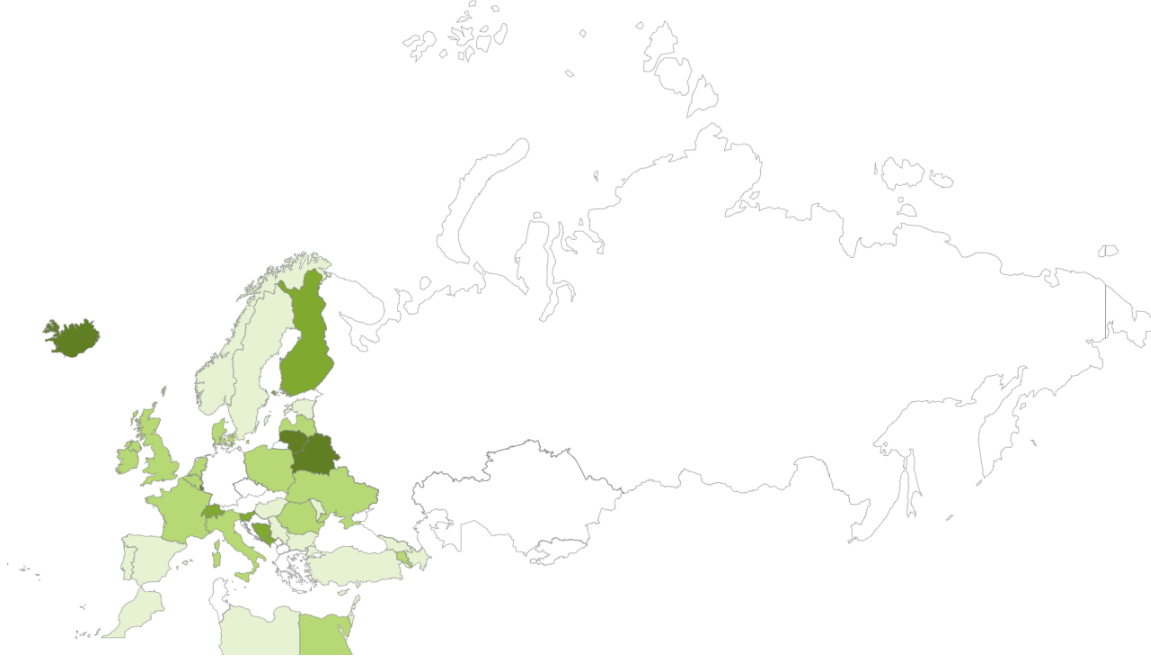
Yes	No
Belarus	Armenia
Bosnia and Herzegovina	Azerbaijan
Bulgaria	Belgium
Denmark	Cyprus
Finland	Egypt
France	Estonia
Ireland	Georgia
Italy	Hungary
Latvia	Iceland
Luxembourg	Lebanon
Montenegro	Libya
Netherlands	Lithuania
Norway	Moldova, Republic of
Portugal	Poland
Romania	Republic of Malta
Slovenia	Republic of San Marino
Spain	Serbia
State of Israel	Ukraine
Sweden	
Switzerland	
Turkey	
United Kingdom	

Implementation of guidance documents

10 evidence URL (State of Israel, United Kingdom, Norway, France, Netherlands, Sweden, Spain, Bosnia and Herzegovina, Slovenia, Belarus)

