

Measuring What Matters: A Unified Framework for High-Value Heart Failure Care in Brazil

Sabrina Bernardez-Pereira,¹ Giovana Alvarez,¹ Marcelo Franken,¹ Pedro Alves Lemos Neto,¹ Germano Emílio Conceição Souza,² Fernando Bacal¹

Hospital Israelita Albert Einstein,¹ São Paulo, SP – Brazil

Hospital Regional de São José dos Campos,² São José dos Campos, SP – Brazil

Introduction

In Brazil, heart failure (HF) remains one of the leading causes of cardiovascular hospitalization and mortality, placing substantial pressure on the public health system. Despite therapeutic advances, significant gaps persist, as fragmented information systems, heterogeneous indicators, and limited integration of the patient perspective continue to predominate across both the public and private sectors.^{1,2}

Critically, value-based healthcare, defined as health outcomes achieved relative to the resources expended, requires systematic measurement of waste and low-value care. Identifying avoidable hospitalizations, redundant testing, and delayed therapy optimization is essential for improving outcomes and ensuring health system sustainability.^{3,4} Economic analyses in Brazil demonstrate that inefficient HF management generates substantial costs: approximately 70% of HF-related expenditures arise from hospitalizations, many of which could be prevented through optimized outpatient care and stronger integration with primary care.⁵

International initiatives such as the International Consortium for Health Outcomes Measurement (ICHOM) have clarified which outcomes truly matter, including functional status, quality of life, and major clinical outcomes, yet adoption across Brazil remains uneven.

This Viewpoint proposes a pragmatic, integrated measurement framework applicable across public and private sectors, emphasizing primary care's pivotal role in reducing hospitalizations and improving cost-effectiveness while maintaining clinical quality in HF care.

Performance measurement: from data to action

Health systems progress from data to action through a hierarchical pathway: raw data → indicators → information → knowledge → decision-making. Without standardized indicators and coherent systems, data remain fragmented and underutilized,

limiting clinicians', managers', and policymakers' ability to translate evidence into targeted improvements (Figure 1).

The Model for Improvement developed by the Institute for Healthcare Improvement (IHI) provides an operationally robust framework requiring deliberately balanced metrics addressing multiple performance dimensions:

- **Outcome measures:** mortality, functional capacity, health-related quality of life
- **Process measures:** guideline-directed medical therapy (GDMT), timely post-discharge follow-up
- **Balancing measures:** detecting unintended consequences (readmissions, care delays, disparate burden on vulnerable subgroups)

Crucially, measurement must be “for learning, not judgment,” enabling frontline teams to detect variation and iteratively refine care pathways. Unlike retrospective administrative indicators, IHI-aligned measures are sensitive to change, actionable, and tightly linked to improvement objectives.⁶ Once standardized and consistently applied, these measures also enable meaningful benchmarking across organizations and health systems.

Standardized benchmarking allows organizations to assess gaps, identify high-performing peers, and set realistic performance targets. When transparently reported, benchmarks create conditions for shared learning, support accountability, and reduce unwarranted variation, which is especially relevant in Brazil, where the coexistence of public and private sectors demands coherent approaches to quality.⁷

Heart failure performance measures: international models

Despite comprehensive clinical guidelines, existing metrics inadequately monitor adherence and real-world implementation, limiting systematic evaluation of whether recommended practices translate into daily care and link to patient-centered outcomes.

The Get With The Guidelines Heart Failure (GWTG-HF) initiative establishes standardized indicators as left ventricular function assessment, post-discharge follow-up scheduling, and evidence-based therapy prescription. Participating institutions benefit from national data aggregation, quality improvement support, and comparative benchmarking across hundreds of hospitals, monitoring both process measures and risk-adjusted outcomes.^{8,9}

The United Kingdom's National Institute for Cardiovascular Outcomes Research (NICOR) demonstrates how national-level audit programs can drive large-scale quality improvement through continuous data collection, analysis, benchmarking, and public reporting.¹⁰ In parallel,

Keywords

Heart Failure; Quality of Health Care; Patient-Centered Care

Mailing Address: Sabrina Bernardez Pereira •

Hospital Israelita Albert Einstein – Av. Albert Einstein, 627/701. Postal Code 05652-900, Morumbi, São Paulo, SP – Brazil

E-mail: sabrina.bernardez@einstein.br

Manuscript received March 05, 2026, revised manuscript March 21, 2026, accepted Mar 21, 2026

