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Overview of Cardiac Rehabilitation (OCRE) in ESC member countries

Version 2.0

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OCRE 2.0

- **Objective: to advance the knowledge about European national cardiac rehabilitation (CR) settings and homogenize data arising from the published ESC "country of the month" (COM) reports**
- **How: summary data from 28 COM reports + online survey results**

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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.

Online survey

- 54 EAPC associated countries
- 31 valid survey answers
- 7 invalid survey answers (<5 minutes to complete, double entries from the same country, blank answers)
- 57% participation rate

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I - For whom is Cardiac Rehabilitation (CR) indicated?

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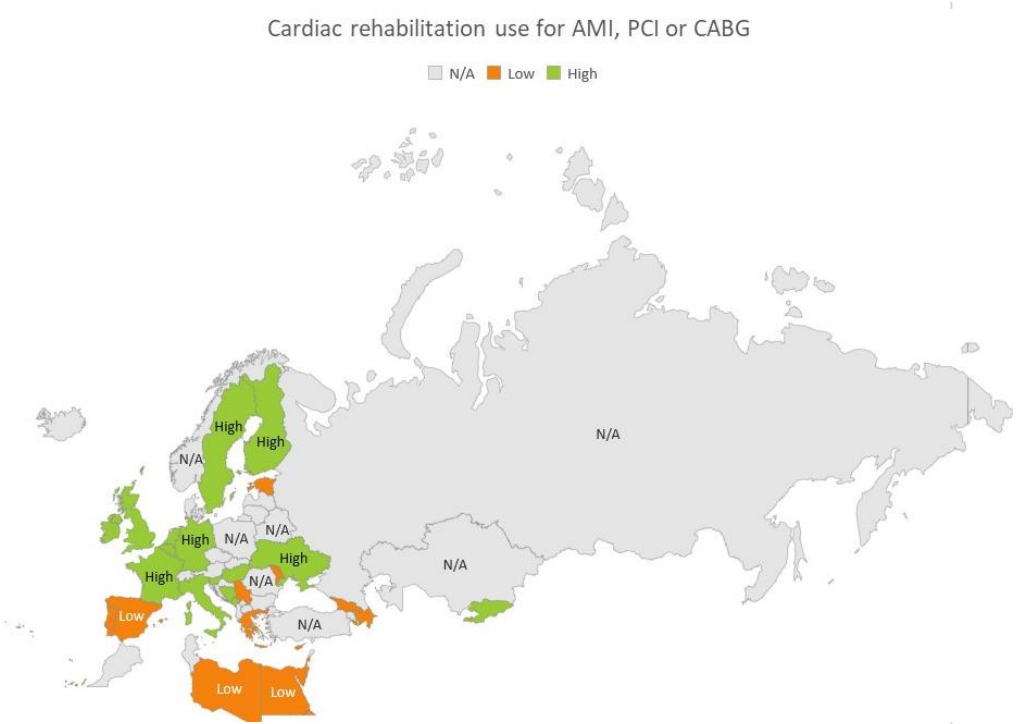
Which categories of patients?

- A majority of patients after acute myocardial infarction (AMI), percutaneous coronary intervention (PCI) or cardiac surgery are offered CR.
- High referral rates defined as >30% eligible patients participating in phase II



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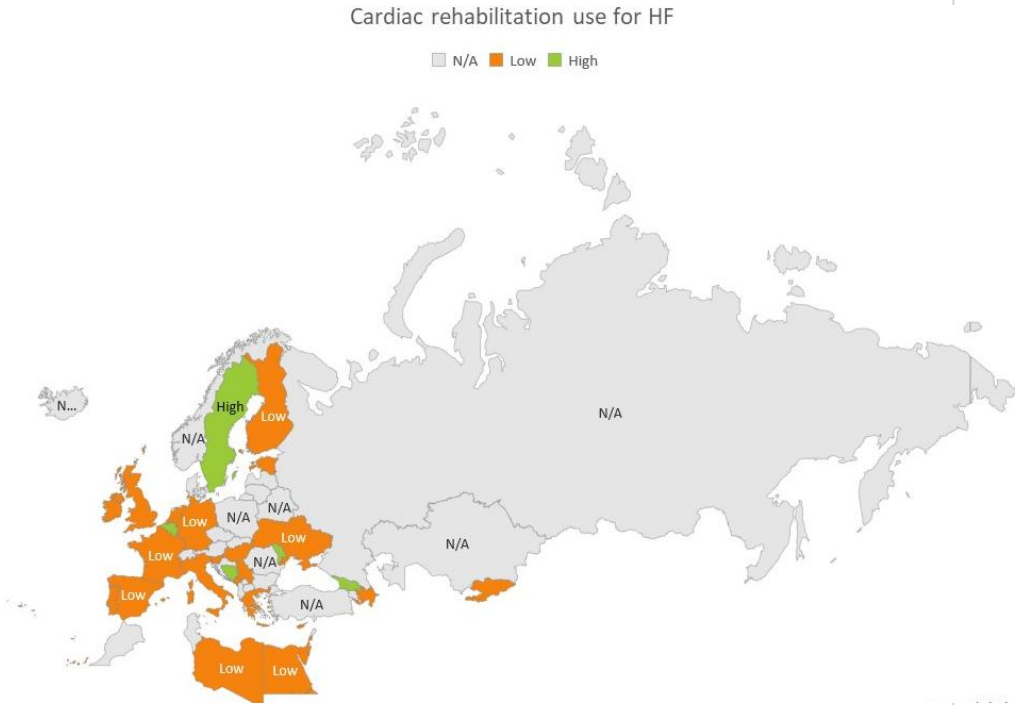
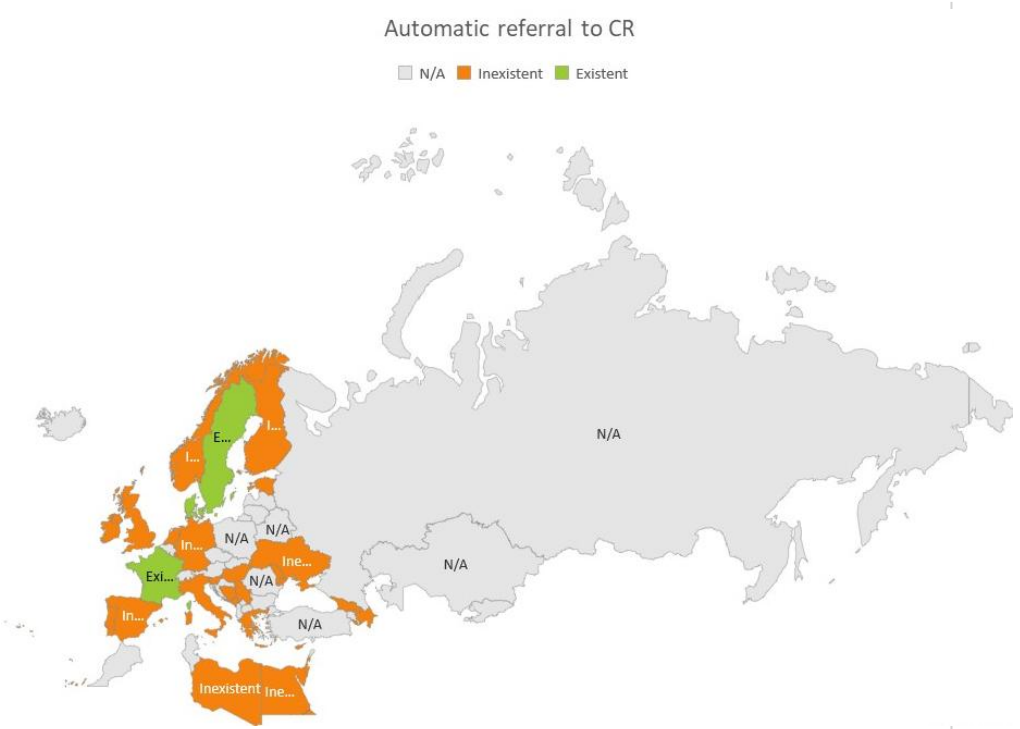
Which categories of patients?