CR phase II uptake rate after myocardial infarction

0-25% 25-50% 50-75% 75-100% N/A



CR phase II uptake rate after myocardial infarction

17 countries: 0-25%

14 countries: 25-50%

6 countries: 50-75%

4 countries: 75-100%

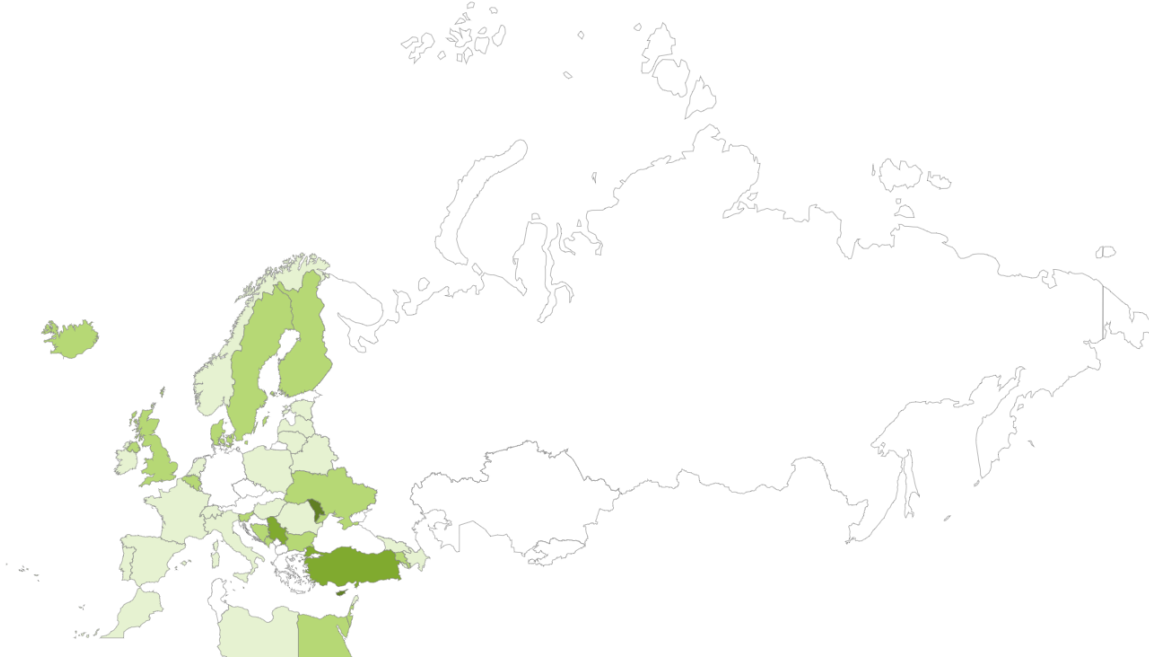
0-25%	25-50%	50-75%	75-100%
Azerbaijan	Armenia	Bosnia and Herzegovina	Belarus
Bulgaria	Belgium	Finland	Iceland
Cyprus	Denmark	Montenegro	Lithuania
Estonia	Egypt	Republic of Malta	Luxembourg
Georgia	France	Slovenia	
Hungary	Ireland	Switzerland	
Lebanon	Italy		
Libya	Latvia		
Moldova, Republic of	Netherlands		
Morocco	Poland		
Norway	Republic of San Marino		
Portugal	Romania		
Serbia	Ukraine		
Spain	United Kingdom		
State of Israel			
Sweden			
Turkey			

CR phase II uptake rate after myocardial infarction

8 evidence URL (Belarus, Belgium, Netherlands, France, Norway, Poland, Sweden, United Kingdom)

CR phase II dropout rate after myocardial infarction

0-25% 25-50% 50-75% 75-100% N/A



CR phase II dropout rate after myocardial infarction

21 countries: 0-25%

16 countries: 25-50%

2 countries: 50-75%

2 countries: 75-100%

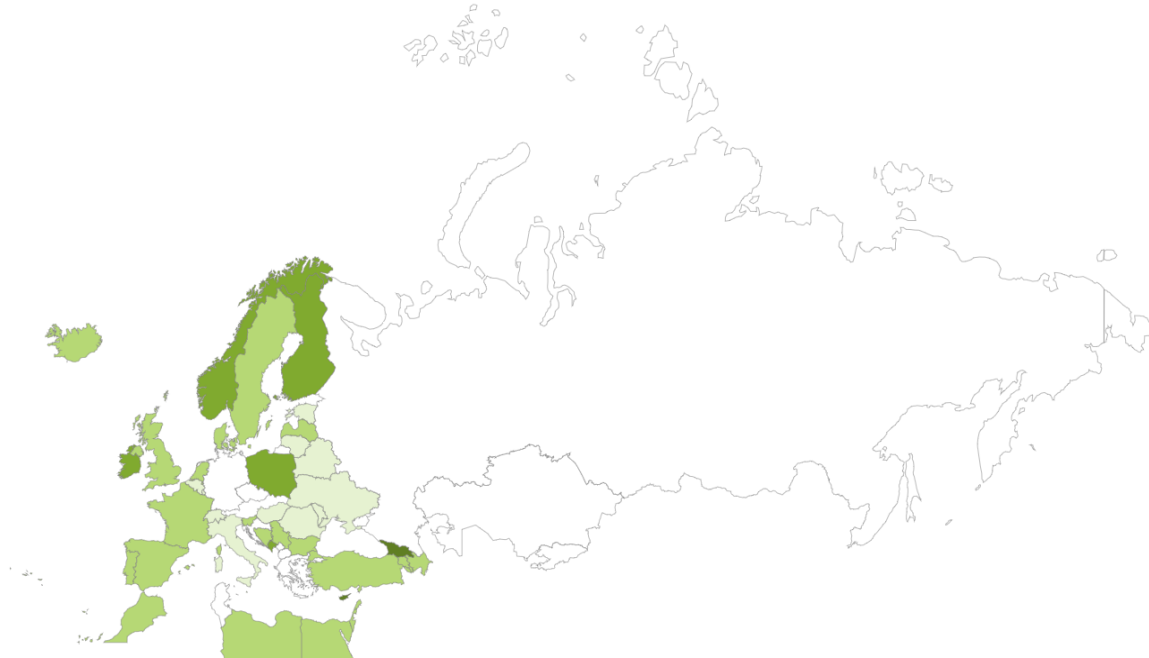
0-25%	25-50%	50-75%	75-100%
Azerbaijan	Armenia	Serbia	Cyprus
Belarus	Belgium	Turkey	Moldova, Republic of
Estonia	Bosnia and Herzegovina		
France	Bulgaria		
Georgia	Denmark		
Hungary	Egypt		
Ireland	Finland		
Italy	Iceland		
Latvia	Montenegro		
Lebanon	Republic of Malta		
Libya	Republic of San Marino		
Lithuania	Slovenia		
Luxembourg	State of Israel		
Morocco	Sweden		
Netherlands	Ukraine		
Norway	United Kingdom		
Poland			
Portugal			
Romania			
Spain			
Switzerland			

