

HEALTH CHECKS FOR STRUCTURAL HEART DISEASE (SHD)

Health Checks Protocols for SHD in the EU
State of play by April 2026



Summary



Structural heart disease (SHD) is a group of cardiovascular conditions that affect the structure of the valves, atria, ventricles, and blood vessels in the heart, primarily affecting people as they age. An estimated **14 million people** suffer from a form of SHD in Europe today, a figure that will rise to 20 million due to an ageing population.



SHD has a **high mortality rate** if not detected and treated early enough. It also decreases the **quality of life** for people living with the condition, with severe SHD causing fatigue and shortness of breath.



SHD is **generally not preventable with healthy lifestyle measures**: the only way to **prevent onset and progression** is **by ensuring early detection** through health checks.



However, heart health checks are not routine: One-third of respondents in a 2019 European survey of people over 60 said their primary care doctor checked their heart with a stethoscope "occasionally"; only 28% had their heart checked at each visit.



There is still no secondary prevention of SHD through screening programs or systematic health checks in EU Member States, leading to large numbers of people unknowingly suffering from the condition, leading to poor health, premature mortality and burden on health systems, hospitals and society.



The absence of systematic detection is all the more worrying as **SHD are characterized by important inequalities, with age, socio-economic status, gender, ethnicity, and geographical location negatively impacting the likelihood of receiving treatment for SHD.**



A number of policy initiatives and programs have been conducted in Europe, demonstrating the importance and relevance of early detection of cardiovascular diseases and SHD to contribute to the EU's objectives of reducing the burden of these diseases and improving people's quality of life, through equal access to screening, treatment and care.



Based on publicly available information and on data received from its respective authors, this document reviews some past or existing SHD detection initiatives around EU countries that can serve as inspiration for further action.

SHD Health Checks Initiatives Overview

	Project Name	Country	Healthcare Professionals Involved	Type of Health Check	Indicative Results
i.	PREVASC Study: Prospective Registry of Epidemiology of Valve Disease	Italy	3 cardiologists, 2 nurses, 2 family physicians	Anamnesis, risk factors assessment, physical examination, echocardiography	The study, run in asymptomatic patients indicated the following: Prevalence of 30% mild/moderate valvular pathologies, 27% aortic valve anomalies, 34% mitral valve anomalies, significant hypertension (83%). As a result of this project, referral rates increased to 60%.
ii.	San Marino Heart Health Screening	San Marino	General practitioners, specialists	Risk card analysis, cardiological examination, advanced testing (echocardiography, stress test)	84% participation rate, screening included citizens aged 50 and 70, further diagnostic pathways for identified conditions.
iii.	NHS England publishes new 8-week pathway for Aortic Stenosis	UK	General practitioners, specialists	Cardiac auscultation, echocardiography, ultrasound	Accelerated 8-week referral for patients with AS, including from detection, diagnosis to treatment, this decreases to 6 weeks for patients at most severe condition
iv.	National Institute for Health Research highlights the value of AI stethoscopes in primary care settings	UK	Community pharmacists, GP practices	Digital stethoscope (eMurmur®),	NIHR trial confirms that patients examined with an AI stethoscope are twice as likely to be diagnosed with heart failure, 3.5 times more likely to have atrial fibrillation and twice as likely to receive a diagnosis for HVD
v.	Study to Detect Aortic Stenosis in Nursing Homes	Spain	Nursing home staff, specialists	Digital auscultation with stethoscope	15% abnormal murmur rate; referrals made for detailed diagnostics in local health centers; Torres de Serranos nursing home had highest murmur rate (24%).

vi.	SHD Early Detection in AuRA Region	France	GPs, pharmacists, nurses, advanced practice nurses, community cardiologists	Questionnaire-based screening, interviews, public awareness campaign	Increased detection network; medium-term impact on healthcare coordination, long-term reduction in morbidity, mortality, and autonomy loss.
vii.	Pilot Project for the Early Detection of Asymptomatic Heart Failure	Germany	General Practitioners	Measure the (NT-pro)BNP level, a biomarker for heart failure	BNP screening in primary care enables the early detection of asymptomatic heart failure and allows for significantly earlier, evidence-based treatment.
viii.	HerzCheck: Mobile Cardiac MRI Screening in two rural regions in Germany	Germany	Cardioligist from Geramn Heart Centre Charité in collaboration of GP	Fully automated, telemedicine-supervised cardiac MRI using global longitudinal strain (GLS) analysis of the left ventricle	HerzCheck” found that 22.7% of at-risk adults in rural areas have asymptomatic heart failure, with detection occurring nearly seven years earlier than standard diagnostics, and men, older age, and risk factors like smoking, overweight, and diabetes increasing prevalence.

I. Why Cardiac Check-ups and Early Detection of Structural Heart Disease (SHD) Are Needed in Europe

Structural heart disease (SHD) is structural abnormalities of the heart that lead to poor function. Mainly affecting the elderly, they generally cannot be prevented primarily as such through healthy habits (primary prevention).

Structural heart disease, including valvular heart disease, is estimated to affect 14 million Europeans, a significant proportion of whom are also suspected of suffering from heart failure. In the last 20 years, the number of hospitalizations for SHD has doubled. This is expected to grow to 23 million people by 2050 if no action is takenⁱ.

