ESC European Society of Cardiology

European Journal of Heart Failure (2024) **26**, 2482–2486
doi:10.1002/ejhf.3496

VIEWPOINT

The 25in25 initiative: A novel transformative project to reduce mortality due to heart failure by 25% in the next 25 years

Henry Oluwasefunmi Savage[1], Kyle McBeath[2], Janine Hogan[3]*, Lynn MacKay-Thomas[3], Lisa Anderson[4], Andy Smith[5], Joanne Bateman[6], Poppy Brooks[7], Antoni Bayes-Genis[8], Amanda Vest[9], John Teerlink[10], Giuseppe Rosano[11], and Roy S. Gardner[12]

[1]Essex Cardiothoracic Centre, Basildon, and Chair of the British Society for Heart Failure Policy Media Committee, London, UK; [2]Imperial College NHS Healthcare. Member of British Society for Heart Failure Policy Media Committee, London, UK; [3]British Society for Heart Failure, London, UK; [4]St George's University and Hospitals NHS Foundation Trust, Chair British Society for Heart Failure, London, UK; [5]British Society for Heart Failure Patient Advisory Panel and Policy Media Committee, London, UK; [6]Countess of Chester Hospital NHS Foundation Trust, member of the British Society for Heart Failure Policy Media Committee, Chester, UK; [7]Northern Devon Healthcare NHS Trust, British Society for Heart Failure Board member, London, UK; [8]Head of the Heart Institute at Hospital Universitari Germans Trias i Pujol in Badalona, Barcelona, Spain; [9]Section Head of Heart Failure and Transplantation Cardiology, Cleveland Clinic, Cleveland, OH, USA; [10]San Francisco Veterans Affairs Medical Center and Professor of Medicine at the University of California, San Francisco (UCSF), San Francisco, CA, USA; [11]St George's Hospitals NHS Trust University of London, London, UK; and [12]Scottish National Advanced Heart Failure Service, Golden Jubilee National Hospital, Honorary Professor at the University of Glasgow, Glasgow, UK

Introduction

We are at a crucial point in time for those with cardiovascular diseases such as heart failure (HF).

An estimated 64.3 million people are living with HF worldwide.[1] In developed countries, the prevalence of diagnosed HF is estimated at 1–2% of the adult population,[2,3] and with factors such as our expanding ageing population, figures are set to double by 2040 (*Figure 1*).

Heart failure is a final common pathway for almost all cardiovascular diseases, but also a significant cause of mortality across the wider cardio-renal-metabolic spectrum. Over 90% of those who are diagnosed with HF are living with at least one other long-term condition[4] such as diabetes, kidney disease, high blood pressure, chronic obstructive pulmonary disease and depression. From epidemiology to pathophysiology, there is a large multi-specialty and multi-disciplinary overlap.

Diagnosing HF, however, remains a challenge. Eighty per cent of patients receive their diagnosis during an emergency admission.[5] This is even though up to 40% of these patients had symptoms many months prior to that admission which should have triggered an earlier assessment.[5] Delayed diagnosis has a significant impact on mortality and spending. One in three of these patients do not survive up to 1 year and inpatient costs are a significant driver of expenditure for HF care, which itself accounts for almost 2% (€2.3 billion) of the entire National Health Service (NHS) budget.[6]

Many patients with HF remain undetected and undiagnosed. In the UK alone, it is estimated that around 400 000 people who have HF remain without a documented diagnosis. These patients are disproportionately at risk of socioeconomic deprivation and associated worse outcomes, including more frequent exacerbations, repeated hospital admissions and increased HF mortality.[7] The undetected and undiagnosed are deprived of life-preserving HF treatments. The human and economic costs are huge. It is time for action.

Aims and objectives

The primary aim of the 25in25 initiative is to reduce HF mortality in the first year after diagnosis by 25% in the next 25 years. This equates to five fewer deaths for every 100 patients newly diagnosed with HF every year, translating to over 10 000 lives saved annually.

