

Overview of Cardiac Rehabilitation in ESC member countries (OCRE)

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Efficient rehabilitation requires proper planning.

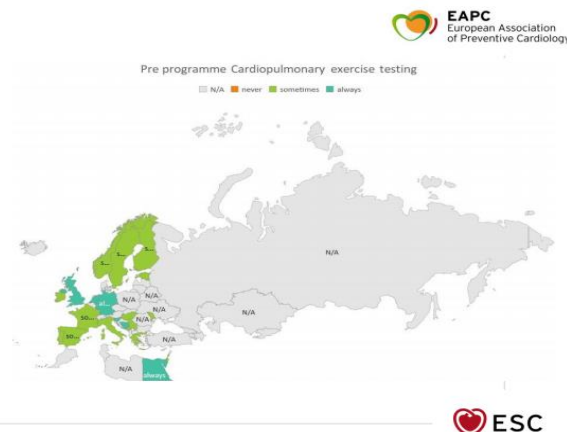
To do this we need health information systems to collect, process and manage relevant [rehabilitation] information.

Dr Rajitha Senaratne

OCRE : Part 1 and Part 2

Country of the month

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



Methodology

The first part (2017) derived from the synthesis of 28 "Country of the Month" reports. It describes extensively phase II programmes Europe-wide, but short-came to represent all countries in every topic (reporting style was not a closed format). Results issued in 2017 can be found at EAPC website

The second part (2019) derived from direct inquiry of national CVD prevention coordinators, mainly covering gaps or doubts from the first part

OCRE – Part 1 Open Report

Objective: to advance the knowledge about national cardiac rehabilitation (CR) settings in ESC member countries.

Part 1 (2017): synthesis of Country of the month reports

Part 2 (2019): direct inquiry of national CVD prevention coordinators

Overview of Cardiac Rehabilitation - Part 1 Derived from 'Country of the month' reports (comparison by topics)

Topic(s): Rehabilitation and Sports Cardiology:

The purpose of this report is to broadly compare the national CR phase II services, to reveal contrasting strategies and to describe features unique to certain countries

It was derived from the synthesis of 28 "Country of the Month" reports (2017) and describes extensively phase II programmes in Europe.

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	Overview of Cardiac Rehabilitation - Part 2

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

The Patient

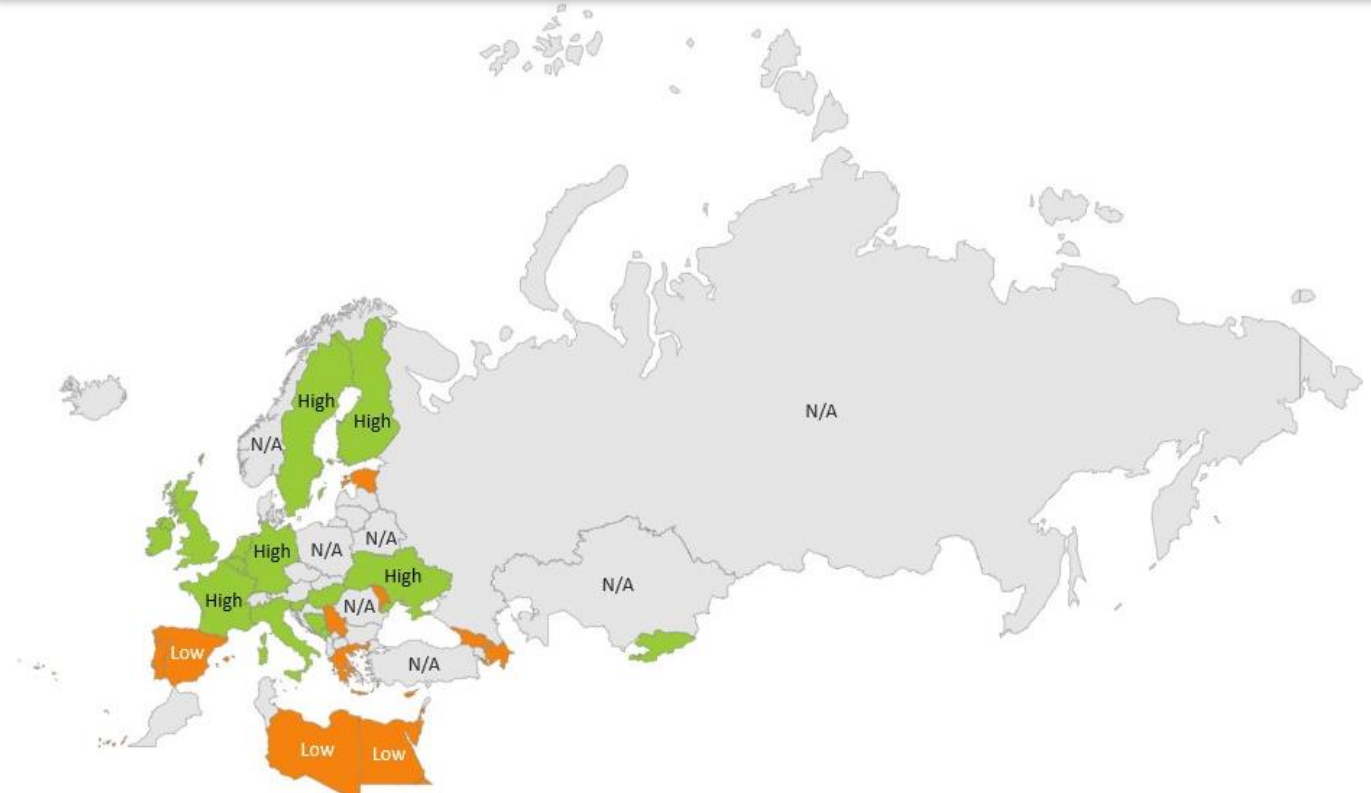


Which categories of patients?

- 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

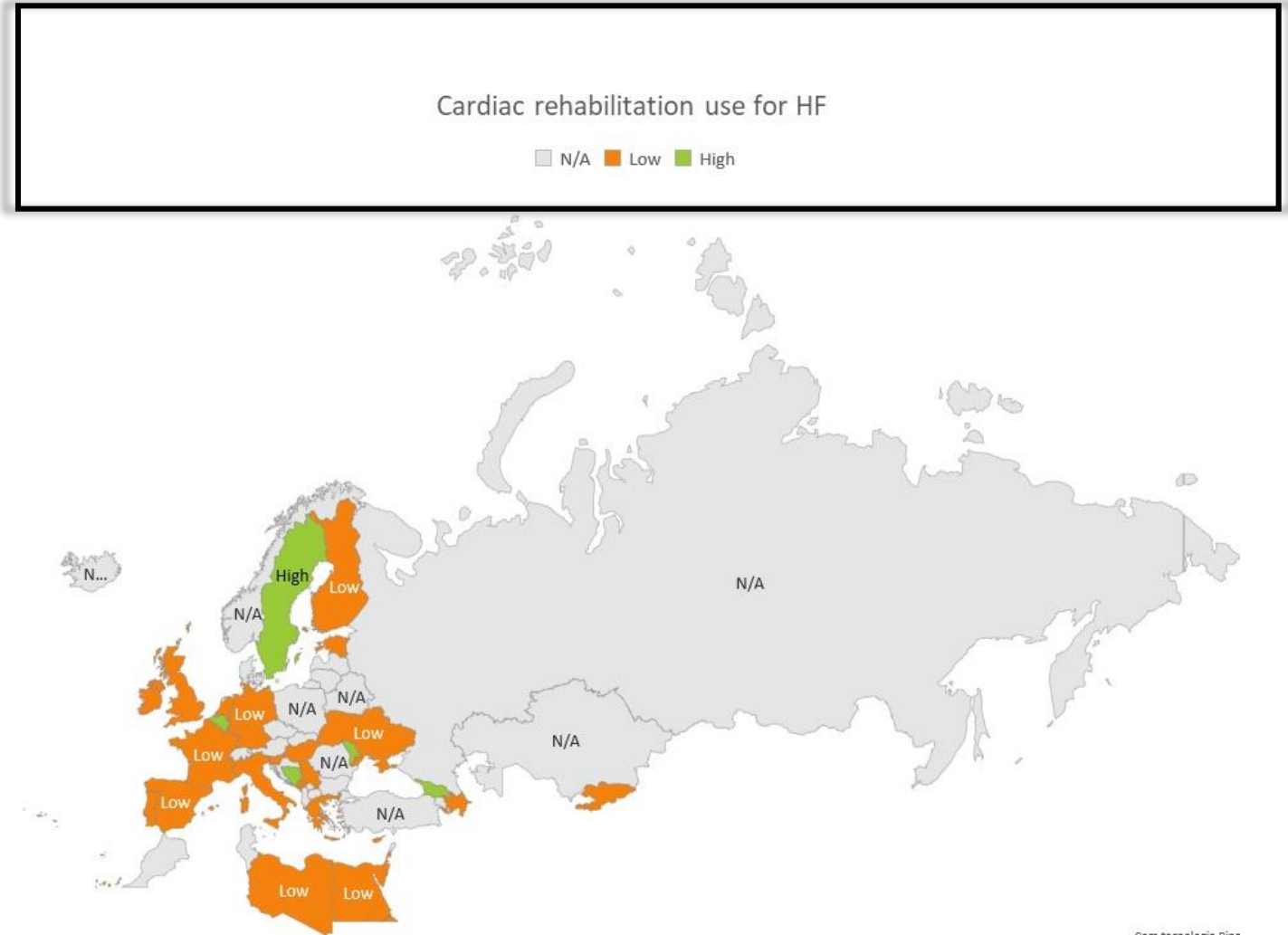
Cardiac rehabilitation use for AMI, PCI or CABG

■ N/A ■ Low ■ High



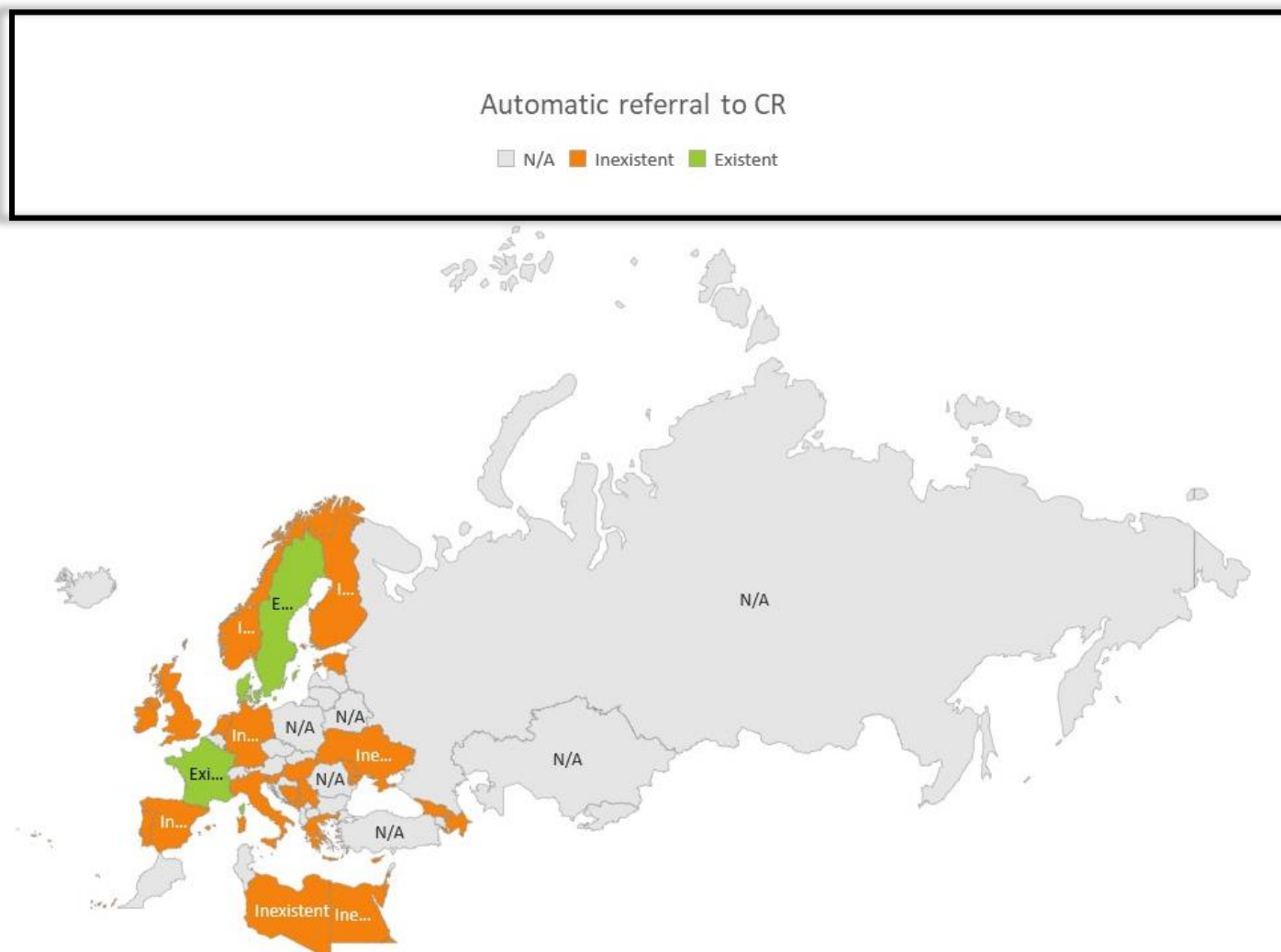
Which categories of patients?