CR phase II dropout rate after myocardial infarction

3 evidence URL (Poland, Sweden, United Kingdom)

CR phase II average start time after myocardial infarction

0-2 weeks 2-6 weeks 6-12 weeks 12+ weeks N/A



CR phase II average start time after myocardial infarction

12 countries: 0-2 weeks
22 countries: 2-6 weeks
5 countries: 6-12 weeks
2 country: >12 weeks

OCRE

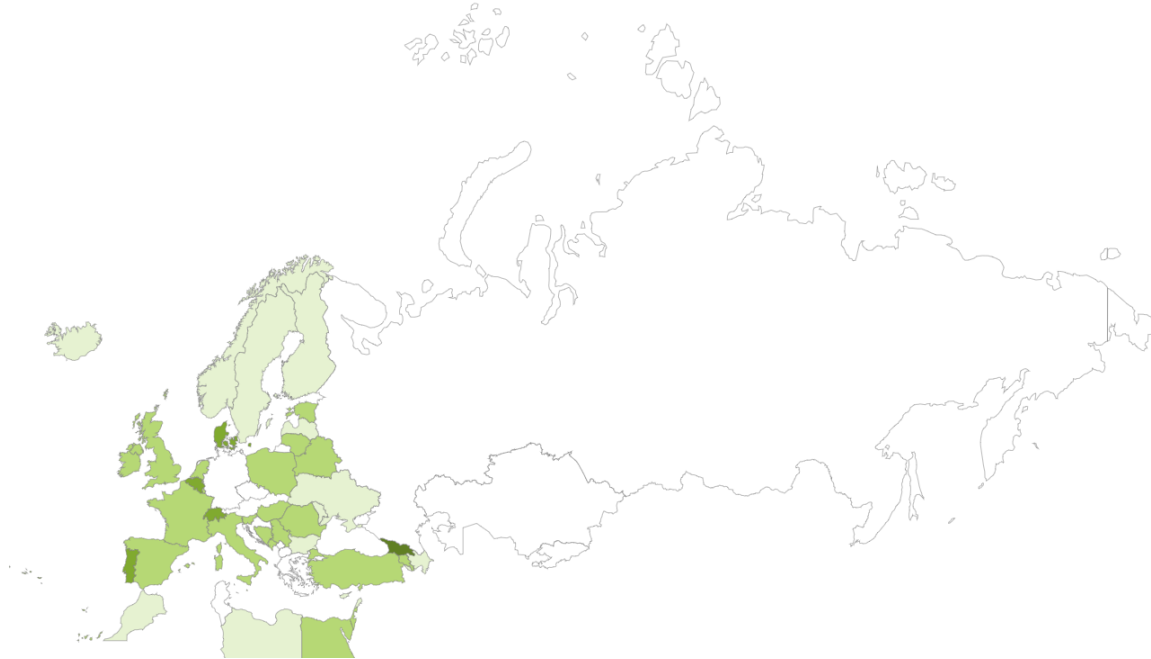
0-2 weeks	2-6 weeks	6-12 weeks	12+ weeks
Belarus	Armenia	Finland	Cyprus
Belgium	Azerbaijan	Ireland	Georgia
Estonia	Bosnia and Herzegovina	Montenegro	
Hungary	Bulgaria	Norway	
Italy	Denmark	Poland	
Lithuania	Egypt		
Luxembourg	France		
Moldova, Republic of	Iceland		
Republic of San Marino	Latvia		
Romania	Lebanon		
Switzerland	Libya		
Ukraine	Morocco		
	Netherlands		
	Portugal		
	Republic of Malta		
	Serbia		
	Slovenia		
	Spain		
	State of Israel		
	Sweden		
	Turkey		
	United Kingdom		

