
ESC **EUROHEART** REPORT 2025

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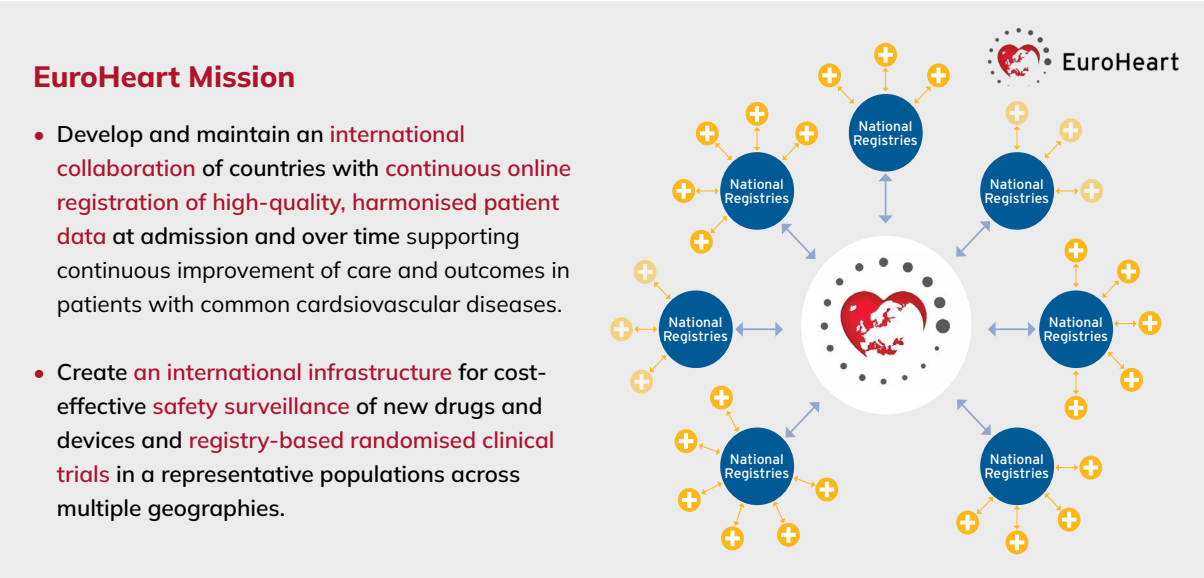
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Introduction02

EuroHeart is a collaboration between national quality registries in cardiovascular care across Europe, coordinated and supported by the ESC.^{1,2} Its aim is to improve cardiovascular care through continuous monitoring and comparison of patients, disease conditions, diagnostics, interventional and medical treatments, and outcomes for common heart conditions within and between different European countries. The initiative also seeks to utilise EuroHeart’s international network of national quality registries for research studies, including prospective registry-based randomised clinical trials, safety studies of new implants and drugs, and observational studies to generate real-world evidence on the effectiveness and side effects of established treatment strategies in different patient groups.

Figure 1. EuroHeart mission and network concept



DISEASE CONDITIONS AND INTERVENTIONS INCLUDED IN THE COLLABORATION

Currently, the collaboration includes registries on patients with:

- Acute coronary syndrome (ACS) and/or percutaneous coronary intervention (PCI) – annual re-

- ports available in 2023, 2024 and 2025.
 - Valvular heart disease and transcatheter aortic valve procedures – first annual report planned for 2026.
- Over the next few years, the collaboration will also include

Introduction02

benchmarks, guidelines, and quality indicators. Participating hospitals are also invited to join and contribute to research and development projects, including registry-based randomised trials (R-RCTs), evaluating the effectiveness and safety of both new and established treatments. In doing so, EuroHeart contributes to reducing care disparities within and between participating countries and generates new knowledge on established and emerging treatment strategies.

