EUROHEART:
a tool to analyze ACS treatment across Europe and harmonize strategies

EuroHeart
European Unified Registries for Heart Care
Evaluation and Randomised Trials

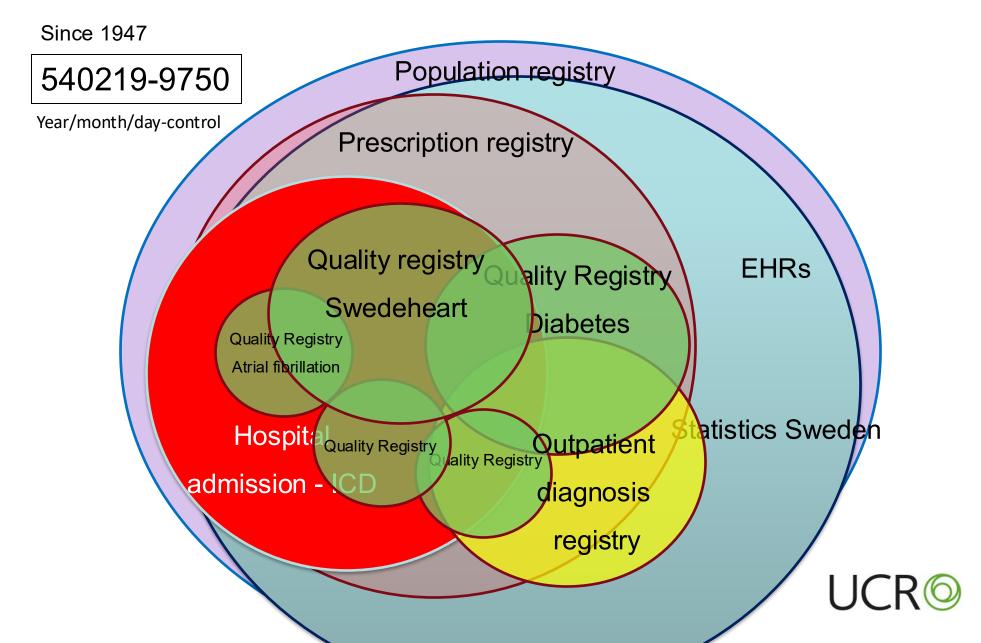www.escardio.org/euroheart

ESC
European Society
of Cardiology

Data bases in Sweden based on personal number with patient characteristics, treatments and outcomes

Data bases in Sweden based on personal number
with patient characteristics, treatments and outcomes

Since 1947

540219-9750

Year/month/day-control

Population registry

Prescription registry

Quality registry
Swedeheart

Quality Registry
Diabetes

Quality Registry
Atrial fibrillation

EHRs

Hospital
admission - ICD

Quality Registry

Quality Registry

Outpatient
diagnosis
registry

Statistics Sweden

UCR

SWEDEHEART

Number of cases annually: > 80 000

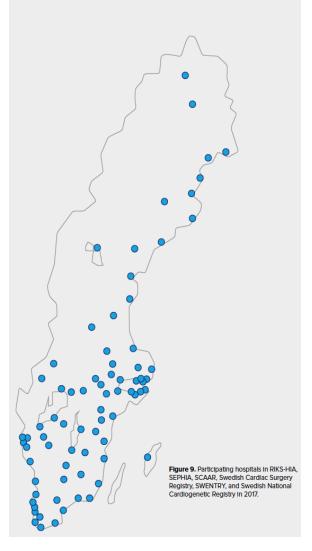|	
RIKS-HIA	73 CCU hospitals, 100%
SCAAR	30 PCI hospitals, 100%
Percutaneous valves	7 hospitals, 100%
Heart surgery	7 hospitals, 100%
Secondary prevention	67 hospitals, 85%
Cardio genetics	5 university hospitals
Cardiac CT	10 large hospitals
Continuous bio banking	3 university hospitals

>300 variables - baseline, procedural, outcomes

At monitoring: 95-96% agreement.