- **CR services to heart failure (HF) patients are still severely underused across Europe, although there are some good practice examples**



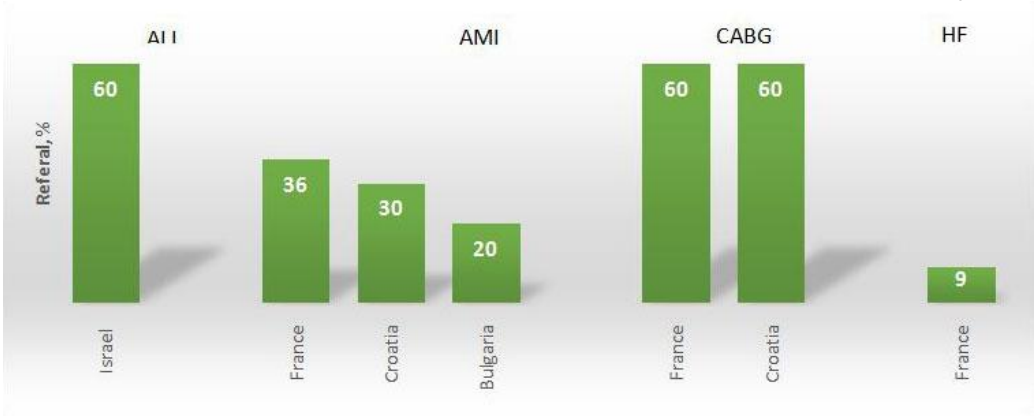
Ways of referral

- Patients are usually referred following a cardiologist assessment from either the discharging cardiac hospital, hospital-based clinics, community cardiologists or primary care physicians.
- So far, Sweden, Denmark and France seem to be the only members that adapted standardized referral via an automatic electronic medical record system. Malta has an online referral, too, working on an optional basis



Referral

The general referral rates vary strongly across Europe.



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Uptake

The general uptake rates vary strongly across Europe.

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II - Which Cardiac Rehabilitation (CR) programme is provided?

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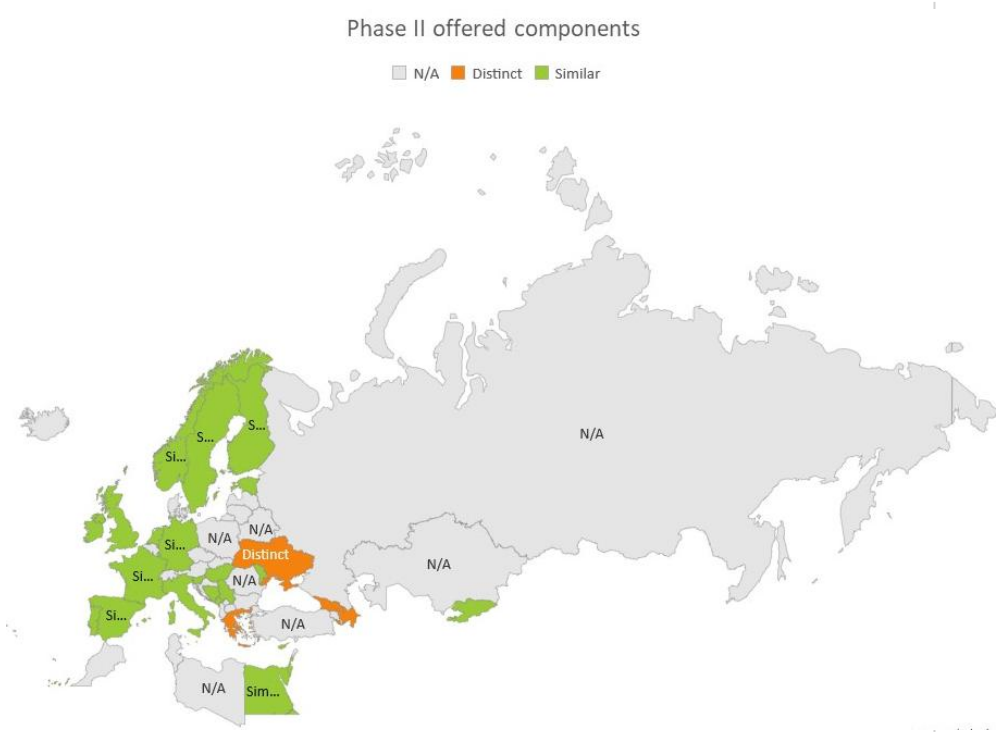
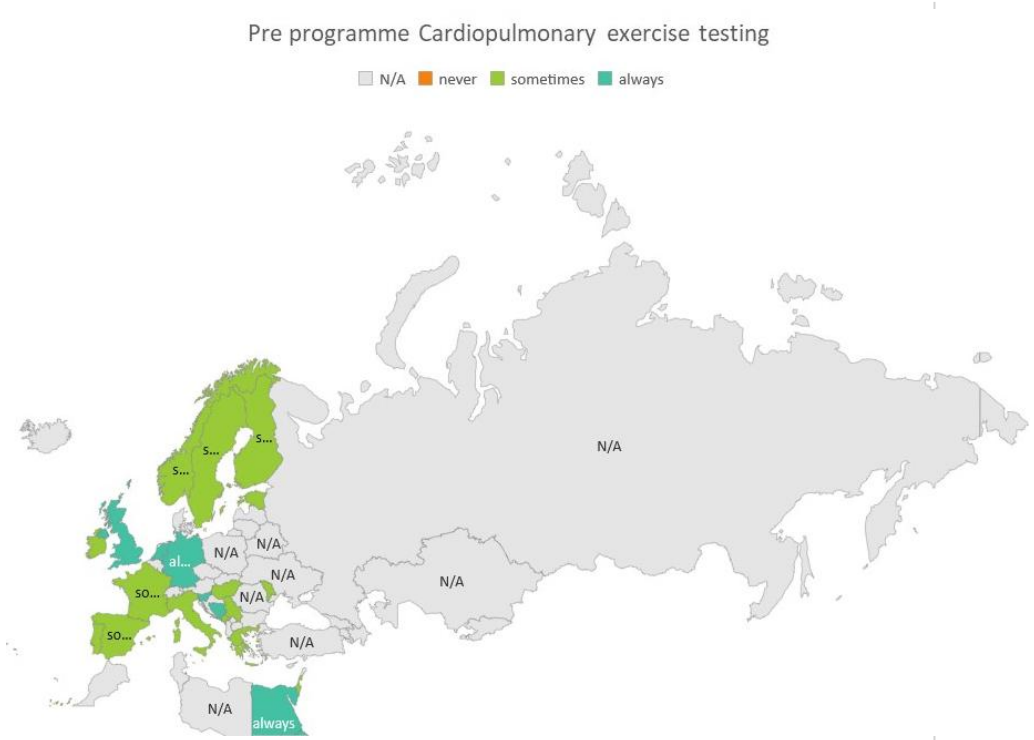
Which phase II components?