CR phase II average start time after myocardial infarction

2 evidence URL (Poland, United Kingdom)

CR phase II average duration after myocardial infarction

0-12 sessions 13-24 sessions 25-35 sessions 36+ sessions N/A



CR phase II average duration of program after myocardial infarction

14 countries: 0-12 sessions
21 countries: 13-24 sessions
5 countries: 25-35 sessions
1 country: 36 +sessions

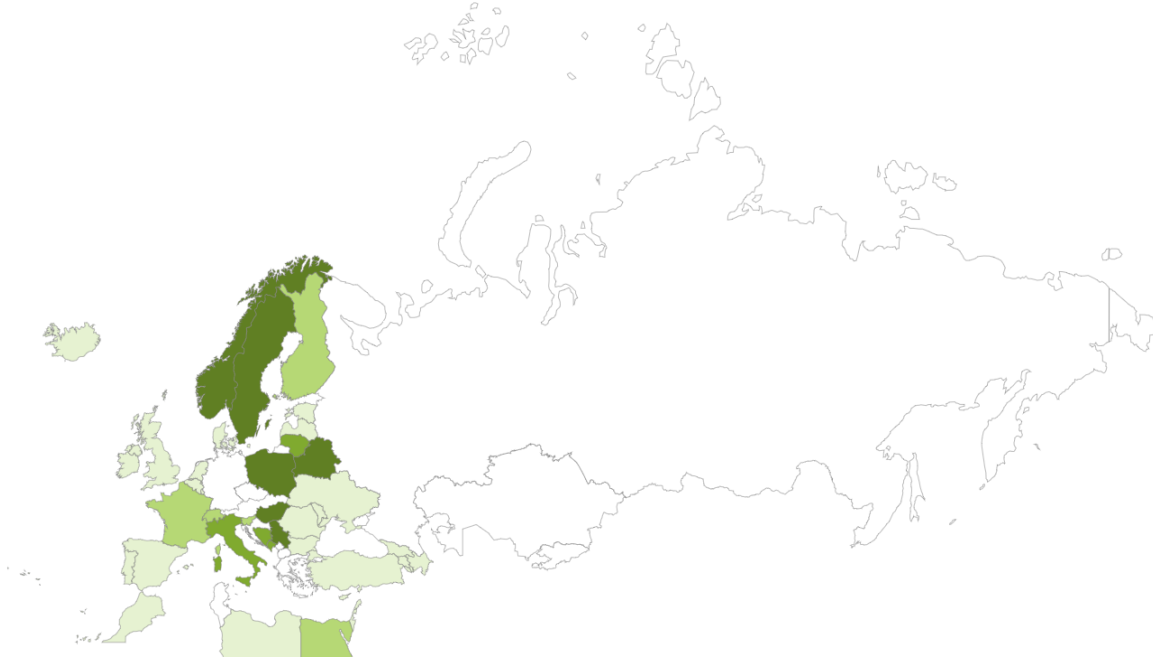
0-12 sessions	13-24 sessions	25-35 sessions	36+ sessions
Azerbaijan	Armenia	Belgium	Georgia
Bulgaria	Belarus	Denmark	
Cyprus	Bosnia and Herzegovina	Portugal	
Finland	Egypt	Republic of Malta	
Iceland	Estonia	Switzerland	
Latvia	France		
Lebanon	Hungary		
Libya	Ireland		
Moldova, Republic of	Italy		
Morocco	Lithuania		
Norway	Luxembourg		
Republic of San Marino	Montenegro		
Sweden	Netherlands		
Ukraine	Poland		
	Romania		
	Serbia		
	Slovenia		
	Spain		
	State of Israel		
	Turkey		
	United Kingdom		

CR phase II average duration of program after myocardial infarction

2 evidence URL (United Kingdom, Sweden)

CR phase II % of inpatient/residential programmes after myocardial infarction

0-25% 25-50% 50-75% 75-100% N/A



Percentage of CR phase II national programmes which rely on inpatient/residential services after myocardial infarction