Figure 9. Participating hospitals in RIKS-HIA, SEPHIA, SCAAR, Swedish Cardiac Surgery Registry, SWENTRY, and Swedish National Cardiogenetic Registry in 2017.
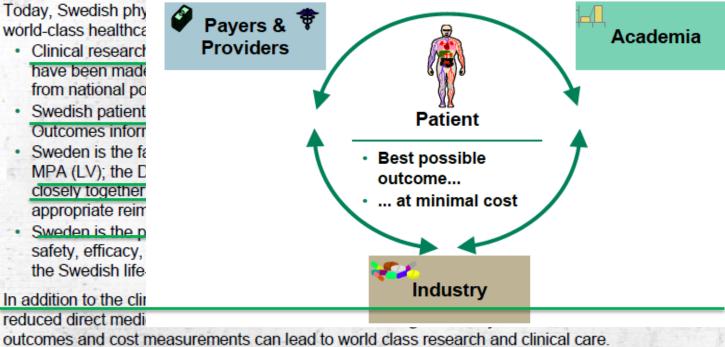
A shared 10 year vision for Swedish healthcare

Swedish healthcar

In the past 10 years
Today, Swedish phy
world-class healthca
- Clinical research
  have been made
  from national po
- Swedish patient
  Outcomes inforr
- Sweden is the fa
  MPA (LV); the D
  closely together
  appropriate reim
- Sweden is the p
  safety, efficacy,
  the Swedish life-

In addition to the cli
reduced direct medi
outcomes and cost measurements can lead to world class research and clinical care.

gust 18, 2019

alized medicine.
tools to deliver
e characteristics:
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y.
The Swedish
centers work
ciently determine

post-approval
reinvigoration of

~50 BSEK in
eager to learn how

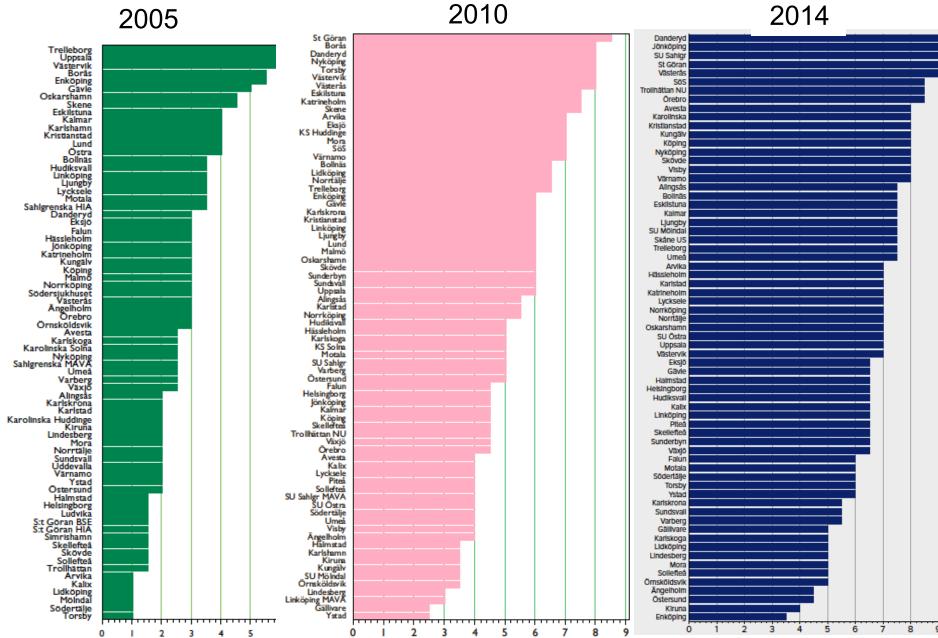## Examples for all stakeholders on following pages