PLANNING OF REGISTRY-BASED
RANDOMISED CLINICAL TRIALS

Over the last decade, R-RCTs have emerged as a cost-effective complement and alternative to conventional RCTs for providing evidence on many unanswered questions in cardiovascular care, raised by clinical investigators, healthcare authorities, or the industry. Embedding a trial in a prospective national registry allows the recruitment and randomisation of unselected consecutive patients as part of routine care, utilising the registry as the main component of the case-record form, and obtaining outcome information by linking with other national healthcare registries.

The EuroHeart collaboration is currently planning and preparing its first collaborative R-RCT, with participation from all countries able to adapt their registry environment to a clinical trial setting. To support this, EuroHeart is developing an infrastructure, including a dedicated study application for randomisation and an eCRF that accepts data both by direct entry and via transfer from national registries and other data sources, allowing participation of countries and centres with differing local infrastructures.

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EUROHEART GOVERNANCE 2025

EuroHeart began in 2019 as a pilot project at the suggestion of Prof Barbara Casadei (Oxford, UK), then President of the European Society of Cardiology (ESC). The project's initial development from 2019 to 2024 was led by Prof Lars Wallentin (Uppsala, Sweden) and Prof Barbara Casadei as co-chairs, along with Prof Christopher P. Gale (Leeds, UK), Prof Aldo Maggioni (Milan, Italy), and Prof Stefan James (Uppsala, Sweden).

As of 2025, the project has transitioned into a permanent activity organised under the ESC Data Science Committee. The current central organisation of Euro

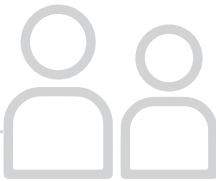
Fact boxes on different patient categories

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OBSERVATIONS ON THE INFLUENCE OF AGE

1. Median age is lower in STEMI than in NSTEMI.
2. Differences in age between country cohorts remain stable over the years.
3. Younger patients have higher rates of current smoking.
4. Older patients have more hypertension, diabetes, prior coronary heart disease, heart failure, and chronic kidney disease (CKD).
5. Older patients have more atrial fibrillation and are more frequently on oral anticoagulation.
6. There is less use of invasive procedures and treatments at advanced age (>80 years).
7. There is modest attrition in the use of some medical treatments in the elderly.
8. In-hospital and 30-day mortality are strongly related to age.

In summary
Risk factors and disease profiles differ by age. In-hospital and 30-day mortality remain high in older patients.



OBSERVATIONS ON SEX DIFFERENCES

1. Median age in women is higher than in men for both STEMI and NSTEMI.
2. Current smoking is less common in women.
3. Hypertension is more common in women.
4. Prior myocardial infarction and prior PCI are more common in men.
5. Standards of care are generally high and similar in women and men.
6. PCI treatment during hospital stay is slightly less common in women.
7. Platelet inhibitor treatment is slightly less common in women.
8. 30-day mortality is higher in women than in men.

In summary
Differences between the sexes in patient characteristics, treatments, and outcomes are largely explained by age differences between women and men with MI.



OBSERVATIONS ON PATIENTS WITH DIABETES

1. The prevalence of diabetes increases with age and is present in approximately 23

Baseline characteristics and comorbidities09

Figure 8. Age over time. Age in both (A) STEMI and (B) NSTEMI seem consistent over time.