Editor responsible for the review: Humberto Villacorta

DOI: <https://doi.org/10.36660/abchf.2026009i>

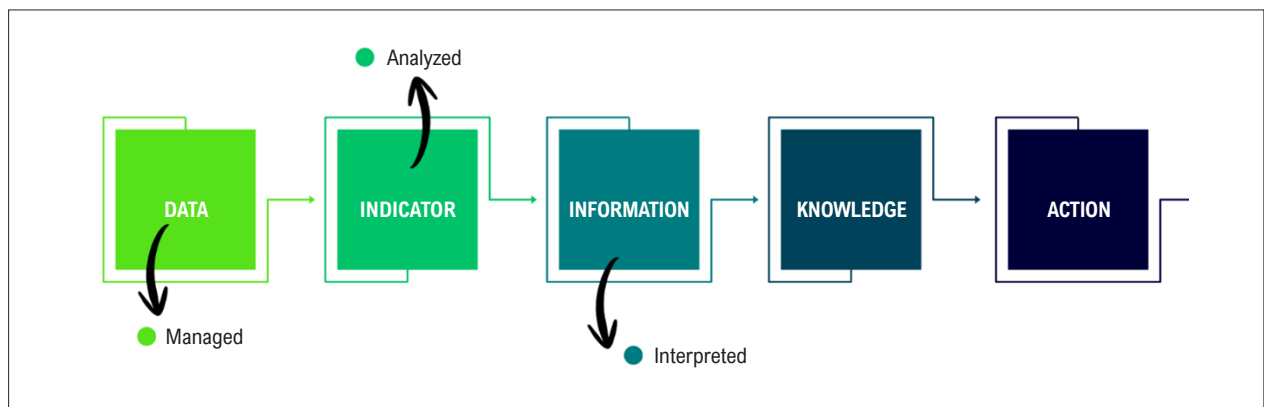


Figure 1 – The evidence-production cycle in health, from data to action.

the European Society of Cardiology proposes an integrated framework across five domains: (1) structural indicators, (2) patient assessment at diagnosis, (3) initiation of guideline-directed medical therapy (GDMT), (4) therapy optimization, and (5) health-related quality of life.¹¹

While these initiatives represent important advances in standardizing HF care evaluation, most metrics remain predominantly process-oriented rather than outcome-oriented. As a result, their ability to capture the real impact of guideline adherence on patient-centered outcomes remains limited.

To address this gap, the ICHOM Standard Set for HF, developed through rigorous consensus involving clinical experts and patients, incorporates balanced measures: mortality, readmissions, symptom burden, functional status, and quality of life (KCCQ-12), with case-mix characterization and risk adjustment.¹² This approach aligns with value-based principles by enabling consistent and comparable assessment across diverse settings. However, it may insufficiently capture social determinants of health, which are particularly relevant in Brazil, where socioeconomic vulnerability and health system fragmentation significantly influence outcomes.

Heart failure registries in Brazil

In Brazil, several national and multicenter registries have emerged to better characterize HF care and outcomes within the country's complex and heterogeneous health system:

- **BREATHE Registry (Brazilian Society of Cardiology):** characterizes acute HF clinical profiles, treatment patterns, and outcomes across diverse settings
- **Best Practice in Cardiology (BPC) Program:** promotes quality standards and clinical governance grounded in GWTG principles
- **Rosa dos Ventos multicenter study:** evaluates chronic HF characteristics and regional disparities
- **ANAHP Outcomes Measurement Program:** systematically collects clinical indicators across private hospitals, providing patient-reported

outcomes, mortality, readmissions, and efficiency data through the SINHA benchmarking platform¹³

However, these initiatives remain heterogeneous in scope and methodology, with limited coordination between public and private sectors. Strengthening integration across levels of care is therefore essential: optimizing GDMT in outpatient settings, monitoring volume status, and managing comorbidities can prevent acute decompensation, thereby reducing emergency department visits and hospitalizations, the primary drivers of HF-related costs.

Designing a value-oriented framework for Brazil

Effective national measurement requires integrating international best practices with Brazil's specific needs and inequities. No single framework suffices; an effective model must strategically combine complementary approaches.

The proposed framework integrates four measurement domains: guideline adherence indicators, clinical outcomes and patient-reported outcomes, waste and inefficiency measures, and equity measures. Together, these domains capture the multidimensional nature of value in HF care (Figure 2).

This strategy must include:

- **Guideline adherence indicators:** measuring implementation of evidence-based therapies, including optimization of GDMT and continuity of care across settings.
- **Clinical and patient-reported outcomes:** including mortality, hospital readmissions, symptom burden, functional status, and quality of life.
- **Waste and inefficiency measures:** identifying avoidable hospitalizations, unnecessary diagnostic variability, and delays in therapy initiation.
- **Equity measures:** capturing disparities in access, social vulnerability, and structural determinants affecting care and outcomes.