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



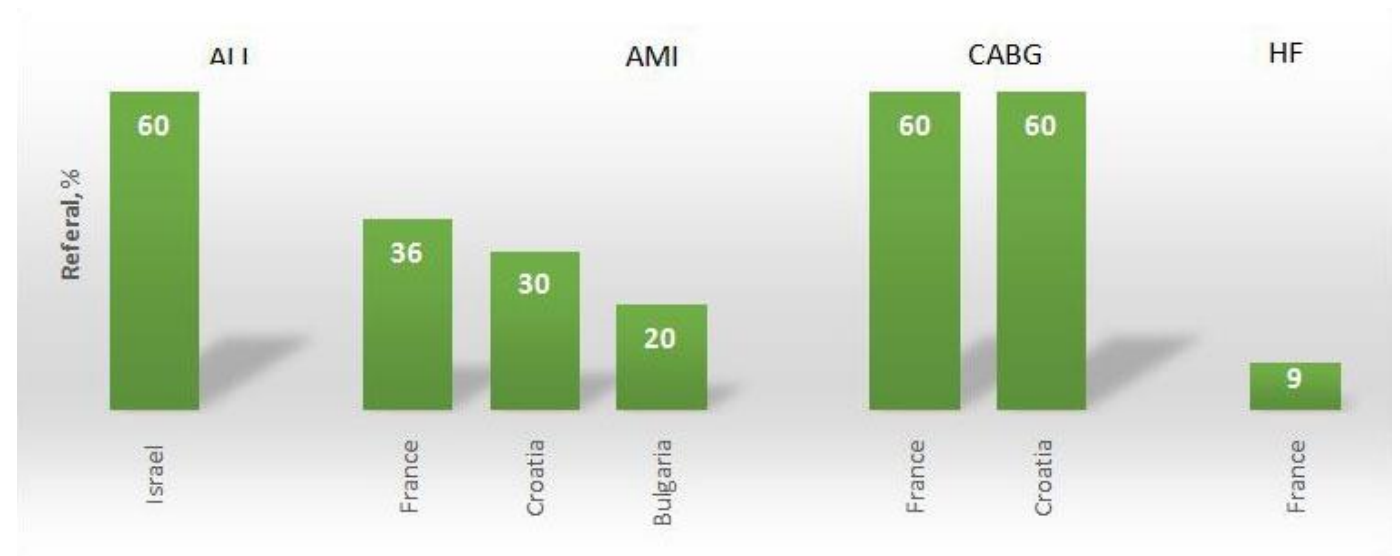
Ways of referral

- 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



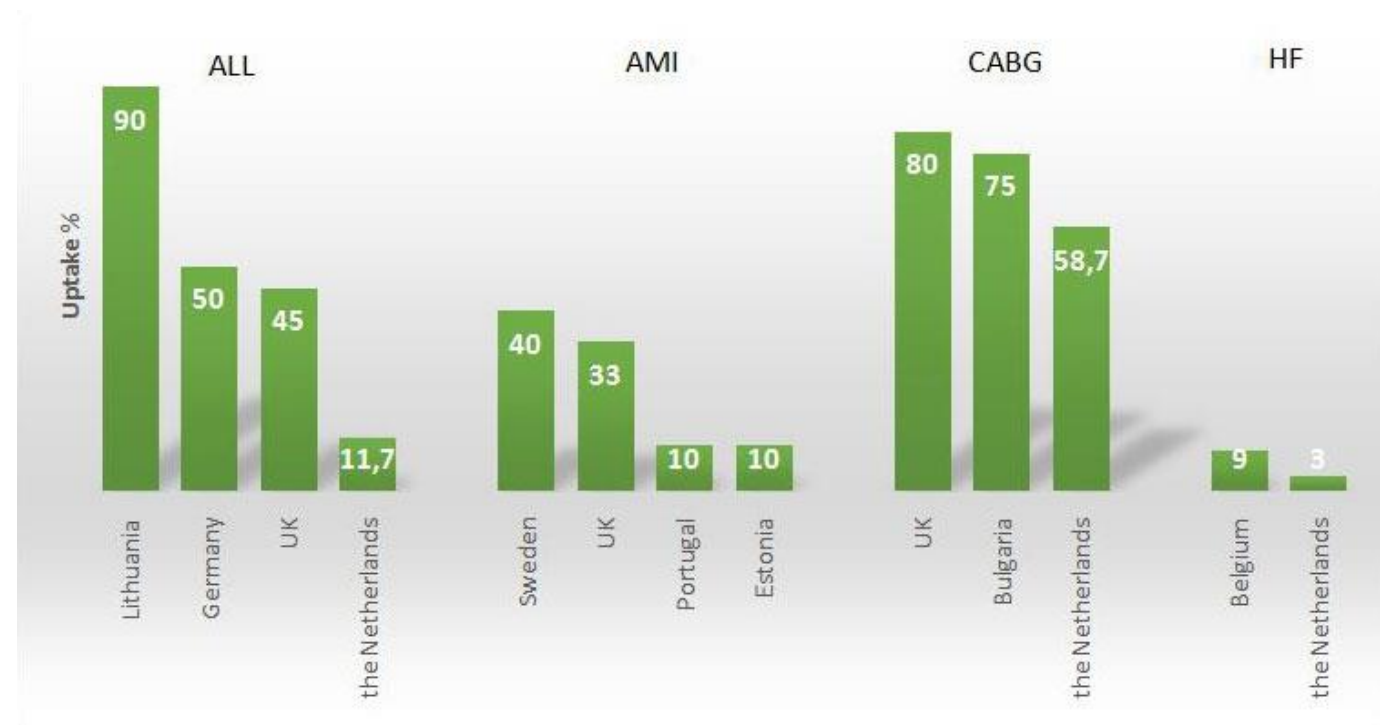
Referral

The general referral rates vary strongly across Europe



Uptake

The general uptake rates vary strongly across Europe.



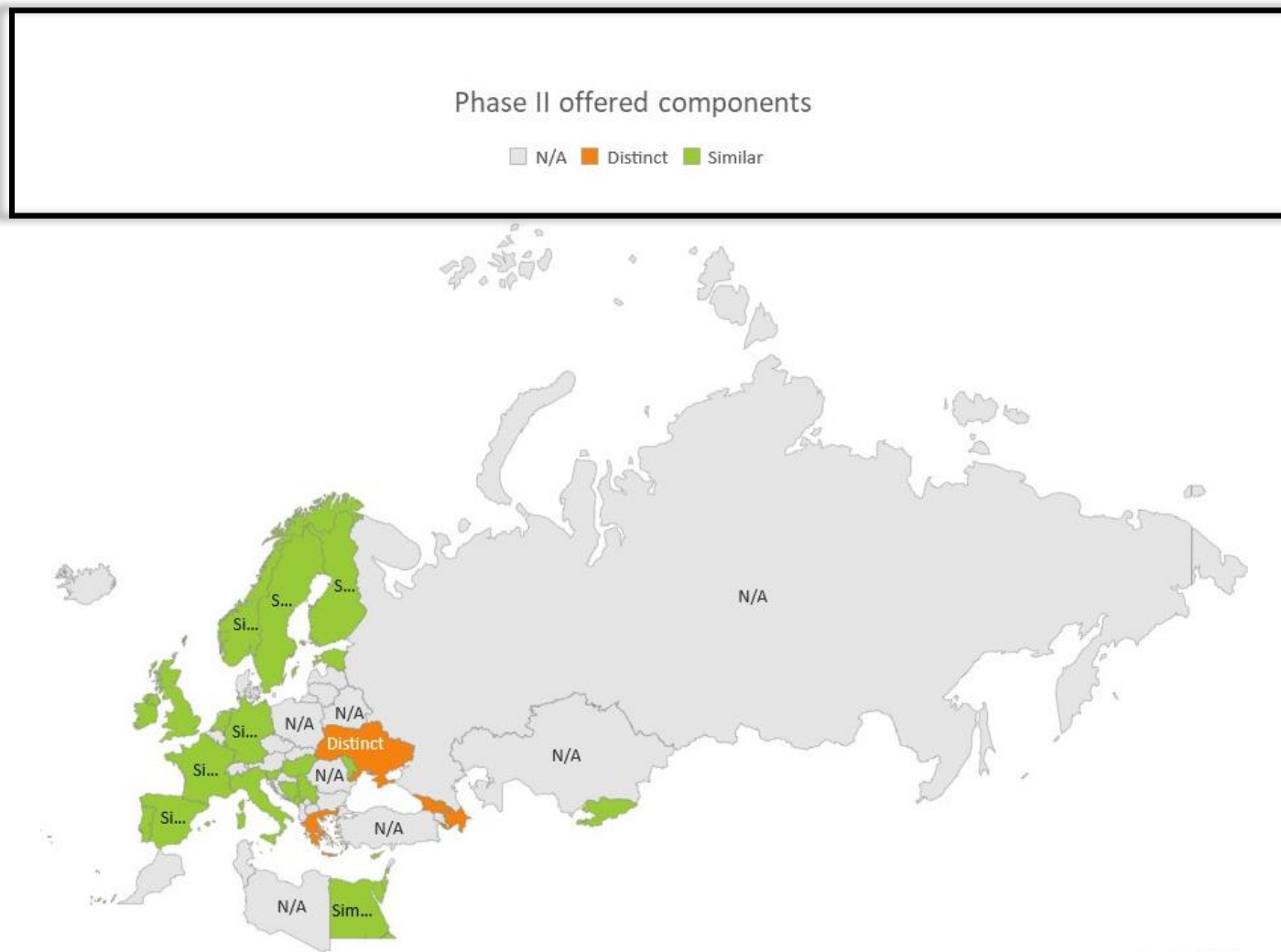
II - Which Cardiac Rehabilitation (CR) programme is provided?

The CR Programme



Which phase II components?

- Most OCRE countries agree on components to be delivered in phase II:
 - 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

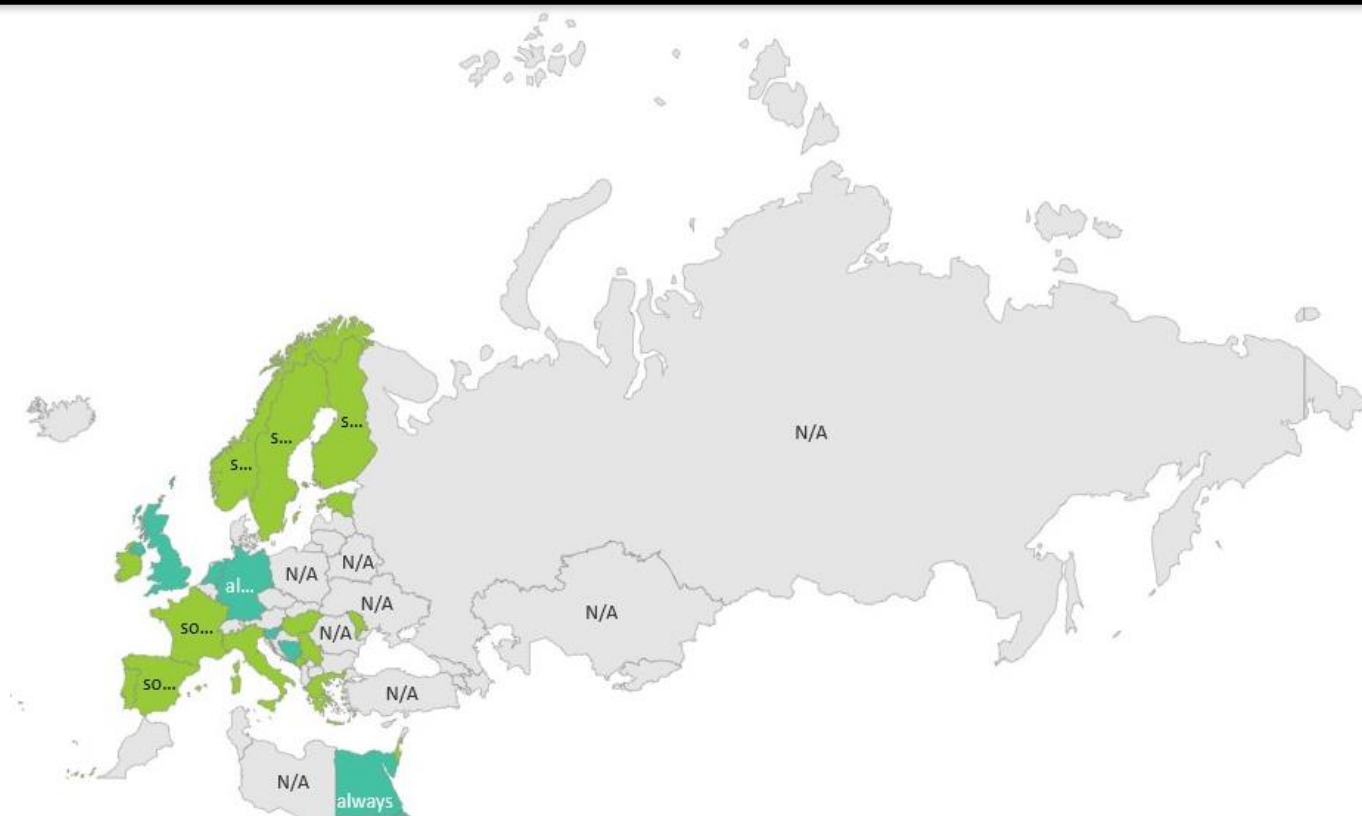


Pre-exercise CPET/EST?

- 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

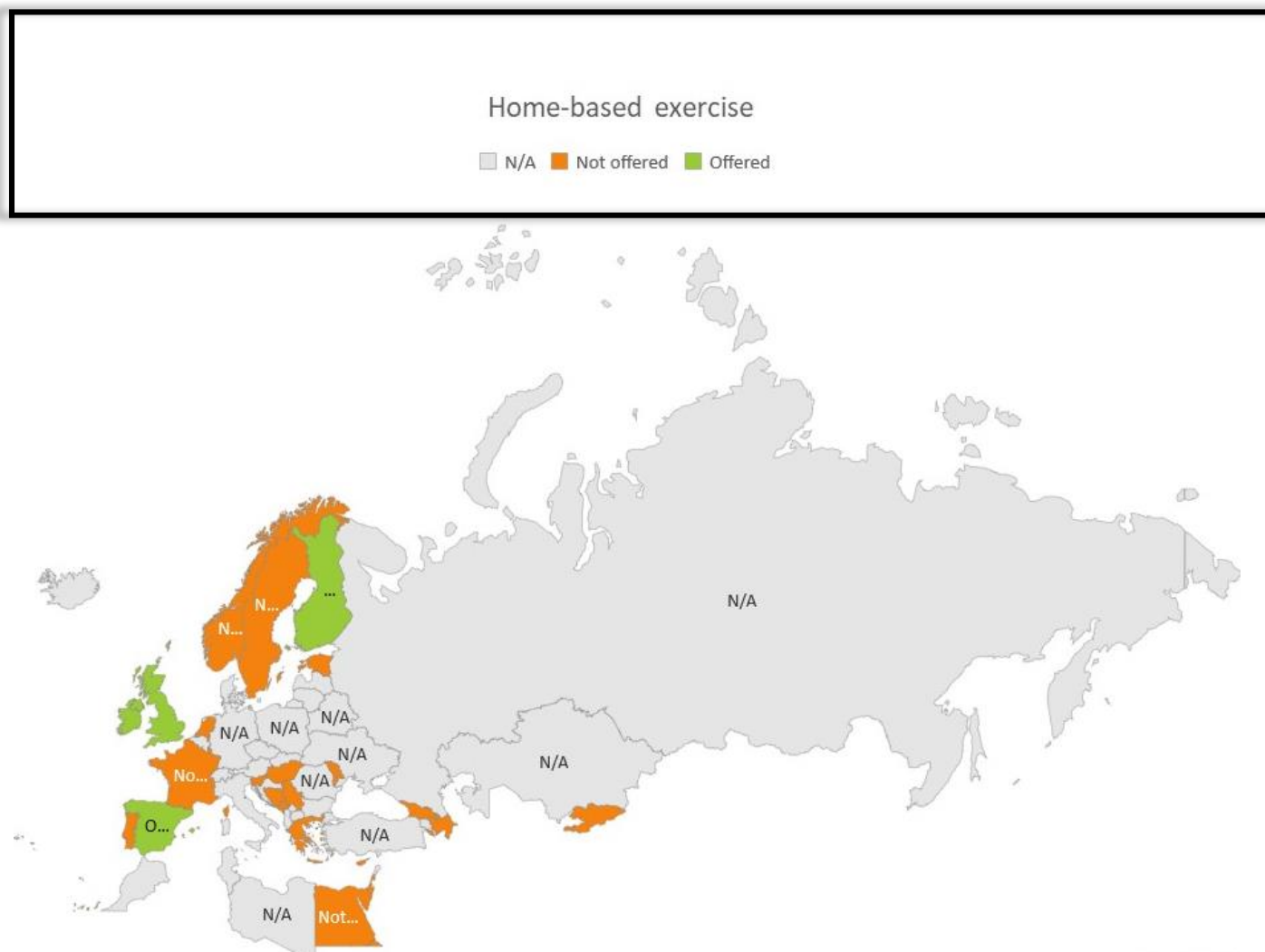
Pre programme Cardiopulmonary exercise testing

□ N/A □ never □ sometimes □ always



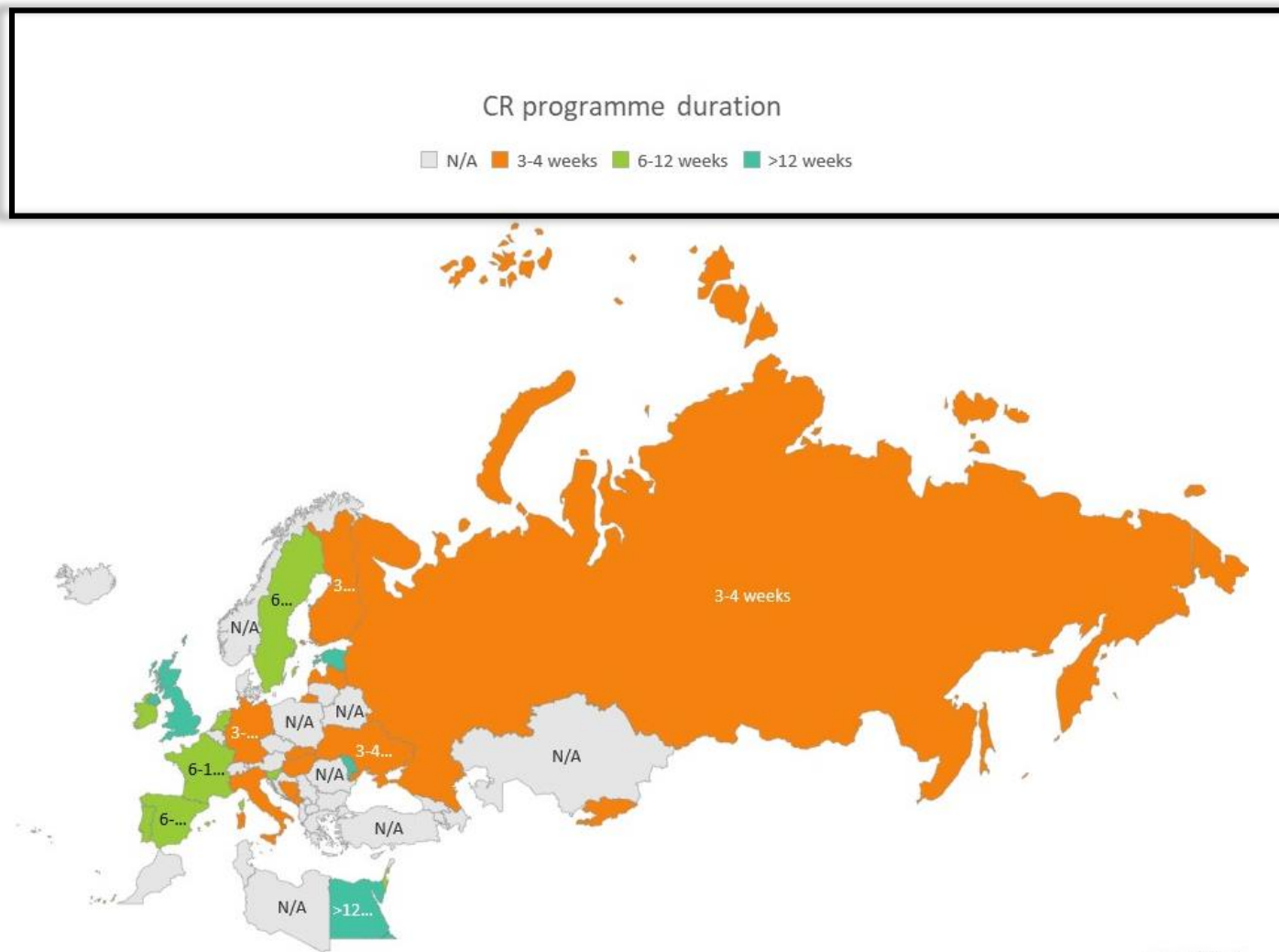
Type of physical exercise training

- 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.