Secondary aims include: (i) the development of a robust ambulatory HF database from a community focal point, with dynamic data modelling and the opportunity for future research; (ii) to educate, encourage and facilitate engagement from the broader spectrum of clinicians in specialties intersecting with HF care to make every contact count; and (iii) to make HF a national priority by influencing thought leaders, policymakers, and politicians to prioritize HF.

*Corresponding author. British Society for Heart Failure, St Andrews Pl, London NW1 4LB, UK. Tel: +44 20 36060798 ext. 3671, Email: janine.hogan@bsh.org.uk

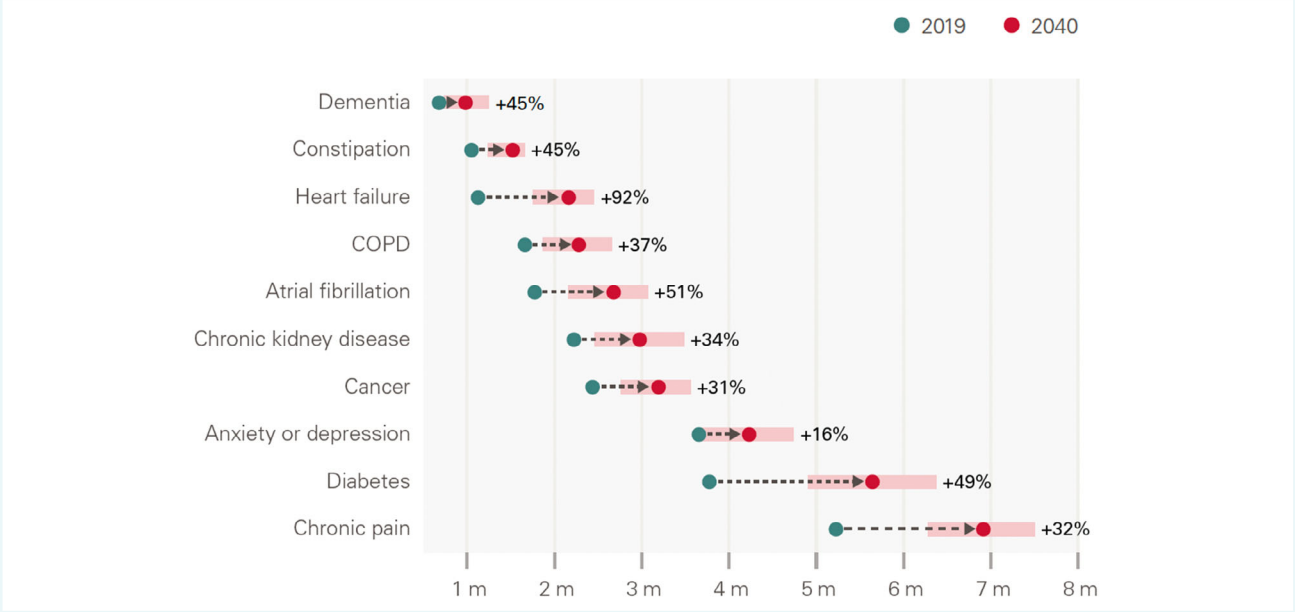

Figure 1 Projected total number of diagnosed cases for the 10 conditions with the highest impact on healthcare use and mortality among those aged 30 years and older, including demographic changes, England, 2019 and projected for 2040. Attrib. Health Foundation REAL Centre.[13] Analysis of linked healthcare records and mortality data conducted by the REAL Centre and the University of Liverpool. Red shaded bars represent uncertainty intervals. COPD, chronic obstructive pulmonary disease.

Figure 2 Signed declaration for the 25in25 initiative by 60 collaborative organizations.

25in25 summit and collaborative

The British Society for Heart Failure (BSH) recognized the internationally shared concern of increasing HF caseload and realized that as a specialty, we are under resourced and therefore less able to face the growing unmet need of HF care, alone. Spearheaded by the BSH a Summit was called in March 2023, to bring together ~60 organizations (online supplementary *Appendix S1*) across a broad spectrum of specialties that intersect with HF care, including clinicians, patients and policy groups. These selected organizations brought specialist knowledge and expertise to the discussion, which ended with signing the '25in25 declaration'—to

change the trajectory of HF and become part of the 25in25 Collaborative (*Figure 2*).

