Global Heart Hub

SHAPING THE FUTURE FOR WOMEN WITH HEART VALVE DISEASE

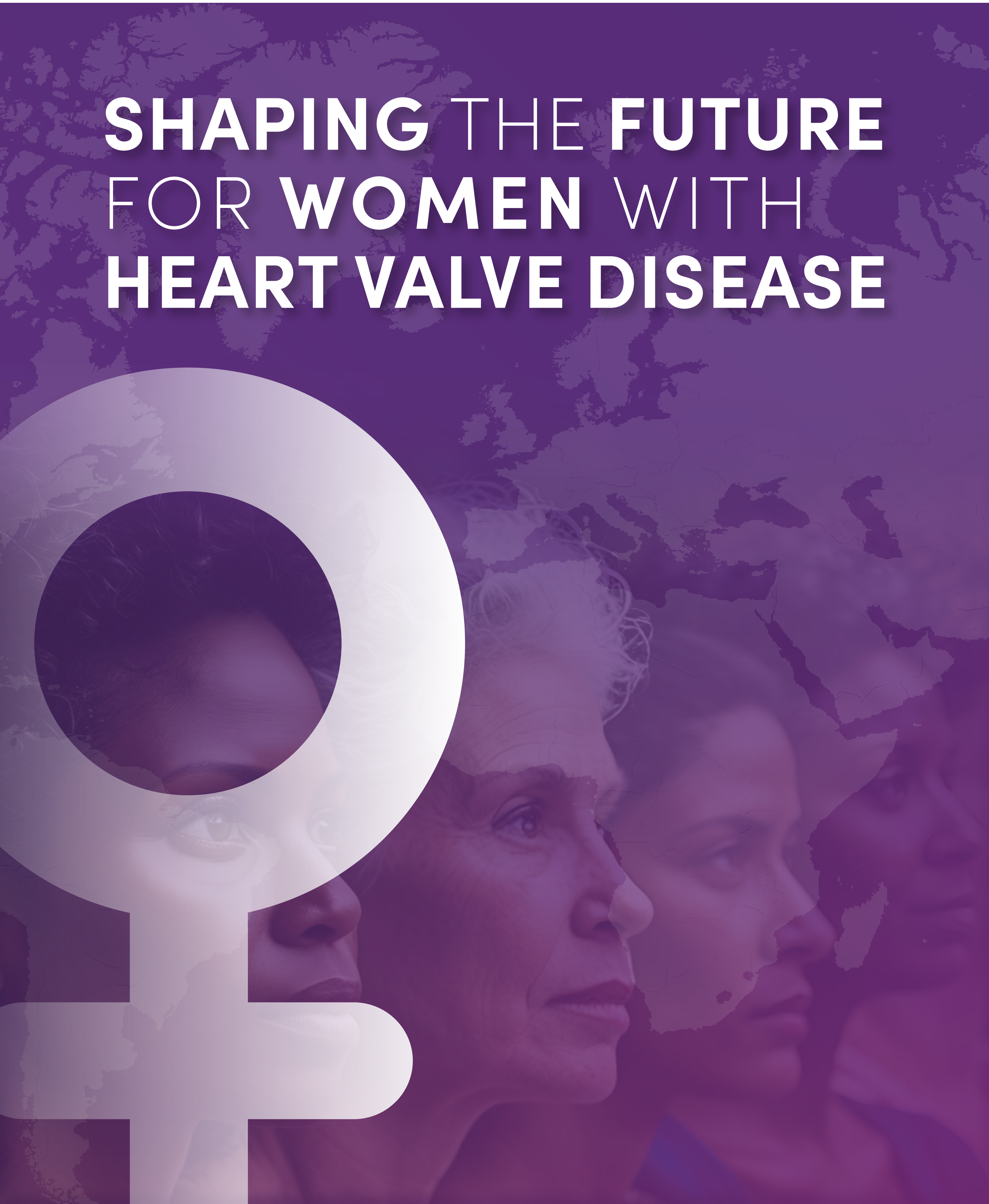


Table of Contents

Foreword

Heart valve disease (HVD) is one of the most pressing cardiovascular challenges of our time- and it disproportionately affects women in ways that are too often overlooked. Despite its growing prevalence, HVD remains under-recognised, under-diagnosed, and under-treated, especially in women. Their symptoms are frequently misunderstood or dismissed, access to timely diagnosis and care is inconsistent, and their unique biological, reproductive, social experiences are rarely factored into clinical pathways.

This report marks a critical turning point. It shines a spotlight on the gender-specific barriers women face throughout the HVD care journey, from awareness and detection to diagnosis, treatment, and long-term follow-up. It also outlines six clear, actionable steps to address these barriers: from expanding research that meaningfully includes women to improving access to diagnostics and delivering personalised, continuous care.