- **Approximately 45% of the OCRE countries agree on components to be delivered:**
  - supervised exercise sessions with graduated circuit training
  - educational programmes including smoking cessation
  - risk factor management
  - nutritional and physical activity counselling
  - psychosocial support
- **A minority of countries are not yet capable of delivering the full range of services**



Pre-exercise CPET/EST?

- The majority of countries only sometimes perform cardiopulmonary/exercise stress test (CPT/EST) before CT
- Only 7 countries report always performing CPT (Egypt, Slovenia, Germany, Luxembourg, Bosnia and Herzegovina, Netherlands, United Kingdom)
- Republic of Malta reports never performing CPTs



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Type of physical exercise training

- The guidelines are consensual in recommending the progression from moderate- to vigorous-intensity aerobic endurance exercise over the course of the programme, with resistance training included at as an important adjunct.
- Recently, several other exercise modalities are becoming more attractive, as some evidence also supports its use. Example: sessions of respiratory muscle training, Tai Chi and Yoga

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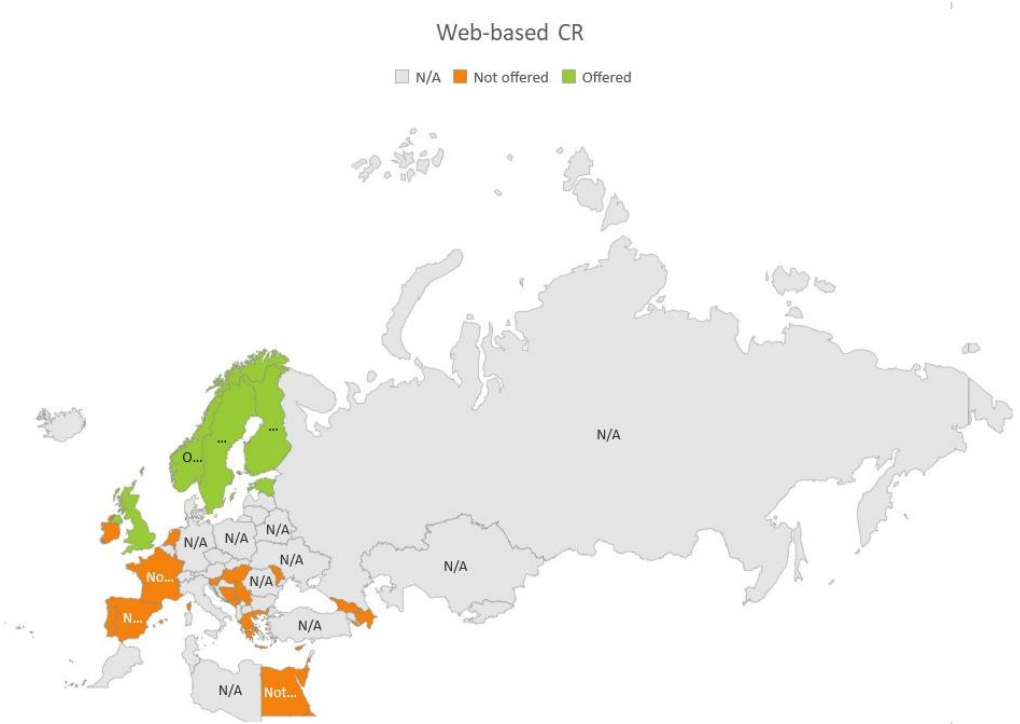
Type of physical exercise training

- **Several programmes also offer individual home-based exercise tools, such as the Heart Manual programme, for those not wishing or unable to attend group programmes.**

Type of physical exercise training

- More recently evidence has demonstrated the utility of web-based cardiac rehabilitation, as well.

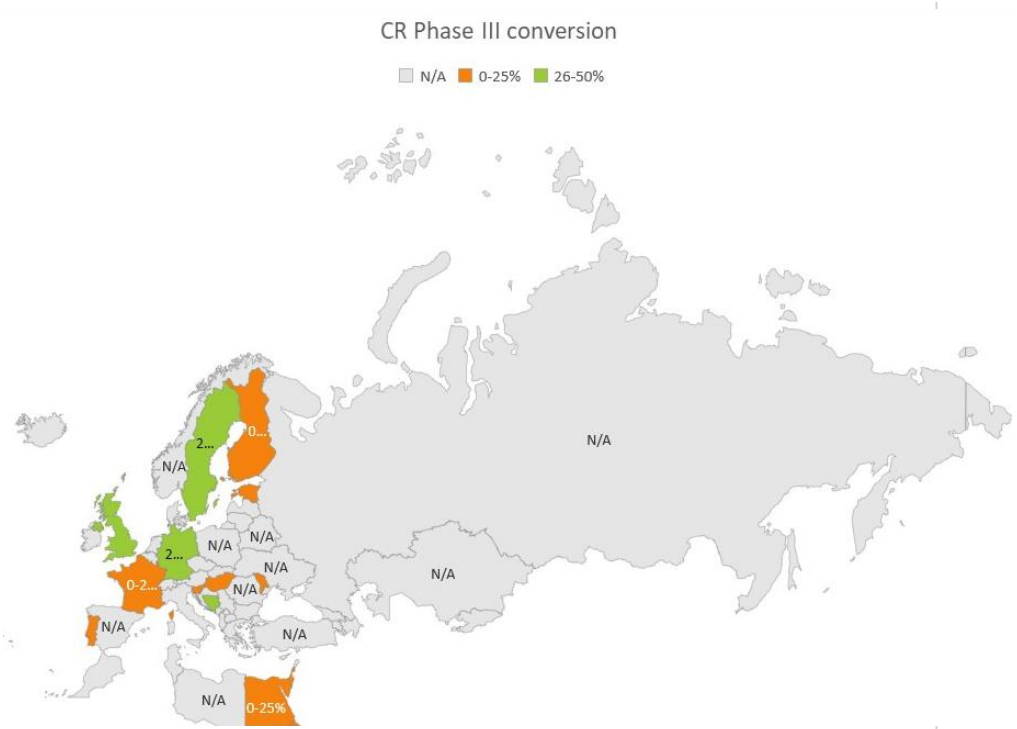


Length

The outpatient programme duration varies between countries

Conversion to phase III

Following discharge from phase II the continuation to lifelong phase III rehabilitation still rates at less than desired numbers.