Structural heart disease can be fatal and highly debilitating. The difference between having structural heart disease and being disease-free is, respectively, from not being able to walk a flight of stairs to being able to live a fully independent life, contributing to societyⁱⁱ.

Although SHD cannot be prevented, they can be detected early (secondary prevention) to address the disease and can in fact be easily detected. SHD can be detected through a heart check using a stethoscope. If an abnormal heart murmur is detected, the patient is referred to a cardiologist for further examination using echocardiography.ⁱⁱⁱ

In Europe, heart health checks are not routine: A third of respondents in a 2019 European survey of people over 60 said their primary care doctor checked their heart with a stethoscope "occasionally"; only 28% had their heart checked at each visit.^{iv} One reason is that **there is still no SHD screening programme or systematic heart monitoring in EU Member States, leading to large numbers of people unknowingly suffering from the condition. This results in poor health, premature mortality, and a burden on health systems and society.**

The absence of systematic detection is all the more worrying as **SHD are characterized by important inequalities, with age, socio-economic status, gender, ethnicity, and geographical location negatively impacting the likelihood of receiving treatment for SHD^v.**

Learning from existing cancer screening programmes, the [European SHD Coalition](#) is promoting knowledge and prioritisation of efficient and effective SHD detection programmes across the EU.

To this end, the recent commitment of the appointed Commissioner for Health and Animal Welfare, Oliver Varhelyi, as well as the recently adopted Conclusion on Cardiovascular Diseases of the Council of the EU, calling for the development of an EU Cardiovascular and Diabetes Health Plan signal a unique momentum for ameliorating cardiovascular care in Europe. The EU SHD Coalition stands ready to support the Commission towards materialising its promise, supporting millions of SHD patients in Europe.

In this context, screening for SHD could build on structures in place for other screening and monitoring tests, such as cancer, in particular existing patient databases and coordination structures. Screening for SHD could also rely on the existing network of health professionals in primary care (GPs and cardiologists) who have the relevant skills and equipment (stethoscope, echocardiogram) for heart checks.

Finally, such screening programmes, which are presented here with a focus on SHD, **could be part of screening programmes for cardiovascular diseases (CVD) or non-communicable diseases (NCDs), or included in another healthcare interaction** (age and gender-specific health check-ups).

II. Early detection of SHD is within reach: ongoing initiatives, opportunities and good practices in Europe

With the growing recognition of the need to improve the early detection of structural heart disease, a number of projects have emerged in some European countries.

1. Italy: initiative for cardiology screening in the over-65s "PREVASC: prospective registry of epidemiology of valve disease in asymptomatic Italian subjects"

Context

In May 2022, the Italian Society of Geriatric Cardiology (SICGe) started a locally structured initiative in Italy: a **cardiology screening program aimed at the asymptomatic population over 65 years of age, carried out in 10 small villages geographically distributed in the Italian territory, selected by size (1,500-2,000 inhabitants) and with proximity to 10 cardiology institutes.**

The "Heart of X" **initiative** (X after the name of the village) involved close collaboration between SICGe and local authorities, who play an active role in raising awareness of the importance of prevention and encouraging people to be screened.

This combines a double aspect: **preventive education and service** to the population, guaranteeing access to screening even in small communities often disadvantaged by the distance from the main hospitals.

A third objective was the collection of data for **scientific purposes (PREVASC study: PREVENTION of cardioVASCular diseases)**: the information derived from this project represented an important contribution to the knowledge of the problems related to the diagnosis and treatment of heart disease, in order to contribute to the improvement of its management. To this end, the screening protocol (anamnesis, risk factors, physical examination, Echocardiography) was shared with the participating hospitals and the data collected centrally in the Cardiovascular Department of the University Hospital of Careggi (Florence) in charge of the analysis.

Design

The PREVASC study was a multicenter, observational, cross-sectional investigation conducted across 10 small towns in Italy between May 2022 and September 2023, coordinated by the AOU Careggi Hospital Echo Core-Lab.



Photo 1: Prof. Boccanelli, Vice President of the Italian Society of Geriatric Cardiology (SICGe), presents the PREVASC study at the Conference "[Heart disease in the Elderly: The Key Role of Preventive Diagnostics](#)", 4 July 2023, Chamber of Deputies Rome

The screening initiative involved doctors, institutions and local authorities. It began with a preparatory phase of preliminary sessions with family doctors and local authorities, to share the protocol and procedure for referral to the reference cardiology institute.

Recruitment was carried out through public health billboards without direct involvement of general practitioners, targeting asymptomatic individuals aged 65 and over with no prior history of valvular heart disease. Participants were stratified by age group and evaluated by expert cardiologists who also provided education on valvular symptoms, aging misconceptions, and treatment options.

Participation in the exams was voluntary. The project's target groups were identified through information and communication campaigns at the local level. **Local institutions and authorities** promoted the initiative by raising public awareness and ensuring proper visibility, identifying and making available premises for control, managing bookings and providing the necessary reception staff.

The project usually involved the participation in each population of **3 cardiologists, 2 nurses, and 2 family physicians**. The electromedical equipment to carry out the examination was made available by the sponsoring companies, while the non-medical personnel needed for the organization were provided by the local communities concerned.