26 countries: 0-25%

5 countries: 25-50%

4 countries: 50-75%

6 countries: 75-100%

OCRE

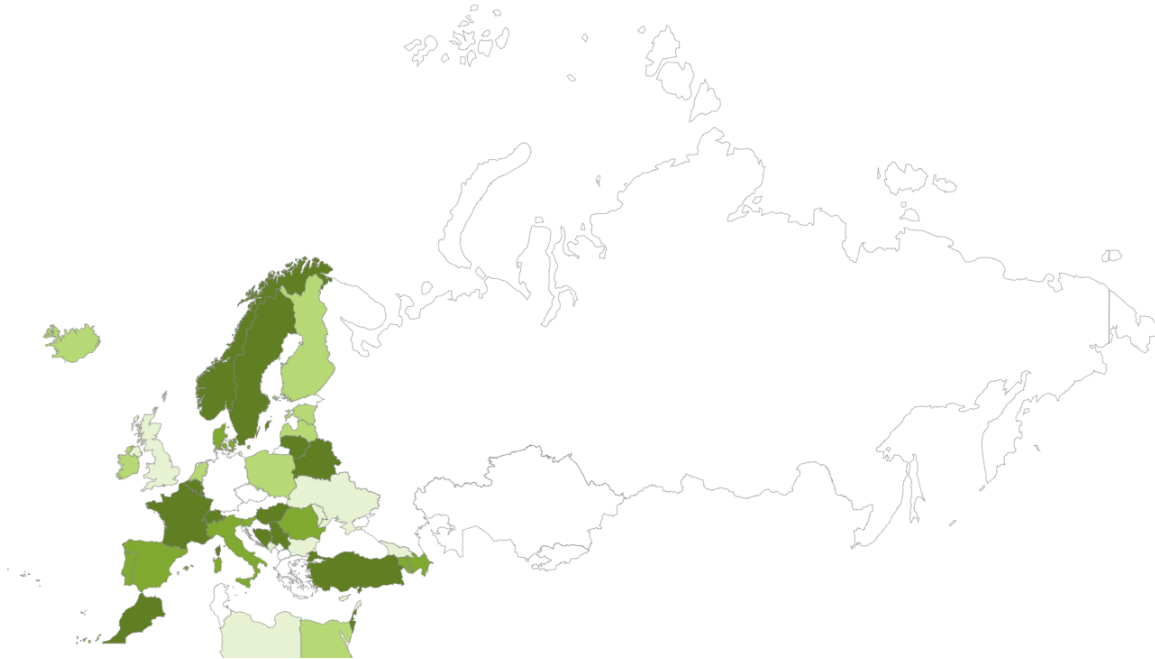
0-25%	25-50%	50-75%	75-100%
Armenia	Egypt	Bosnia and Herzegovina	Belarus
Azerbaijan	Finland	Italy	Hungary
Belgium	France	Lithuania	Norway
Bulgaria	Slovenia	Montenegro	Poland
Cyprus	Switzerland		Serbia
Denmark			Sweden
Estonia			
Georgia			
Iceland			
Ireland			
Latvia			
Lebanon			
Libya			
Luxembourg			
Moldova, Republic of			
Morocco			
Netherlands			
Portugal			
Republic of Malta			
Republic of San Marino			
Romania			
Spain			
State of Israel			
Turkey			
Ukraine			
United Kingdom			

Percentage of CR phase II national programmes which rely on inpatient/residential services after myocardial infarction

3 evidence URL (Belarus, Sweden, United Kingdom)

Percentage of phase II CR programmes which are medically coordinated by a cardiologist

0-25% 25-50% 50-75% 75-100% N/A



National percentage of phase II CR programmes which are medically coordinated by a cardiologist