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III - By whom is the Cardiac Rehabilitation (CR) programme conducted?

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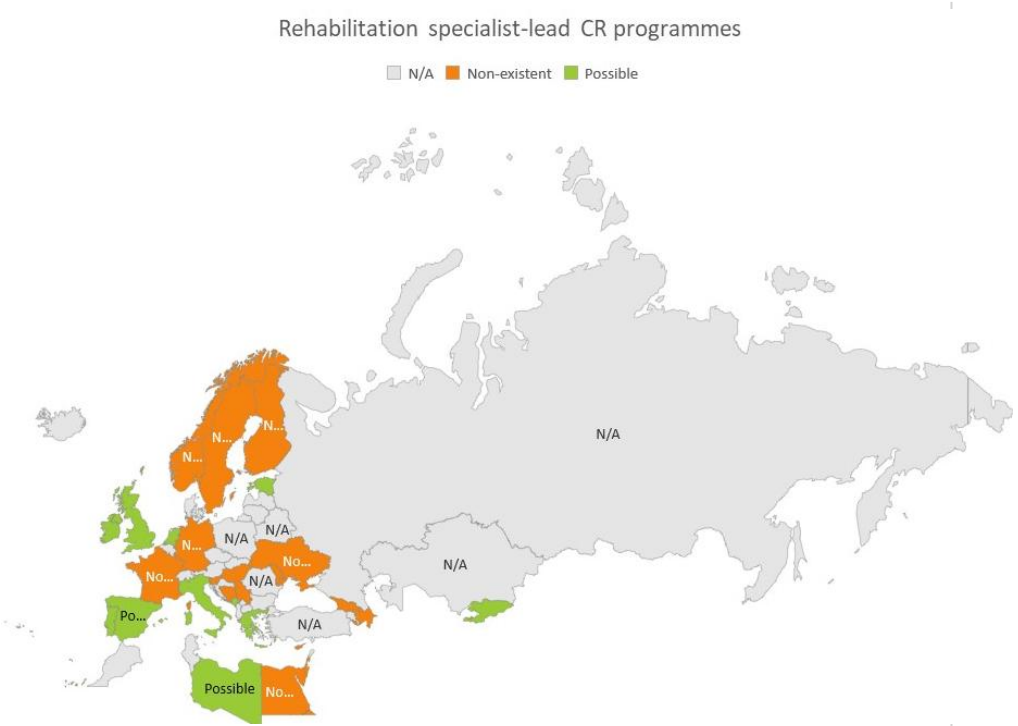
Team structure

- 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

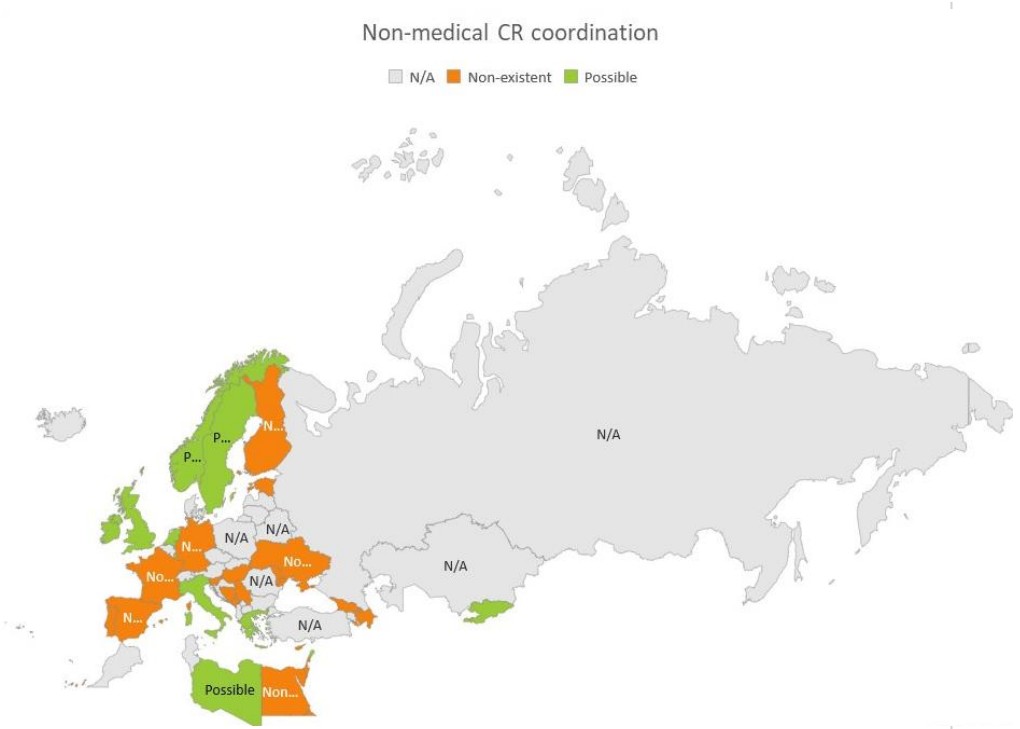
Team structure

- **Remarkably, some countries also may also have rehabilitation specialists in the lead.**



Team structure

- **Of note, non-medical coordination (nurses and/or physiotherapists) can also be seen**

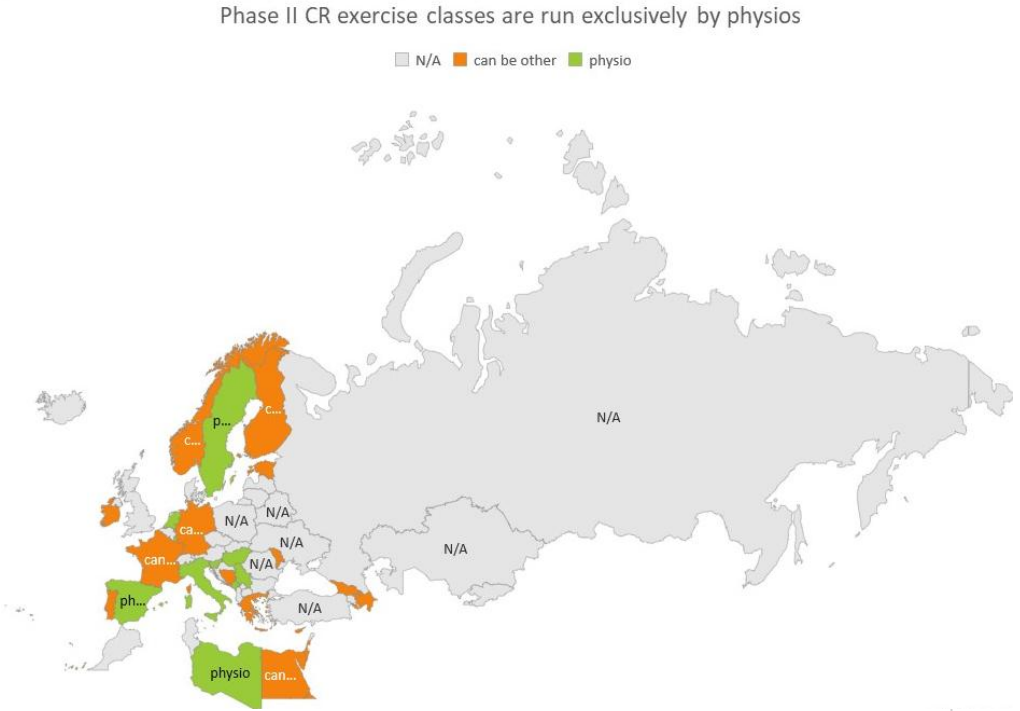


Team structure

- **Exercise physiologist/masters may be welcomed to the phase II team working in team with the physiotherapists.**

