



Tackling Sex Disparities in Cardiovascular Care

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ON THE last day of the European Society of Cardiology (ESC) 2026 Congress, experts discussed an important issue: the prevalence of cardiovascular disease (CVD) in women, and the disparity in care between genders. The session 'Women's hearts, global impact' was chaired by Cecilia Marianne Linder, Karolinska Institute, Stockholm, Sweden; and Gundo Weiler, WHO Representative, Copenhagen, Denmark.

These disparities in cardiovascular care between women and men reflect a systemic issue, rooted in wider challenges across policy, politics, and society. This session signified an important step in spotlighting the current inequalities and driving action to close these gaps.

WOMEN'S CARDIOVASCULAR HEALTH

Edina Cenko, University of Bologna, Italy, explained that the mortality-to-prevalence ratio for ischaemic heart disease was higher in women compared men (4.02% versus 3.27%).¹ From 2011–2021, the mortality rates for men fell by 24.0%, but only 19.1% for women. Drawing on work from Cenko and her colleagues in 2023,² in which they sought to examine the sex-specific differences in 30-day mortality in patients with acute coronary syndrome and acute heart failure at the time of presentation, they found that women experienced higher 30-day mortality than men, particularly among those presenting with ST-segment elevation myocardial infarction. This difference also persists after accounting for age and other factors, and even among patients treated with primary percutaneous coronary intervention, with the difference being particularly pronounced in women under 60 years of age.³

De novo heart failure at hospital presentation was also significantly higher for women than men (25.1% versus 20.0%; odds ratio [OR]: 1.34; 95% CI: 1.21–1.48),

and women had a higher 30-day mortality than men (25.1% versus 20.6%; OR: 1.29; 95% CI: 1.05–1.58). This sex difference persisted in patients with *de novo* heart failure, even those undergoing reperfusion therapy after hospital presentation (21.3% versus 15.7%; OR: 1.45; 95% CI: 1.07–1.96).⁴

Cenko highlighted two independent mechanisms that may contribute to this disparity: first, women tend to present later with symptoms; and second, women may experience poorer microvascular reperfusion even following percutaneous coronary intervention.

Geography also appears to contribute to this disparity.⁵ A study published in 2025 investigated sex differences in treatment and outcomes following myocardial infarction across countries with different income levels, finding that disparities in mortality were more pronounced in middle-income countries than in high-income countries. The analysis comprised 22,087 patients with myocardial infarction across six high-income countries and six middle-income countries. Among patients with ST-segment elevation myocardial infarction, women reportedly had a nearly double

30-day mortality rate than men (12.4% versus 5.8%; adjusted risk ratio: 2.30; 95% CI: 1.98–2.68), and this difference was less pronounced in high-income countries (6.8% versus 5.1%; adjusted risk ratio: 1.36; 95% CI: 1.05–1.75). Additionally, despite more regular treatments in middle-income countries, the sex-based mortality difference persisted even after revascularisation.

Traditional cardiovascular risk factors also contribute to the risk of disease, with smoking reportedly increasing the risk of a first acute coronary syndrome by almost four-fold in women and three-fold in men.⁶ Diet and metabolic risk factors have also been identified as contributors to the sex disparity in cardiovascular disease.¹

