EARLY DETECTION OF STRUCTURAL HEART DISEASE (SHD)

Initiatives and projects in Europe
State of play by June 2025

EU SHD coalition

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 heart checks.

However, heart 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 heart 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 Detection Initiatives Overview

	Project Name	Country	Healthcare Professionals Involved	Type of Heart 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 pathwaysa for identified conditions.
iii.	Combining Aortic Stenosis Screening with Flu Vaccination	UK	General practitioners	Cardiac auscultation, 2D echocardiography	18% murmur detection; 10.8% referred; 130,000 potential cases of moderate/severe aortic stenosis identified nationally if scaled.
iv.	Increasing Detection Using Auscultation AI in Community Pharmacies	UK	Community pharmacists, GP practices	Digital stethoscope (eMurmur®), echocardiography referrals	45% murmurs detected; 21% moderate/severe SHD; Non-trivial SHD cases increased 70% as a result of this project.
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.

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 taken[i].

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 society[ii].

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.

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

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.

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.

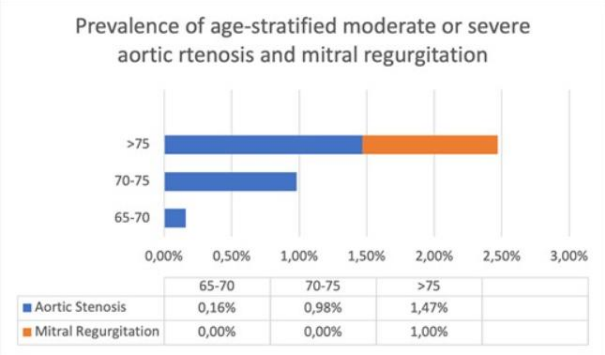
Finally, the patient and their primary care physician received a **detailed report of screening and prescriptions**. In case of pathologies, patients were referred to the referral cardiology department for a multidisciplinary evaluation in agreement with the family doctor.

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.

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: Initiative on Combining Aortic Stenosis Screening with Influenza Vaccination Among Patients 65+ Years of Age

Context

Aortic stenosis (AS), the most common form of SHD, is often diagnosed late when the risk of mortality is high. An initiative in England (UK) tested cardiac auscultation and 2D echocardiography for people attending their flu vaccination appointment.[x]

Design

The study, which took place between September and November 2017 at two GP practices (Buckinghamshire and Birmingham) in the UK, determined the feasibility of detecting AD during influenza vaccination in primary care in the UK through the **dedicated pilot programme**. A total of 167 patients aged 65+ years (mean age 75 years) were enrolled.

When patients went to the GP for flu shots, they also underwent cardiac auscultation and 2D echocardiography (V-scan).

Based on the results, a patient management strategy was determined (referral to the cardiologist, in-practice review, or no follow-up measures) and status was determined at 3 months.

On auscultation, a heart murmur was detected in 30 of 167 (18%) patients and 16 of them had an abnormal V-scan finding that was largely related to the aortic valve. 18 (10.8%) patients were referred, 5 of them diagnosed with mild AD and 3 of them with moderate AD.

Conclusion

The study confirmed the feasibility of screening for valvular heart disease in the elderly within a primary care setting. By combining the flu campaign with the detection of aortic stenosis (AS), this **simple and cost-effective method could potentially identify 130,000 patients with moderate and severe aortic stenosis in England alone**. Importantly, these patients could then be appropriately followed up and treated, helping to **prevent unnecessary deaths and significantly improving outcomes for those affected by this condition**.

4. UK: Increasing detection of structural heart disease (SHD) in using auscultation AI in the community pharmacy setting[xi]

Objectives

A service evaluation was collaboratively undertaken by The Border GP Practice Community Echo Clinic, Chapel Pharmacy, eMurmur®, to determine whether **community pharmacists can be effective in identifying undiagnosed patients with SHD using the eMurmur® digital stethoscope**. The objectives were to:

1. Determine whether digital auscultation with eMurmur® heart artificial intelligence (AI) can be used by a community pharmacist to identify patients with undiagnosed SHD;
2. Determine whether the public will accept a digital auscultation service in the community pharmacy setting;
3. Compare the quality of referrals from the community pharmacy detection service to those from alternative referral routes to the GP in cardiology's community-based echocardiography service.

Design

Between July 2022 and February 2023, the community pharmacist engaged patients at the pharmacy who were aged >75 years, or had type 2 diabetes, angina/myocardial infarction, atrial fibrillation or high blood pressure.

Patients with known SHD or who had an echocardiogram in the past 10 years were excluded.

A leaflet added to the prescription bag of eligible patients prompted discussion of SHD. The patient underwent auscultation at the pharmacy using the digital stethoscope. Patients in whom a systolic murmur was identified were referred to a community clinic for echocardiography.

Photo 2: Community digital stethoscope pilot in the UK, 2023, available here.