Once recruited, participants were grouped into three age categories (65–69, 70–74, and ≥ 75 years) and underwent a thorough evaluation. This included a **questionnaire on general health** (medical history, functional capacity, ongoing therapies, and risk factors), a **Quality of Life (QoL)** assessment, and a physical examination covering functional parameters, blood pressure, pulse, and BMI. An **electrocardiogram** and, where necessary, a **comprehensive echocardiographic assessment** focusing on VHD detection and grading were also performed.

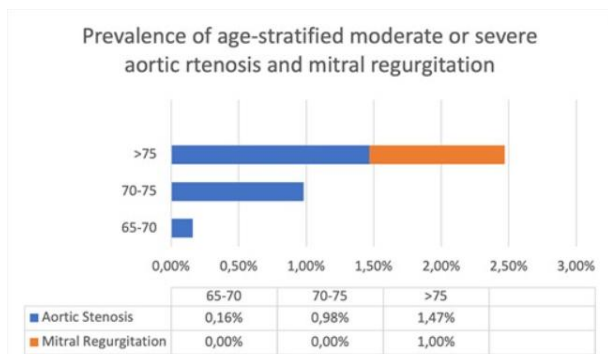
Finally, the patient and their primary care physician received a **detailed report of screening and prescriptions**. In case of pathologies, patients were referred to the referral cardiology department for a multidisciplinary evaluation in agreement with the family doctor.

The data from the individual reports, including the echocardiogram in digital format, were entered into a database accessible remotely to the central laboratory in charge of the evaluation and analysis for the development of the PREVASC study.

Results and Conclusion^{vi}

The registry revealed that the prevalence of valvular heart disease (VHD) among asymptomatic individuals over 65 years old, living in small Italian communities, is significant. It increases with advancing age and is predominantly of degenerative origin. Additionally, it is notable that most individuals with previously undiagnosed VHD in our study consider themselves to be in good health.

Among the 1,113 participants, the prevalence and severity of valvular heart disease (VHD) increased significantly with age ($p < 0.0001$). Notably, 94% of individuals aged 75 and older had at least one valvular defect, and 22.5% showed moderate or severe valvulopathy. This included a 4.8% prevalence of moderate or severe aortic valve stenosis and 7.5% for mitral regurgitation. Right-sided valvular diseases followed a similar pattern, affecting 71.9% of elderly participants. Despite this, quality of life assessments indicated a generally favorable perception of health, with an average score of 77 ± 16 .



Graph 1: M A Amico, G Busi, M Vannini, F Bruscoli, N Marchionni, A Boccanelli, N Carrabba, On behalf of PREVASC Group, PREVASC: prospective registry of epidemiology of valve disease in asymptomatic Italian subjects, *European Journal of Preventive Cardiology*, Volume 31, Issue Supplement_1, June 2024

All new diagnoses with silent symptoms and risk factors for which the elderly people examined were not being treated, capable of generating clinically relevant cardiac pathologies in subsequent years. In particular, anomalies of the aortic valve were present overall in 27% and those of the mitral valve in 34% of the subjects observed.

“The truly unique value of the PREVASC study is that it has brought to light latent valvular defects which, if not diagnosed early and followed over time, risk evolving in 10% of cases, in over a

period of 4-5 years, in severe forms which can become fatal in half of the patients”, as observed in a press conference by Alessandro Boccanelli, vice-president of SICGe and coordinator of the PREVASC study. *“All this has serious consequences for patients, with an estimated 150,000 deaths avoidable thanks to the adoption of structured 'life-saving' screening programs such as for breast, colorectal and cervical cancers. This would allow an **increase in the number of diagnoses from the current 25% to 60%, allowing early intervention to increase the probability of survival.**”*

SICGe has proposed at the Italian Senate (see Photo 1) to apply the PREVASC project on a larger scale, i.e. to promote an extended and structured program model for the early diagnosis of heart disease, which can reach the entire population over 65 at a national level.

The PREVASC 2 project

The PREVASC 2 project exemplifies the significance of utilising the **"Third Mission" of universities to address the ageing population's healthcare needs**. The study focuses on community-based prevention of cardiovascular diseases (CVD) in elderly populations, particularly in small Italian communities. The PREVASC 2 initiative aims to establish methodological standards for cardiological prevention, enhance **cooperation between universities and municipalities**, educate healthcare professionals, and provide valuable data to improve cardiovascular health in elderly populations.

Design

This study focuses on the community-based prevention of cardiovascular diseases (CVD) in elderly populations, particularly in **small Italian communities**. The population targeted includes **asymptomatic individuals** over the age of 65, with the setting being Rome's VI district, which encompasses 259,000 inhabitants. The study spans six weeks over three months and aims to enrol approximately 300 people per week. There is a collaborative effort between medical universities, including UniCamillus International University of Health Sciences and Tor Vergata University of Medicine, non-profit associations such as Fondazione Longevitas and Salute e Società Association, and the Order of Physicians of Rome.

Results and Conclusion

The screening involved medical staff, including young cardiologists and nurses, who conducted screenings as part of their training. Each participant underwent a comprehensive cardiological

examination, including an electrocardiogram and echocardiogram. Data collected encompassed demographics, cardiovascular risk factors, clinical history, social vulnerability, self-care indices, medications, and physical findings. This extensive screening data was centrally collected at the Cardiovascular Department of Careggi University Hospital in Florence and subsequently analysed by the Department of Clinical and Experimental Medicine in Florence.