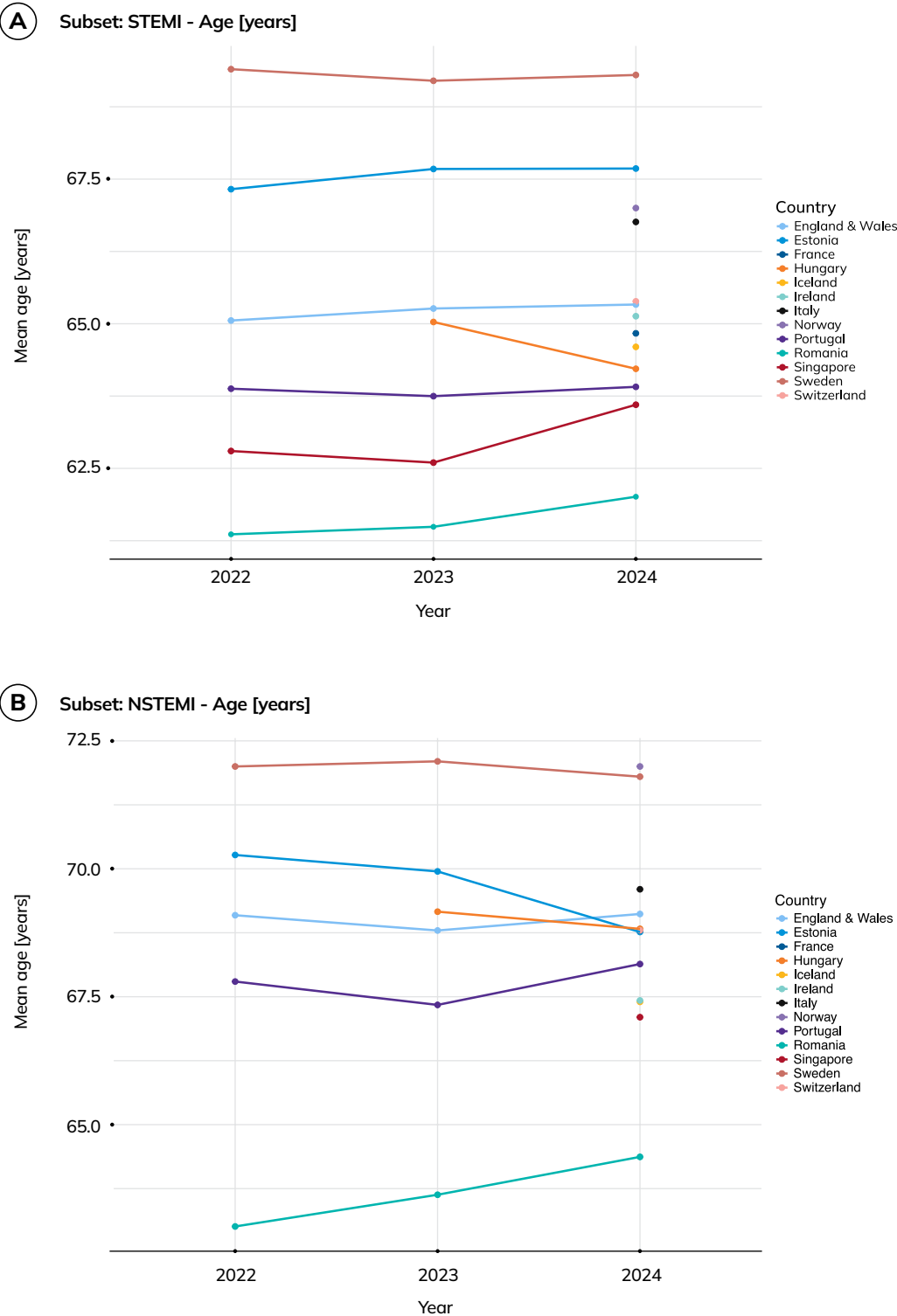