Echocardiography findings and next steps were explained to the patient, and an echocardiography report, including recommendations, was sent to the patient's GP.

Patients referred to the community echocardiography clinic by GP practices were used as a control group.

Results

The **community pharmacist detected a murmur in 39 (45%) of 86 patients** and referred them to the community echocardiography clinic. Mean age was 77.8 years. Eight (21%) patients were classed as having moderate or severe SHD, 9 (23%) with mild SHD and 22 (56%) as 'normal' or with 'trivial' SHD upon review of their echocardiography results.

Patients referred by the community pharmacist versus GP practices in Farnborough PCN by echocardiography result

Referrals to community echocardiography	Community pharmacist	GP practices
Total	39 / 86 (45%)	24
Moderate/severe HVD	8 (21%)	2 (8%)
Mild HVD	9 (23%)	8 (33%)
'Normal' or 'trivial HVD'	22 (56%)	14 (58%)

The community echocardiography service also received 24 referrals from GP practices during the evaluation period. Mean age was 65 years. Two (8%) patients were classed as having moderate or severe SHD, 8 (33%) with mild SHD and 14 (58%) as 'normal' or having 'trivial' SHD.

Over the analysis period, **the pharmacy referred 70% more patients diagnosed with non-trivial SHD than GP practices** (17 patients vs 10 patients).

Discussion

The service evaluation shows that community pharmacists can play an important role in the detection of SHD. Moreover:

- Technology can improve the quality of referrals to echocardiography clinics, as the community pharmacist using a digital stethoscope to detect SHD referred 70% more patients with non-trivial SHD than GP practices during the evaluation period.
- Patients accepted and were comfortable with attending a service that checks for murmurs to investigate the presence of SHD by a community pharmacist in the pharmacy setting.
- Technology can support rapid, potentially lifesaving decision-making among HCPs, as rapid sharing of data was not only convenient to patients and the involved HCPs but was also crucial in identifying patients with critical severe AS requiring immediate treatment.
- Proactive community detection in a pharmacy setting has great potential to increase detection of diseases such as SHD. Such a service may help reduce the estimated 46% gap of patients with undiagnosed and untreated severe symptomatic AS, as well as other forms of severe SHD in England.

The service will inevitably improve outcomes for patients with SHD and save the NHS money and resources through proactive detection and timely treatment. To this end, as next steps, the group involved in Project will be advocating for its future commissioning by Integrated Care Boards (ICBs) in collaboration with Cardiac Clinical Networks (CCNs). This aligns with the NHS Long Term Plan, which requires all ICBs in England to make significant progress in diagnosing heart valve disease (HVD) by identifying undetected cases.

To achieve this, the development of innovative strategies like the Farnborough pilot is essential, and patient organisations and CCNs are urged to champion these transformative initiatives. Pharmacy leadership supports the pilot project, emphasising that community pharmacies are well-equipped to deliver HVD detection services. Moreover, it is clear that community pharmacies possess the workforce and skills necessary to expand murmur detection, making them ideal settings for such initiatives. This further strengthens the case for commissioning and rolling out these services on a broader 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 ≥ 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.

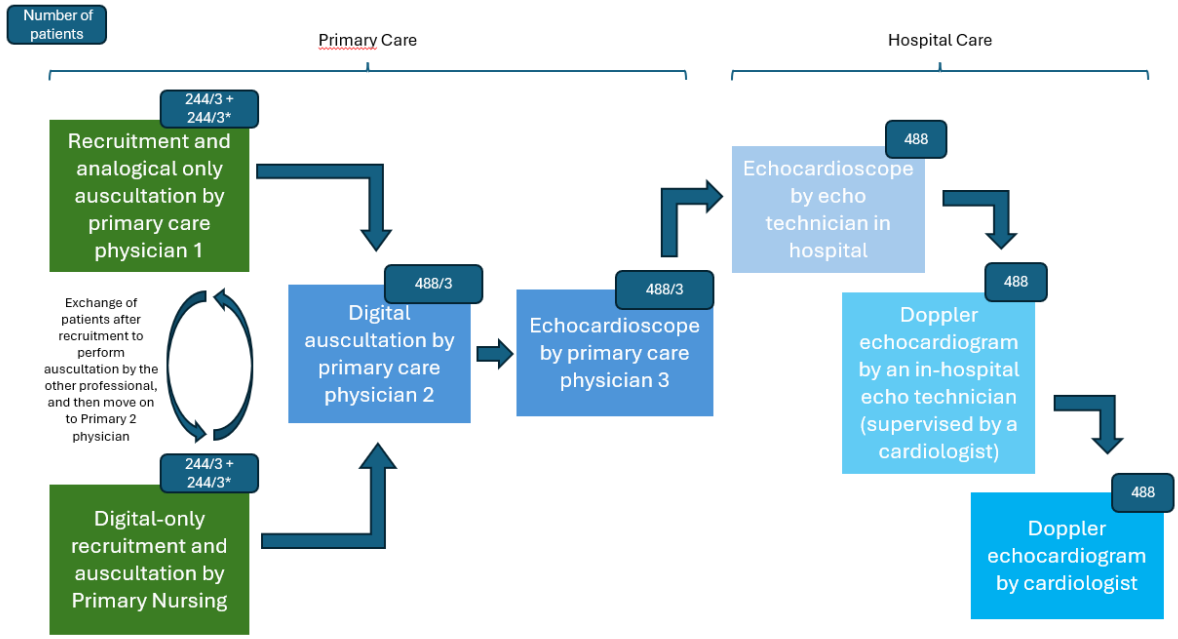
6. Spain: Project for the Systematic Detection of Valvulopathies in Andalusia - DETECT-SHD, part of the Comprehensive Cardiovascular Health Plan of Andalusia