The 25in25 Collaborative agreed to implement/test a Fast-Track Communities (FTC) approach, successfully deployed for HIV as the model for implementation.[8]

Risk identification (prevention), early diagnosis, early treatment and patient empowerment (such as quality of life (QOL)/mental health and wellbeing measures) were agreed as priority areas for data collection and indicators to prevent avoidable deaths due to HF. As a result of the Summit, the Collaborative finalized a roadmap to guide implementation and the 25in25 initiative was launched as a novel transformative quality improvement project to reduce mortality due to HF by 25% in the next 25 years.

The Summit further highlighted that to achieve the 25in25 ambition, two fundamental messages must be promoted:

- 'Detect the undetected'. Find those undiagnosed first as early diagnosis and early treatment dramatically improves outcomes.
- 'Make every contact count'. All healthcare professionals across the cardio-renal-metabolic spectrum, see those at risk of, and those undiagnosed but symptomatic with, HF. They must consider the three F's of HF (Fighting for breath, Fatigue, and Fluid retention), any relevant medical history and ensure that N-terminal pro-B-type natriuretic peptide (NT-proBNP) is widely available and appropriately used.

25in25 implementation

The 25in25 implementation programme targets this significant public health issue with a long-term strategy: lowering the 1-year mortality rate following a HF diagnosis by 25% within 25 years by identifying the key areas of improvement across a locality and community. By risk factor identification (prevention), early detection, diagnosis, treatment, and improving QOL, the focus is on developing collaborative solutions to methodically prioritize and address them.

The 25in25 pilot programme, which relies on systematic case-finding of currently undetected HF, is underway in five locations across the UK. Data are being collected through specified searches from patient records on general practitioner systems aligned to a national strategy of reducing mortality and morbidity. Local system searches will identify citizens that need intervention or monitoring across the community, with aggregated, anonymized data uploaded and benchmarked on a national platform to observe the national picture.

The extracts of data collected will be analysed locally and potential areas for quality improvement identified. Solutions will be developed and supported across the community, involving all stakeholders across care settings providing holistic support, including social and community advocates. Benchmarked data would be utilized to monitor impact over time and enhance HF management.

The dashboard will be designed to capture data in the following core domains of HF care (*Figure 3*):