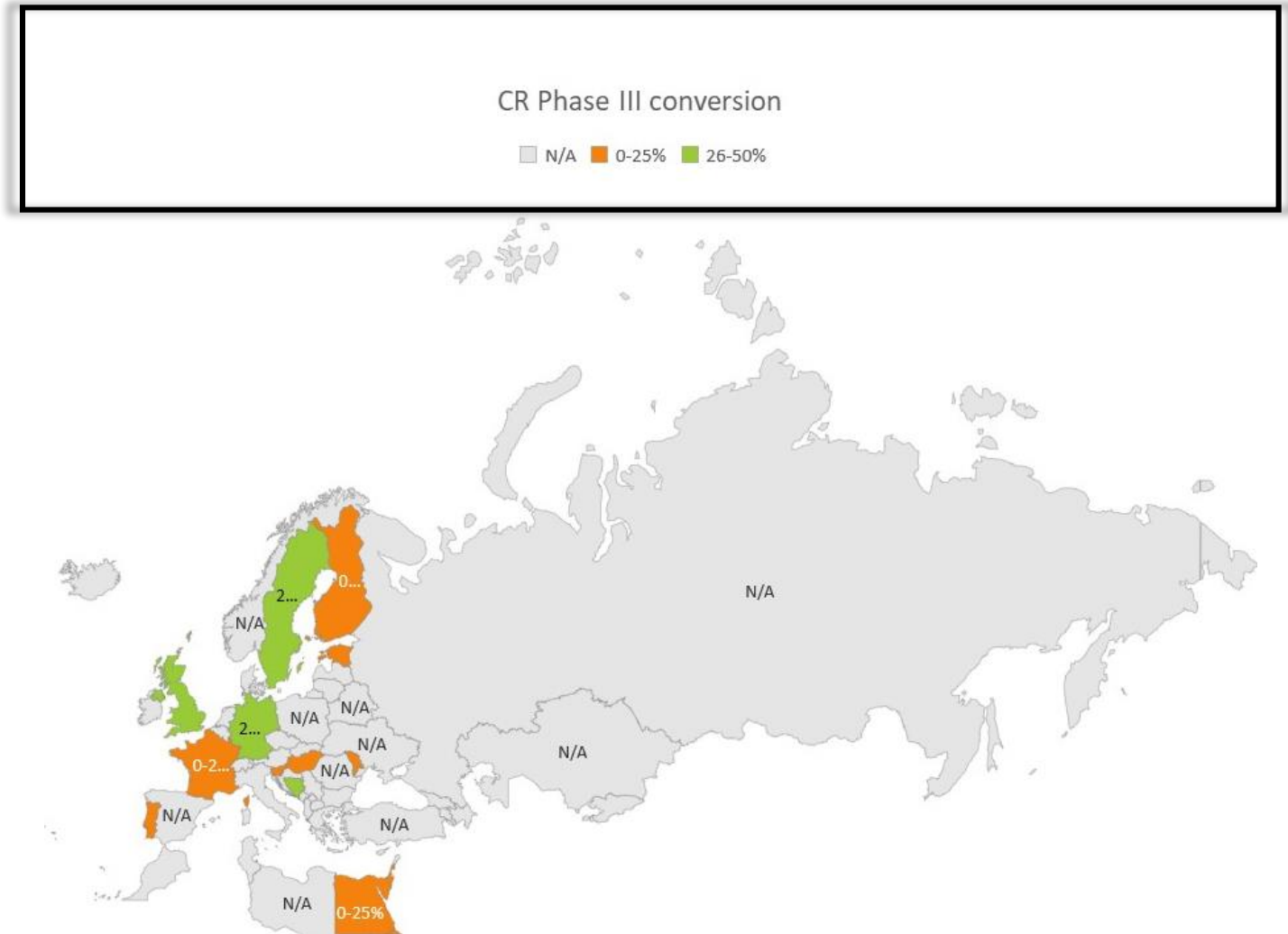
Length

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.



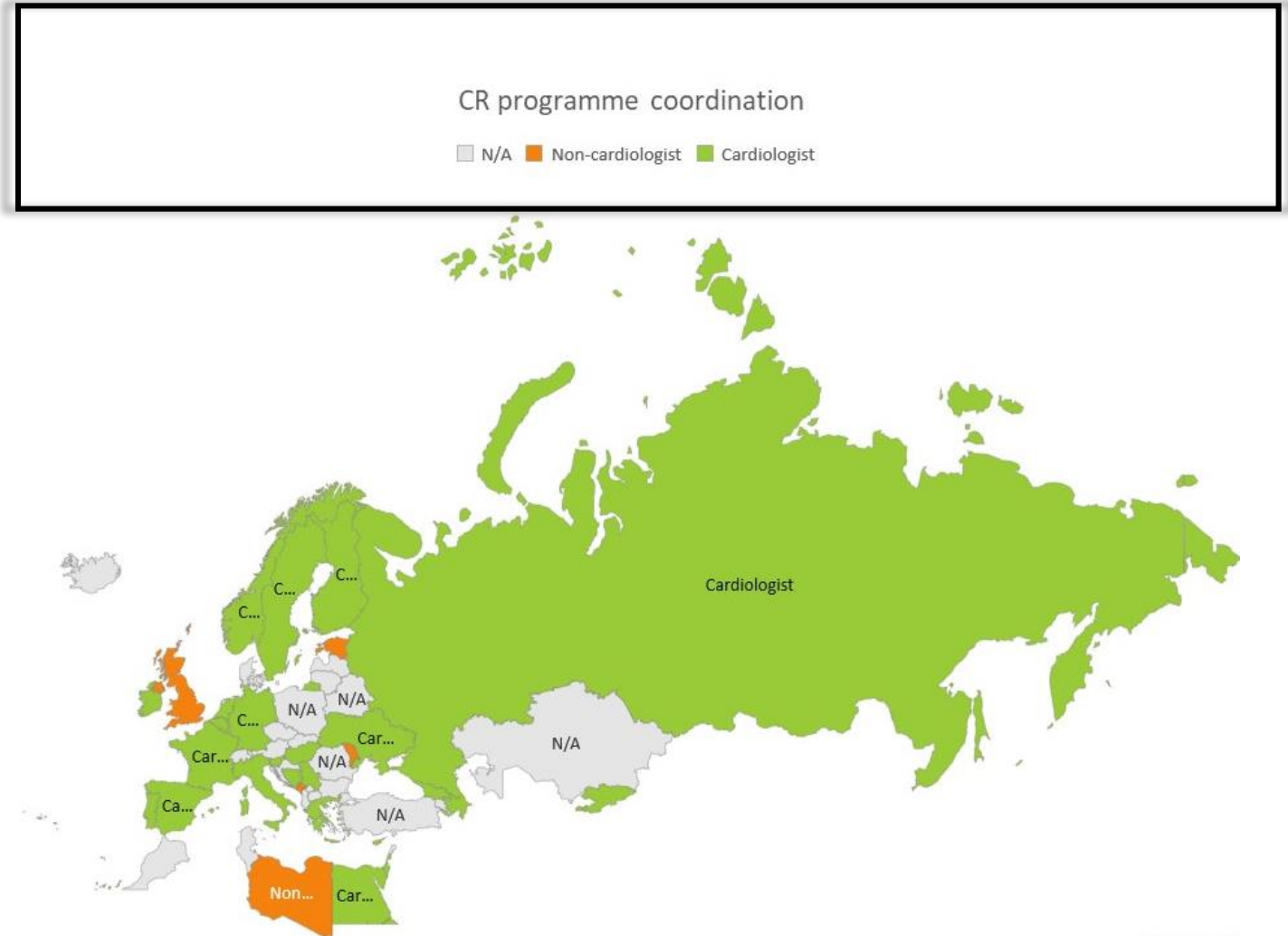
III - By whom is the Cardiac Rehabilitation (CR) programme conducted?

The TEAM



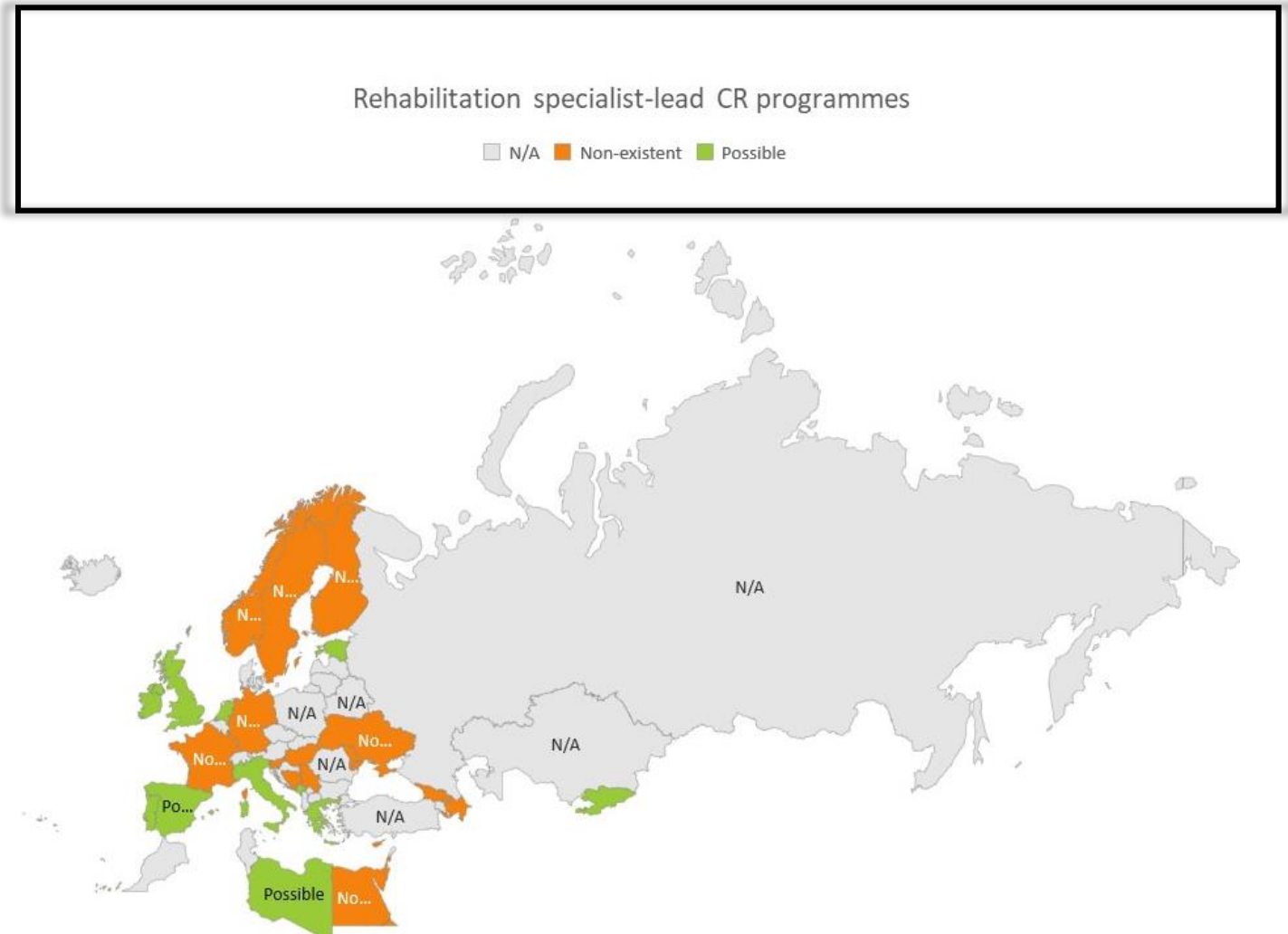
Team structure Coordination

- 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



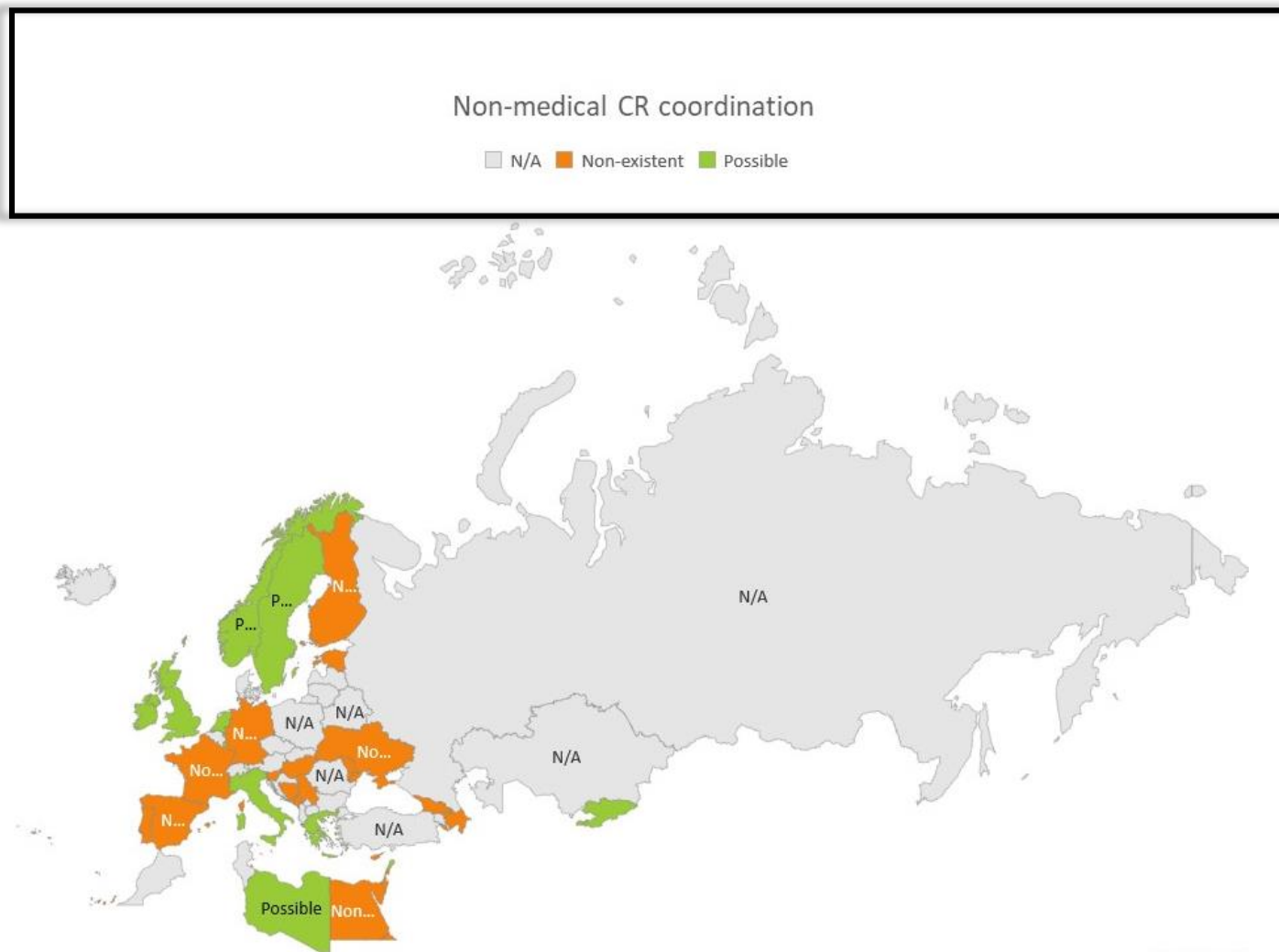
Team structure Coordination

- Some countries also may also have rehabilitation specialists in the lead.