Team structure

- **In some countries classes are only run by physiotherapists**



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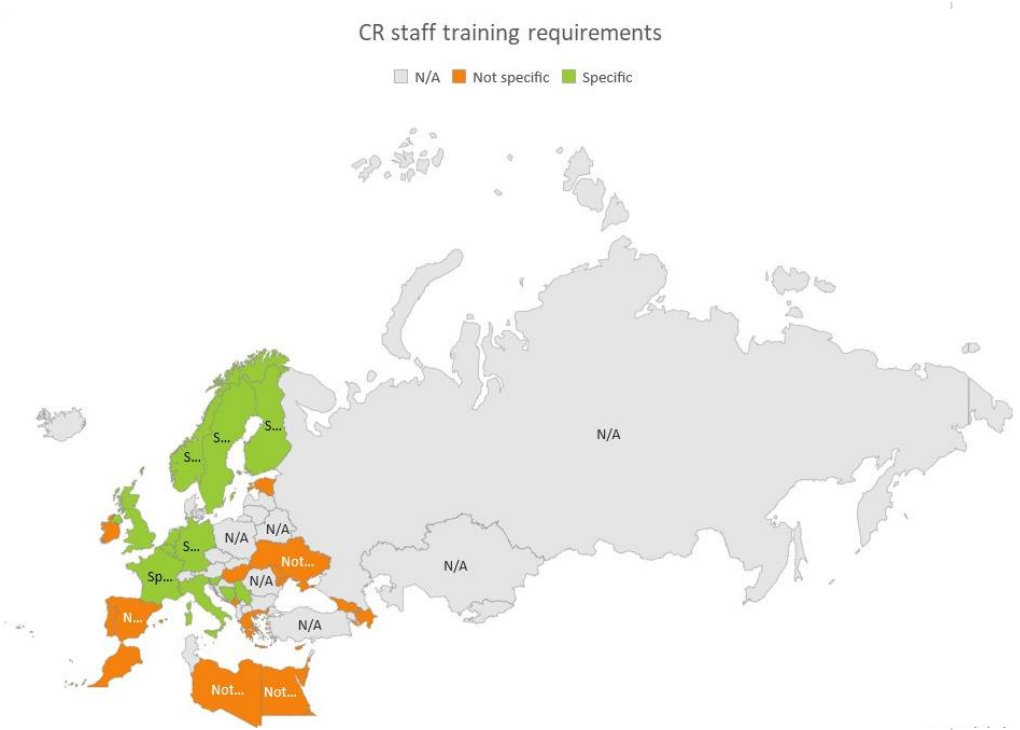
Education

- **Some countries demand specific targeted CR education for the staff.**



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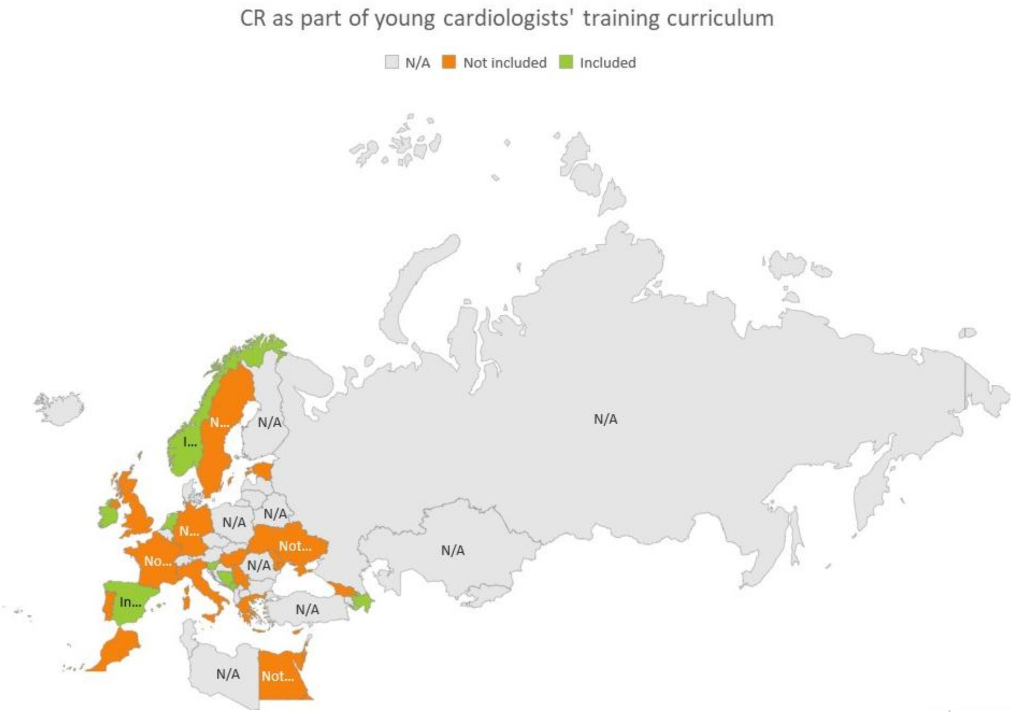
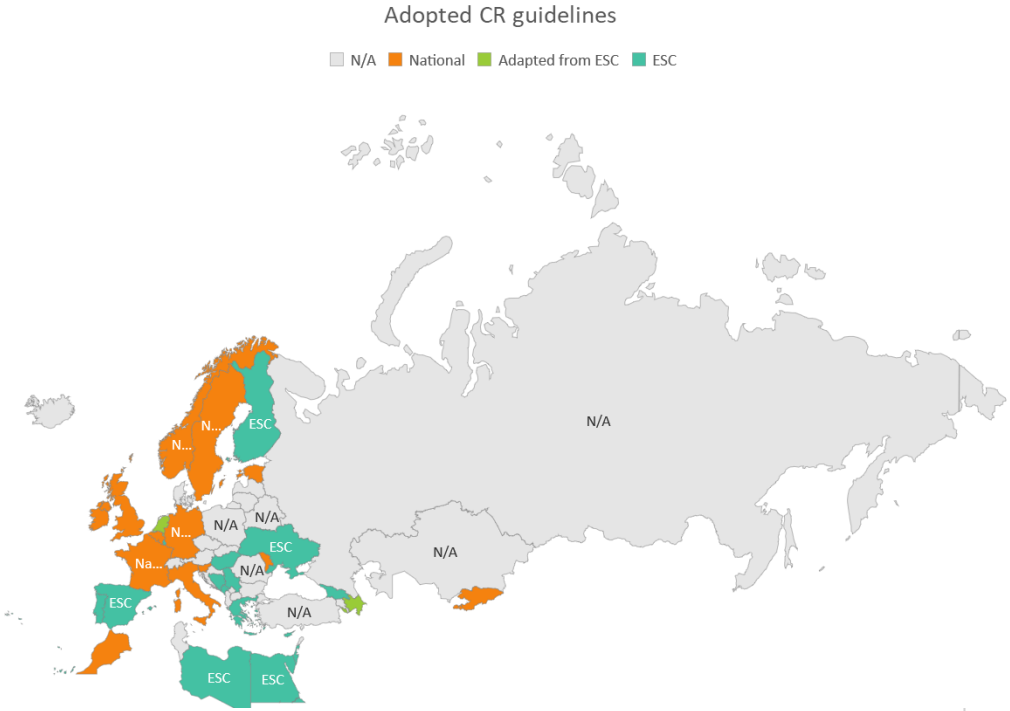
Education