Payers & Providers

Academia

Patient
- **Best possible outcome...**
- **... at minimal cost**

Industry

MI quality index 2004

| Quality indikator	0,5 points	1 points
Reperfusion for STEMI/LBBB.	80%	85%
Reperfusion for STEMI/LBBB within recommended time (PCI within 90 min and thrombolysis within 30 min)	75%	90%
Coronary angiogram for target population with NSTEMI	75%	80%
LMW Heparin/ Heparin/ Fondaparinux for NSTEMI	90%	95%
ASA, other platelet inibitor or anticoag for MI	90%	95%
P2Y12-blocker for NSTEMI	85%	90%
Betablocker for MI.	85%	90%
Lipid lowerer post MI	90%	95%
ACEinh/ARB for target population post MI.	85%	90%

Treatments STEMI

Szummer EHJ, 2017. 38 (3056-65)
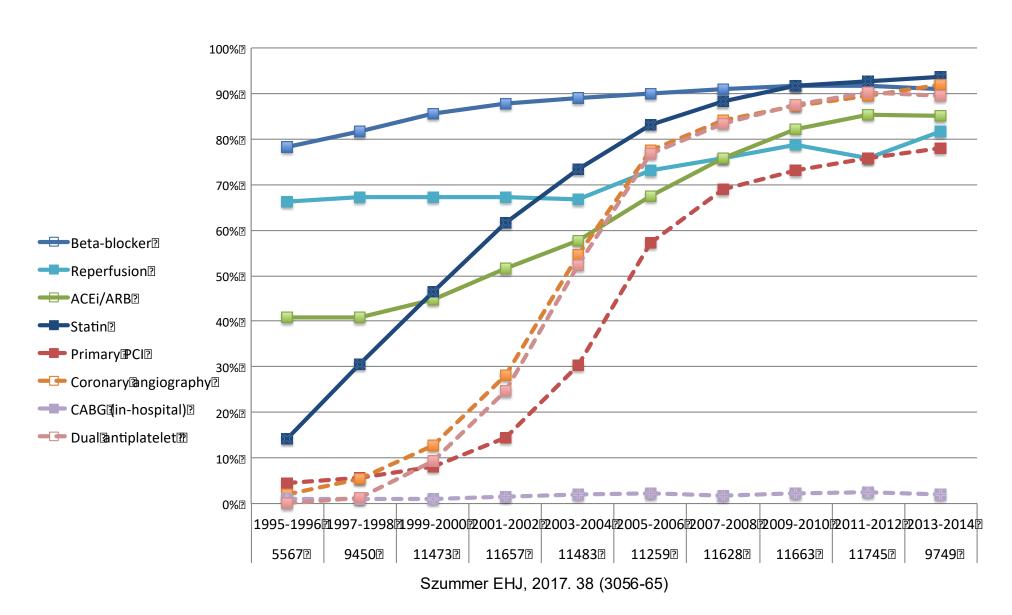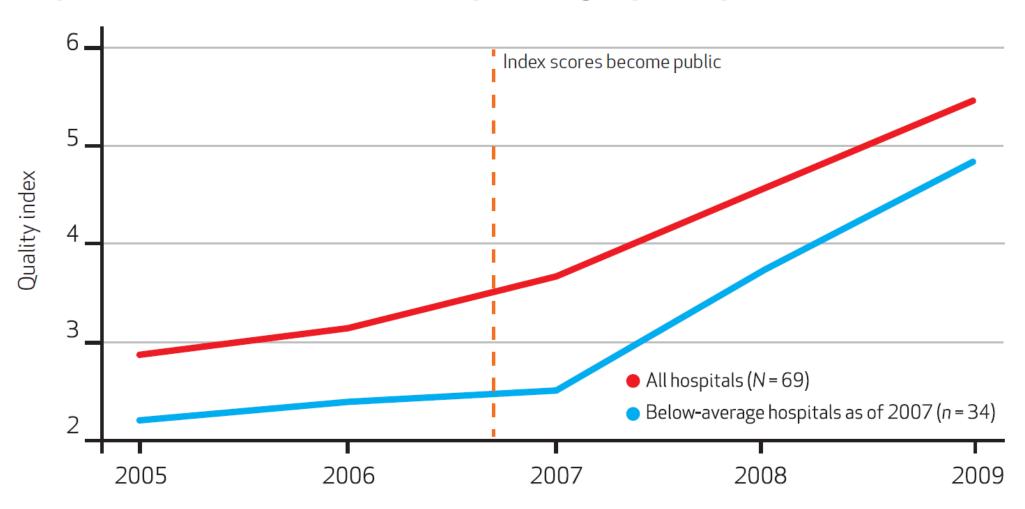
Association to start of public reporting