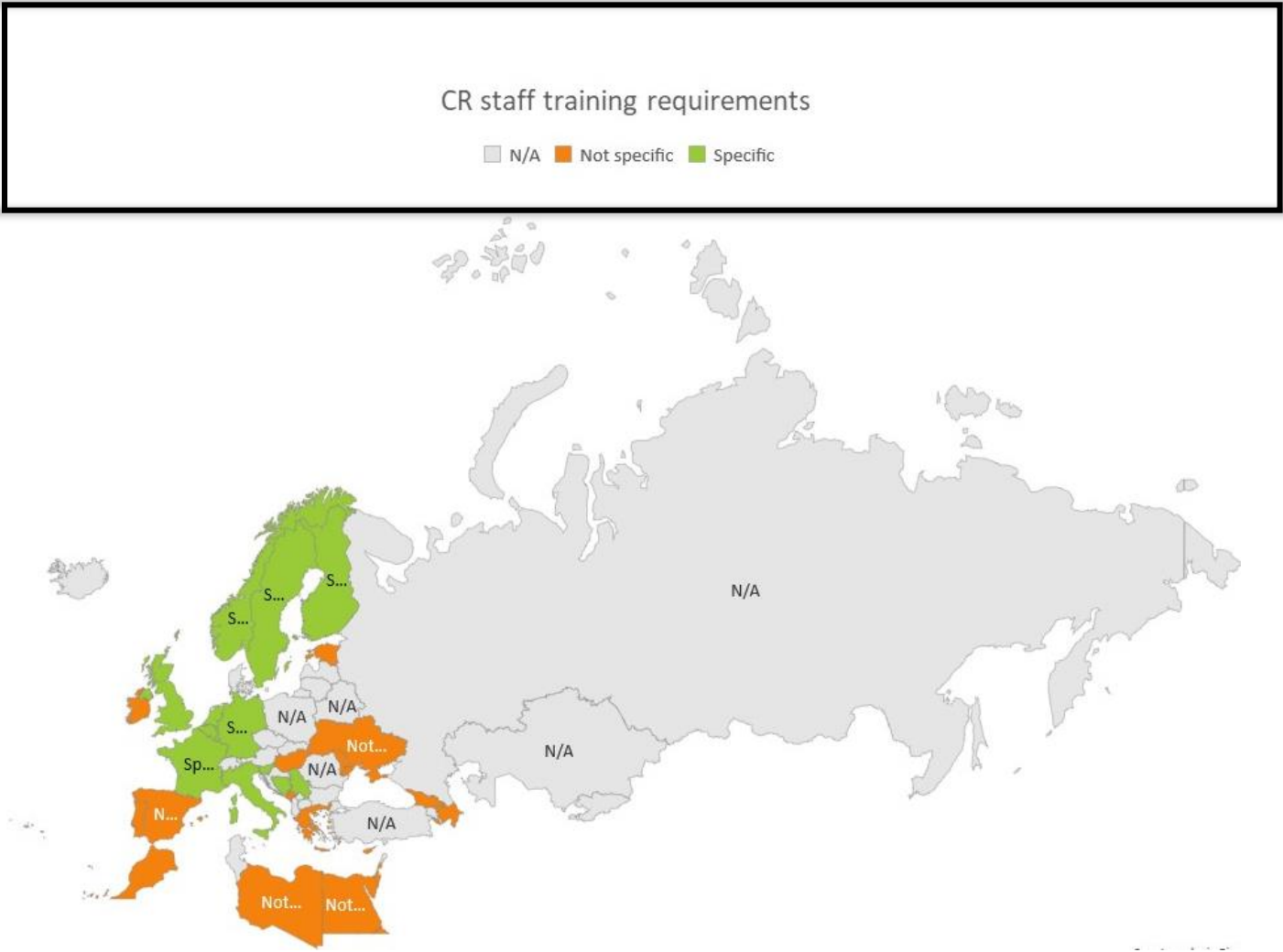
Team structure Coordination

- Non-medical coordination (nurses and/or physiotherapists) can also be seen



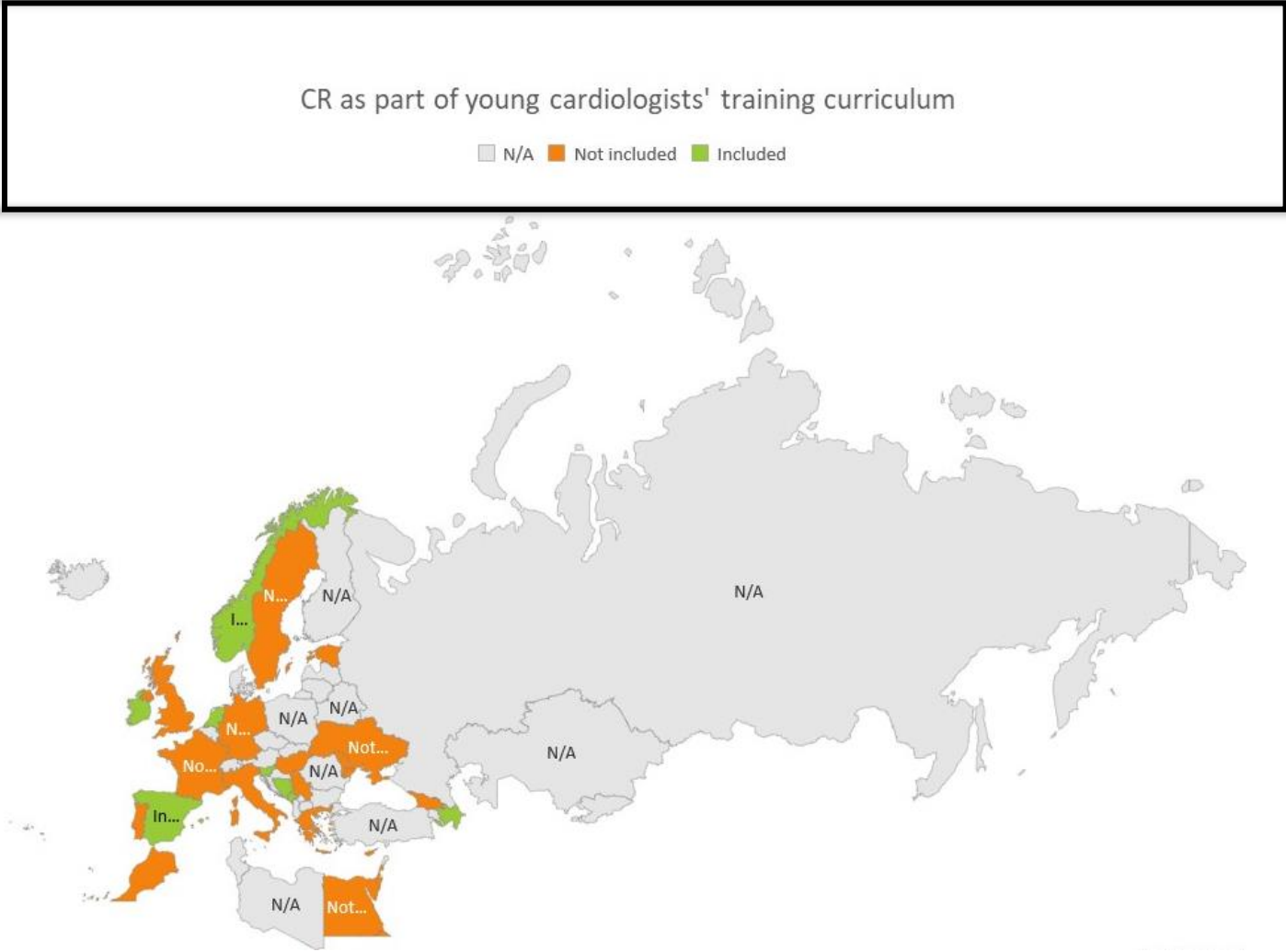
Education

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



Education

Only a few countries include CR in the training of young doctors.



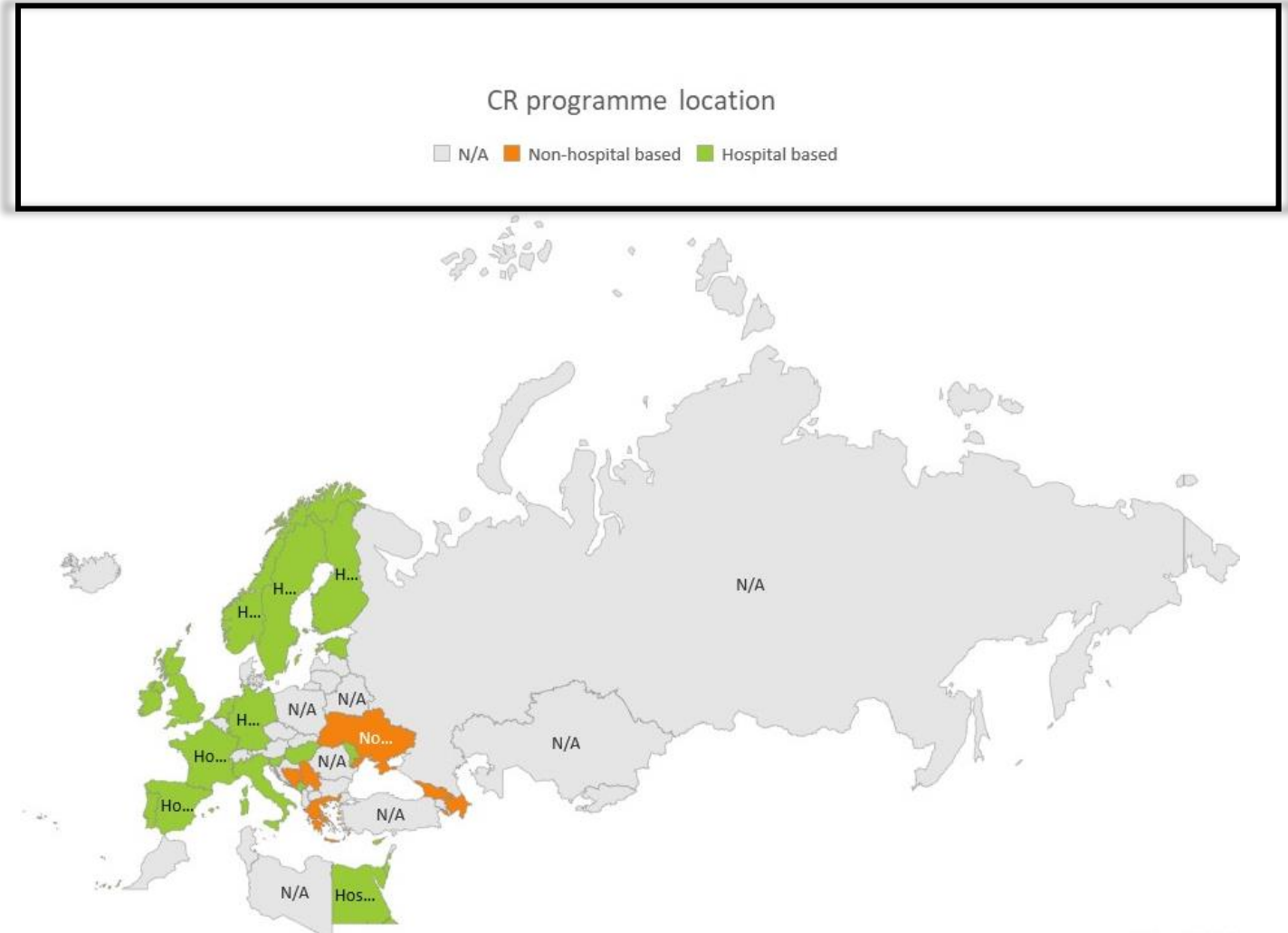
IV – Where is the Cardiac Rehabilitation (CR) programme offered?