The "Third Mission" of universities was shown to have a substantial impact on community-based prevention, as medical universities can play a pivotal role by training future healthcare professionals and integrating cardiovascular screening into healthcare systems



2. Republic of San Marino (in collaboration with Italy): official implementation of the heart health screening of the population over 50 years of age

Context

The Republic of San Marino is a microstate in southern Europe enclaved in Italy. It covers an area of just over 61 km, with a population of 33,562 people.

On September 29, 2022, on the occasion of World Heart Day, it was announced that the Republic of San Marino was implementing a major cardiological screening project in the entire population of San Marino from 50 years of age.

This was an important prevention initiative, commissioned by the Director General of the Social Security Institute (ISS), who identified the Italian Society of Geriatric Cardiology (SICGe) as the scientific partner of the project.

The initiative was reported on the San Marino hospital's website and presented at a press conference shared online.^{vii,viii}

Design

The project developed by the ISS aimed to carry out a screening that will involve **all citizens who will turn 50 and 70 years old in 2023**, for a total of almost a thousand citizens of San Marino. The aim was to analyse cardiovascular health status through:

- the use of the "risk card" by general practitioners and the proper and correct execution of the cardiological examination
- and, in cases identified by specialists, level 2 cardiological examinations (cardiac echocardiography, stress test and coronary computed tomography in particular, a technology that the State Hospital has recently acquired).

On September 2023, the Director General of the ISS referred to over 84% of citizens who have joined the prevention campaign^{ix}. The final report has been submitted, and the article has been sent for publication within Q1 of 2025.



3. UK: NHS England publishes new 8-week pathway for Aortic Stenosis

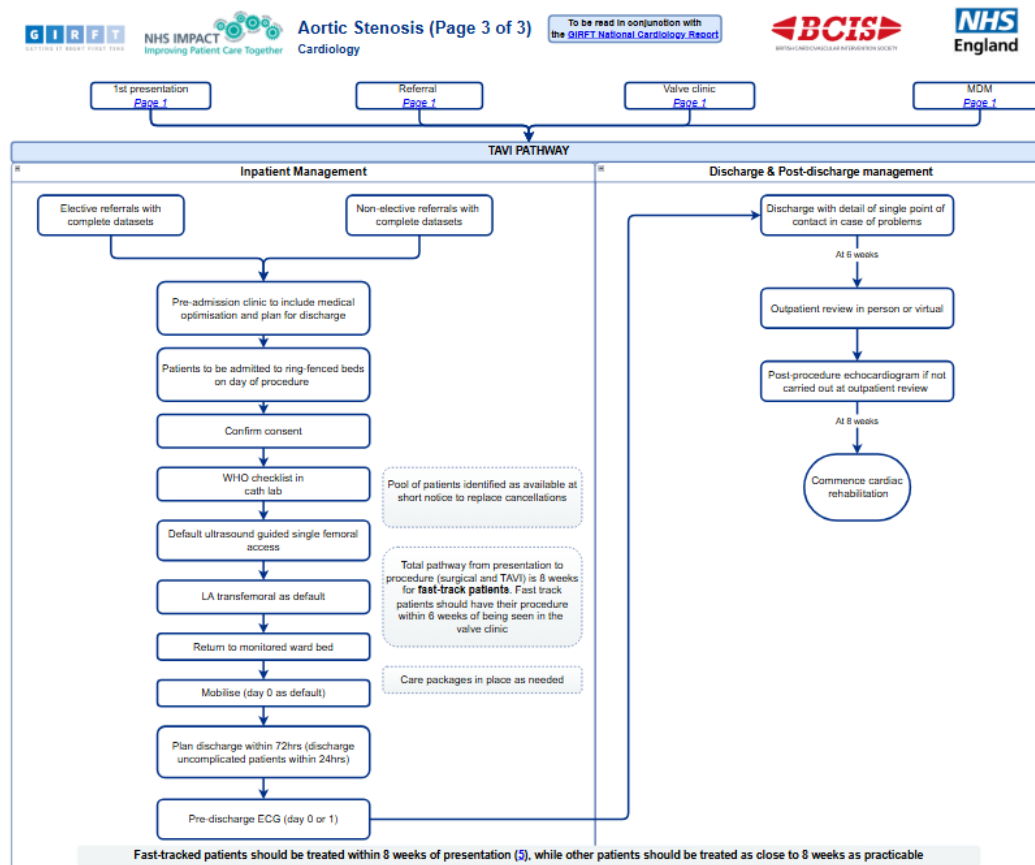
Context

NHS England has launched a national pathway to standardise and accelerate the care of patients with severe aortic stenosis^x. The initiative aims to tackle long waits and regional variation by setting a clear

expectation for every patient, indicating that they should move from diagnosis to treatment within eight weeks, with fast-track access to treatment within six weeks for the most severe cases.

Design

The pathway introduces a single point of access for referrals, ensuring patients enter a streamlined process. Key features include rapid diagnostic confirmation, early multidisciplinary team (MDT) review, and clear triage to surgical or transcatheter valve replacement. To avoid delays, the pathway calls for ring-fenced procedure beds and emphasises early optimisation, so patients are ready for treatment when scheduled. It also sets out consistent standards across integrated care systems, reducing the postcode lottery that has historically characterised access to AS treatment.