Hospital Scores On The Swedish Coronary Care Registry Quality Index, 2005–09

Index scores become public

All hospitals (N = 69)

Below-average hospitals as of 2007 (n = 34)

Larsson et al. Health Affairs 2012; 31(1)

Comparative effectiveness

Hospitals' 30 day mortality rates for acute myocardial infarction and between hospital variation in mortality were greater in the UK than in Sweden
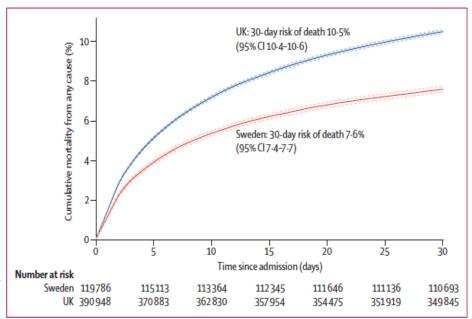
This was associated with, and may be partly accounted for by, the greater variation in practice as regards guideline recommended treatment for acute myocardial infarction in the UK hospitals

More consistent healthcare across all hospitals with better use of guideline recommended treatment may not only reduce practice variation but also deliver improved clinical outcomes for patients with acute myocardial infarction

Acute myocardial infarction: a comparison of short-term survival in national outcome registries in Sweden and the UK

Sheng-Chia Chung, Rolf Gedeborg, Owen Nicholas, Stefan James, Anders Jeppsson, Charles Wolfe, Peter Heuschmann, Lars Wallentin, John Deanfield, Adam Timmis, Tomas Jernberg, Harry Hemingway

UK: 30-day risk of death 10·5% (95% CI 10·4–10·6)

Sweden: 30-day risk of death 7·6% (95% CI 7·4–7·7)

Cumulative mortality from any cause (%)

Time since admission (days)

Number at risk
Sweden	119786	115113	113364	112345	111646	111136	110693
UK	390948	370883	362830	357954	354475	351919	349845

Chung Lancet 2014

the**bmj** | BMJ 2015;351:h3913 | doi: 10.1136/bmj.h3913

■ Sweden (87 hospitals); median 8.4% (IQR 7.0-9.6%)
□ UK (242 hospitals); median 9.7% (IQR 8.1-11.6%)

No of hospitals
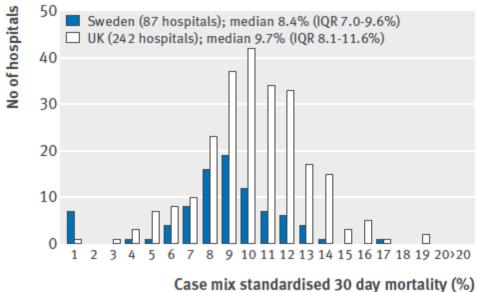
Case mix standardised 30 day mortality (%)

Fig 4 | Hospital variation in case mix standardised 30 day mortality (%) in Sweden and UK, 2004-10