- **Despite the latter, so far only a few countries include CR in the training of young doctors.**



Guidelines

- **In general, the 2016 European Guidelines on CVD Prevention in Clinical Practice are applied, but several countries have specific national guidelines**



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IV - Where is the Cardiac Rehabilitation (CR) programme offered?

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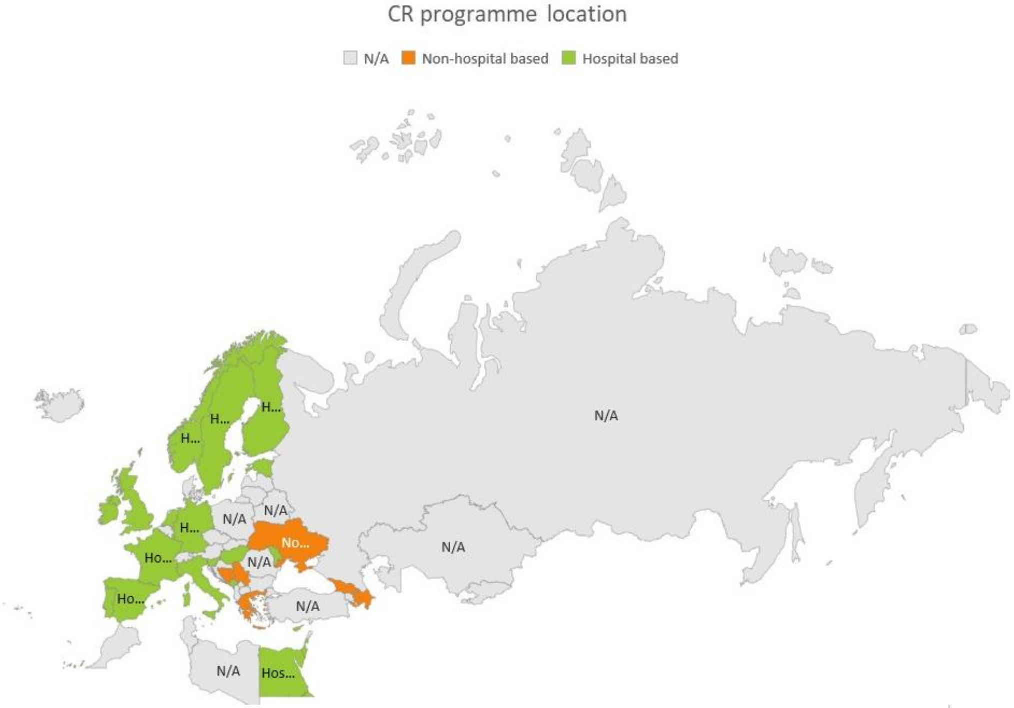
CR format

- In general, hospital-linked or healthcare-linked CR programmes are more commonly used in the Western and Northern part of Europe
- On the other hand, programmes at specialised institutions (like sanatoria) are more widespread in the Eastern countries, whereas some countries provide both alternatives



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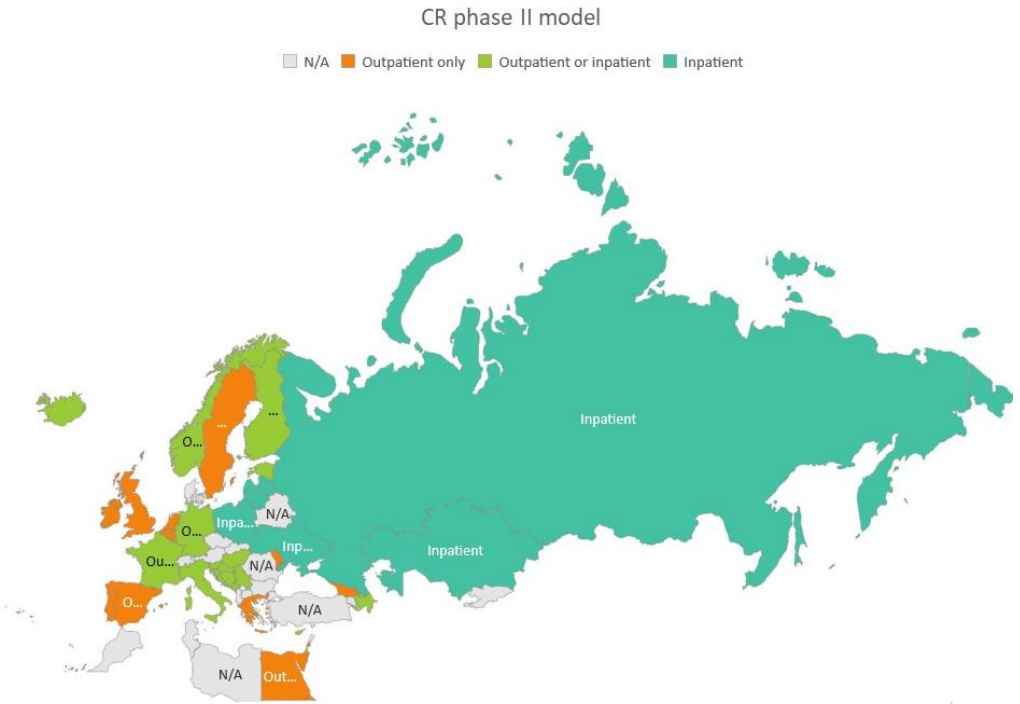
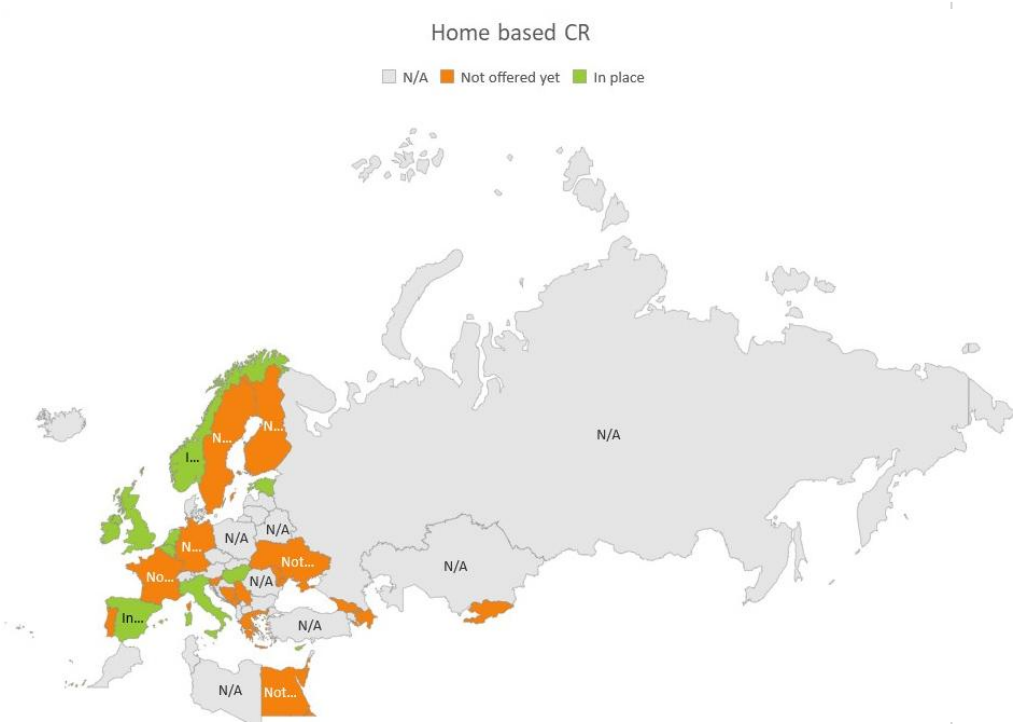
CR format