Conclusion

For patients, the new pathway could mean earlier intervention, guaranteed access to TAVI or surgery within six weeks for severe cases, fewer deaths on waiting lists, and more equitable care across England. By embedding firm timelines and standardised processes, the NHS is signalling a major shift towards timely, patient-centred management of severe AS, though success will depend on sufficient diagnostic capacity and a specialist workforce to deliver on these ambitious targets.



4. UK: National Institute for Health Research highlights the value of AI-enabled stethoscopes in primary care settings^{xi}

Context

A new AI-enabled stethoscope has been trialled in the UK to accelerate diagnosis of heart valve disease in primary care, including community pharmacies. Developed by Imperial College London and Imperial College Healthcare NHS Trust with NIHR support, the initiative aims to equip GPs and other frontline clinicians with a fast, accessible tool to spot disease earlier and move patients more quickly onto the right treatment pathway. Much like the Farnborough study has highlighted, this reflects a broader shift towards bringing earlier detection closer to the patient, reducing the delays that often result in worse outcomes.

Design

The study involved more than 200 GP surgeries in Northwest London, aiming to pick up heart conditions within 15 seconds using an AI-enabled stethoscope. The study finds that patients examined with the stethoscope were twice as likely to be diagnosed with heart failure, 3.5 times more likely to be diagnosed with atrial fibrillation, and almost twice as likely to receive a diagnosis of heart valve disease.

According to NIHR, the trial demonstrated that integrating this tool into primary care settings can substantially increase detection rates of heart failure, atrial fibrillation, and valve disease among symptomatic patients. Patients assessed with the device were significantly more likely to be diagnosed compared with standard care, showing how AI-supported auscultation could change clinical pathways in primary care.

NIHR emphasised that the technology supports clinicians in triaging more effectively, ensuring timely referrals for confirmatory testing, and addressing the high burden of cardiovascular disease that often goes unnoticed until late. This aligns closely with the key messaging of the Coalition and the Farnborough study on the value and impact of AI stethoscopes in community pharmacies.

Conclusion

NIHR concluded that this innovation has the potential to transform how heart disease is identified across primary care, enabling faster and more accurate detection of serious conditions. By embedding AI tools in frontline care, the NHS could reduce the number of people living with undiagnosed cardiovascular disease, ease pressure on secondary care through earlier intervention, and improve long-term outcomes. While careful integration will be needed to manage false positives and follow-up demand, NIHR highlighted the opportunity for this approach to deliver earlier, more equitable detection at scale.



5. Spain: Study to detect Aortic Stenosis in Nursing Homes

Context

A study in Valencia, Spain, carried out by the INCLIVA Institute in 2022 and 2023, focused on **providing cardiac auscultation and diagnose prevalent forms of SHD specifically in nursing homes**, to study the prevalence of such conditions in vulnerable populations and measure the number of previously undiagnosed patients. INCLIVA is also participating in the EU Joint Action on Cardiovascular Diseases

and Diabetes (JACARDI) and is conducting in the framework of such Joint Action a pilot project for screening of CVDs including SHD^{xii}.

Design

It consisted of a screening program with the aim of implementing it in nursing homes to provide support to patients over 75 years of age who could potentially have a diagnosis of Aortic Stenosis (AS). A total of 120 patients from the 4 participating nursing homes in the Malvarrosa clinical area (Valencia, Spain) were included.

The inclusion criteria were:

1. Elderly patient \geq 75 years old.
2. Clinical Frailty Scale (CFS) score $<$ 5.
3. Patients who have given and signed informed consent to participate in the program.

Exclusion criteria:

1. Patient previously diagnosed with AD.
2. Patient with any medical or psychological disorder that could limit their ability to understand and/or respond to the questions, and who, in the opinion of the researcher, is expected not to cooperate sufficiently.

This program focused, first of all, on raising awareness and educating residents about the importance of the pathology and how to detect it, its monitoring and the available treatment. Secondly, an auscultation phase with a digital stethoscope. In the case of detecting any anomaly (murmurs), the team of specialists referred the patient to the Primary Care Center (CAP) to continue with the diagnosis, monitoring and treatment circuit in the case of diagnosing AD.

An Excel database was designed to collect the data for this report. The medical team included in the project database the data to be obtained in each residence (number of participants in the awareness phase, number of participants auscultated, and number of murmurs detected). In no case were personal or individual data collected from patients that could be attributed to an identified or identifiable natural person.

Initial Findings and Detection Rates

A total of 120 patients from the 4 participating nursing homes in the Malvarrosa clinical area (Valencia, Spain) were included. 100% of the participants who attended the awareness phase signed the informed consent and the Patient Information Sheet (CIF) and participated in the auscultation phase (n=120).

15% of the patients auscultated had an abnormal murmur after auscultation with a stethoscope. These patients were referred to the CAP corresponding to their health area (Malvarrosa) for confirmation of the diagnosis of AD.

If we analyze in more detail the results obtained by residences, we can highlight that the Torres de Serranos residence (n=25) was the residence with the highest number of murmurs detected (24%) compared to the rest of the residences. While in the Cantallops residence (n=36) murmurs were detected in 5.5% of the participants in this residence.