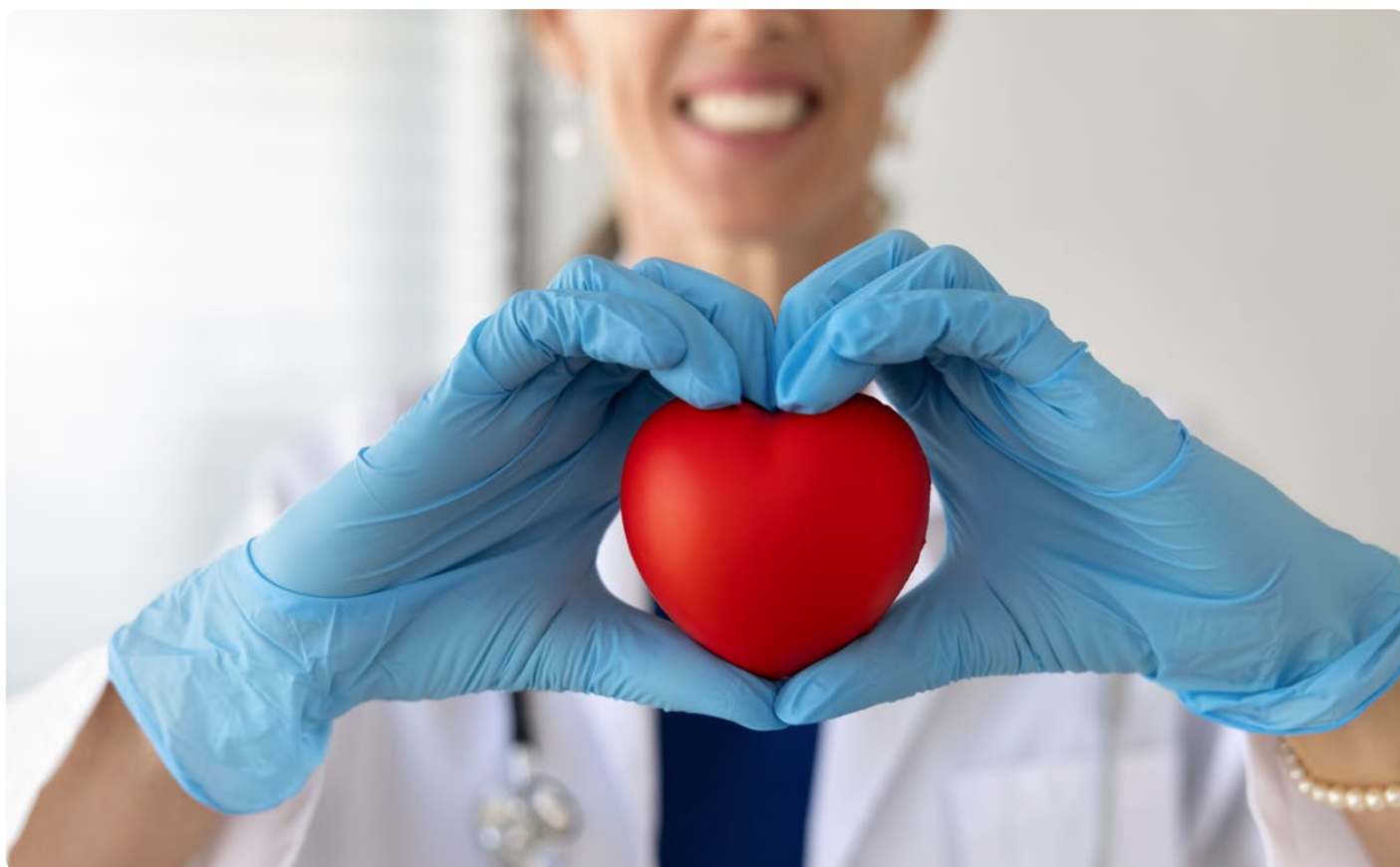
To close, Cenko highlighted some areas for change, including improved reporting of outcomes by sex and age, shortening the symptom-to-door time, targeting the microcirculation, making prevention sex-specific, and enrolling women in trials.

BRIDGING THE SEX AND GENDER DATA GAP

Manisha Nair, Professor of Global Health, Department of Public Health, Oxford University, UK, subsequently uncovered more on the sex and gender data gap in clinical trials from an epidemiological standpoint.

These disparities date back to significant historical events. In 1977, following the infamous thalidomide tragedy in the 1950s–60s, in which a sedative drug prescribed for morning sickness resulted in severe birth defects and miscarriages, the FDA rolled out a policy recommending the exclusion of women of child-bearing potential from participating in any Phase I and early Phase II clinical trials.⁷

91% of women with the six risk factors, comprising obesity, dyslipidaemia, hypertension, diabetes, family history, and smoking, did not receive a diagnosis of a CVD event compared to **47%** of men.



In 1993, this was reversed by the National Institutes of Health (NIH) Revitalization Act, which legalised the inclusion of women and minorities in federally funded clinical research, and, in 2016, the Sex and Gender Equity Research (SAGER) guidelines outlined a standardised international framework for reporting sex and gender dimensions in scientific and clinical research.⁸

However, Nair asked: “Is it enough to just have women presented in trials, and what does it mean to have a true sex and gender balance?” Ten years on from the release of the SAGER guidelines, there are still prominent gaps in reporting. A 2025 systematic review analysing clinical trials published between 2018–2024 reported a suboptimal median participation-prevalence ratio at 0.77 (95% CI: 0.74–0.79) and significant underrepresentation in certain diseases such as ischaemic heart disease and heart failure.⁹