What makes this report particularly powerful is that it is the result of a truly global and collaborative effort uniting patients, clinicians, researchers, and industry partners from across 13 countries. Its core message is unequivocal: we must do better for women living with heart valve disease.

But no single stakeholder can achieve this alone. That's why we are calling on clinicians, policymakers, patient advocates, researchers, and industry partners to join us. Together, we must ensure that women are not only seen and heard but also represented and respected in every aspect of HVD care and decision-making.

Let this report serve not just as a roadmap—but as a catalyst. By working in partnership, we can build more equitable and effective healthcare systems for all women living with heart valve disease. Their lives—and futures—depend on it.

Ellen Ross,
Managing Director, Heart Valve Voice Canada,
Chair, Heart Valve Disease Patient Council, Global Heart Hub

> *As someone living with HVD and serving as co-chair of this international initiative I know firsthand how critical it is that women's voices and experiences are truly heard. Far too often, symptoms like breathlessness, fatigue, or dizziness are dismissed or misattributed—especially when reported by women. Many of us spend years seeking answers, only to be diagnosed late, when treatment is urgent and the psychological burden on the patient and her family is high.*
>
> *This report is rooted in the lived realities of women like me. It brings together a wide range of perspectives—from patients to healthcare professionals—to build a shared understanding of the unique challenges women face across the HVD care journey. It's not just about statistics or protocols; it's about what it means to live with this disease, to navigate uncertainty, and to advocate for care that recognises and respects our individual needs.*
>
> *By embedding patient experience into clinical conversations and system change, we have the opportunity to improve early detection and diagnosis, ensure equitable treatment, and support women throughout their lives. I hope this work inspires action—not just from policymakers and clinicians, but from all of us—to make care for women with HVD truly person-centred.*

Jacqueline Lewis,
Patient Advocate
and Project Co-Chair
United Kingdom

As a cardiologist and co-chair of this important project, I am pleased to present this international consensus report on improving the care pathway for women with HVD. Clinically, we know that HVD—whether congenital or acquired—is a major and growing public health concern, driven by an ageing population and often progressing silently until advanced stages. Yet, for too long, sex and gender differences in HVD have been overlooked in both research and clinical practice.

Emerging evidence now shows that women with HVD experience unique challenges, from different symptom presentation to delayed diagnosis and differences in epidemiology and treatment outcomes. Female patients remain underrepresented in clinical trials, and diagnostic criteria and guidelines continue to be based largely on male-centric data. This gap in understanding directly impacts risk stratification, shared decision-making, and ultimately, outcomes.

This consensus report reflects the insights of a diverse international panel—including patients, clinicians, researchers and industry partners—and outlines six targeted actions to address these disparities. If implemented, these actions can improve early detection and diagnosis, promote equitable access to care, and ensure that women's voices and needs are fully integrated into their treatment journey.

It is time to translate data into action. As clinicians, we have a responsibility to champion these changes—because evidence-based, gender-responsive care is not optional; it is essential.

Prof Marta Sitges,
Director, Cardiovascular Institute,
Hospital Clínic, University of
Barcelona and Project Co-Chair
Spain

About this consensus

Cardiovascular disease (CVD) remains the leading cause of death and accounts for 30% of all deaths in women annually, more than the number of deaths caused by all forms of cancer combined.[1] Despite this, CVD in women remains significantly under-recognised, under-diagnosed, under-treated, and under-researched. This is particularly true for women living with Heart Valve Disease (HVD).[2,3]

Given the importance of early detection, accurate diagnosis, and evidence-based management of CVD,[4] essential recommendations have been suggested by international multidisciplinary groups, including patients, to improve care pathways for people living with HVD.[5,6]

Whilst all patients face barriers to evidence-based and equitable care along their care journey,[5,6] it is crucial to highlight some specific challenges that women living with HVD encounter compared to men.

Both sex-based (biological) and gender-based (socially constructed) roles significantly influence the understanding of HVD and its outcomes in women.[2] Despite these differences, there are limited clinical trials based on women with HVD,[7,8] which are essential in order to achieve equitable and inclusive care for all patients living with HVD.

To facilitate this global consensus, Global Heart Hub brought together leading experts to understand the patient journey for women living with HVD, identifying the problems and possible solutions to improve awareness, detection, diagnosis, treatment, and follow-up.

As a first step, structured interviews were conducted to collect the first insights from patients with lived experience, patient organisations, healthcare professionals (HCPs), and researchers. The HCPs represented HVD Heart Team members, including clinical cardiologists, interventional cardiologists, cardiac surgeons, cardiovascular imagers, and nurses, in addition to broader care team members, including a general practitioner (GP) and a psychologist.