- In the majority of the reporting countries, phase II was available only as an outpatient service
- Iceland, Germany, Norway, Hungary, France, Italy, Slovenia, Luxembourg, Estonia and Finland both inpatient and outpatient options are available according to patients' preference, whereas in France and Croatia inpatient rehabilitation is only offered to post-surgical or high-risk patients in particular
- Mainly in-patient models are reported in Eastern countries, such as Poland, Latvia, Lithuania, Kazakhstan and Russia or Ukraine



CR format

- **With the assistance of telephone and/or computer monitoring programmes have been designed for CR at home**



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V - What is the quality and what are the costs?

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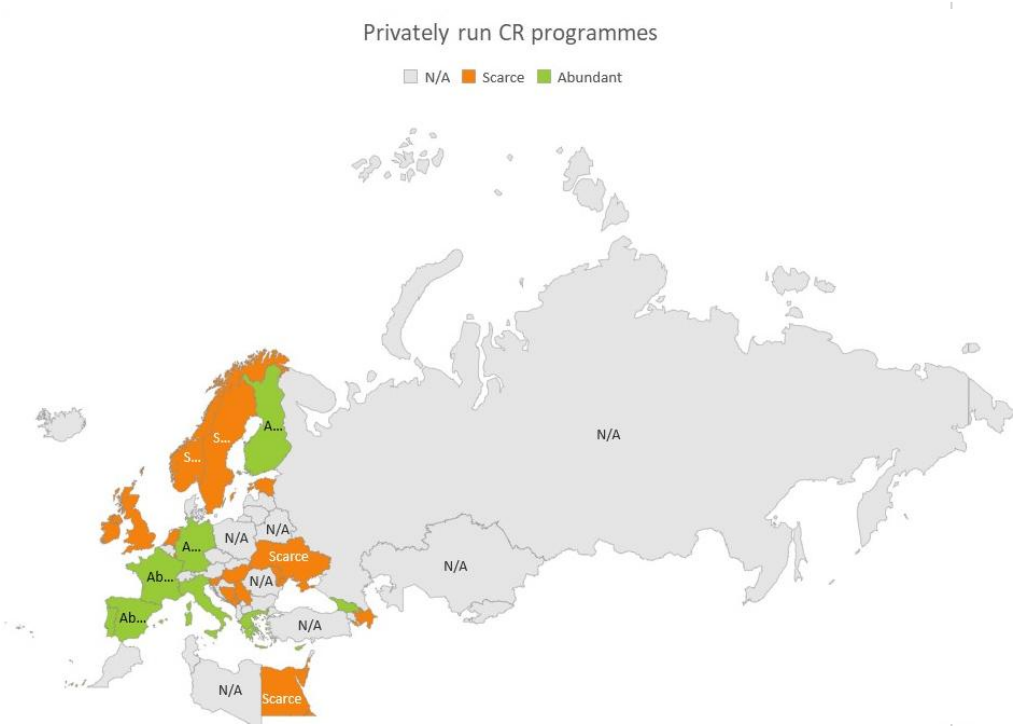
Cost for patients, reimbursement

- In most countries CR is provided within the framework of national or regional health services.
- However, some countries also have a significant number of privately-run centres, mainly in the Mediterranean zone