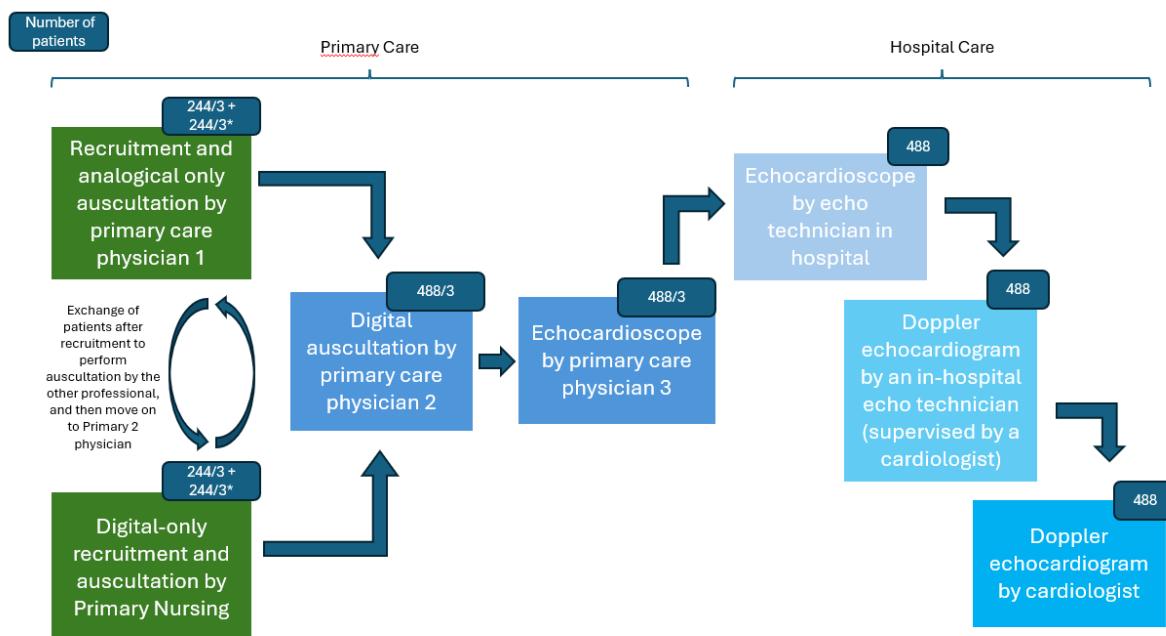
6. Spain: Project for the Systematic Detection of Valvulopathies in Andalusia – DETECT-SHD, part of the Comprehensive Cardiovascular Health Plan of Andalusia

Context

The aging population in Andalusia — where individuals over 65 represent 18% of the total and are expected to reach 2 million by 2030 — brings with it a significant increase in conditions such as structural heart disease, which affects 14% of those over 65 and over 30% of those over 85. These conditions can be effectively treated if detected early, resulting in functional improvements equivalent to a 10-year rejuvenation. Early diagnosis through simple methods like auscultation, echocardiography, or Doppler echocardiograms can slow disease progression and reduce hospital admissions. To this end, DETECT-SHD, a pilot project protocol for the systematic detection of valvulopathies in Andalusia, is part of the **Comprehensive Cardiovascular Health Plan of Andalusia (PISCA)** and aims to address the challenge of underdiagnosis in the elderly population.

Design

The study is **observational, descriptive, quasi-experimental, and prospective**, and will be conducted in the referral area of the Reina Sofía University Hospital in Córdoba. It will recruit **488 individuals over the age of 65** without a previous diagnosis of valvular heart disease, who visit any of the **three participating primary care centers** for any reason. Relevant clinical variables will be collected, and descriptive and comparative analyses will be performed, including an economic model. The goal is to identify the most efficient way to implement systematic auscultation in primary care, by equipping this level of care with technological tools to improve detection and reduce underdiagnosis, establishing long-term solutions once the most efficient way of detection of SHD is identified.



Preliminary results and conclusion

The Reina Sofía Hospital and its affiliated centers began recruiting patients in June 2025. Although no numerical results are available yet, the project is designed to evaluate whether these interventions — both clinically and economically — can enhance early detection of valvular heart diseases in older

adults. It also aims to explore the potential of accessible technology in primary care settings and contribute to the implementation of the Spanish National Cardiovascular Health Strategy (ESCAV).

7. Spain: INCLIVA Pilot Project – JACARDI. Early detection of hypertension, heart failure, atrial fibrillation and valvular heart disease in the general population

Context

Cardiovascular diseases and diabetes remain the leading cause of morbidity, mortality and health expenditure in Europe. They are often silent in their early stages, which means that more than half of the population carries risk factors without being aware of them. Among these conditions, heart failure and valvular heart disease stand out due to their high prevalence in older adults, their contribution to avoidable hospitalisations, and their impact on quality of life.

The European Joint Action **JACARDI** brings together more than 70 institutions from 21 countries to provide evidence on the feasibility, sustainability and impact of large-scale public health interventions in cardiovascular and diabetes prevention. Over four years, JACARDI is testing 18 pilot projects in 11 countries with the aim of expanding preventive programmes, reducing barriers to access and developing standardised screening protocols.

The Spanish pilot is led by **INCLIVA Health Research Institute**, linked to the Hospital Clínico Universitario of Valencia, and coordinated by Dr. Clara Bonanad. Its goal is to establish a structured population-based screening programme that allows early identification of the four key conditions recommended by the Spanish cardiovascular health strategy.