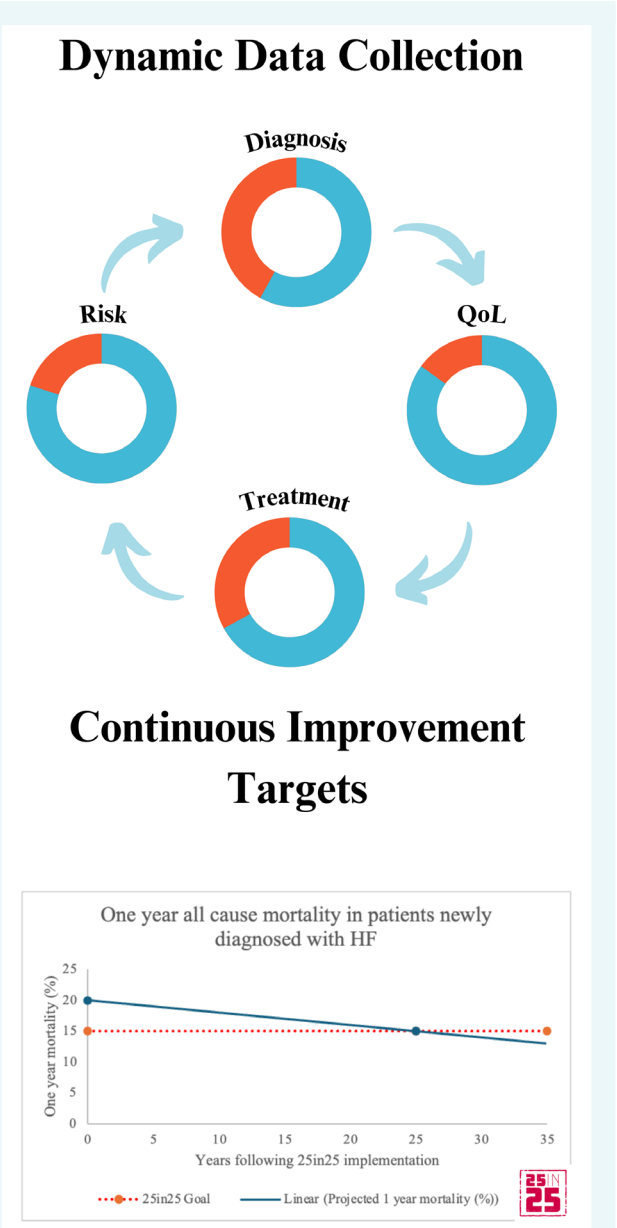

Figure 3 Schematic of dashboard with dynamic data collection feeding into the four continuous improvement targets and mortality data. HF, heart failure; QoL, quality of life.

1. Risk–Identifying those at risk of developing HF. The proportion of patients with a cardiovascular risk factor who are treated to target or on disease-modifying therapy
2. Diagnosis–Proportion of patients with suspected HF who have had an NT-proBNP >400 pg/ml and who have had an echocardiographic examination in <6 weeks.[9]
3. Treatment–The proportion of patients with HF with a reduced ejection fraction, who are prescribed all four guideline-directed medical therapies–Angiotensin converting enzyme inhibitors/angiotensin II receptor blockers/angiotensin receptor–neprilysin inhibitor, beta-blockers, mineralocorticoid

receptor antagonists and sodium–glucose cotransporter 2 inhibitors.[10]
4. QoL–Proportion of patients with recorded HF specific QoL data.

By focusing on prevention, early detection, accurate diagnosis, appropriate treatment and empowering not just the clinicians but citizens and communities, the 25in25 initiative will transform population health outcomes related to HF and its comorbidities and reduce the burden on the health service. The initiative underscores the importance of a collaborative, community-based approach to tackling HF, ensuring that health improvements start within the communities and extend to a national scale.

25in25 initiative pilot site selection

In August 2023, the BSH put out an invitation for expressions of interest (online supplementary *Appendix S2*), to the BSH membership and the 25in25 Collaborative, to test the 25in25 initiative in their area, over a 12-month period, commencing January 2024. Each pilot site was asked to create a bespoke, community based, multidisciplinary plan that encompassed the fundamental concepts of 'detect the undetected' and 'make every contact count', aligned to and serving the local demographic towards reducing HF mortality. Along with the long-term 25in25 mortality goal, each pilot site would use a dashboard to evaluate improvements in the four core domains of the 25in25 initiative.

Sixteen applications were received from sites in the UK who were ambitious about improving HF outcomes in their population, through a lens of health equity. Fourteen of these sites were selected for interview.

Criteria for selection included: (i) appropriate infrastructure that would allow sustainability of the project beyond 1 year: pilot sites were requested to secure top level, regional health and care system sign off for their participation in the 25in25 initiative; (ii) demonstration of existing cross-functional collaboration such as with social care, third sector, public health, local authorities, and patient groups; (iii) existing model of a population health approach to HF management and the availability of HF specialist clinical and technical support; and (iv) evidence of experience of using data-driven decision-making and quality improvement methodologies in clinical practice.

Five sites were selected to start in January 2024, coproducing the methodology, after a shortlisting and interview process. Two further sites were selected to start later in the year.

25in25 initiative pilot phase 2024–25

Preliminary implementation began in early March 2024 and is summarized in *Figure 4*. The purpose of the pilot sites is to test and evaluate the feasibility, functionality, and effectiveness of the project before it is rolled out on a larger scale to a national and international community. It will allow us to: (i) identify and address any potential issues, refine processes, and gather valuable feedback from pilot site users, and (ii) assess the practicality and impact of the initiative before committing to full-scale national and international deployment.