The interview phase was followed by an in-person roundtable with these diverse participants to discuss and build collaboratively on this consensus report. In total, the 22 experts represented 13 countries across Europe, America, Asia, and Oceania. The different perspectives from patients, patient organisations, HCPs, researchers and industry partners enabled the development of this consensus report and strengthened the mission of Global Heart Hub to

support patient organisations and advocates to work with clinicians, key stakeholders and partners to drive effective implementation of the report and its recommendations in different countries and settings.

Introduction

Heart Valve Disease (HVD), also known as valvular heart disease or valvulopathy, is any condition that affects one or more of the four heart valves (i.e., aortic, mitral, tricuspid, and pulmonary). It can be congenital or acquired, leading to common symptoms of breathlessness, dizziness, fatigue, and chest pain, reducing quality of life and, leading to heart failure and death if left untreated.[5,9] It is a common health condition worldwide, being recognised as the next cardiac epidemic, in part related to the increasing ageing population.[10]

Globally, there are significant regional variations in the epidemiology of HVD.[9] In high-income countries, many of the HVD cases have a degenerative etiology and mainly affect people over the age of 65.[11] Whereas in most low-income countries, rheumatic heart disease (RHD) is more prevalent, causing the malfunction of the valves and often being diagnosed in younger patients.[12]

In both situations, there is very limited awareness of HVD, both among the general population and HCPs.[5,13] This lack of knowledge is particularly evident when it comes to understanding specific anatomical and physiological characteristics, as well as the clinical manifestations, in women.[2]

For example, in females, aortic stenosis (AS) is typically characterised by less calcification and more fibrotic remodelling of the aortic valve when compared to males.[3] Additionally, mitral valve disease is more often associated with mitral valve prolapse or rheumatic disease in women,[3] and women also have a higher prevalence of mitral stenosis (MS) when compared to men.[14]

To fully understand the challenges faced by women with HVD, it is essential to consider the women's lifecycle, particularly reproductive factors and their impact on women's cardiovascular health. Special attention is needed during pregnancy or when a woman is planning to became pregnant. Conditions such as moderate or severe HVD in women can significantly increase the risk of adverse outcomes for both the mother and the foetus/newborn.[15]

Therefore, there is a clear need for a better understanding of sex and gender differences in women living with HVD, including investigation of biological differences from men, and also their gender identity and social experiences.[2,3] Recent research supports that a better understanding of the gender-specific differences in patients with HVD may improve patient risk stratification and earlier diagnosis, especially for female patients.[16]

Building a picture

Over the years, women have advocated for equal rights and opportunities in all aspects of life. Despite progress, women continue to face significant challenges in accessing high-quality and equitable cardiovascular healthcare.[17]

For HVD, little is reported about specific barriers that only women face along their patient care pathway. Therefore, it is crucial to address these gaps at each stage of the pathway: awareness, detection, diagnosis, treatment, and follow-up. Better understanding will form the basis for building more effective and inclusive care for women living with HVD.

AWARENESS

In society, there is a general lack of awareness about CVD in women,[18] and even less awareness about HVD in women. This may stem from the general population perceiving that heart disease is an issue that mainly affects men.[19] These misconceptions directly impact the detection and diagnosis of HVD in females. Frequently, women take on additional roles in their communities or as caregivers of children, spouses, and elderly parents, and often do not prioritise their own health.[3] When they experience symptoms, they often delay assessment and may underestimate them, perhaps due to their multifunctional role in family and society.[3,20]

Among HCPs, there is also a gap in awareness of HVD. General practitioners (GPs), nurses, and specialists within and outside of cardiology do not have a complete understanding of the characteristics (e.g., symptoms, causes) of HVD in women.[17]

There is a need to educate HCPs and society about specific characteristics of HVD in women, taking into account regional differences, particularly local cultural and socioeconomic factors.

DETECTION

HVD is often detected late, also in women. The lack of awareness, added to cultural, ethnic, and gender biases, can affect not only how and when symptoms are recognised, but also how HCPs receive and respond to women's symptoms and concerns.[17] Some women have minimal or no symptoms,[11,20] and in younger patients with RHD, HVD may be detected late, such as during pregnancy, bringing additional risks as a result of delayed detection.[2] However, preventive strategies, such as the use of secondary antibiotic prophylaxis for latent RHD, have shown significant efficacy in reducing disease progression in children and adolescents, especially in low-income countries.[22]

Even when women report symptoms, they are frequently dismissed by HCPs and are underestimated or misdiagnosed as anxiety, menopause, or other conditions that are usually related to ageing.[23] When visiting Primary Care, women may not always receive a comprehensive cardiovascular assessment, including a stethoscope check, often due to multilevel systemic reasons.