Design

The programme initially targets the general population and will later focus on groups who may benefit most according to their health profile or risk factors. It consists of two phases: from June 2025 to February 2026, and from April to December 2026, followed by a final evaluation of its impact. Any adult over 18 years of age can participate voluntarily through a quick, free and personalised cardiovascular check-up.

The methodology combines basic clinical assessment with specific screening protocols for hypertension, heart failure, atrial fibrillation and valvular heart disease.

Expected results

The INCLIVA pilot aims to:

- Increase the early identification of individuals with asymptomatic or mild disease.
- Enable timely initiation of evidence-based therapies to prevent disease progression.
- Reduce avoidable hospitalisations and cardiovascular mortality.
- Generate evidence on the feasibility and scalability of systematic screening in Spain.
- Develop standardised protocols transferable to other European regions.

- Contribute to the overarching JACARDI goal of strengthening prevention, equity and sustainability in European cardiovascular health policies.

8. France: Pilot project SHD early detection in AuRA Region (« Vieillir en bonne santé en AURA: Prévention & Dépistage des Maladies structurelles du cœur »)

Context

In France, the aging of the population continues and accelerates, people aged at least 65 currently represent 20.5% of the population^{xiii}. In 2030, a third of the French population will be over 60 years old^{xiv}. Aging is a key risk factor for heart disease in general and structural heart disease such as valvular heart disease in particular. The prevalence of these pathologies is expected to double by 2040 and triple by 2060 due to the aging of the population, with some clinicians describing them as "the next cardiac epidemic"^{xv}. SHD causes significant morbidity and mortality (including heart failure); their early diagnosis and treatment therefore represent crucial issues.

In the Auvergne Rhône-Alpes region (AuRA), some territories have a higher aging index than the regional average^{xvi}. These territories, such as Haute-Loire and Ardèche, are also among the most deprived in terms of access to cardiology care. The uneven distribution of community cardiologists combined with a particularly low per capita density results in significant delays in accessing consultations^{xvii}, limiting opportunities for screening, contributing to delays in diagnosis and appropriate care, or leading patients to give up on care.

In this context of population aging, it therefore appeared necessary to supplement existing prevention schemes with early screening and treatment of age-related cardiovascular diseases, in order to avoid their worsening and consequences (morbidity, mortality, autonomy loss).

The project is aligned with the AuRA Regional Health Plan (2018-2028) in which prevention, early diagnosis and monitoring of chronic pathologies, particularly cardiovascular, are set as a priority. It also comes in synergy with the heart failure awareness campaign conducted by the NHS and in support of the efforts carried out at the national level in the common objective of "Aging well".

More specifically, the project, promoted by the CardioParc group^{xviii}. CardioParc has been developing local cardiology centers in the Auvergne Rhône Alpes region since 2019, mainly established in areas experiencing medical shortages; their organizational model is meant to offer shorter delays to cardiology consultations. The CardioParc team is currently collaborating with pharmacists, nurses, GPs and community cardiologists across the Haute-Loire territory to set up the detection process and facilitate patients entry in a care pathway.

The project is co-funded by the AURA Region and EU Social Funds and started in January 2024 for a duration of 1 year in haute-Loire as a pilot territory, with a potential to extend it to additional territories at a later stage.

Design

The project^{xix} aims at improving the early detection and management of valvular heart disease by leveraging the local primary care ecosystem, to prevent dependence, morbidity and mortality associated with these pathologies.

The project is designed around 2 main objectives:

1. Raise awareness of SHDs across primary care professionals and the general public.
2. Identify patients at risk/ with early signs of SHDs, who have no or low medical or cardiology follow-up for the past 5 years, and facilitate their entry in the healthcare pathway.

The project approach is structured in 3 main workstreams:

1. Raising awareness and training of local HCPs in the detection of age-related heart diseases such as valvular heart disease. The objective is to create a local network of health professionals able to detect early signs of a valvular disease, in order to identify patients early on and facilitate their entry into the care pathway. The involvement of all local care professionals available in the included territories will be sought (closest to each population concerned, for example: general practitioners, community pharmacists, nurses, advanced practice nurses (IPA)).
2. Development and implementation of a screening program by local HCPs: identification of patients likely to be affected, and referral to a GP (or IPA, depending on the territories) for in-depth examination if necessary. This will be achieved by way of an interview based on a supporting questionnaire targeting patients aged 75 and over - allowing to assess: the presence of early signs, whether appropriate cardiological follow up has been conducted or not, and to inform the patient.
3. In parallel with the detection programme, a public awareness campaign on the symptoms and first signs of structural heart disease will be conducted.

Expected impact, Stakeholders and Timeline

Although the project is nearing its conclusion, it has already laid the groundwork for several meaningful outcomes. In the medium term, it has contributed to strengthening the territorial healthcare network and enhancing the detection and prevention offering in cardiology, particularly through improved coordination and collaboration among healthcare professionals (local medical teamwork). Indicative results include an expanded detection network and improved healthcare coordination. In the long term, the project is expected to contribute to public health improvements, notably through reductions in morbidity, mortality, and autonomy loss. These outcomes represent a valuable legacy and provide a foundation for future initiatives in cardiovascular health.