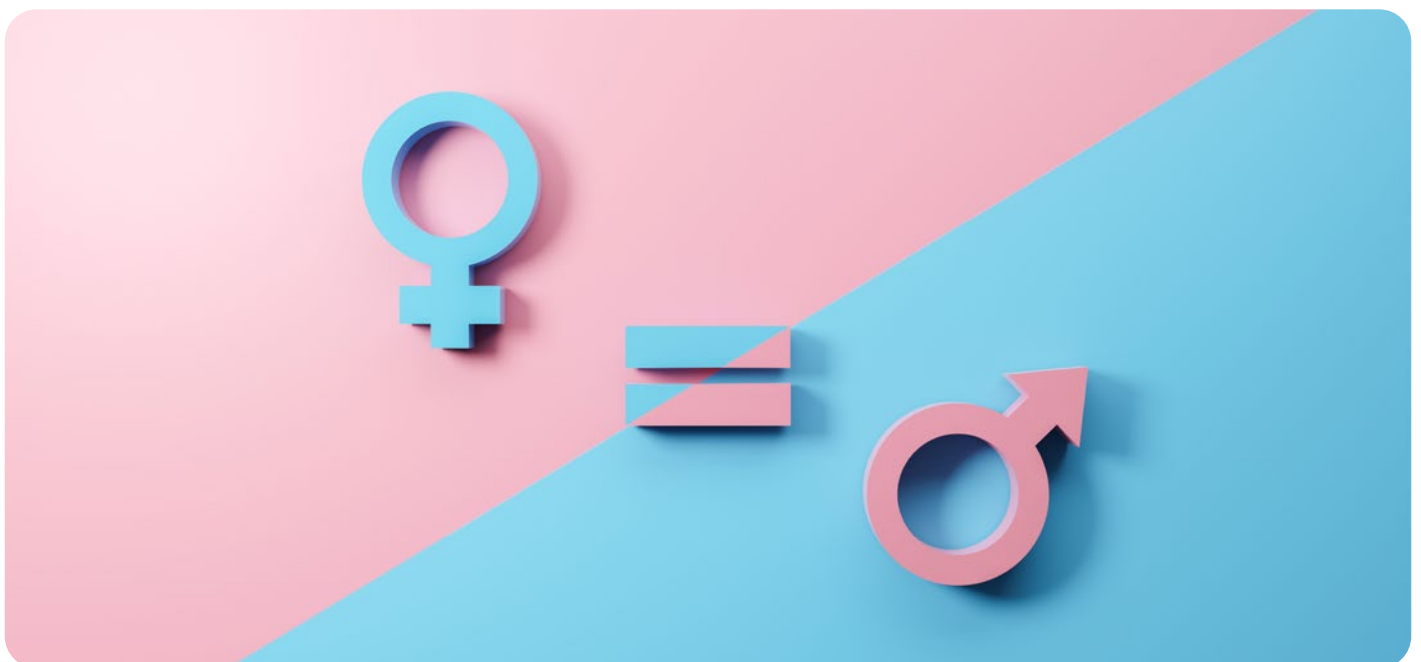
Considering the causes, Nair identified several contributors to sex and gender disparities in clinical trial reporting.¹⁰ Gender, for example, differs from biological sex in that it relates to an individual’s identity and how they understand and express themselves. Historically, however, the terms ‘sex’ and ‘gender’ have often been used interchangeably and inconsistently in research. As a result, there is a clear lack of definition between the two concepts,