9 countries: 0-25%

8 countries: 25-50%

9 countries: 50-75%

15 countries: 75-100%

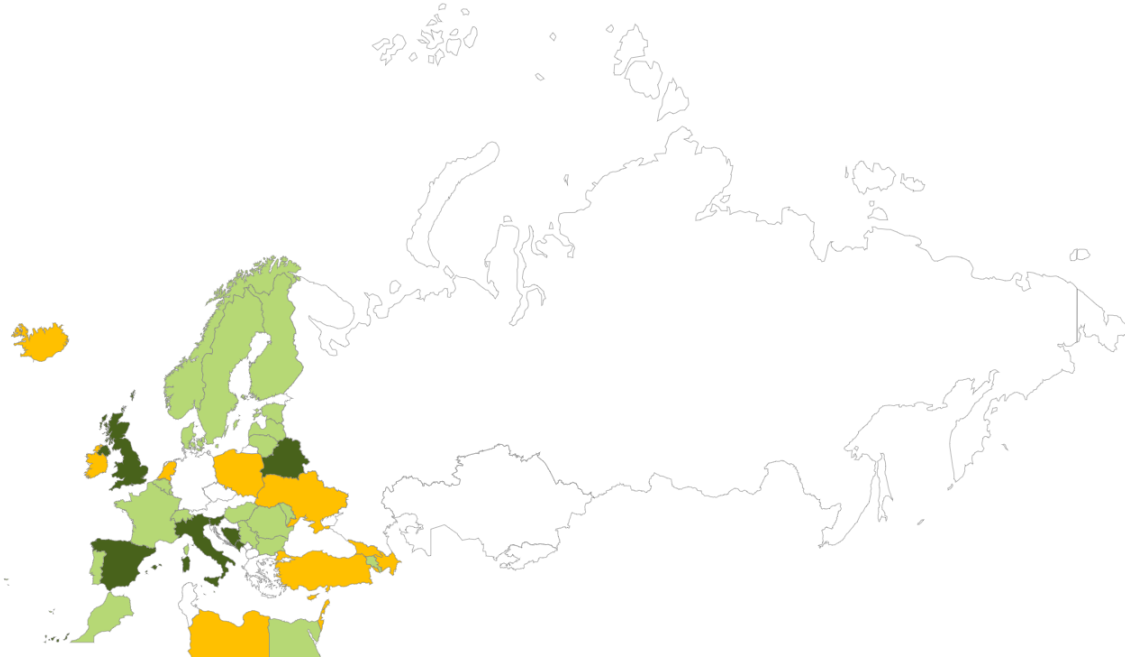
0-25%	25-50%	50-75%	75-100%
Bulgaria	Egypt	Armenia	Belarus
Cyprus	Estonia	Azerbaijan	Belgium
Georgia	Finland	Denmark	Bosnia and Herzegovina
Lebanon	Iceland	Italy	France
Libya	Ireland	Portugal	Hungary
Moldova, Republic of	Latvia	Republic of San Marino	Lithuania
Montenegro	Netherlands	Romania	Luxembourg
Ukraine	Poland	Slovenia	Morocco
United Kingdom		Spain	Norway
			Republic of Malta
			Serbia
			State of Israel
			Sweden
			Switzerland
			Turkey

National percentage of phase II CR programmes which are medically coordinated by a cardiologist

4 evidence URL (Belarus, Spain, Sweden, United Kingdom)

CR mandatory rotation in Cardiology

■ mandatory ■ non-existent ■ optional □ N/A



CR mandatory rotation in Cardiology training

8 countries: mandatory
12 countries: non-existent
21 countries: optional

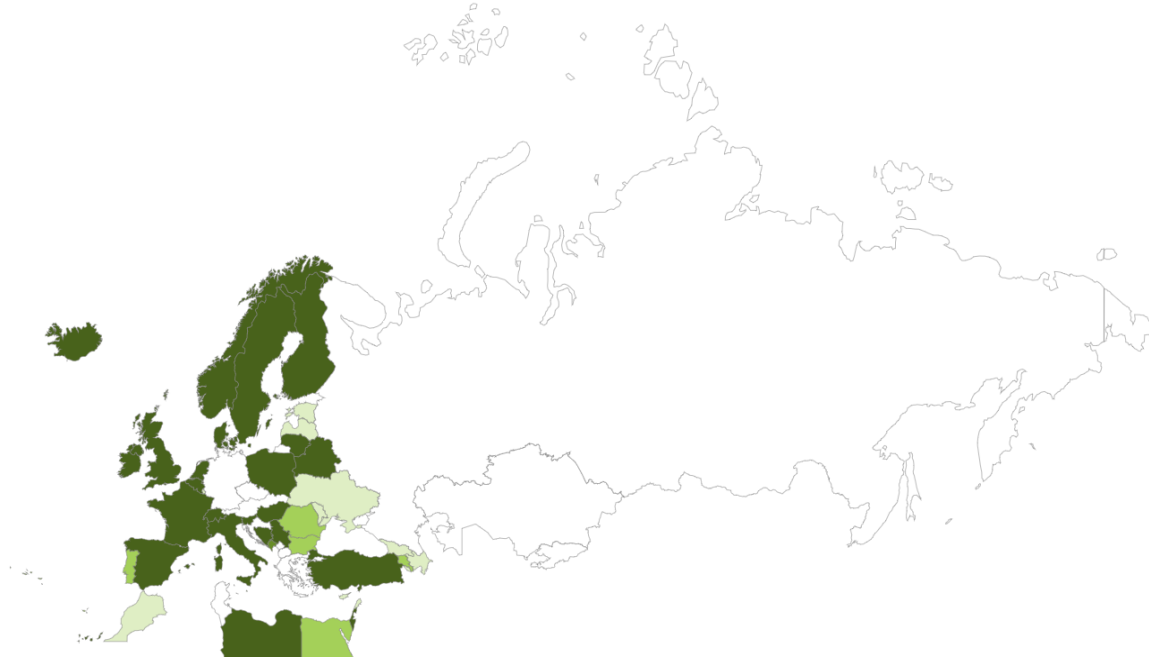
mandatory	non-existent	optional
Belarus	Azerbaijan	Armenia
Bosnia and Herzegovina	Cyprus	Belgium
Italy	Georgia	Bulgaria
Montenegro	Iceland	Denmark
Republic of San Marino	Ireland	Egypt
Slovenia	Lebanon	Estonia
Spain	Libya	Finland
United Kingdom	Netherlands	France
	Poland	Hungary
	State of Israel	Latvia
	Turkey	Lithuania
	Ukraine	Luxembourg
		Moldova, Republic of
		Morocco
		Norway
		Portugal
		Republic of Malta
		Romania
		Serbia
		Sweden
		Switzerland