Chung BMJ 2015

EuroHeart

Annual Report 2024
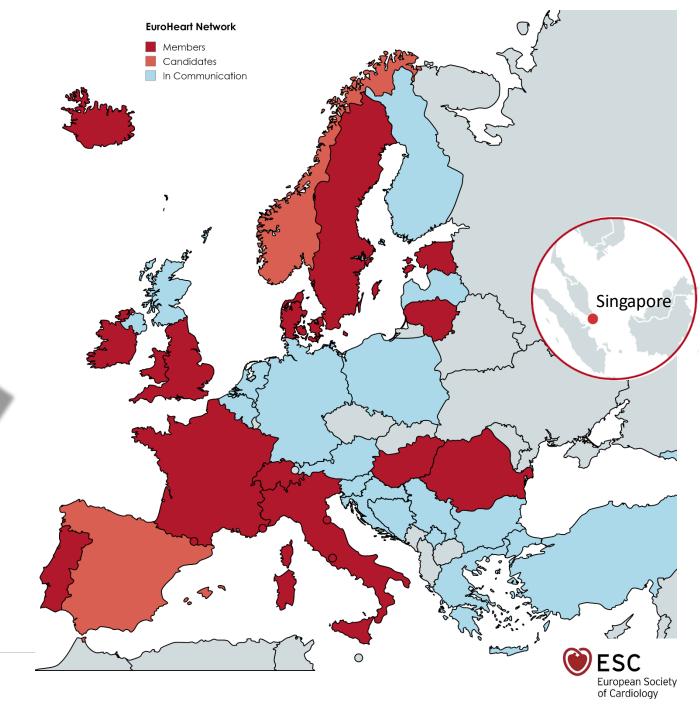
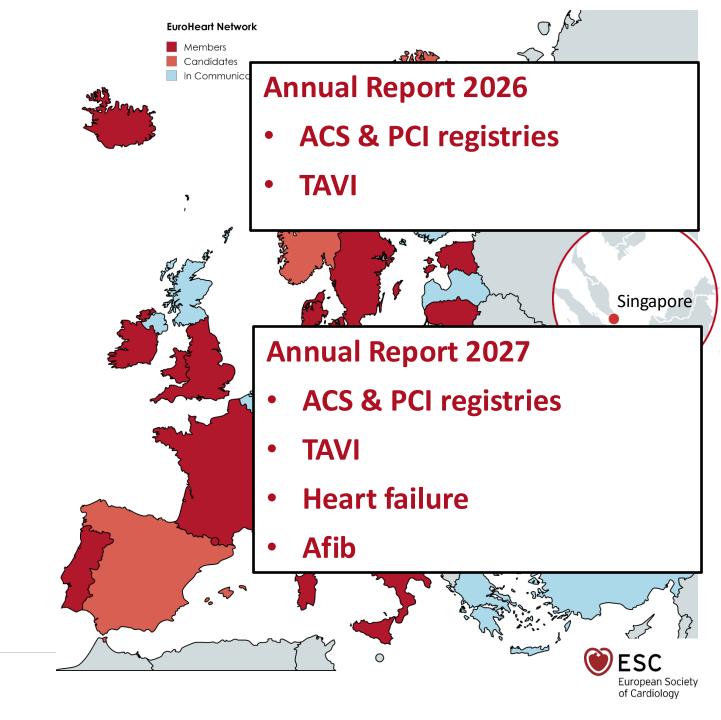## from the ACS & PCI registries