The insights gained over 12 months will help the group make adjustments to ensure the success of the initiative when it is implemented more widely.

Pilot programme methodology

A specialist team of health informaticians will prioritize documentation of the metadata around the code-lists; convert into a machine-readable format; compare against national reference sets and provide a second-coder review to upgrade them before conversion into International Classification of Diseases (ICD-10) and NHS codes for interventions and procedures (OPCS-4).[11]

For the next stage of data flow, models to help analyse the available healthcare data will be built to feed the smart dashboard. The pilot sites will be trained in how to use the dashboard, regularly extract data and, from this experience, produce a standard operating procedure.

This team will design an input file specification in CSV format for the data that will be needed to populate the dashboard. This will contribute to the work of the UK national audit provider, NHS Benchmarking Network which provides dashboards for and delivers multiple national audits such as CVDPREVENT.[12]

The feedback, insights and data will inform and help to refine the design and implementation, while addressing limitations and

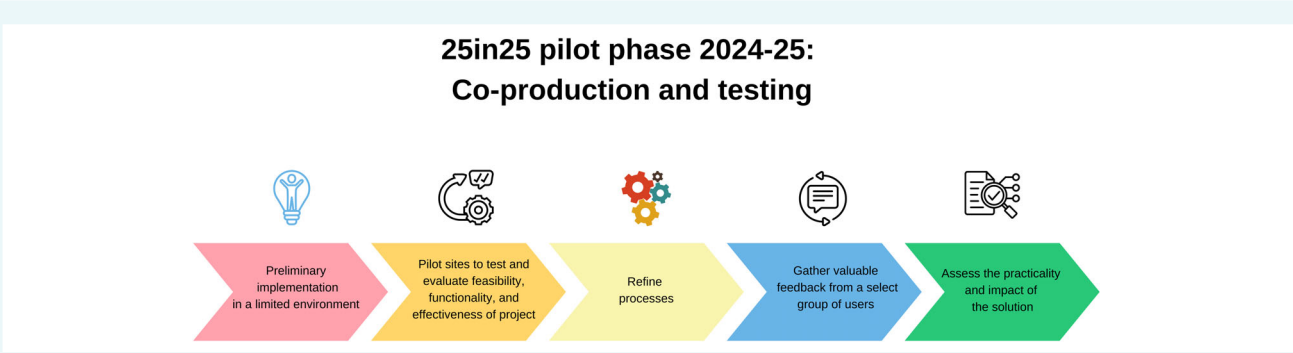

Figure 4 Steps involved in the 25in25 pilot phase.

validating assumptions, to make necessary adjustments before scaling up the project. The business intelligence team will work closely with NHS Benchmarking Network on how best to develop the anonymized data feed that will be required for the national platform in 2025.

- Population: Definition based upon a recognized primary care geographical footprint
- Interventions: Site specific in the defined population
- Comparator: The site in a previous time period against national reference sets and international quality indicators
- Outcomes: Learning and clarity of methodology for data collection with the opportunity for a standardized prevalence reporting. The Legacy effect would be a collaboration across borders, upskilling in primary care and code cleansing.

Next steps

We have started work with pilot sites regarding data collection and intelligence needed to build the dashboard. Early analysis to identify potential areas for quality improvement has begun as a dynamic process for change. Solutions will be developed and supported across the community and benchmarked data would be utilized to monitor impact over time and enhance HF management.

Furthermore, we are establishing engagement strategies with health and care boards and local health authorities to support these pilot programmes. And we intend to create cross-stakeholder agreements in these pilot sites, on priority factors to address future challenges in cardiovascular outcomes.

Conclusion

The 25in25 initiative will support informed care and improved outcomes in patients with long-term conditions leading to HF, and address health inequalities by tackling disparities of access, experience, and outcomes in under-served patient groups.

By focusing on prevention, early detection, accurate diagnosis, appropriate treatment and empowering citizens and communities, the 25in25 initiative aims to significantly improve population health outcomes related to HF and reduce the burden on health services. The initiative underscores the importance of a collaborative, community-based approach and locally designed solutions, ensuring that health improvements start within the communities and trends observed nationally.