The CR Center



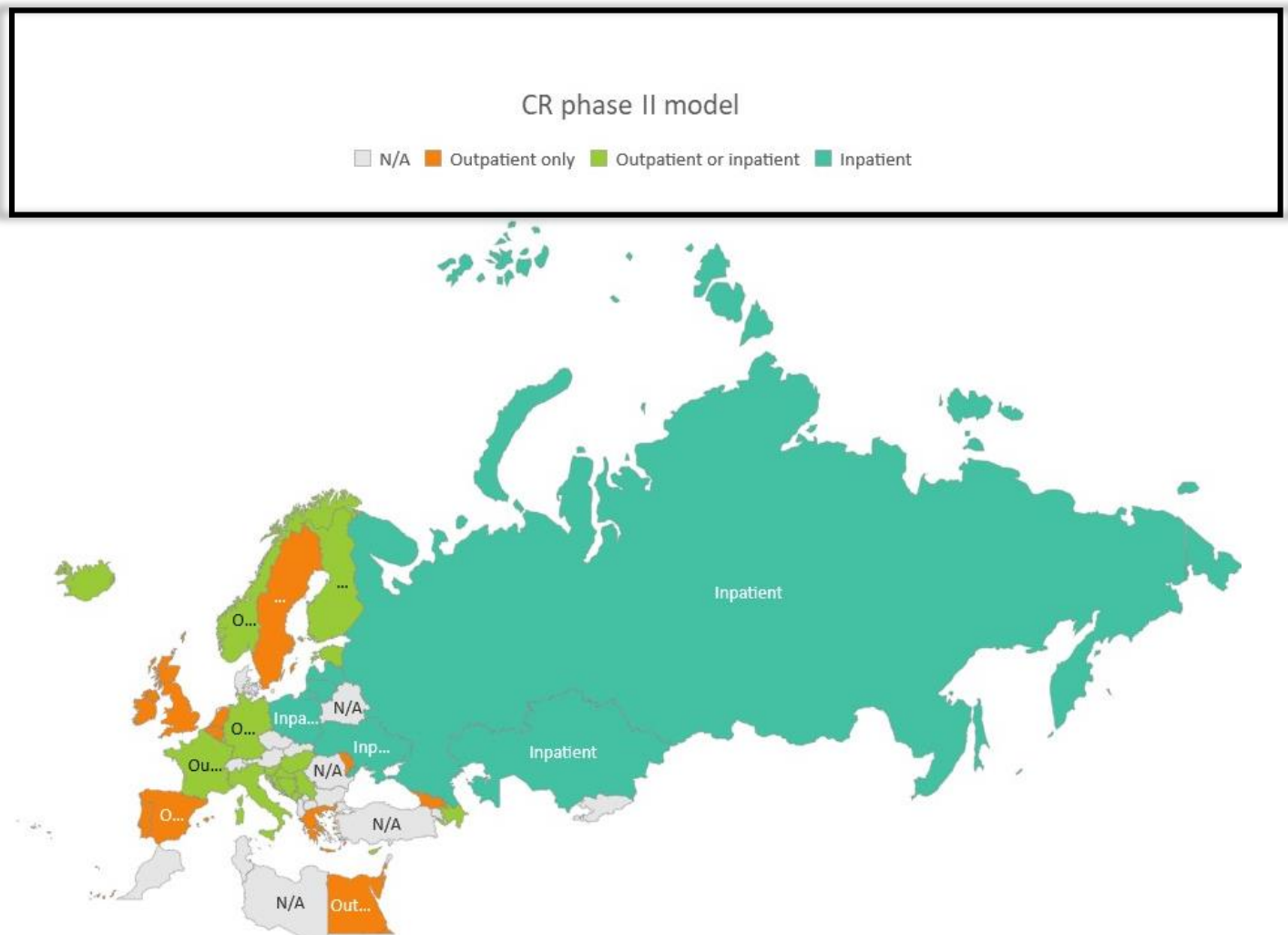
CR format

- 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



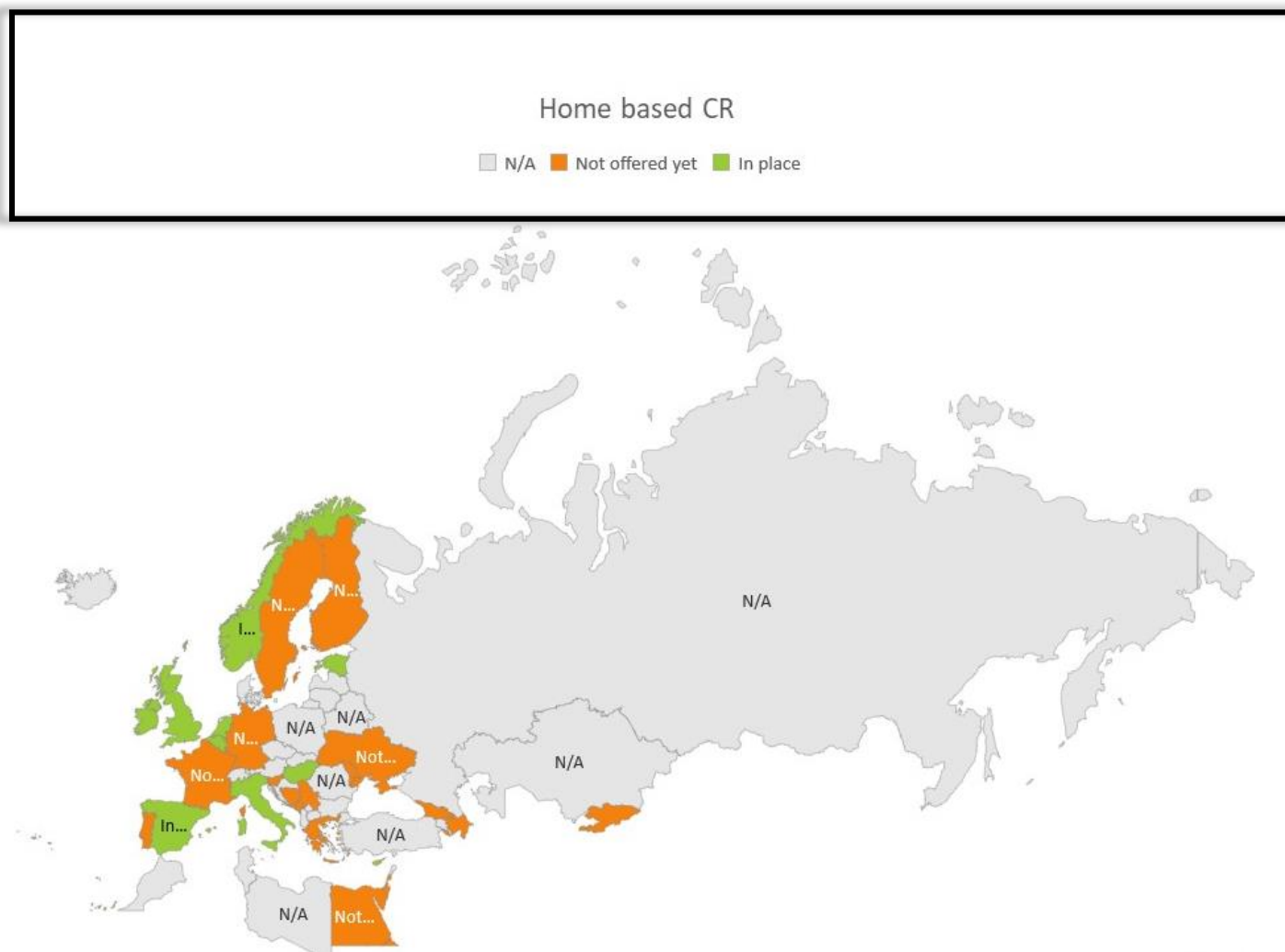
CR format

- 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



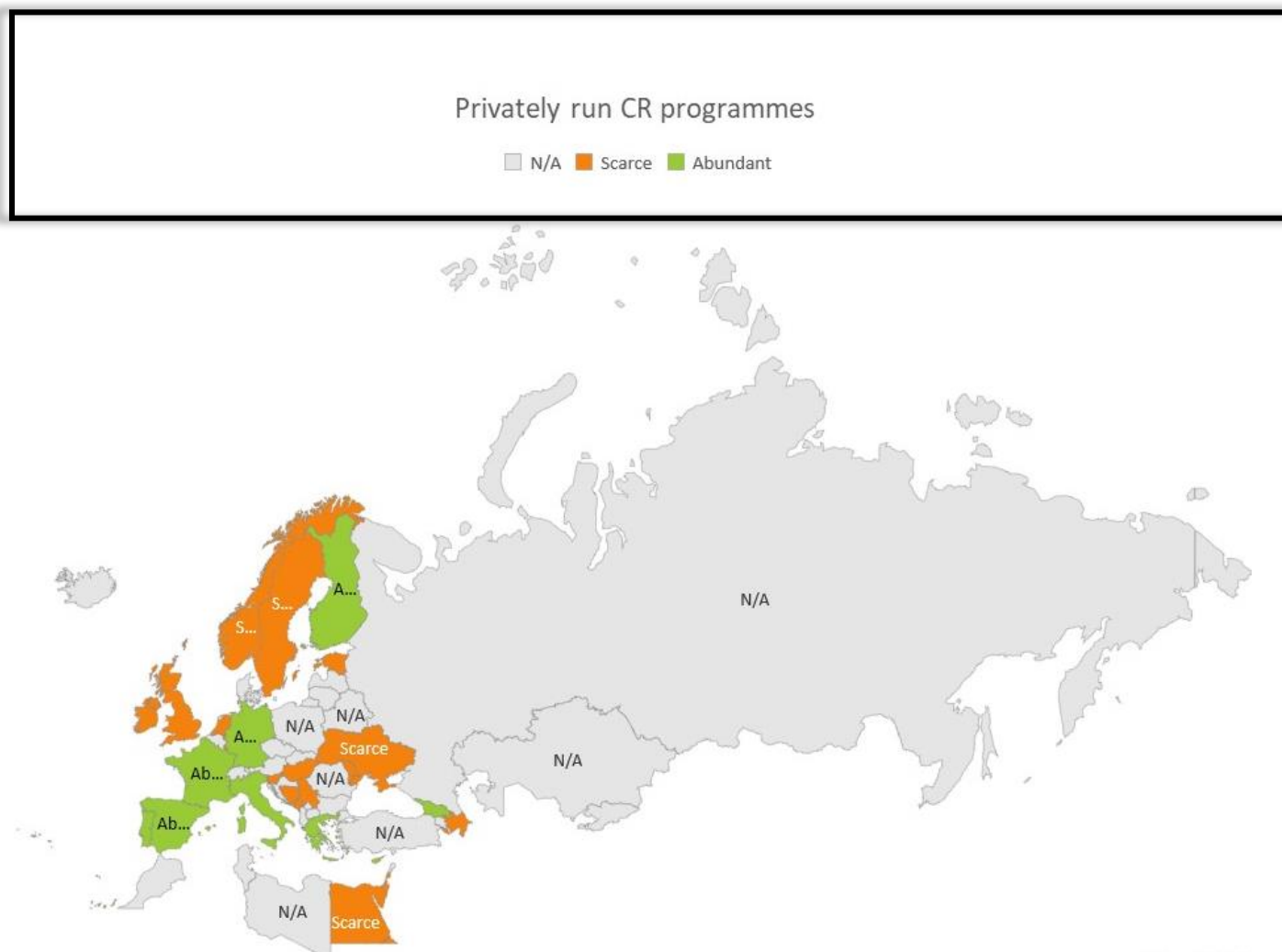
V - What is the quality
and what are the costs?