There is a lack of sex-specific clinical guidelines and low awareness about the sex differences in HVD. In some regions, there are also challenges in measuring the quality control to track and monitor clinical performance and adherence to clinical guidelines especially for CVD.[24] There may also be female-specific considerations, such as interference by breast tissue or culturally-specific factors, impacting on accurate diagnosis. As a result, heart murmurs can be dismissed during routine evaluations, and consequently, women patients may not be referred to a cardiologist.

Workforce training and capacity for early detection and diagnosis should be optimised, with efforts to diversify healthcare professionals' skillsets to enable, e.g., nurse- or pharmacist-led care and support the redesign of roles where feasible.[4] The enablement and empowerment of the HCPs is a priority to allow early detection of HVD in women.

DIAGNOSIS

Female specific measures must be included for the diagnosis in women. Sex based differences, including anatomy, symptoms, and disease susceptibility, should be considered by all HCPs involved in this care pathway.

For accurate diagnosis, an echocardiogram is essential;[25] however, timely access to this diagnostic test is not always available. Long waiting times for an echocardiogram can be challenging, and due to work and home responsibilities, women may often struggle to attend their appointments. To improve detection and diagnosis, it is important to have more equipment and new technology, such as digital stethoscope and point-of-care ultrasound. The equipment needs to be available at the point of care to facilitate access and equitable care for a larger population, including remote and low socioeconomic areas.

Another gap is the communication between HCPs and women. When diagnosed, some women patients report that they may not receive clear information about the next steps, including treatment options and follow-up. Women need to be informed about not only their clinical condition but also how other personal factors (e.g., reproductive years, menopause, caregiving) can impact on their situation. Many women are caregivers and the next steps after the diagnosis have implications for their lifestyle.

In this phase, it is time to empower women with understandable information and support to prepare them for the treatment phase, allowing the implementation of shared decision-making.

TREATMENT AND FOLLOW-UP

Many women experience not only late diagnosis but also delayed referral to treatment, leading to worse outcomes.[26,27]

The delay in treatment impacts women's physical and emotional health. Sometimes, women report that the information about treatment options and their potential consequences are not fully explained to them.

In addition, women's perspectives are not always considered when defining the treatment plan, which also impacts the shared decision-making.[28,29] Women may have some concerns and challenges, since they need to adjust their routine and rely on others for some of their responsibilities. According to the locally relevant socio-cultural environment, the family's involvement also becomes important. In addition, unlike men, the treatment options may affect childbearing decisions. Shared decision-making requires the patients to be fully informed of the consequences of a treatment choice, and also allows the patients to express their goals of treatment, in addition to their values and preferences.[29,30]

Furthermore, there are sex disparities in treatment choice and outcomes.[2,27,31] Women may respond to certain treatments better or worse than men, and so, understanding these variations is crucial to making the optimal treatment choice and consequently have a better quality of life.[32]

Management of advanced HVD usually involves surgical or transcatheter procedures. A recent study among women with severe symptomatic AS showed that, compared to surgery, transcatheter aortic valve replacement led to a reduction in the combined endpoint of all-cause mortality, all stroke, or rehospitalisation, largely due to a significant difference in rehospitalisation rate.[33]

However, treatment approaches may differ between men and women, although the reasons for these differences are not clearly explained.[34] More research is needed to identify better treatment options for women[35] and to increase their representation in clinical trials.[7,8]

Unfortunately, clinical guidelines are usually based on data derived predominantly from men, as women remain underrepresented in research trials.[18] When sex and gender differences are not considered in the treatment plan, the quality of care may be compromised.

Ensuring patients are informed, heard, and actively involved in shared decision-making leads to more personalised care, better adherence to treatment, and improved health outcomes.

ALONG THE PATHWAY

Women often face barriers at multiple stages along their care journey. Throughout this pathway, women may lack the support they need. In some countries, patients face challenges accessing professional services such as psychological care. Even when these services are available, they are not always covered by the healthcare system, contributing to inequities in care.

Furthermore, despite the well-established importance of cardiovascular rehabilitation in improving the quality of life and promoting better outcomes,[36] women are underrepresented in these programmes.[37,38]

Communication gaps also present a significant barrier. Beyond language differences, HCPs may not always adapt their communication to align with patients' cultural, educational, or socioeconomic backgrounds. This can hinder effective understanding and compromise the clarity of key health messages.

It is time for policymakers, healthcare systems, HCPs, patient organisations, and society to work together to support women with HVD, helping their education, empowerment, and engagement along this pathway.

Call To Action

In this scenario, six tangible actions are outlined, along with specific recommendations to achieve the goals.