9. National Heart Alliance: Pilot Project for the Early Detection of Asymptomatic Heart Failure

Context

Heart failure is the leading cause of unplanned hospital admissions in Germany and is associated with a poor prognosis: annual mortality after diagnosis ranges between 14% and 19%. Advances in diagnostics and therapy now make it possible to identify reversible causes or initiate treatment early enough to slow the progression of the disease. Despite this, there is currently no systematic program

for the early detection of asymptomatic heart failure in Germany, even though a simple blood test has the potential to reveal the disease before patients develop symptoms.

Design

In this pilot project of the National Heart Alliance, an association of the German Heart Foundation, the German Society of Cardiology, and other partners National Heart Alliance, general practitioners in selected German regions (Baden-Württemberg, Saarland, North Rhine-Westphalia) will measure the (NT-pro)BNP level, a biomarker for heart failure. The test will be offered to all insured persons above a defined age threshold or with known risk factors such as arterial hypertension or diabetes mellitus. Patients with elevated BNP levels will then be referred for further cardiological assessment and, if necessary, initiation of appropriate therapy.

Results

The structured use of BNP testing in primary care enables the detection of heart failure in its early, asymptomatic stage. By systematically screening at-risk populations, patients can be referred to cardiologists before disease progression occurs. Initial observations suggest that this pathway allows timely initiation of evidence-based therapies, which has the potential to reduce hospitalization rates and improve long-term outcomes.

Conclusion

The pilot project demonstrates the feasibility of integrating BNP testing into routine primary care as a low-threshold approach to detect heart failure early. Identifying patients before symptom onset allows for earlier treatment, better disease control, and improved survival. The initiative represents an important step in closing the current gap in heart failure prevention and early detection in Germany.

The project is supported and coordinated by the National Heart Alliance, with contributions from partner organizations including the German Heart Foundation, and the German Society of Cardiology.

10. HerzCheck: Mobile Cardiac MRI Screening Detects Asymptomatic Heart Failure

Context

The German Innovation Fund project “HerzCheck” at the German Heart Centre at the Charité Berlin investigates whether mobile, regionally adapted cardiac MRI (heart-MRI) screening can detect asymptomatic heart failure significantly earlier than conventional diagnostics. Heart failure is a leading cause of unplanned hospital admissions in Germany and carries an annual post-diagnosis mortality of 14–19 %. Early identification is critical to start therapy before symptoms occur and to prevent disease progression.

Design

Between June 2021 and April 2023, 4,509 symptom-free adults aged 40–69 years with cardiovascular risk factors were examined at 12 mobile MRI sites across Brandenburg and Mecklenburg-Vorpommern. The project collaborated with about 100 primary-care practices. Participants received a fully automated, telemedicine-supervised cardiac MRI using global longitudinal strain (GLS) analysis

of the left ventricle. Those with elevated GLS values were classified as having subclinical heart failure and were re-evaluated after one year. Results were compared with a historical control cohort diagnosed by standard clinical methods.#

Results

Around one quarter of patients with cardiovascular risk factors living in rural areas have asymptomatic heart failure. A subclinical form of heart failure was diagnosed in 22.7 percent of “HerzCheck” participants. Men with cardiovascular risk factors face a higher risk (37 percent) of developing subclinical heart failure than women with comparable risk factors (12 percent). The likelihood of heart failure in this risk group increases with age: prevalence was 21 percent among those aged 40–49 and 25 percent among those aged 60–69. Cardiovascular risk factors such as smoking, overweight, and diabetes further raise the chance of subclinical heart failure. Cardiac MRI examinations performed in “HerzCheck” can detect heart failure on average almost seven years earlier than standard medical diagnostics. Participants were diagnosed at a mean age of 60.9 years, compared with 67.5 years in a historical control cohort.

Conclusion

“HerzCheck” demonstrates that a mobile, telemedicine-supervised cardiac MRI program can identify asymptomatic heart failure years before symptom onset, enabling timely intervention, reducing hospitalizations, and lowering long-term costs. Supported with over €7 million from the German Federal Joint Committee (G-BA) and led by the German Heart Center at Charité, the project shows that advanced imaging can be effectively deployed in underserved rural regions and may serve as a model for nationwide early-detection programs.

III. Conclusion: the need to test and increase early detection of SHD

The experiences collected in this document highlight a growing interest in testing diverse strategies for the early detection of Structural Heart Disease (SHD) in response to the increasing burden of this condition, primarily driven by population aging. These findings underscore the importance of adapting detection approaches to local realities, taking into account the demographics of at-risk populations, variations in healthcare systems, and the roles of healthcare professionals in diagnosing cardiovascular diseases.

Notably, the initiatives and programs reviewed reveal that SHD prevalence, whether **severe, mild, or moderate, is higher among elderly populations than previously reported**. Early detection has proven to **significantly impact survival rates**, as timely identification and intervention can improve patient outcomes and reduce the progression of disease.

Adding on this, the EU’s prioritisation of cardiovascular health further reinforces the necessity of widespread testing and increased early detection efforts for SHD. To effectively implement these measures, it is crucial to allocate dedicated funding for early detection initiatives, ensuring that screening programs are accessible, scalable, and sustainable. Public health authorities are uniquely positioned to implement these tailored strategies, addressing the growing epidemic of SHD while aligning with broader EU health objectives. Such actions are essential to ensuring improved patient care and fostering sustainable healthcare systems.

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