The OUTCOME



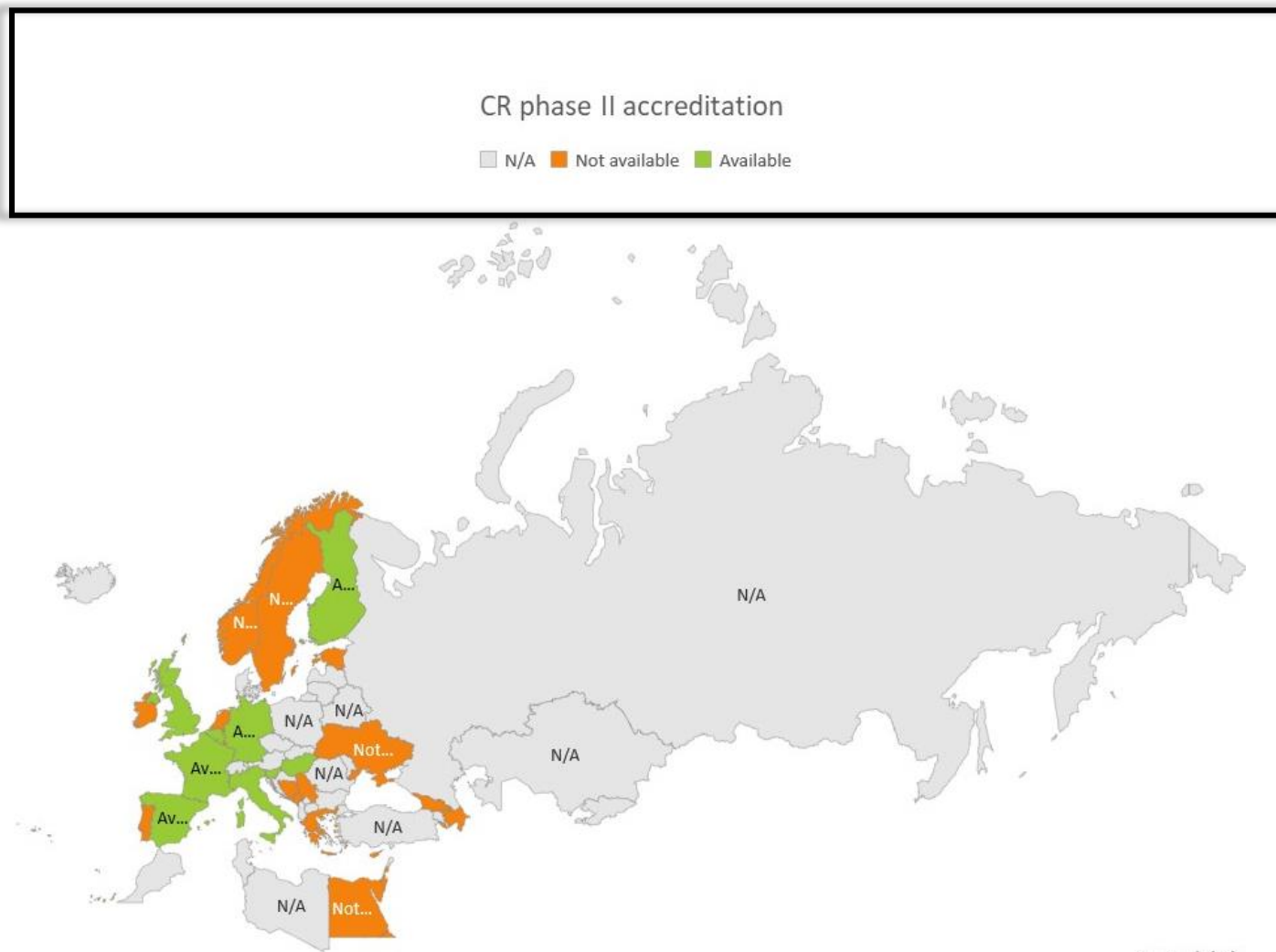
Cost for patients, reimbursement

- 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



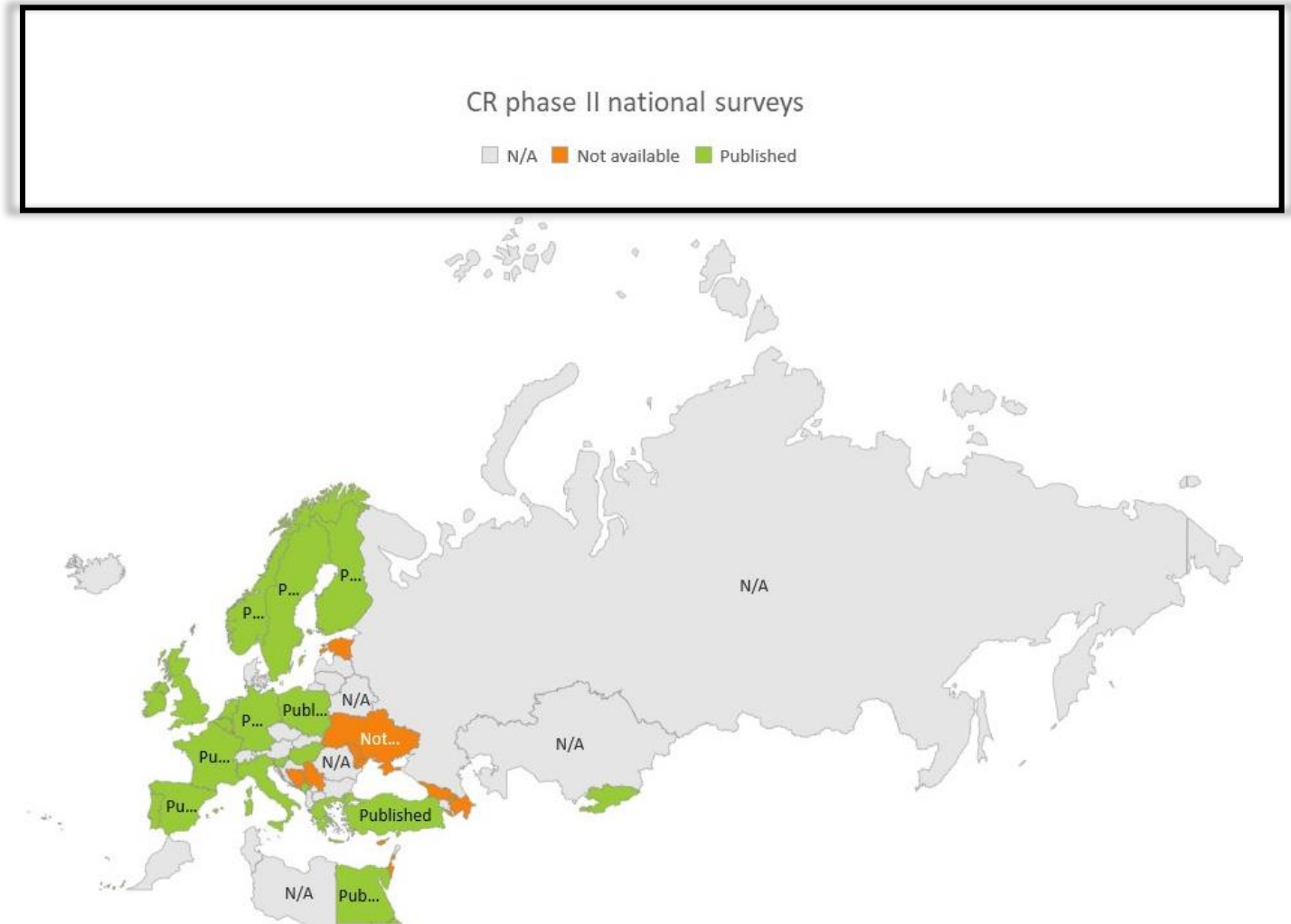
Audit and quality control

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



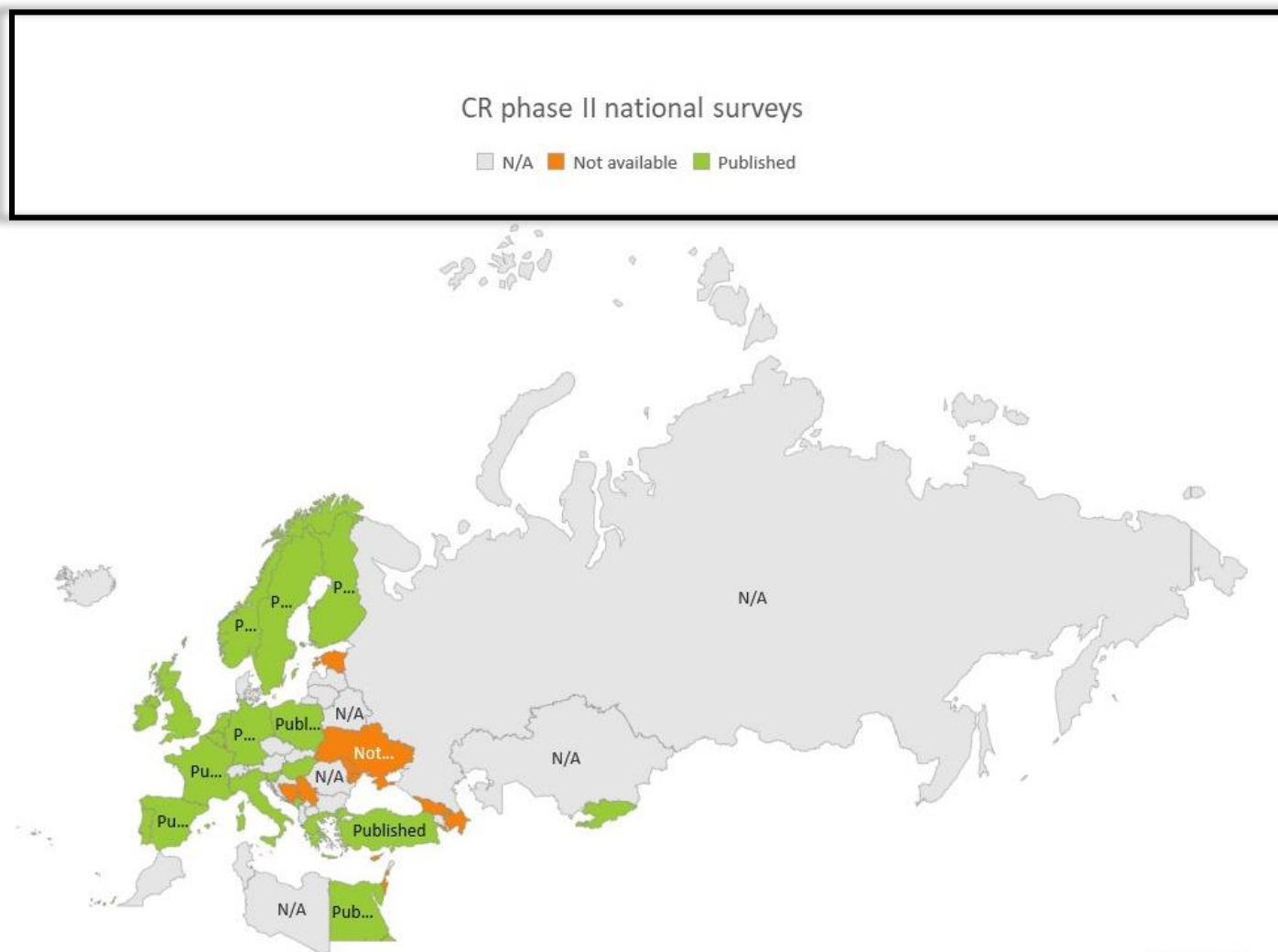
Surveys and databases

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



Surveys and databases

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



OCRE part 2 -Survey



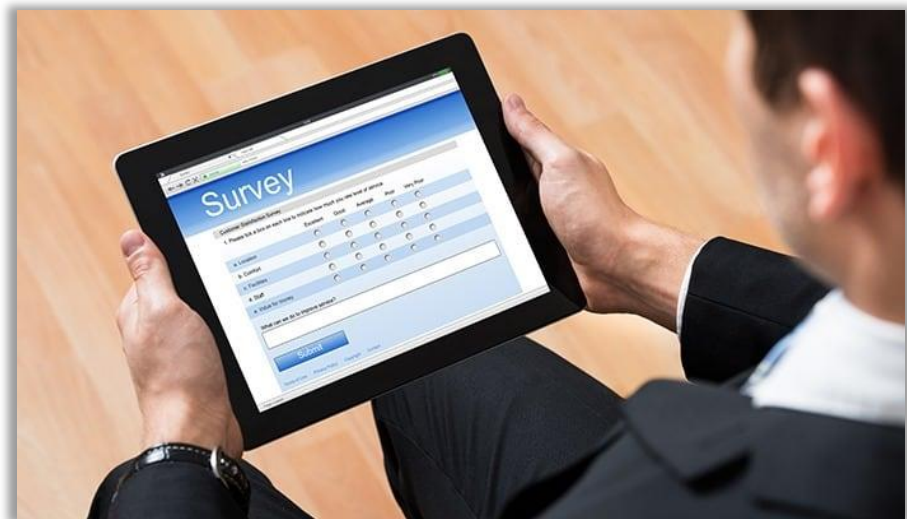
The Survey

51 ESC member countries
with appointed NCPCs

42 valid survey answers

82% participation rate

OCRE part 2

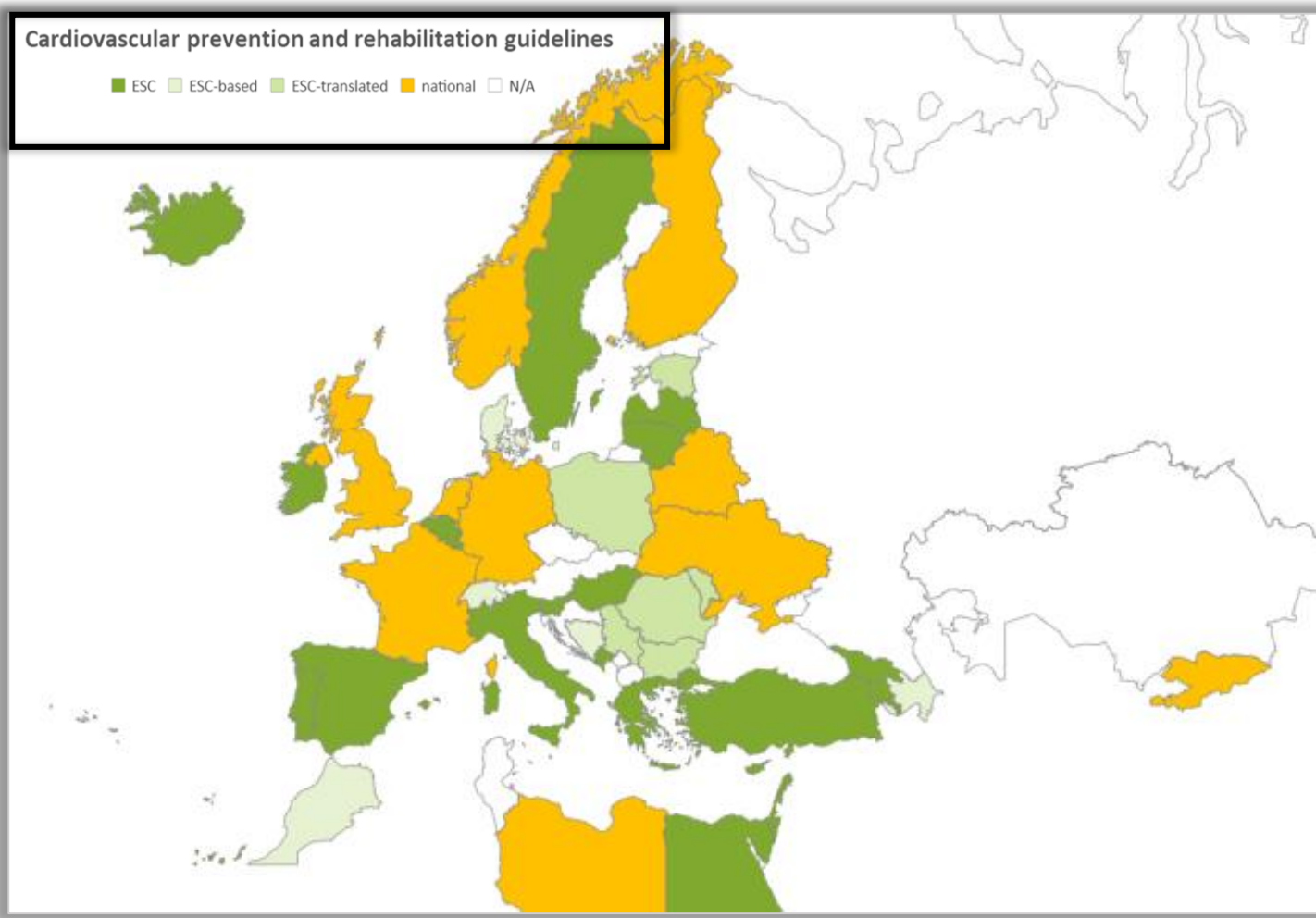


Methodology

The second part (2019) the National CVD Prevention coordinators, overcame the issue of missing data), which originated from the results of a pan-European online survey served to take since valid participation required answering all 13 core CR topics.

- Online survey
- 13 provision and quality indicators from the 6 components from part 1
- All questions mandatory to allow submission
- NCPCs reporting regarding 2018 based in published evidence (URL) or best estimate following national consensus
- results were combined with data from previous Part 1 for identical topics, when possible for the 51 countries
- If conflicting data, the most recent was preferred
- Outputs in graphs and map cards
- Results were validated by participating National Coordinators prior to publication

OCRE part 2

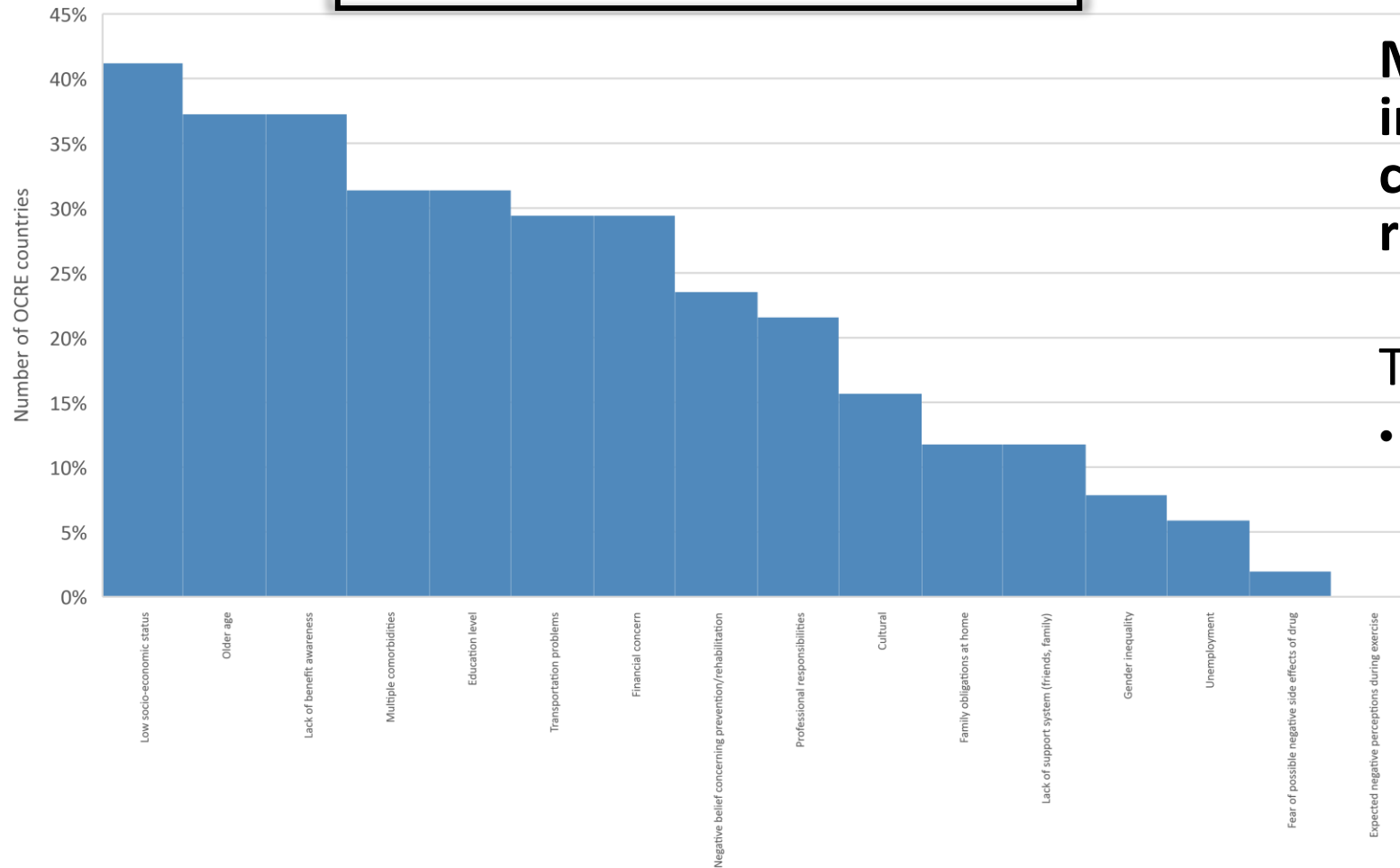


Cardiovascular prevention and rehabilitation guidelines

- 67% follow European guidelines (45% ESC, 10% ESC-based, 11% ESC translated)
- 19% follow national guidelines

OCRE part 2

Major barriers to implementation of CVD guidelines PATIENT LEVEL



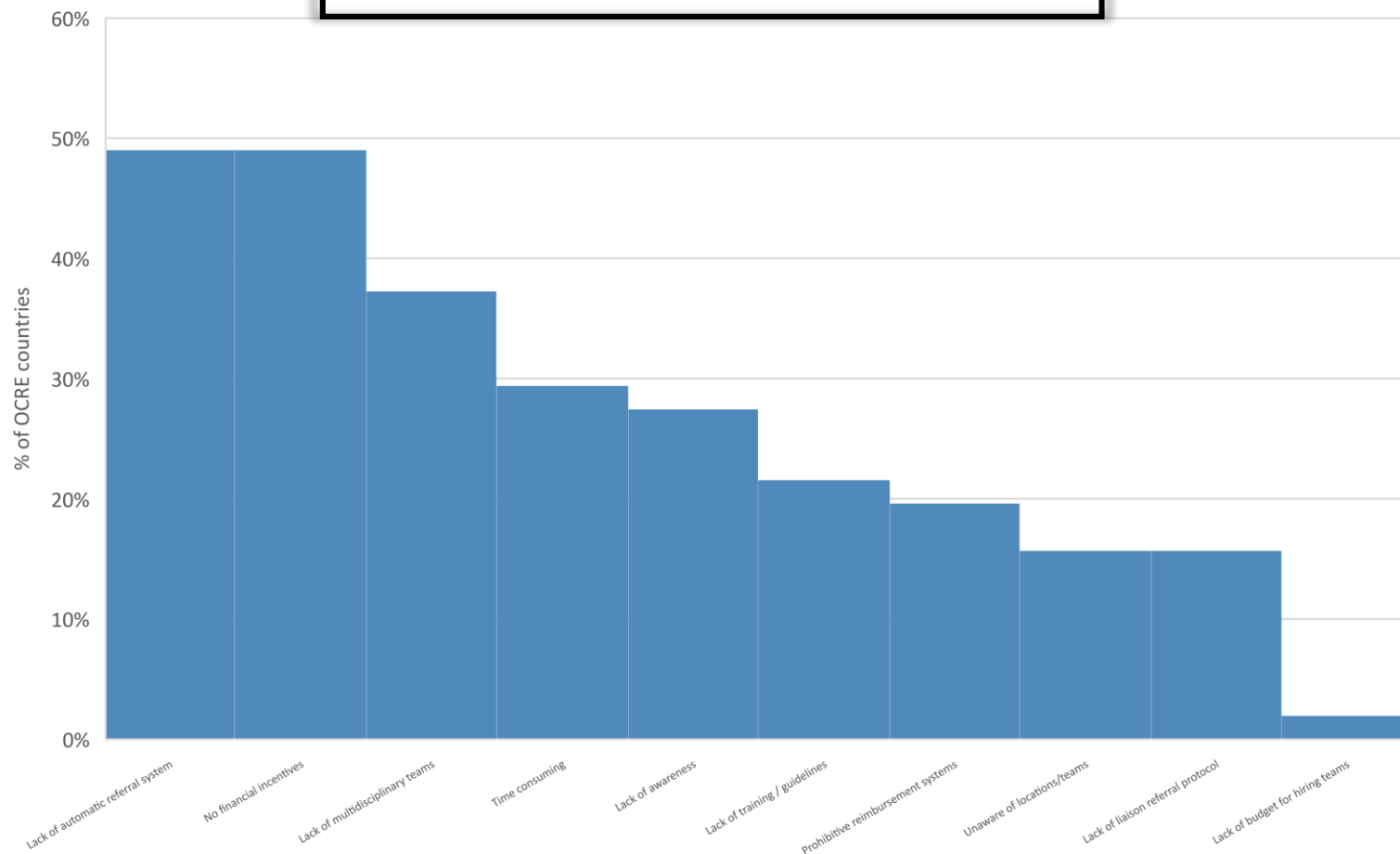
Major PATIENT-LEVEL barriers to implementation and use of cardiovascular prevention and rehabilitation guidelines

Top 4 obstacles (% OCRE countries)