IMPORTANT NOTE »

All recommendations should be adapted to the local situation, considering cultural, ethnic, and socioeconomic factors

ACTION 1: Include women in research on HVD

GOAL:

To ensure that research on HVD reflects sex and gender-specific differences by actively including women in clinical studies.

KEY MESSAGE:

Women remain underrepresented in HVD research, leading to gaps in scientific data. Including more women in HVD research is essential to generate evidence that supports accurate diagnosis, successful treatments, and equitable health outcomes.

RECOMMENDATIONS:

- Encourage women patients to be part of the trials.
- Facilitate communication between researchers and women patients.
- Consider seeking funding through grants or partnerships to support patient participation in research, including covering costs such as compensation for time, travel, and related expenses.
- Advocate for incentives by the government for providing dedicated funding for research on women.
- Use the research data to guide future policies, change guidelines, and indicate the need for investments.

KEY STAKEHOLDERS:

Women patients, Researchers/Clinical Trialists, Patient organisations, Industry/Device makers, Universities, Multidisciplinary Cardiac Societies, Funding Agencies, Healthcare systems, and Policy makers at the national and regional level.

SUGGESTIONS TO MEASURE THE IMPACT:

- Track the number and sociodemographic data of women participating in HVD research.
- Distribute online surveys to women with HVD and assess the gaps they may face in participating in HVD research trials.
- Monitor and report the number of publications addressing sex- and gender differences in HVD over the years.
- Monitor the funds allocated to HVD research in women.

ACTION 2: Develop comprehensive educational material about HVD in women

GOAL:

To provide women and their families with the knowledge needed to recognise risks and symptoms of HVD, as well as better understand the treatment options.

KEY MESSAGE:

There is a lack of information about HVD in women. Educating women and the general population about HVD and its sex- and gender-specific characteristics is essential to closing the awareness gap.

RECOMMENDATIONS:

- Deliver reliable information, understandable for patients and in their native language, highlighting that HVD is treatable, and early detection is important for better outcomes.
- Provide specific information regarding the lifecycle of women, including pregnancy and menopause, and types of HVD, considering variations in local HVD prevalence.
- Reinforce the message encouraging women to prioritise their own cardiovascular health and well-being, even if they feel that HVD does not affect them personally.
- Bring together lived experience stories and testimonials to build trust, reduce stigma, and foster engagement.
- Deliver educational materials in various formats, such as brochures, posters, videos, leaflets, or even a mobile app.
- Create a checklist to help women track their symptoms and empower themselves.
- Disseminate the campaigns through traditional and/or social media channels, depending on their popularity in the local context.
- Collaborate across countries and international organisations to learn from their previous experiences in campaigns and avoid duplicating work.

KEY STAKEHOLDERS:

Women (General population and patients), Primary care providers, Cardiologists, other HCPs, Researchers/Clinical Trialists, Communication specialists, Patient organisations, International organisations, Industry/Device makers, and Healthcare systems.

SUGGESTIONS TO MEASURE THE IMPACT:

- Track the number of printed and digital educational materials distributed/downloaded/viewed.
- Evaluate social media engagement metrics (views, likes, and shares).
- Distribute online surveys to assess the level of knowledge pre- and post the educational material delivery.
- Create a focus group or distribute online surveys to assess the level of engagement regarding the educational material delivery.

ACTION 3: Implement an educational programme for HCPs about HVD in women

GOAL:

To enhance healthcare professionals' understanding of how HVD presents and progresses in women.

KEY MESSAGE:

Not all HCPs have a complete understanding of the characteristics of HVD in women. Updating them about the specificities of HVD in women will directly improve early detection.

RECOMMENDATIONS:

- Develop a referral decision-aid tool to support GPs in the detection process.
- Encourage not only GPs but also nurses, and any other HCP to prioritise stethoscope checks in women, especially those linked to women's healthcare, like gynaecologists.
- Encourage HCPs to engage in open communication and actively listen to women, considering cultural, ethnic, and socioeconomic local factors.
- Advocate for the inclusion of HVD in continuing education programmes for HCPs.
- Advocate for the integration of HVD into national health courses curricula.

KEY STAKEHOLDERS:

Primary care providers, Cardiologists, other HCPs, Researchers, Communication specialists, Universities, Multidisciplinary Cardiac Societies, Healthcare systems, and Policy makers at the national and regional level.

SUGGESTIONS TO MEASURE THE IMPACT:

- Track the number and characteristics (e.g., profession, work location) of HCPs trained.
- Distribute online surveys to assess the level of knowledge pre- and post the educational programme.
- Create a focus group or distribute online surveys to assess the level of engagement of the HCPs in the educational programme.

ACTION 4: Organise screening campaigns in high-risk populations for HVD

GOAL:

To identify undiagnosed cases of HVD among women from high-risk populations.