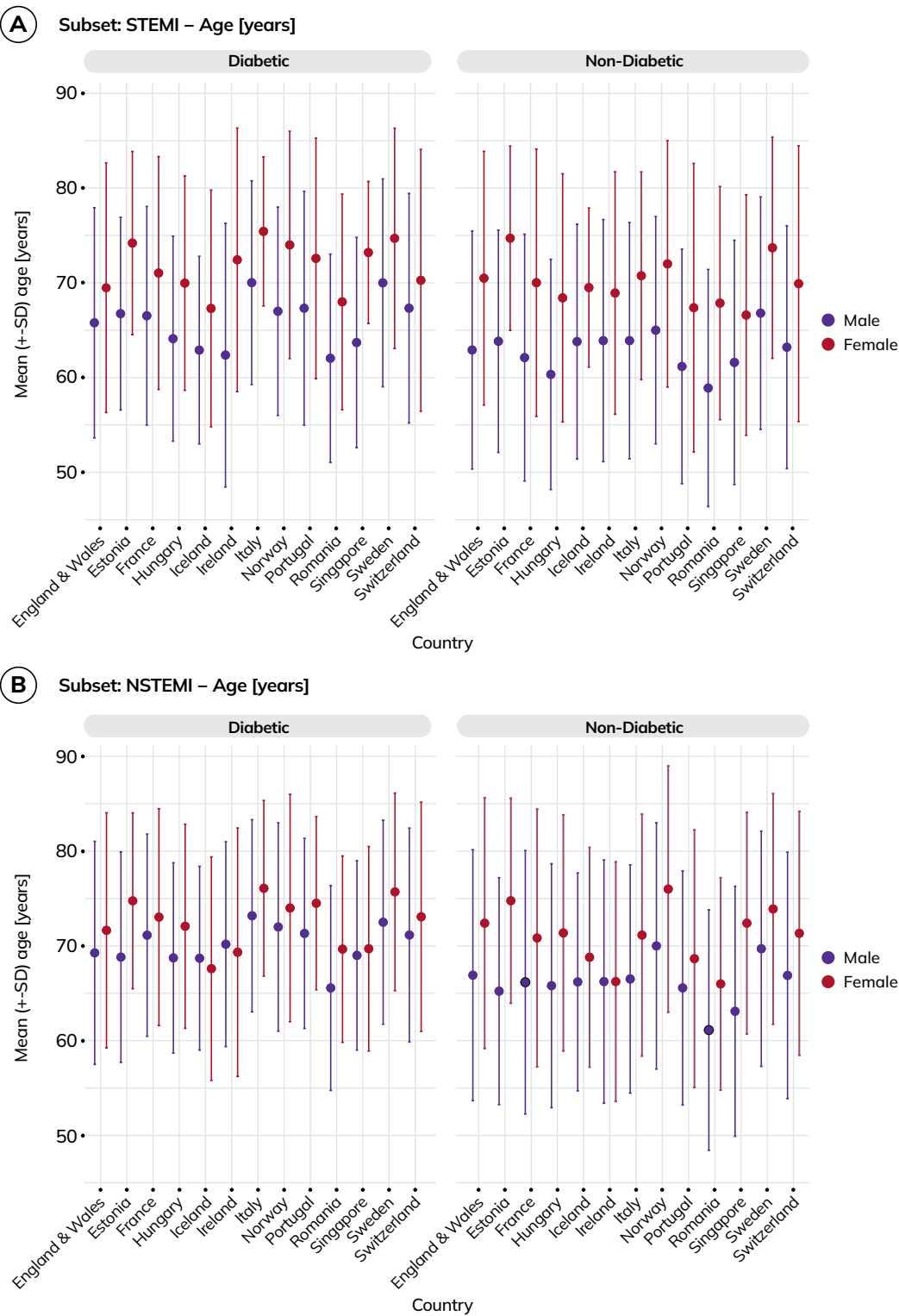