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

OCRE part 2

Major barriers to implementation of CVD guidelines STAFF LEVEL

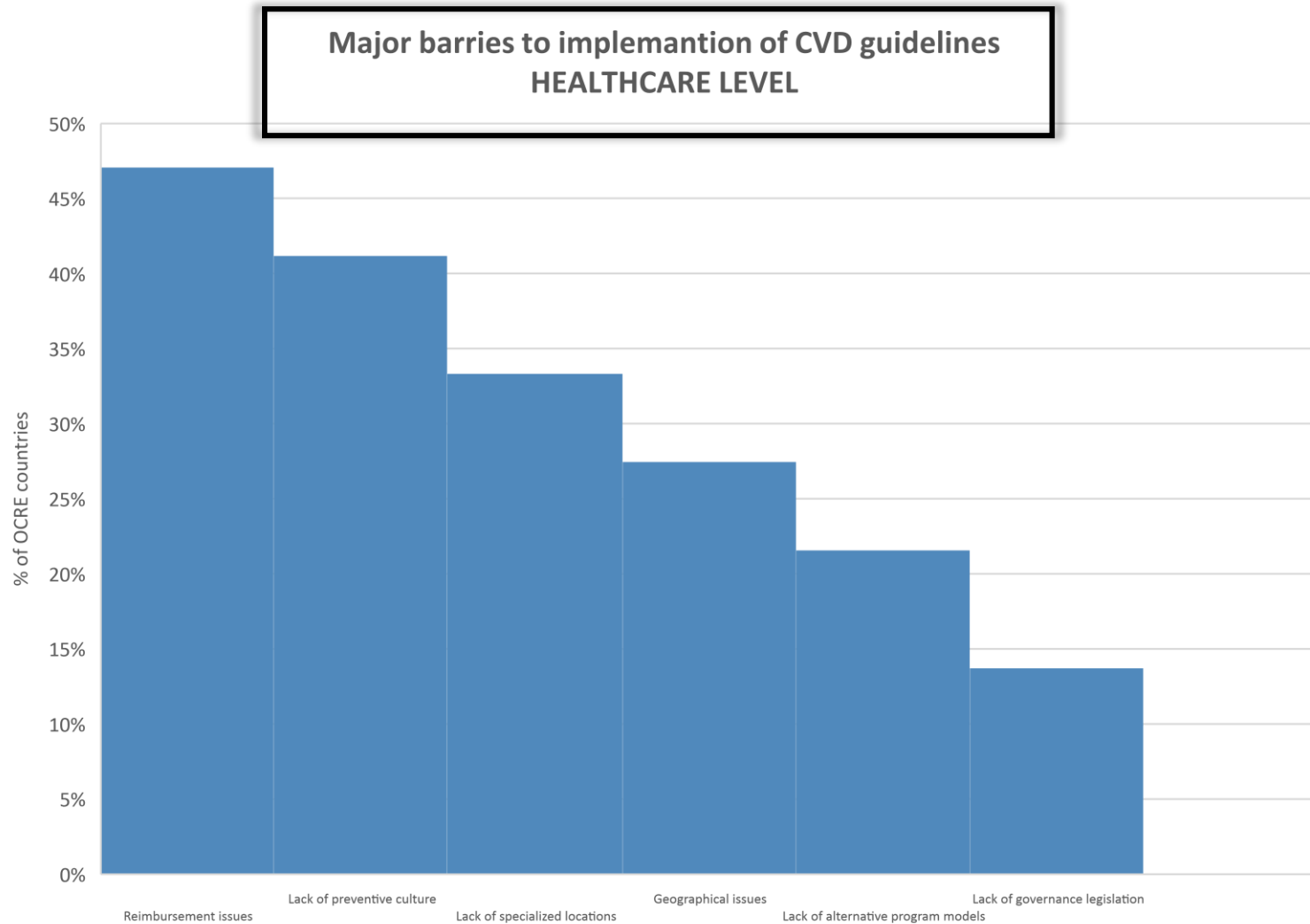


Major STAFF-LEVEL barriers to implementation and use of cardiovascular prevention and rehabilitation guidelines

Top 4 obstacles (% OCRE countries)

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

OCRE part 2

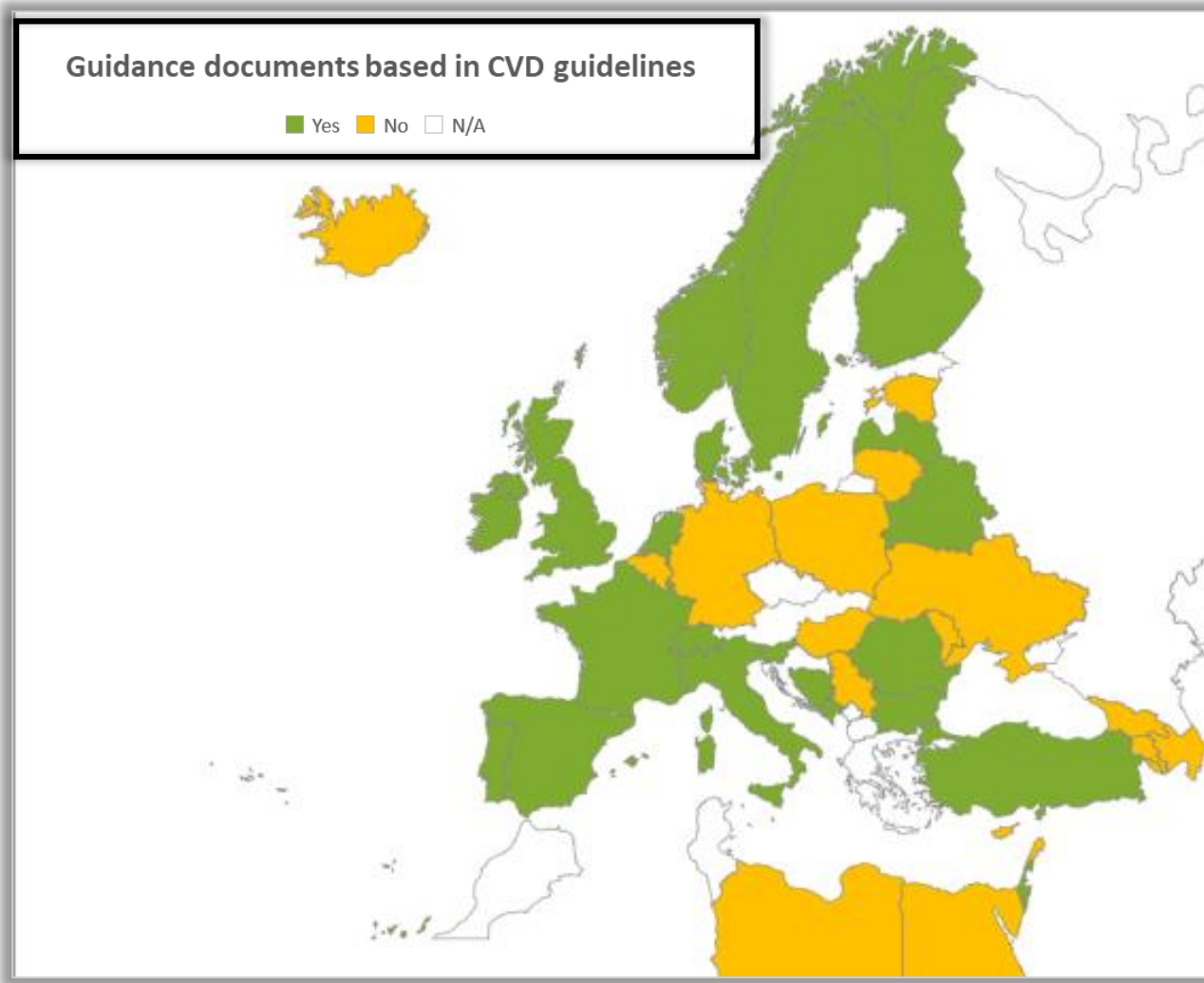


Major HEALTHCARE-LEVEL barriers to implementation and use of cardiovascular prevention and rehabilitation guidelines

Top 4 obstacles (% OCRE countries)

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

OCRE part 2



Implementation of guidance documents

43% countries have guidance documents

OCRE part 2



CR phase II uptake rate after myocardial infarction

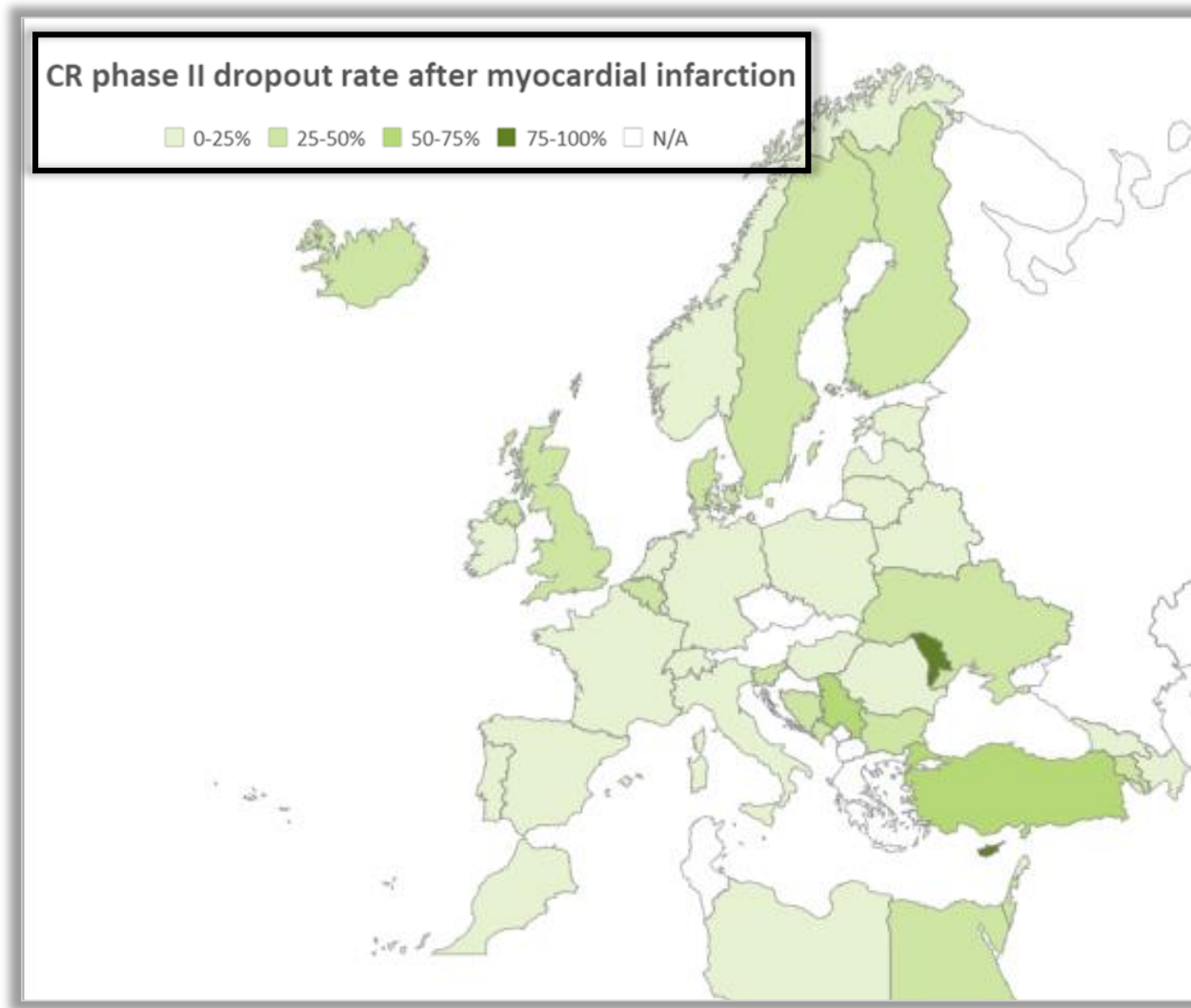
17 countries: 0-25%

14 countries: 25-50%

7 countries: 50-75%

4 countries: 75-100%

OCRE part 2



CR phase II dropout rate after myocardial infarction

22 countries: 0-25%

16 countries: 25-50%

2 countries: 50-75%

2 countries: 75-100%

OCRE part 2



CR phase II average start time after myocardial infarction

12 countries: 0-2 weeks
23 countries: 2-6 weeks
5 countries: 6-12 weeks
2 countries: >12 weeks