based on

- 7 countries

- 26,022 STEMI & 37,739 NSTEMI

Annual Report 2025

from the ACS & PCI registries

based on

- 14 countries

- 65.000 STEMI & 113.000 NSTEMI

Hotline ESC -25

EuroHeart Network

- Members
- Candidates
- In Communication

Singapore

ESC
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of Cardiology

EuroHeart

Annual Report 2024

from the ACS & PCI registries

based on

- 7 countries
- 26,022 STEMI & 37,739 NSTEMI

Annual Report 2025

- ACS & PCI registries

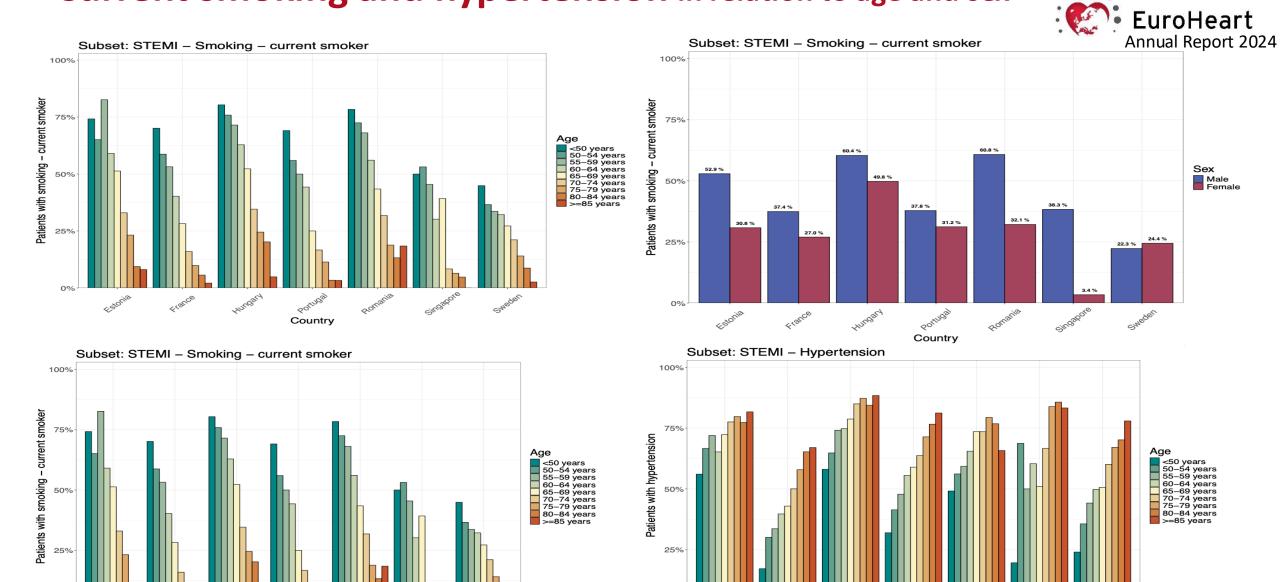based on

- 14 countries
- 65.000 STEMI & 113.000 NSTEMI

Annual Report 2026

- ACS & PCI registries
- TAVI

Annual Report 2027

- ACS & PCI registries
- TAVI
- Heart failure
- Afib

EuroHeart Network

- Members
- Candidates
- In Communic...

Singapore

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of Cardiology

Current smoking and hypertension in relation to age and sex

EuroHeart
Annual Report 2024
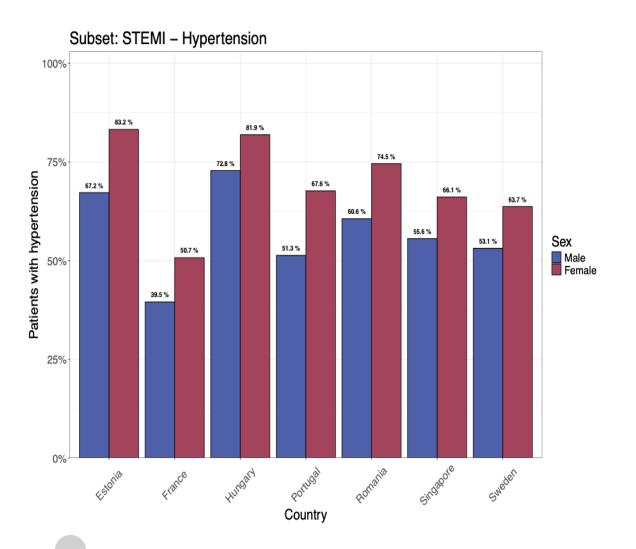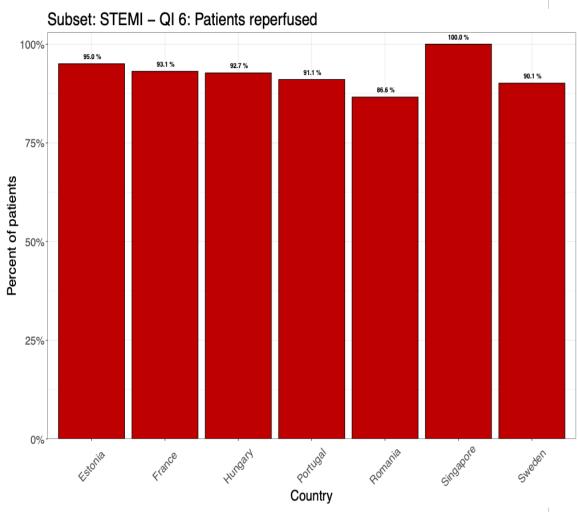
Quality indicators on reperfusion in STEMI