The 25in25 initiative will leverage its reach, infrastructure, and human capacity to build a more equitable, inclusive, prosperous, and sustainable future for all those in danger of premature mortality from HF, regardless of age, gender, ethnicity, and social and economic circumstances.

We believe that this strategy is viable, cost-effective and has a transferrable methodology to improve the care of patients with HF across diverse healthcare systems.

Supplementary Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Conflict of interest: none declared.

References

1. GBD 2017 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: A systematic analysis for the Global Burden of Disease Study 2017. *Lancet* 2018;**392**:1789–1858. https://doi.org/10.1016/S0140-6736(18)32279-7
2. Avery CL, Loehr LR, Baggett C, Chang PP, Kucharska-Newton AM, Matsushita K, *et al.* The population burden of heart failure attributable to modifiable risk factors: The ARIC (Atherosclerosis Risk in Communities) study. *J Am Coll Cardiol* 2012;**60**:1640–1646. https://doi.org/10.1016/j.jacc.2012.07.022
3. Jhund PS, Macintyre K, Simpson CR, Lewsey JD, Stewart S, Redpath A, *et al.* Long-term trends in first hospitalization for heart failure and subsequent survival between 1986 and 2003: A population study of 5.1 million people. *Circulation* 2009;**119**:515–523. https://doi.org/10.1161/CIRCULATIONAHA.108.812172
4. British Heart Foundation. Heart failure: A blueprint for change. Building a better future for heart failure together. https://www.bhf.org.uk/what-we-do/policy-and-public-affairs/transforming-healthcare/heart-failure-report. Accessed 1 July 2022.
5. Bottle A, Kim D, Aylin P, Cowie MR, Majeed A, Hayhoe B. Routes to diagnosis of heart failure: Observational study using linked data in England. *Heart* 2018;**104**:600–605. https://doi.org/10.1136/heartjnl-2017-312183
6. National Institute for Health and Care Excellence. Resource impact report: Chronic heart failure in adults: Diagnosis and management. NICE guideline [NG106]. 12 September 2018. https://www.england.nhs.uk/blog/managing-heart-failure-home-an-opportunity-for-excellence/#:~:text=Caring%20for%20heart%20failure%20patients,and%20its%20management%20are%20important. Accessed 21 October 2024.
7. Witte KK, Patel PA, Walker AMN, Schechter CB, Drozd M, Sengupta A, *et al.* Socioeconomic deprivation and mode-specific outcomes in patients with chronic heart failure. *Heart* 2018;**104**:993–998. https://doi.org/10.1136/heartjnl-2017-312539
8. Care TPiHa. Fast-Track Cities Initiative: London Getting to Zero. 2018 https://www.transformationpartners.nhs.uk/programmes/fast-track-cities-initiative/ Accessed 6 June 2024.
9. National Institute for Health and Care Excellence. Chronic heart failure in adults: Diagnosis and management. NICE guideline [NG106]. 12 September 2018. https://www.nice.org.uk/guidance/ng106 Accessed 6 June 2024.
10. McDonagh TA, Metra M, Adamo M, Gardner RS, Baumbach A, Böhm M, *et al.*; ESC Scientific Document Group. 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure: Developed by the Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC). With the special contribution of the Heart Failure Association (HFA) of the ESC. *Eur J Heart Fail* 2022;**24**:4–131. https://doi.org/10.1002/ejhf.2333
11. NHS Digital. National Clinical Coding Standards OPCS-4. Accurate data for quality information. 2021 https://classbrowser.nhs.uk/ref_books/OPCS-4.9_NCCS-2021.pdf. Accessed 6 June 2024.
12. Office for Health Improvement & Disparities. CVDPREVENT. 2024 https://www.cvdprevent.nhs.uk/about. Accessed 6 June 2024
13. The Health Foundation. Health in 2040: projected patterns of illness in England. July 2023. https://www.health.org.uk/publications/health-in-2040. Accessed 6 June 2024