Figure 9. Age. Female and diabetic patients are generally older than male and non-diabetic patients, regardless of whether they have (A) STEMI or (B) NSTEMI



Baseline characteristics and comorbidities09

Figure 10. Body mass index. The mean BMI in patients with myocardial infarction was approximately 27.5 kg/m². Overall, BMI levels were similar among patients with (A) STEMI and (B) NSTEMI.

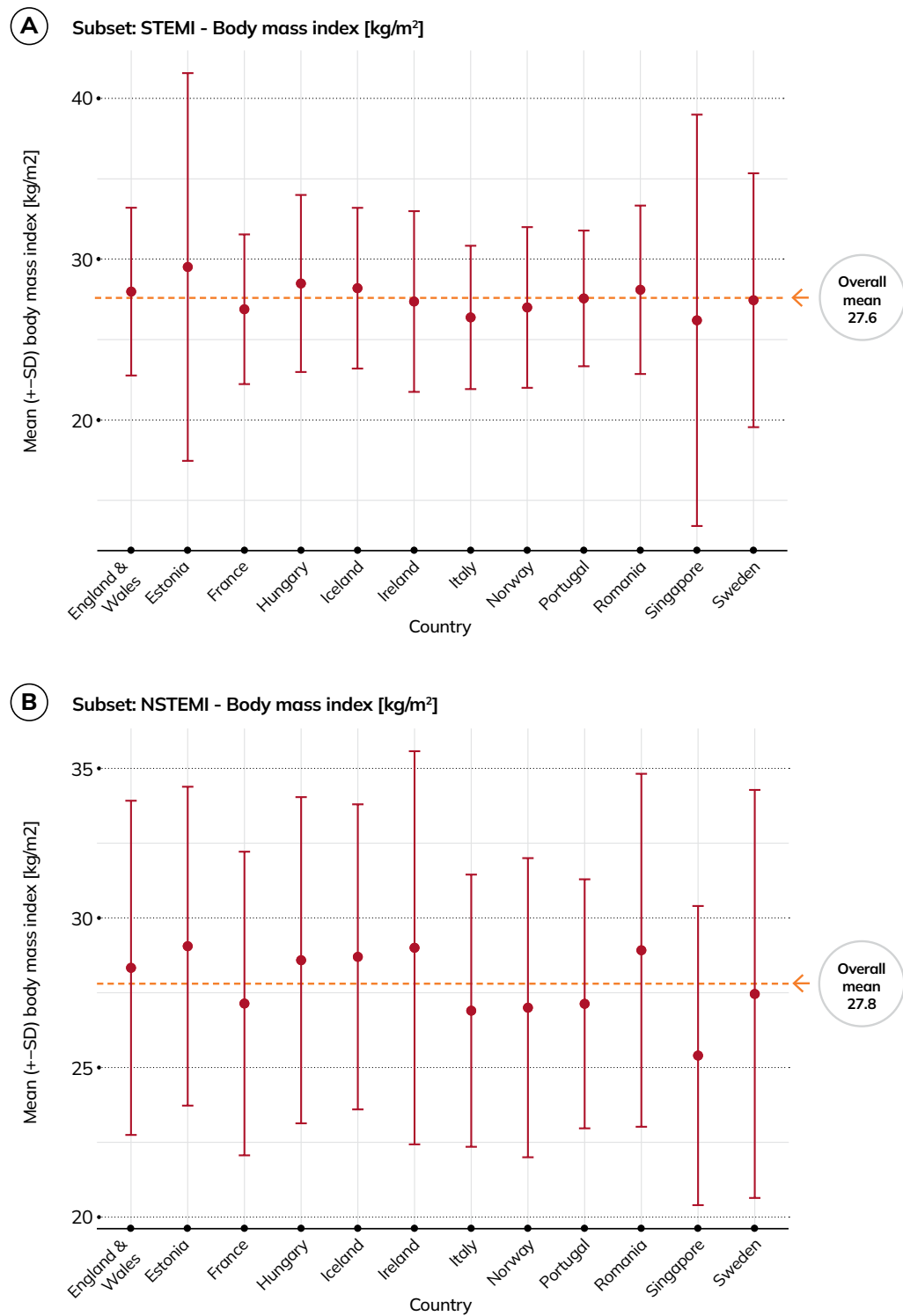
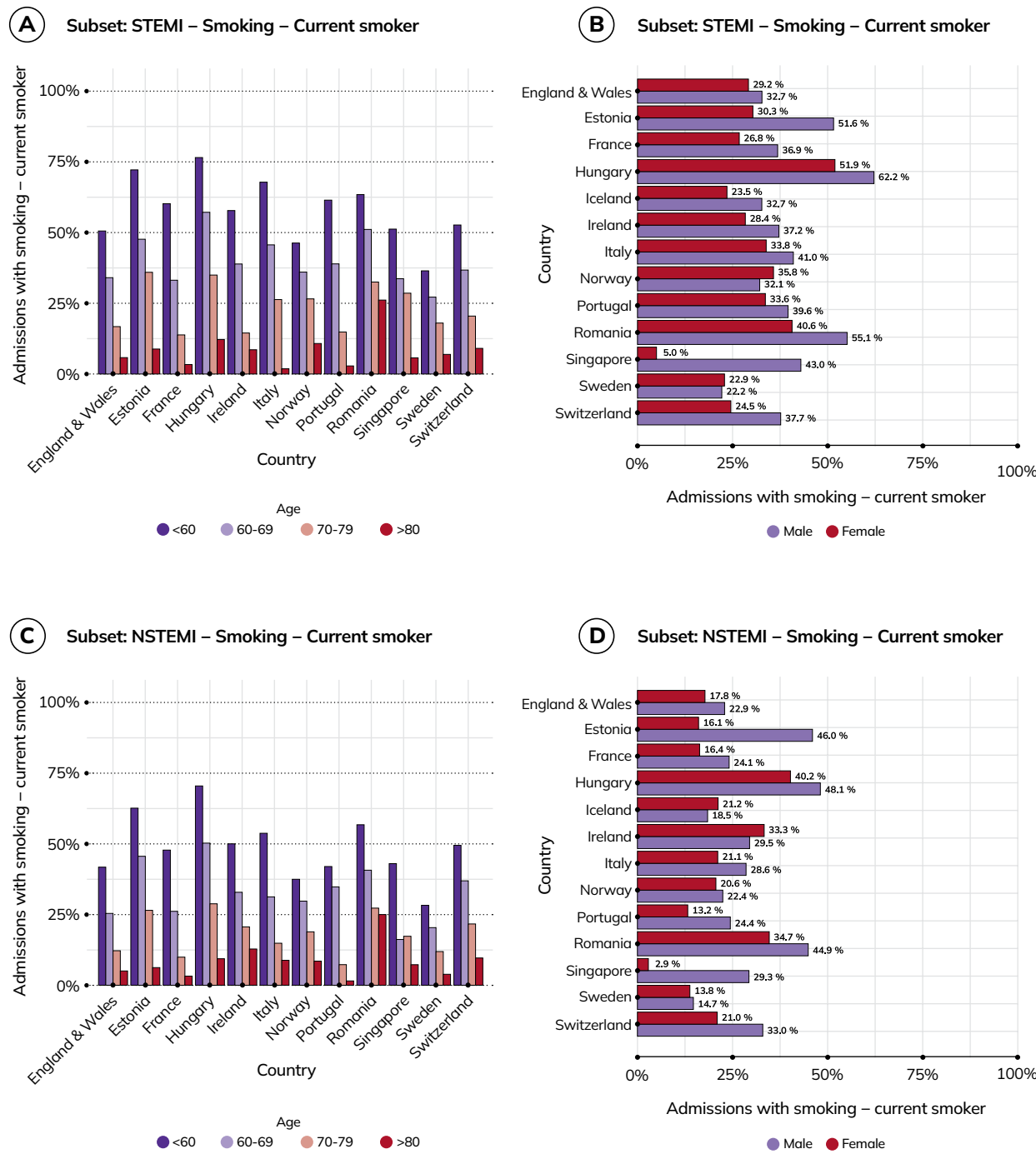
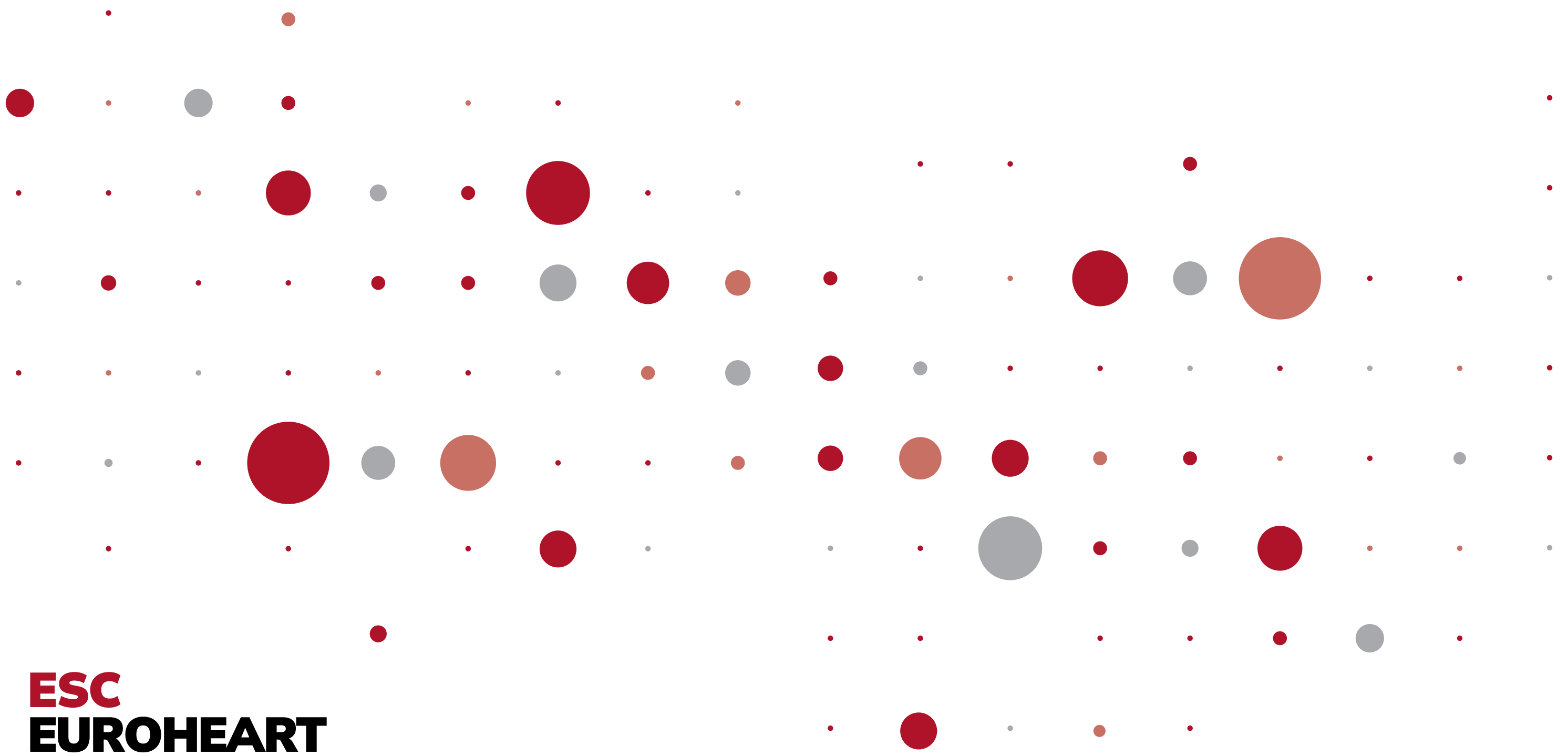


Figure 11. Smoking. A higher proportion of (A, B) STEMI patients were current smokers compared to (C, D) NSTEMI patients. When stratifying by age and sex, younger and male patients were more often current smokers.





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