Subset: STEMI – Hypertension

Subset: STEMI – QI 6: Patients reperfused
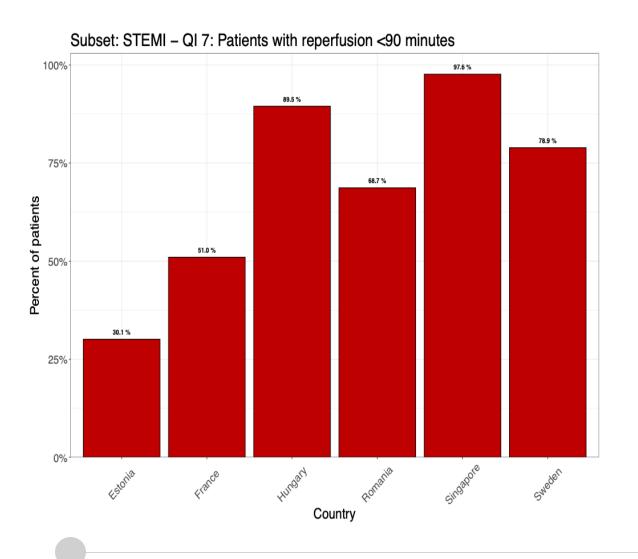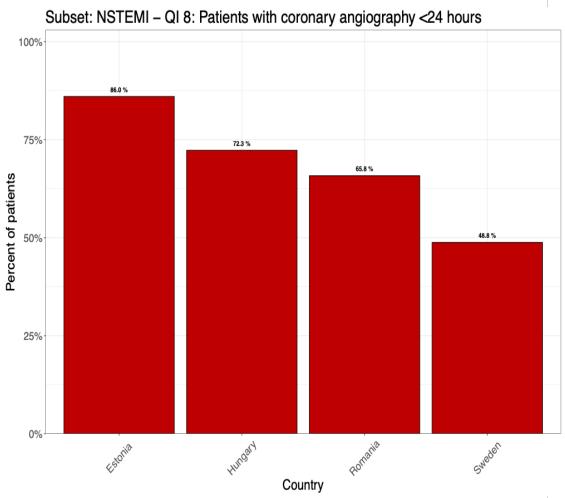
Quality indicator on coronary angiography in NSTEMI