CR mandatory rotation in Cardiology training

2 evidence URL (Belarus, United Kingdom)

Percentage of CR programmes mainly provided by public funding

0-25% 25-50% 50-75% 75-100% N/A



Percentage of CR programmes mainly provided by public funding

10 countries: 0-25%

5 countries: 25-50%

1 country: 50-75%

25 countries: 75-100%

OCRE

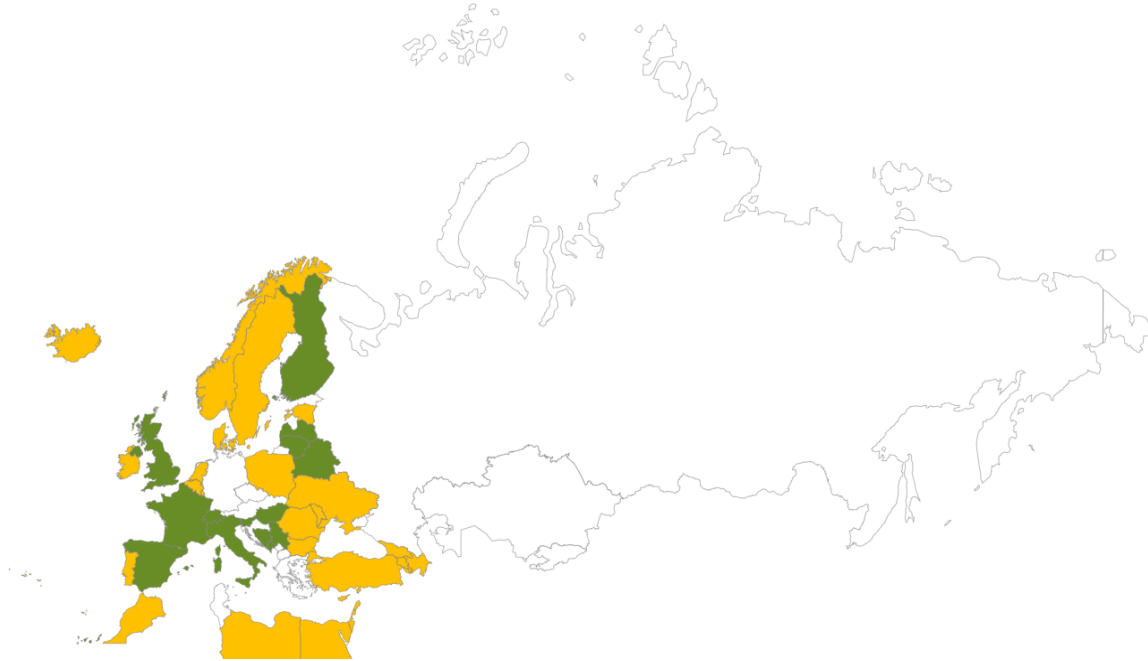
Percentage of CR programmes mainly provided by public funding

1 evidence URL (Belarus)