KEY MESSAGE:

Many women remain undiagnosed until symptoms are advanced. Proactive screening in these populations enables earlier detection and reduces complications.

RECOMMENDATIONS:

- Encourage women to participate in the screening campaign.
- Suggest specific days, such as International Women's day or Mother's day.
- Target high-risk women according to the local demographic and clinical data (e.g., 65+ for high-income countries and younger for middle- and low-income countries).
- Adapt the screening campaigns considering the operational reality of the local healthcare systems, including available resources, workforce capacity, and existing infrastructure.
- Encourage collaboration with local institutions (e.g., pharmacies, supermarkets, churches, or even schools in countries where RHD has a high prevalence) to reach the target population.
- Advocate for the implementation of a periodic heart health check for women.
- Advocate for economic recognition of HCPs' efforts involved in the action.
- Advocate for the timely referral of women for further assessment, including echocardiography, after the detection of HVD.

KEY STAKEHOLDERS:

Women high-risk population, Primary care providers, Cardiologists, Researchers, Patient organisations, Healthcare systems, and Policy makers at the national and regional level.

SUGGESTIONS TO MEASURE THE IMPACT:

- Track the number of screening events organised.
- Track the number and sociodemographic data of women screened.
- Track the number and sociodemographic data of women referred for further assessment.
- Track the number of women in whom a murmur has been detected by screening.

ACTION 5: Expand Access to Detection and Diagnostic Technologies

GOAL:

To expand access to effective detection and diagnostic technologies, improving early detection, particularly in underserved and high-risk communities.

KEY MESSAGE:

Expanding the reach of detection and diagnostic technologies is critical to closing care gaps and improving outcomes, especially for vulnerable and remote areas.

RECOMMENDATIONS:

- Support HCPs in training on how to use digital tools, like digital stethoscopes, to improve detection.
- Support the validation and use of artificial intelligence (AI) tools to improve diagnosis, especially in remote areas.
- Support patients in using personal devices (e.g., wearables, apps) to track and self-report symptoms.
- Advocate to bring detection and diagnosis technologies to the communities that need them most.
- Advocate for the inclusion of digital training in continuing education programmes for HCPs.
- Collect sociodemographic data across regions to inform policymakers and promote equitable access.
- Promote the collaboration between industry and policymakers to support technology implementation.

KEY STAKEHOLDERS:

Primary care providers, Cardiologists, Researchers, Patient organisations, Industries/Device makers, Universities, Multidisciplinary Cardiac Societies, Healthcare systems, and Policymakers at the national and regional level.

SUGGESTIONS TO MEASURE THE IMPACT:

- Track the number and characteristics (e.g., profession, work location) of HCPs trained.
- Track the number of patients using personal devices to self-report symptoms.
- Assess the number of detection and diagnosis equipment implemented in the communities.
- Create a focus group or distribute online surveys to assess the level of engagement of the HCPs using detection and diagnosis technologies.
- Map the environment of emerging new technologies and their adoption.

ACTION 6: Promote longitudinal care for women with HVD

GOAL:

To support women through their patient journey, ensuring they receive person-centered care, based on equal access and opportunities at every stage.

KEY MESSAGE:

Women need support to face the challenges in their patient journey. It is time for policymakers, healthcare systems, HCPs, patient organisations, and all of society to work together to support women with HVD, helping their education, empowerment, and engagement along this pathway.

RECOMMENDATIONS:

- Promote open and empathetic communication between HCPs and women, focusing on validation of women's experiences and shared decision-making.
- Stimulate access to cardiac rehabilitation and psychological support for patients and their families.
- Encourage women to speak with peers, share their experiences, and build a supportive community, from the moment they get diagnosed.
- Involve patients and GPs in the Heart team, ensuring that their perspectives contribute to the treatment plan and care development.
- Ensure that all support is respecting women's sociocultural, economic, and clinical conditions.