EuroHeart
Annual Report 2024

Subset: STEMI – QI 7: Patients with reperfusion <90 minutes

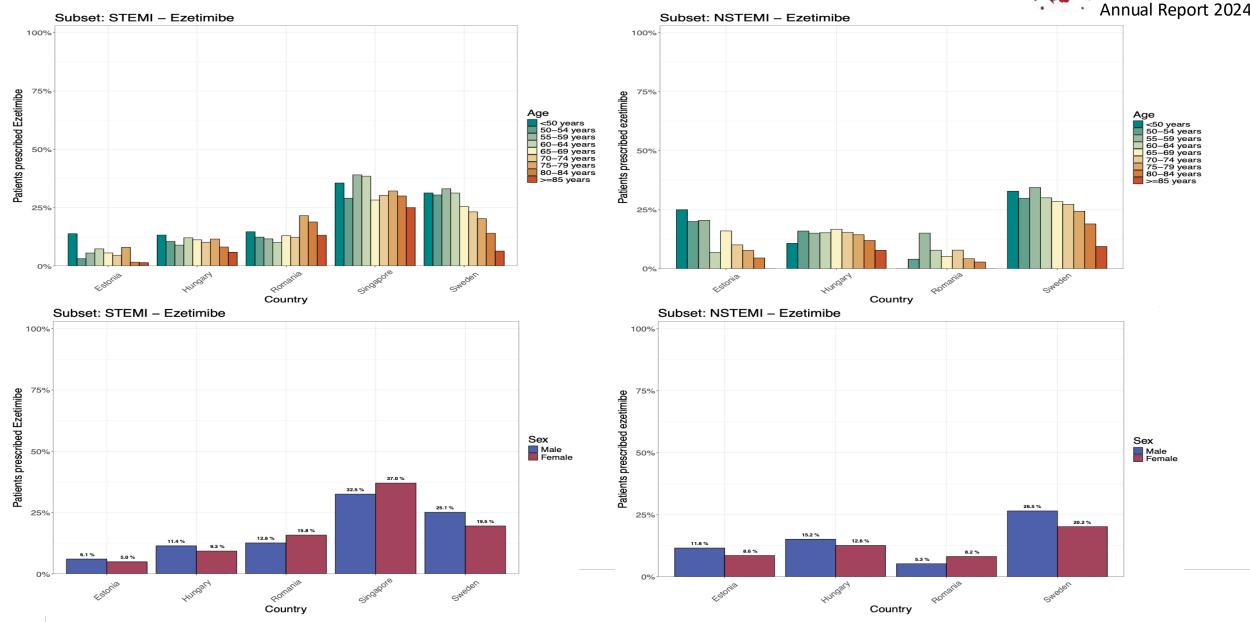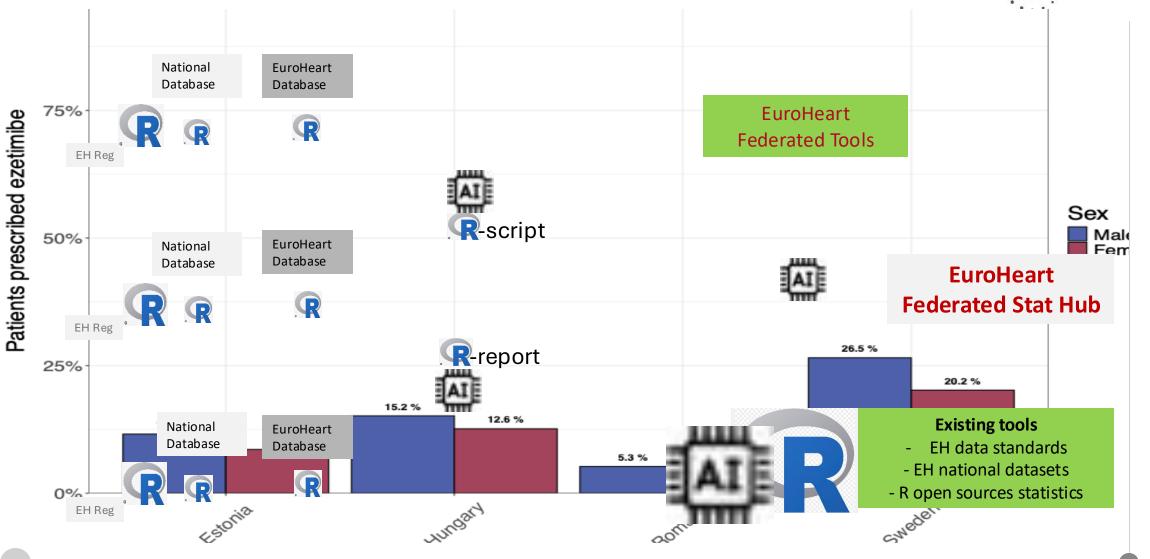Subset: NSTEMI – QI 8: Patients with coronary angiography <24 hours

Ezetimibe at discharge in relation to age and sex

EuroHeart Federated and AI supported analyses

- Federated analyses allow multinational, multidatabase, multivariable studies without sharing patient level data
- All data remains local and patient privacy is protected.

ESC Virtuous Circle

RESEARCH

Guidelines

Educational Activities

Registries

Clinical Practice

Quality Indicators

Enable research building upon EuroHeart and GRASP large patient cohorts

Monitor Real-World practice through EuroHeart registries, GRASP observational studies and Atlas of Cardiology

Define common data standards for monitoring CVD Quality of Care

Provide Score2 Risk Assessment tools through CV Risk Collaboration

EuroHeart