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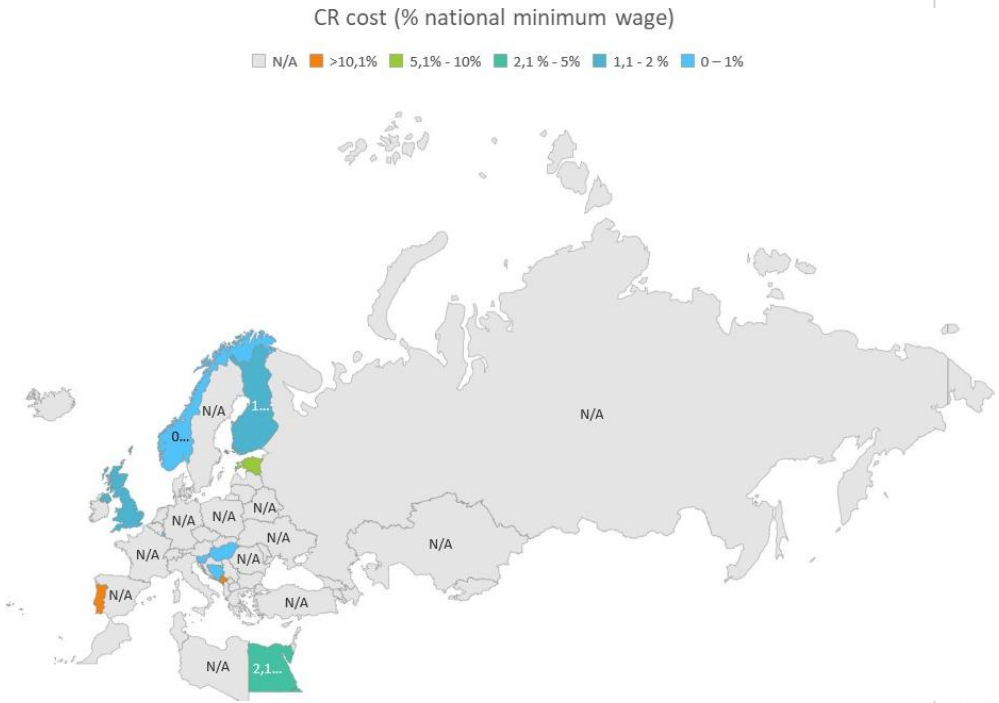
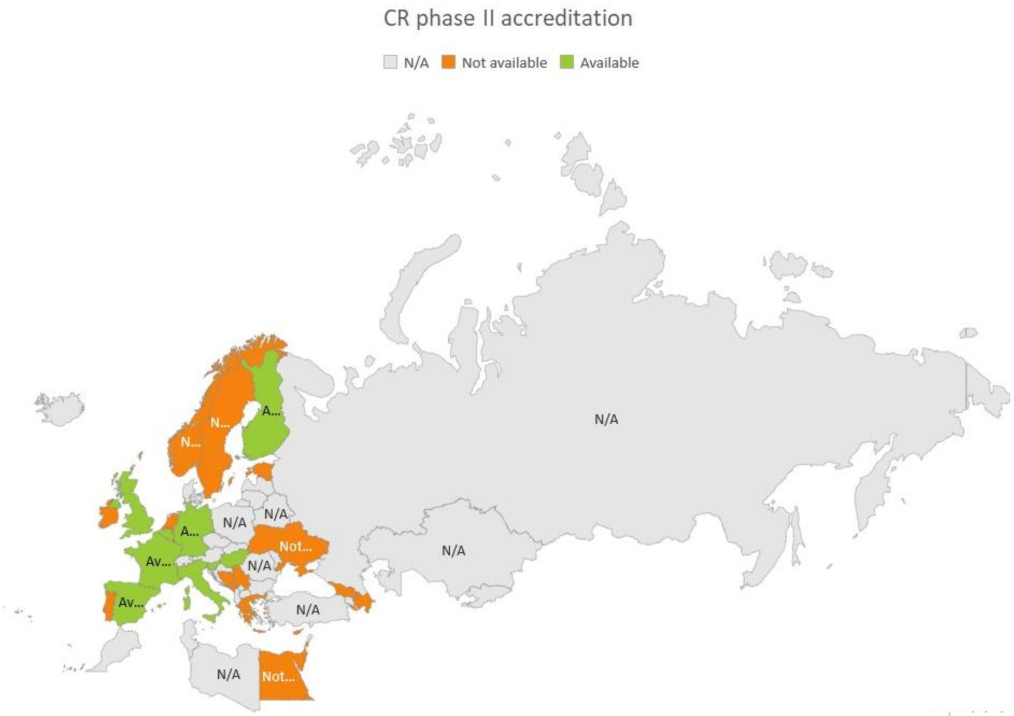
Cost for patients, reimbursement

- Countries which report a higher cost per capita for CR include Montenegro and Portugal
- Norway, Bosnia, Luxembourg, Slovenia, Hungary are in the other end



Audit and quality control

- Certain countries have already implemented specific accreditations attesting whether CR centres meet minimum standards



Surveys and databases

- **Periodic national surveys on centre distribution, disease epidemiology, patient demographics and outcomes data have been informative in many countries**

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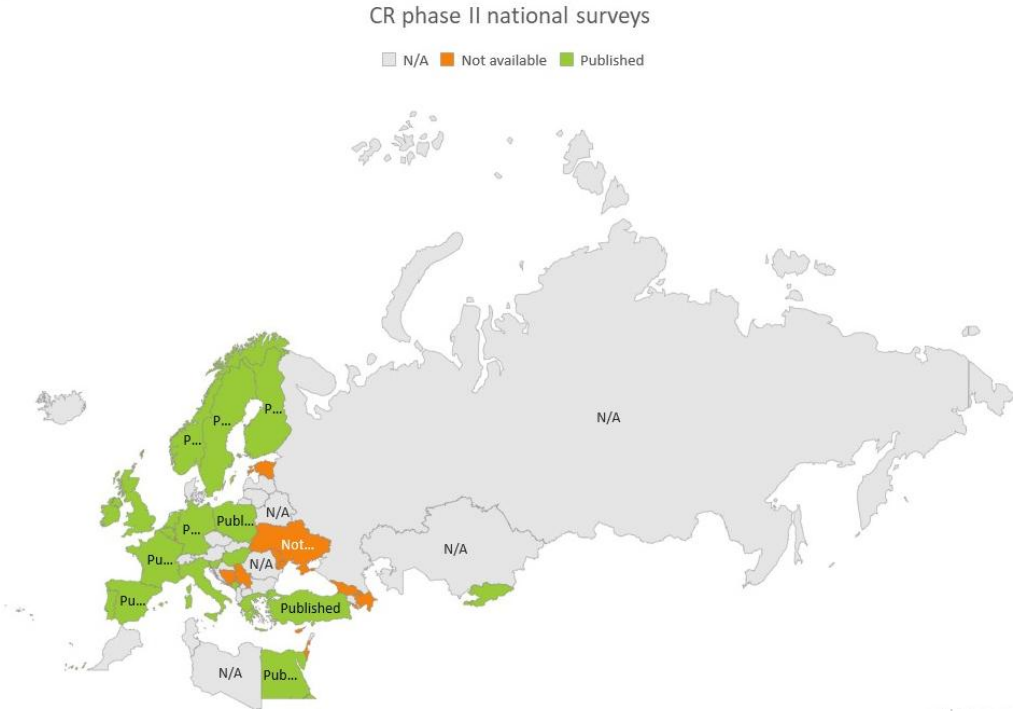
Surveys and databases

- **Electronic database registries are being increasingly applied throughout Europe: examples include Estonia, Slovenia, Hungary, Finland, Sweden (SWEDEHEART), Spain (R-EUReCa), The Netherlands (CARDSS study group) and the United Kingdom (NACR).**



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VI - Plans for the future

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Obstacles

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Some common **health system-related obstacles** reported were:

- Insufficient availability of beds and ambulatory facilities (Azerbeijan, Slovenia, Portugal, France)
- Lack of funding (Latvia, Egypt, Lebanon, Portugal, Greece, Slovenia, Norway, Morocco, Egypt, Israel)
- Lack of compulsory audit (United Kingdom)
- Uneven geographical distribution of CR centres (Portugal, Spain, Israel)

Some **professionals-related obstacles** were also described, namely:

- Small community CR not routinely being practiced (Israel)
- Insufficient adherence to the guidelines related to professional knowledge and attitude (The Netherlands, Portugal, United Kingdom)
- Insufficient number of cardiopulmonary physiotherapists available (Turkey, Malta)
- Lack of specialists in CR (Azerbeijan, Slovenia)

Patient-related obstacles included fear of prolonged absence from work (Germany, Portugal) and poor patient motivation (Portugal, United Kingdom).

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Strategies for Secondary Prevention and CR

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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	

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