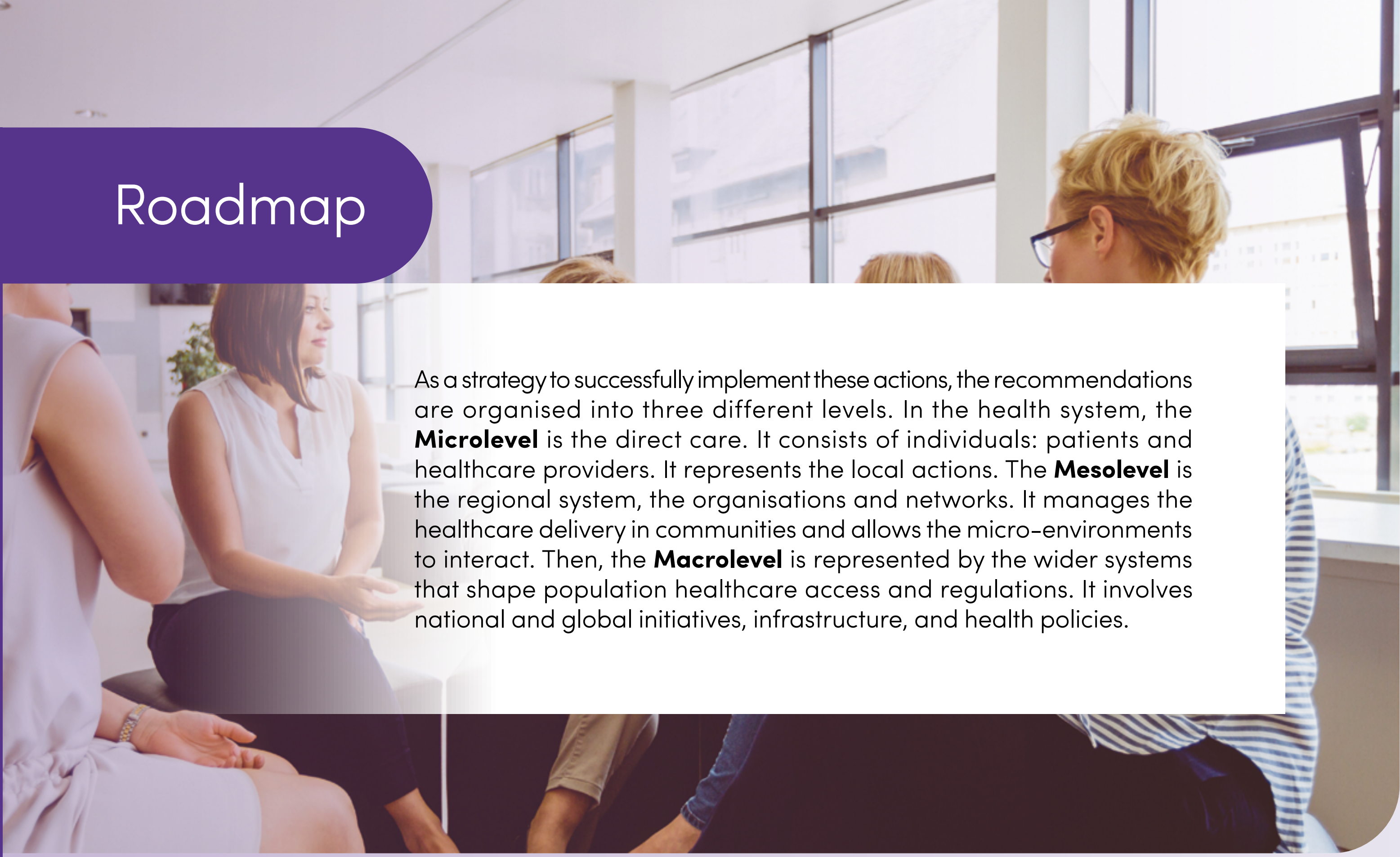
KEY STAKEHOLDERS:

Women patients, Primary care providers, Cardiologists, Patient organisations, Healthcare systems, and Policymakers at the national and regional level.

SUGGESTIONS TO MEASURE THE IMPACT:

- Organise focus groups or distribute online surveys to women with HVD to assess their perspective regarding communication with HCPs, including the experience of shared decision-making.
- Monitor access rates to cardiac rehabilitation programmes.
- Track the utilisation of psychological support services by women with HVD and their families.
- Access the number of peer-to-peer communities related to hospitals or patient organisations.
- Track the number of Heart teams that include GPs and patients as members.

Roadmap



As a strategy to successfully implement these actions, the recommendations are organised into three different levels. In the health system, the **Microlevel** is the direct care. It consists of individuals: patients and healthcare providers. It represents the local actions. The **Mesolevel** is the regional system, the organisations and networks. It manages the healthcare delivery in communities and allows the micro-environments to interact. Then, the **Macrolevel** is represented by the wider systems that shape population healthcare access and regulations. It involves national and global initiatives, infrastructure, and health policies.

ACTION 1:

Include women in research on HVD

MICRO Individual Level	Encourage women patients to be part of the trials.
MESO Community/ Institutional Level	Facilitate communication between researchers and women patients.
MACRO Systemic/ Policy Level	Consider seeking funding through grants or partnerships to support patient participation in research, including covering costs such as compensation for time, travel, and related expenses. Advocate for incentives by the government for providing dedicated funding for research on women. Use the research data to guide future policies, change guidelines, and indicate the need for investments.