0-25%	25-50%	50-75%	75-100%
Azerbaijan	Armenia	Montenegro	Belarus
Cyprus	Bulgaria		Belgium
			Bosnia and Herzegovina
Estonia	Egypt		Denmark
Georgia	Portugal		Finland
Latvia	Romania		France
Lebanon			Hungary
Luxembourg			Iceland
Moldova, Republic of			Ireland
Morocco			Italy
Ukraine			Libya
			Lithuania
			Netherlands
			Norway
			Poland
			Republic of Malta
			Republic of San Marino
			Serbia
			Slovenia
			Spain
			State of Israel
			Sweden
			Switzerland
			Turkey
			United Kingdom

National accreditation for licensing CR programmes

■ Yes ■ No □ N/A



National accreditation program for licensing CR programs

14 countries

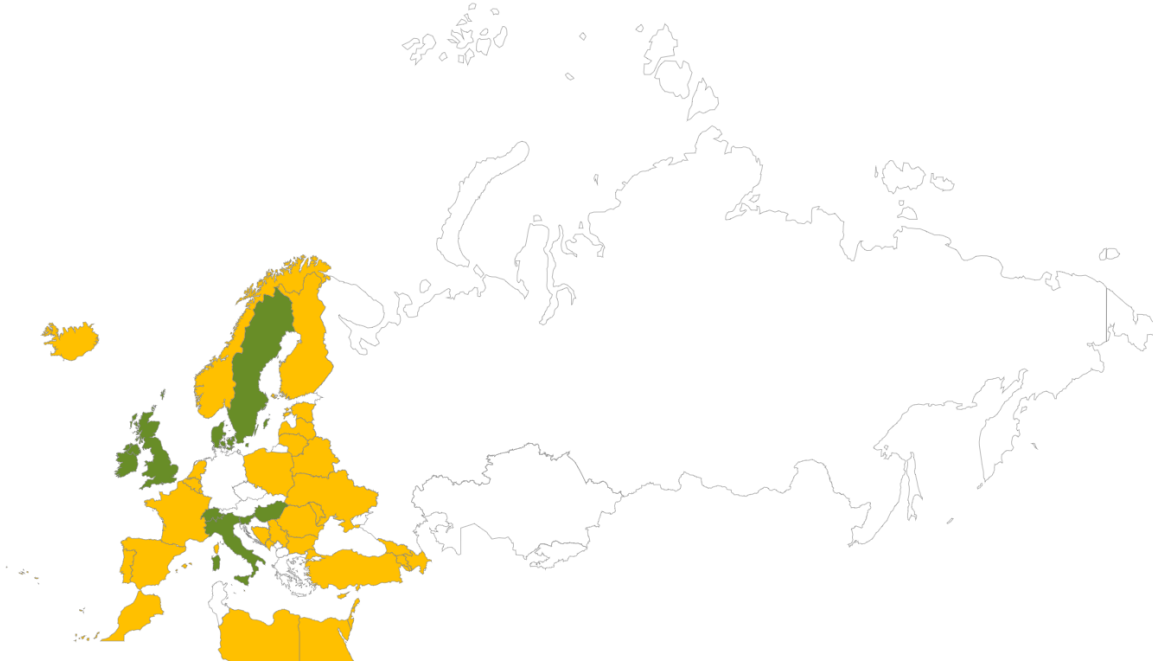
Yes	No
Belarus	Armenia
Bosnia and Herzegovina	Azerbaijan
Finland	Belgium
France	Bulgaria
Hungary	Cyprus
Italy	Denmark
Latvia	Egypt
Lithuania	Estonia
Montenegro	Georgia
Serbia	Iceland
Slovenia	Ireland
Spain	Lebanon
Switzerland	Libya
United Kingdom	Luxembourg
	Moldova, Republic of
	Morocco
	Netherlands
	Norway
	Poland
	Portugal
	Republic of Malta
	Republic of San Marino
	Romania
	State of Israel
	Sweden
	Turkey
	Ukraine

National accreditation for licensing CR programs

5 evidence URL (Belarus, Italy, France, Spain, United Kingdom)

CR electronic database registry

■ Yes ■ No □ N/A



National CR electronic database registry

8 countries

Yes	No
Denmark	Armenia
Hungary	Azerbaijan
Ireland	Bosnia and Herzegovina
Italy	Egypt
Slovenia	Estonia
Sweden	Finland
Switzerland	France
United Kingdom	Georgia
	Lebanon
	Lithuania
	Netherlands
	Norway
	Poland
	Portugal
	Republic of Malta
	Republic of San Marino
	Romania
	Serbia
	Spain
	State of Israel
	Ukraine

National CR electronic database registry

Ireland the completion of the registry is only voluntary (as is in Israel)

3 evidence URL (Italy, Sweden, United Kingdom)