OCRE part 2



CR phase II average duration of program after myocardial infarction

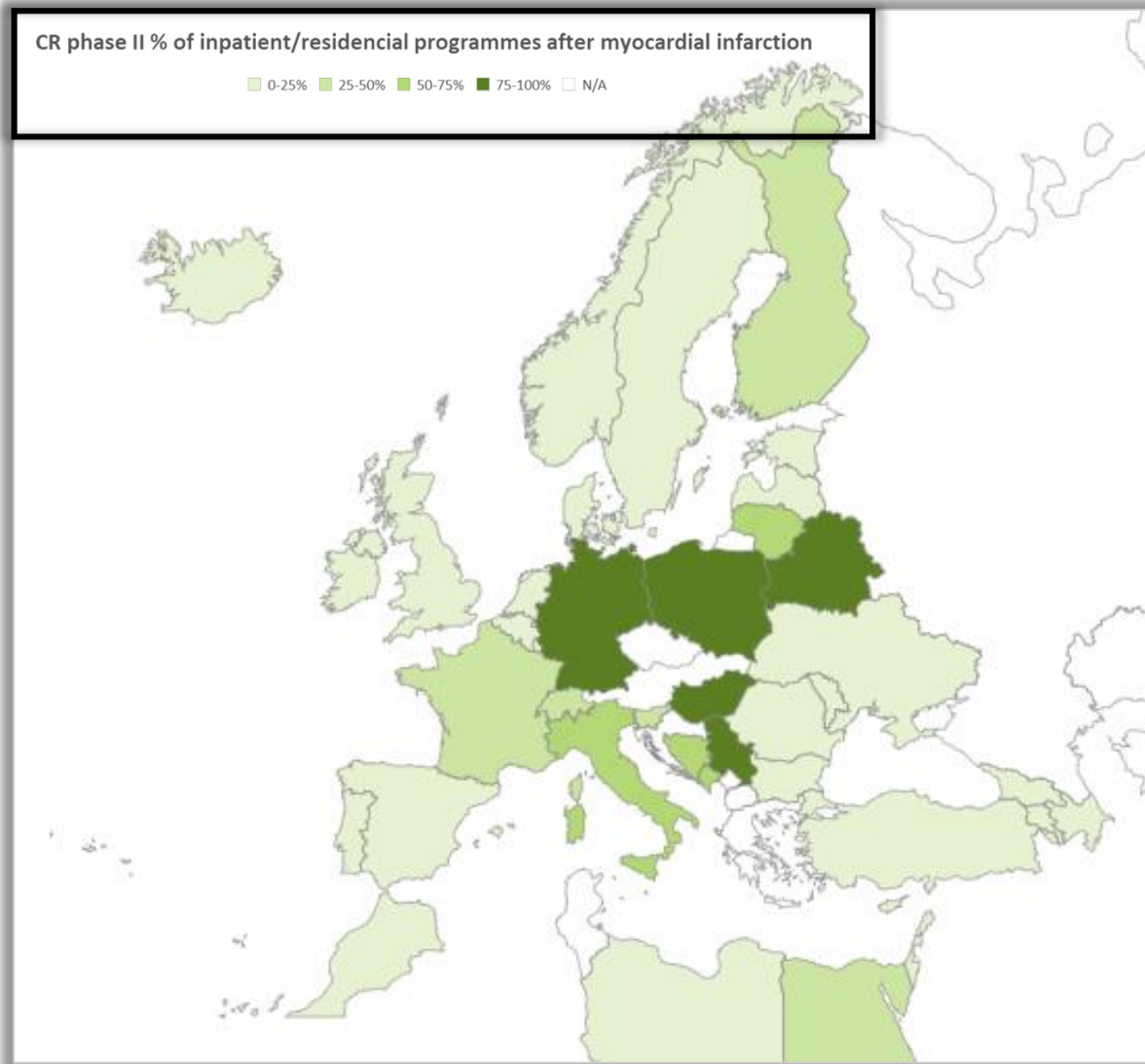
14 countries: 0-12 sessions

23 countries: 13-24 sessions

4 countries: 25-35 sessions

1 country: 36 +sessions

OCRE part 2



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

28 countries: 0-25%

5 countries: 25-50%

4 countries: 50-75%

5 countries: 75-100%

OCRE part 2



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

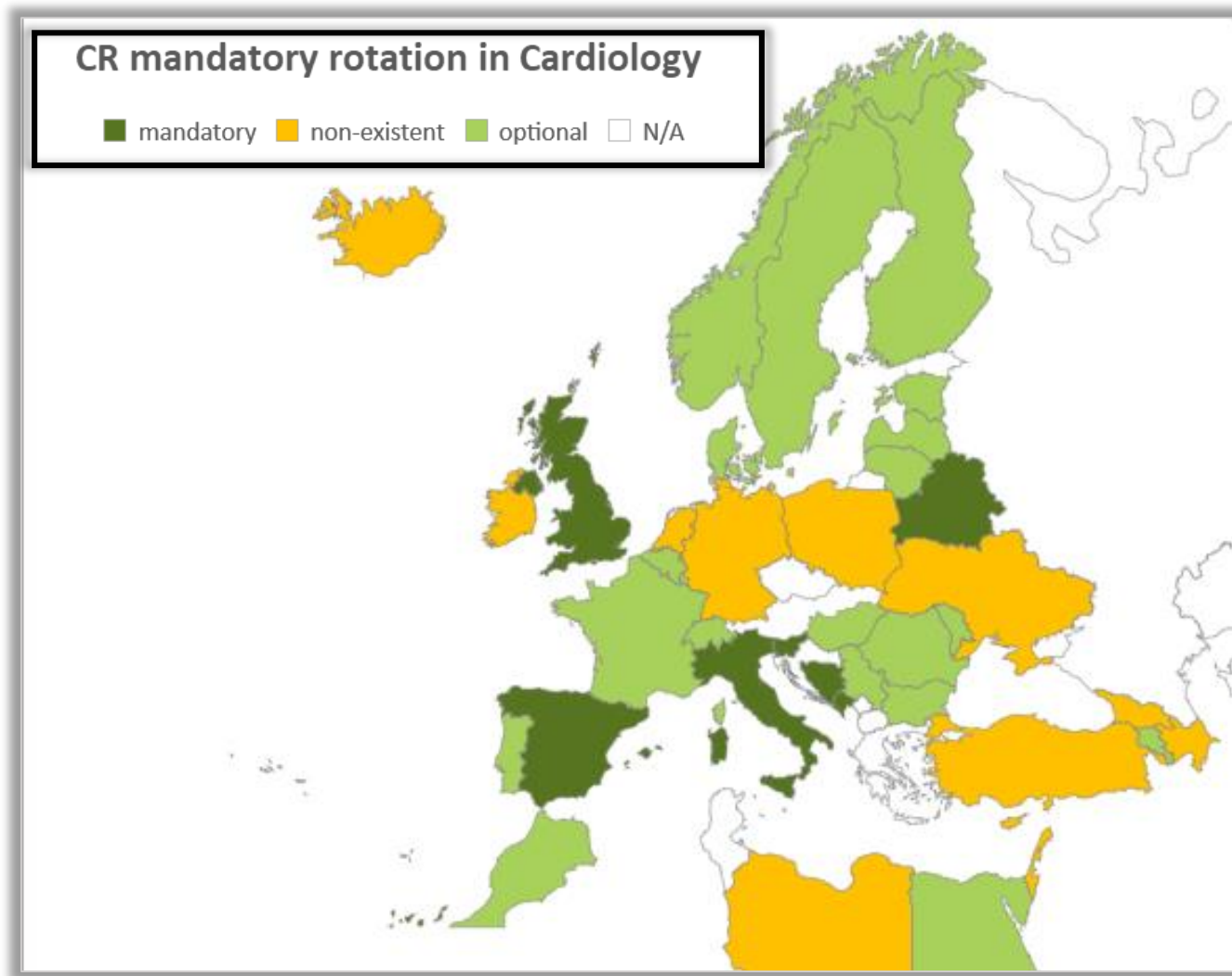
9 countries: 0-25%

8 countries: 25-50%

8 countries: 50-75%

17 countries: 75-100%

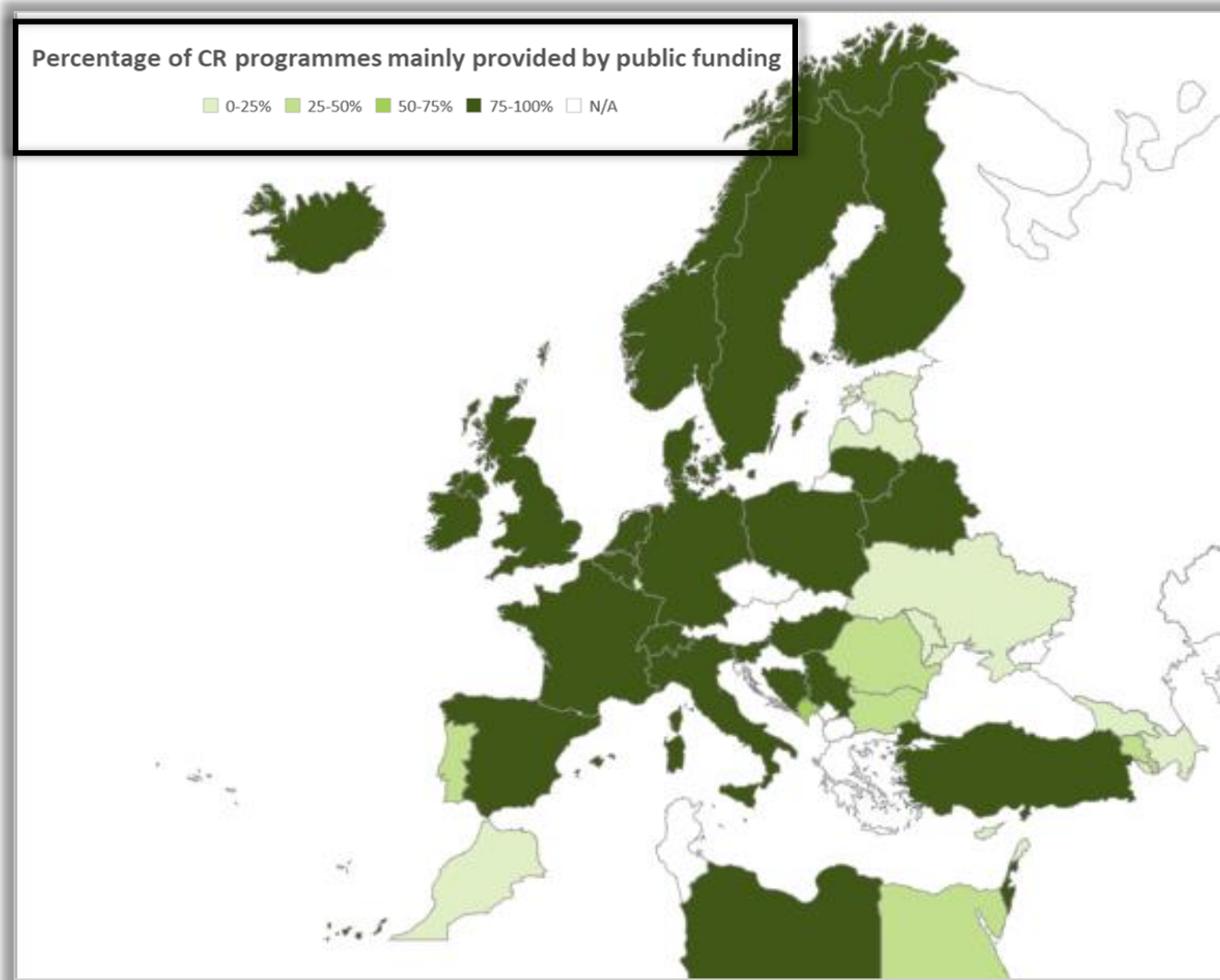
OCRE part 2



CR mandatory rotation in Cardiology training

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

OCRE part 2



Percentage of CR programmes mainly provided by public funding

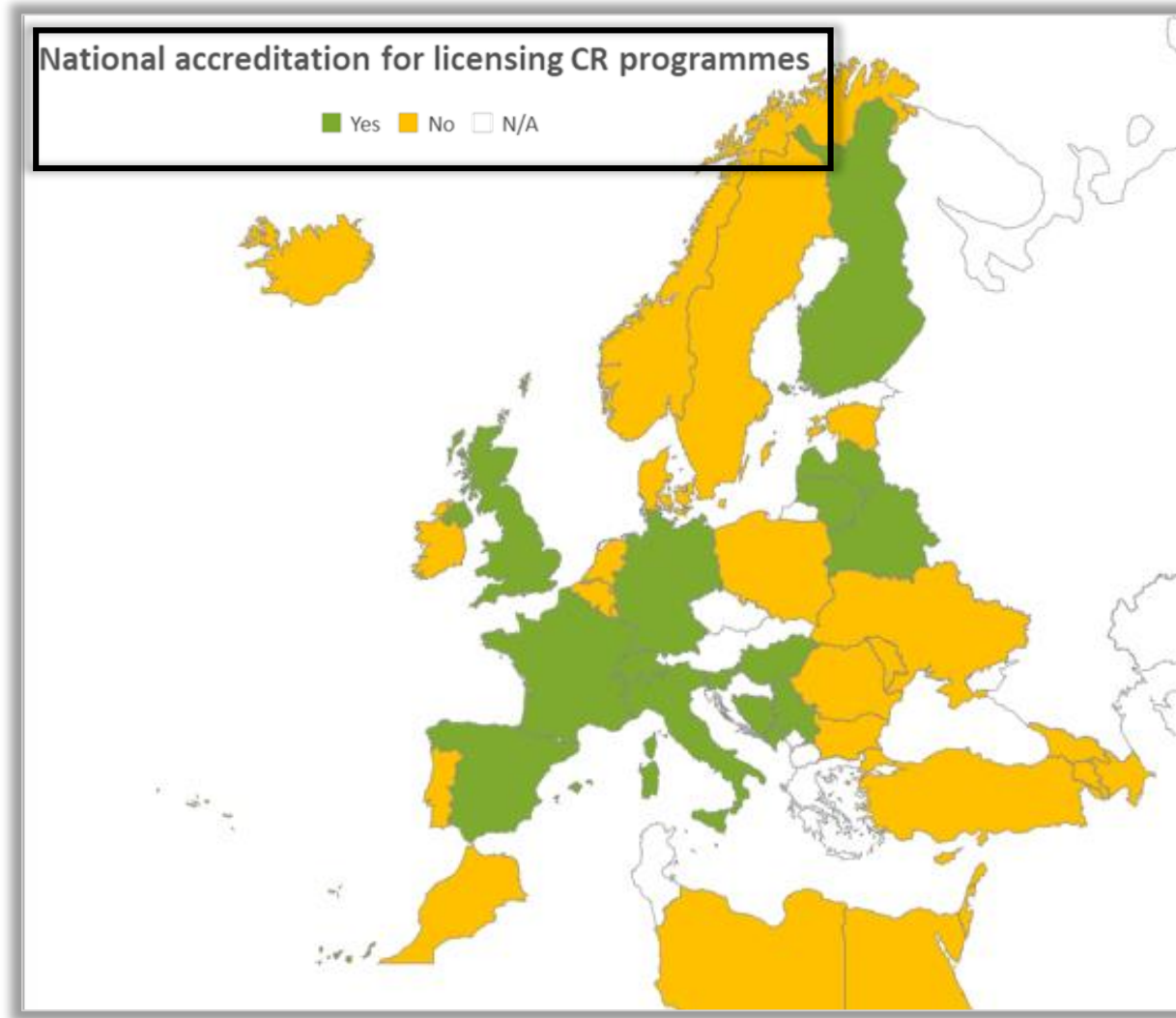
10 countries: 0-25%

5 countries: 25-50%

1 country: 50-75%

26 countries: 75-100%

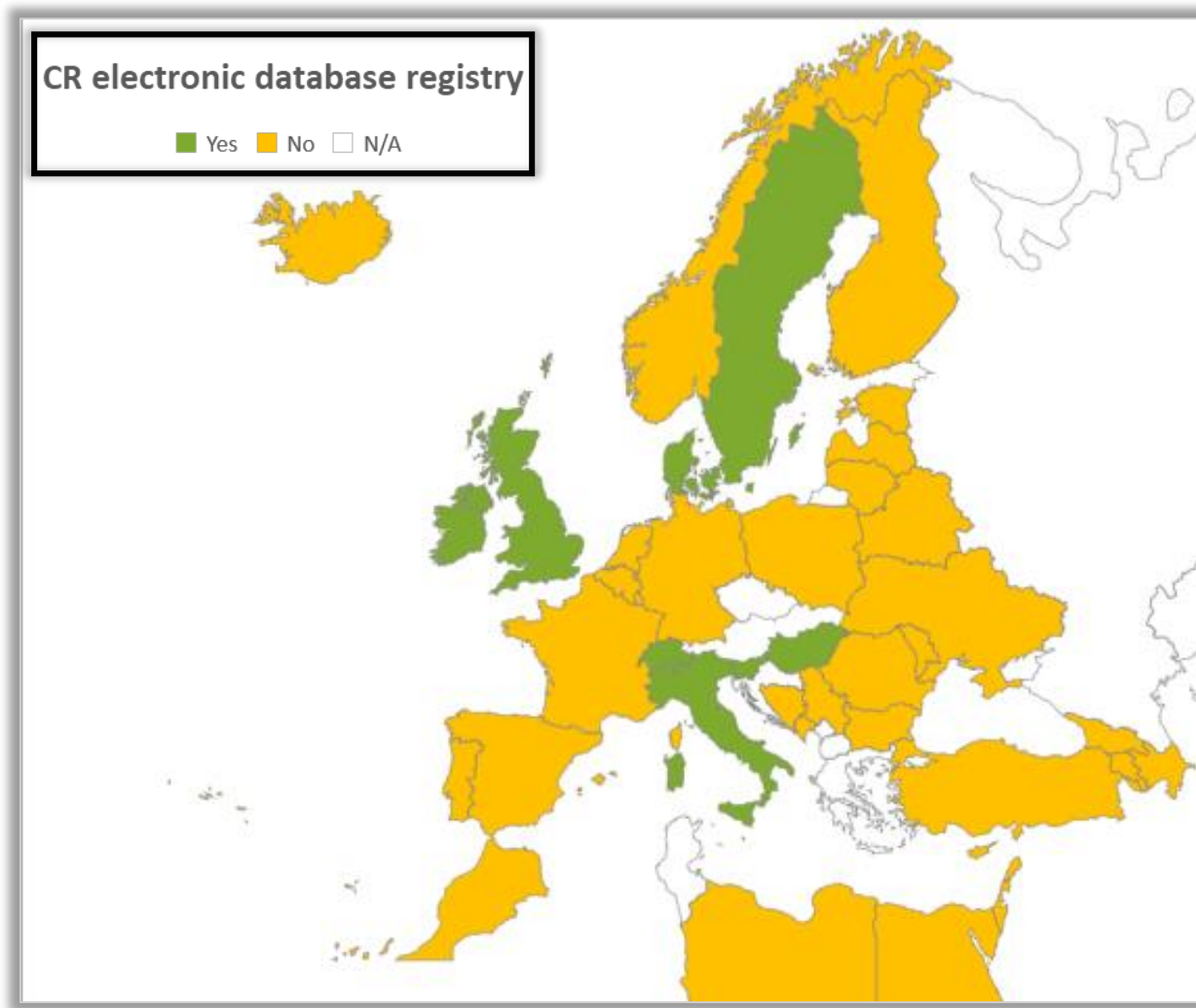
OCRE part 2



National accreditation program for licensing CR programs

15 countries

OCRE part 2



National CR electronic database registry

8 countries

Standardization and quality improvement of secondary prevention through cardiac rehabilitation programmes in Europe: the avenue towards an EAPC/ESC Accreditation Program.

A position statement of Cardiac Rehabilitation Section of the European Association of Preventive Cardiology (EAPC)

Authors: Ana Abreu^{1,2}, Ines Frederix^{3,4,5,6}, Paul Dendale^{3,4}, Arne Janssen⁶, Patrick Doherty⁷, Massimo Piepoli⁸, Heinz Voller^{9,10} on behalf of the CR Section of EAPC

Reviewers: Marco Ambrosetti¹¹, Constantinos H. Davos¹²

To be published at the EJPC

Career Development

Certification

Training Grants and Fellowships

Accreditation

EAPC Preventive Cardiology Centre Accreditation

Recognising and monitoring the quality of cardiovascular preventive care in ESC member and ESC affiliated cardiac societies.

Topic(s): *Rehabilitation and Sports Cardiology; Risk Factors and Prevention;*

Who can apply?

- Centre/department/outpatient clinic, (public or privately run) providing cardiovascular risk prevention in an ESC member or ESC Affiliate country.
- Must be in operation for a minimum of two years.
- Must have at least one current staff member who is an EAPC Silver or Gold Member.
- Applications shall be submitted online.
- Documents, letters, and applications must be submitted in English.

Accredited centres by EAPC

We are pleased to share the list of centres already accredited:

Centre	Country	Cardiovascular risk management and prevention	Secondary prevention and cardiac rehabilitation	Sports cardiology	Valid until
European Prevention Center (EPC)	Germany	X			August 2022
University Medical Center Utrecht	The Netherlands	X	X	X	June 2022
CRY Centre for Sports Cardiology Cardiology Clinical Academic Group St George's, University of London	United Kingdom			X	April 2022
Preventive sports medicine and sports cardiology Centre, Munich	Germany			X	April 2022
Jessa Ziekenhuis Hospital, Hasselt	Belgium		X		April 2022
Department of Cardiology Interdisciplinary Centre for Sports & Exercise Medicine Inselspital, University Hospital Bern	Switzerland		X		April 2022

LET'S GO FOR THE BEST CR IN EUROPE



I Am Always Satisfied with the Best

Winston Churchill