ACTION 2:
Develop comprehensive educational material about HVD in women

MICRO Individual Level	Deliver reliable information, understandable for patients and in their native language, highlighting that HVD is treatable, and early detection is important for better outcomes. Provide specific information regarding the lifecycle of women, including pregnancy and menopause, and types of HVD, considering variations in local HVD prevalence. Reinforce the message encouraging women to prioritise their own cardiovascular health and well-being, even if they feel that HVD does not affect them personally. Bring together lived experience stories and testimonials to build trust, reduce stigma, and foster engagement. Deliver educational materials in various formats, such as brochures, posters, videos, leaflets, or even a mobile app. Create a checklist to help women track their symptoms and empower themselves.
MESO Community/ Institutional Level	Disseminate the campaigns through traditional and/or social media channels, depending on their popularity in the local context.
MACRO Systemic/ Policy Level	Collaborate across countries and international organisations to learn from their previous experiences in campaigns and avoid duplicating work.

ACTION 3:
Implement an educational programme for HCPs about HVD in women

MICRO Individual Level	Develop a referral decision-aid tool to support GPs in the detection process. Encourage not only GPs but also nurses, and any other HCP to prioritise stethoscope checks in women, especially those linked to women's healthcare, like gynaecologists. Encourage HCPs to engage in open communication and actively listen to women, considering cultural, ethnic, and socioeconomic local factors.
MESO Community/ Institutional Level	Advocate for the inclusion of HVD in continuing education programmes for HCPs.
MACRO Systemic/ Policy Level	Advocate for the integration of HVD into national health courses curricula.

ACTION 4:

Organise screening campaigns in high-risk populations for HVD

MICRO Individual Level	Encourage women to participate in the screening campaign.
MESO Community/ Institutional Level	Suggest specific days, such as International Women's day or Mother's day. Target high-risk women according to the local demographic and clinical data (e.g. 65+ for high-income countries and younger for middle and low-income countries). Adapt the screening campaigns considering the operational reality of the local healthcare systems, including available resources, workforce capacity, and existing infrastructure. Encourage collaboration with local institutions (e.g., pharmacies, supermarkets, churches, or even schools in countries where RHD has a high prevalence) to reach the target population.
MACRO Systemic/ Policy Level	Advocate for the implementation of a periodic heart health check for women. Advocate for economic recognition of HCPs' efforts involved in the action. Encourage prompt referral of women for further assessment, including echocardiography, after detecting HVD.

ACTION 5:

Expand Access to Detection and Diagnostic Technologies

MICRO Individual Level	Support HCPs in training on how to use digital tools, like digital stethoscopes, to improve detection. Support the validation and use of AI tools to improve diagnosis, especially in remote areas. Support patients in using personal devices (e.g., wearables, apps) to self-report symptoms.
MESO Community/ Institutional Level	Advocate to bring detection and diagnosis technologies to the communities that need them most. Advocate for the inclusion of digital training in continuing education programmes for HCPs.
MACRO Systemic/ Policy Level	Collect sociodemographic data across regions to inform policymakers and promote equitable access. Promote the collaboration between industry and policymakers to support technology implementation.

ACTION 6:

Promote longitudinal care for women with HVD

MICRO Individual Level	Promote open and empathetic communication between HCPs and women, focusing on validation of women's experiences, and shared decision-making. Stimulate access to cardiac rehabilitation and psychological support for patients and their families. Encourage women to speak with peers, share their experiences, and build a supportive community, from the moment they get diagnosed.
MESO Community/ Institutional Level	Involve patients and GPs in the Heart team, ensuring that their perspectives contribute to the treatment plan and care development.
MACRO Systemic/ Policy Level	Ensure that all the support is respecting women's sociocultural, economic, and clinical conditions.

Shaping the future

The future of women with HVD is being built on this international and multidisciplinary collaboration that brings together patients, patient organisations, healthcare professionals, researchers, and industry partners. This collective effort based on global data, expertise, and passion creates the right momentum to address this condition in women and face the challenges according to global and local situations.

Considering the limited representation of women's voices and variability across cultures, socioeconomic situations, and healthcare systems, it is time to embrace the opportunities to educate, empower, and engage the stakeholders as a continuing process. To **EDUCATE**, it is crucial to give reliable information about HVD, and then this knowledge is the solid base to **EMPOWER** them, increasing their confidence and consequently **ENGAGE** them as protagonists along the patient journey. All this process in conjunction with advancements in research on sex and gender differences and investment in technology, will expand care and advocacy.

In this sense, the global public health context can be better understood, adding international efforts to explore the similarities and differences between countries, as they face shared global challenges.[39]

The impact of these coordinated efforts can reduce healthcare costs through effective preventive actions, lower morbidity and mortality rates, and guide future investments and policies to promote early diagnosis, treatment, and healthier and better lives for women with HVD worldwide.

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