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

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. 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.

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.

[i] EU Structural Heart Disease Coalition website: https://structuralheartdiseasecoalition.eu/

[ii] International Longevity Centre. (2021). The Invisible Epidemic: Rethinking the Detection and Treatment of Structural Heart Disease in Europe. Available at: https://ilcuk.org.uk/the-invisible-epidemic/

[iii] Structural Heart Disease Coalition. (2022, 29 Apr). Comprehensive recommendations on early detection of structural heart disease. Available at: https://structuralheartdiseasecoalition.eu/post/the-case-for-early-detection-of-structural-heart-disease-what-needs-to-happen-to-implement-shd-screening-programs-in-europe

[iv] Gaede, L. et al. (2020). European Heart Health Survey 2019. Available at: https://doi.org/10.1002/clc.23478

[v] Himawan, A. (2023). Holding us back? Tackling inequalities in the detection and treatment of structural heart disease in Europe. Available at: https://ilcuk.org.uk/holding-us-back/.

[vi] Quotidiano di Sanità. (2023, 16 Nov). Malattie del cuore. Urgente screening per anziani, evitabili 150 mila morti l'anno. Available at: https://www.quotidianosanita.it/scienza-e-farmaci/articolo.php?articolo_id=118374

[vii] Istituto per la Sicurezza Sociale. (2022, 29 Sept). AL VIA UNO SCREENING CARDIOLOGICO SULLA POPOLAZIONE SAMMARINESE. Available at: https://www.iss.sm/on-line/home/articolo49016018.html

[viii] Broadcast of the press conference: https://fb.watch/fSP5Y2xJYs/

[ix] Istituto per la Sicurezza Sociale. (2023, 23 Sept). Presentate questa mattina le iniziative della Settimana del Cuore. Available at: https://www.iss.sm/on-line/home/menudestra/educazione-alla-salute/articolo49016337.html

[x] Steeds, R. P. et al. Community-based aortic stenosis detection: clinical and echocardiographic screening during influenza vaccination. Open Heart 8, e001640 (2021).

[xi] Structural Heart Disease Coalition. (2023, 3 Aug). THE ROLE OF COMMUNITY PHARMACIES FOR BETTER DETECTION OF HVD IN ENGLAND. Available at: https://structuralheartdiseasecoalition.eu/the-role-of-community-pharmacies-for-better-detection-of-hvd-in-england/

[xii] INCLIVA/VLC. (2023). Arranca el proyecto JACARDI, la respuesta europea para frenar las enfermedades cardiovasculares y diabetes. Available at https://www.incliva.es/arranca-el-proyecto-jacardi-la-respuesta-europea-para-frenar-las-enfermedades-cardiovasculares-y-diabetes/

[xiii] Insee, Les tableaux de l'économie française, 2020. En ligne : https://www.insee.fr/fr/statistiques/4277619?sommaire=4318291

[xiv] Discours de **Jean-Christophe Combe**, ministre des Solidarités, de l'Autonomie et des Personnes handicapées lors du lancement du **Conseil national de la refondation (CNR) « bien vieillir »** le 11 octobre 2022 https://solidarites-sante.gouv.fr/actualites/presse/discours/article/lancement-du-conseil-national-de-la-refondation-bien-vieillir-intervention-de

[xv] d'Arcy, J-L., Prendergast, B., Chambers, J-B., et al. Valvular heart disease: the next cardiac epidemic. Heart, 2011.

[xvi] https://www.auvergne-rhone-alpes.developpement-durable.gouv.fr/IMG/pdf/2019-pub-dreal-vieillissementetpolitiqueslocales-ok.pdf

[xvii] Le livre blanc de la Cardiologie 2022. Conseil National Professionnel Cardiovasculaire.

[xviii] See https://cardioparc.fr/

[xix] See https://www.europeenauvergnerhonealpes.fr/portraits-de-beneficiaires/la-region-soigne-vos-problemes-de-coeur