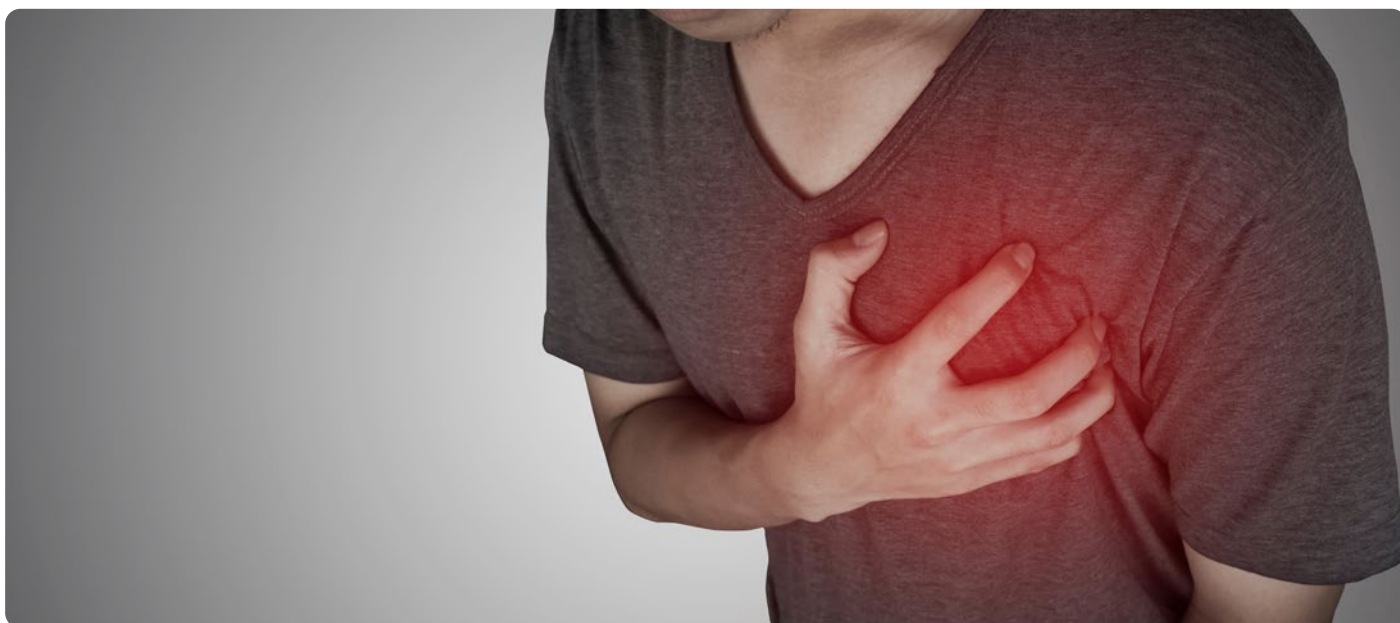
impacting clinical endpoints such as quality of life, prognosis, and mental health.

“It is important to identify who has the power to make that change, which policy instrument can best reach them, and, ultimately, whether the policy change has had the intended impact”

Risk factors can also be inadequately accounted for, contributing to differences in diagnosis rates between women and men. Lourdes Flores-Luna and colleagues, from the Instituto Nacional de Salud Pública in Mexico, set out to characterise the sociodemographic and social profiles of individuals who have experienced events preceding CVD, such as hypertension, diabetes, and chronic kidney disease, whilst also understanding the prevalence of CVD risk factors in the Mexican adult population. They reported that 91% of women with the six risk factors, comprising obesity, dyslipidaemia, hypertension, diabetes, family history, and smoking, did not receive a diagnosis of a CVD event compared to 47% of men.¹¹

To close, Nair highlighted several women-specific risk factors that should be accounted for in the clinical translation of therapies across a life course. For





instance, dates of periods, the presence of polyendocrine metabolic ovarian syndrome, pregnancy complications, early menopause, autoimmune diseases, depression, hormone treatment, and certain cancer treatments.

ADVANCING GENDER EQUITY THROUGH ADVOCACY AND POLICY CHANGE

Susanna Price, Royal Brompton Hospital, London, UK, then shared real-world examples of how cardiovascular systems are being redesigned at present.

To open, she talked through the various stages of policy change, from identifying the 'avoidable disadvantage' to understanding its underlying cause and pinpointing exactly what needs to change. From there, it is important to identify who has the power to make that change, which policy instrument can best reach them, and, ultimately, whether the policy change has had the intended impact.

Once the inequity, and thus policy target, is identified, it is then crucial to match the ask to the actor that can initiate the next step. In policy change, the 'actor' is not necessarily an individual person or society, but rather a collective effort between institutions, clinical societies, or governmental bodies. Then it is about determining which policy tools to deploy,

recognising that the available levers are diverse and can span legislation and regulation, funding, professional governance, service design, data, and wider policy measures.

Price urged listeners that the time to act is now, referencing several recent initiatives. For instance, the Safe Hearts Plan, launched in December 2025, is the EU's first approach dedicated to improving cardiovascular health and reducing premature cardiovascular mortality by 25% by 2035, compared with a 2022 baseline.¹²

Gender mainstreaming was also highlighted as an important consideration. It is a public policy strategy that assesses how policies, programmes, and actions may affect people of different genders, and is increasingly being incorporated into the design and reporting of clinical trials in cardiology.

In summary, Price highlighted several key areas for the cardiology community to address, including prioritising gender equity in clinical trial design and broadening the definition of 'women's health' beyond reproductive health to encompass the full spectrum of diseases affecting women.

CONCLUSION

It is clear that the historical sex disparities in cardiovascular care continue to shape

women's health today, reflected in the persistent under-reporting and under-diagnosis of cardiovascular disease in women, alongside gaps in policy and research. This session was a powerful

reminder that women's health cannot remain a specialist consideration; it must be embedded as a mainstream priority across cardiovascular care.

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