ICHOM-aligned outcome sets define what should be measured from patients' perspectives (symptom burden,

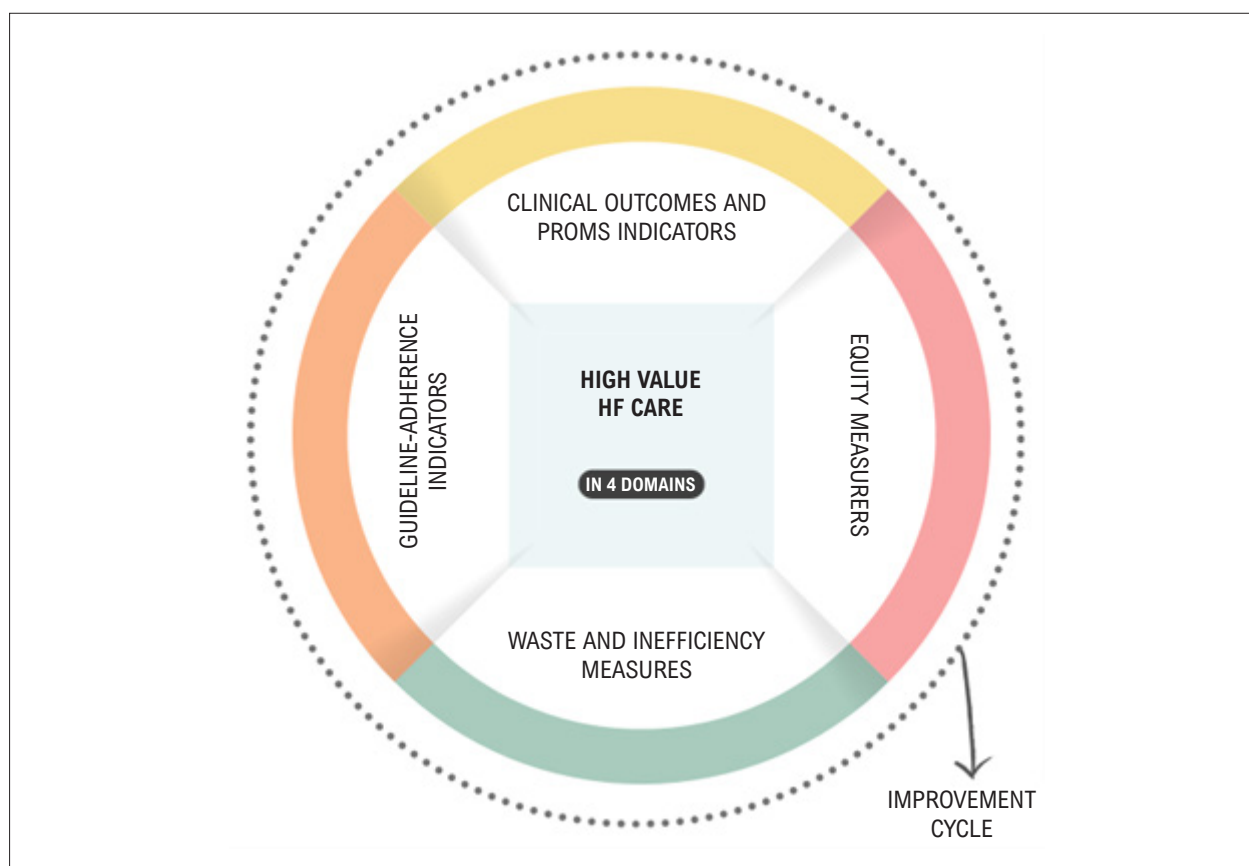


Figure 2 – Performance domains of high-value heart failure care. PROMS: Patient-reported outcomes measures; HF: heart failure.

functional status, quality of life), while the IHI Model for Improvement clarifies how measurement operationalizes iterative care improvements. Together, these approaches form a coherent and synergistic strategy to accelerate the transition toward value-based HF care across Brazil's health system.

Importantly, such measurement frameworks should also inform policy decisions regarding resource allocation and health technology adoption within the public system.

From a public health perspective, the incorporation of innovative technologies into Brazil's Unified Health System (SUS) must be guided by transparent, evidence-based processes led by the National Commission for the Incorporation of Technologies in the SUS (CONITEC). Beyond efficacy and safety, CONITEC increasingly emphasizes cost-effectiveness, budget impact, and real-world applicability, aligning closely with value-based healthcare principles.

In HF care, this framework is particularly relevant, as high-value interventions, such as guideline-directed pharmacological therapies, structured disease management programs, and digital health solutions have demonstrated the potential to reduce hospitalizations, improve quality of life, and optimize resource allocation. Embedding standardized outcome measurement, patient-reported outcomes, and efficiency indicators into health technology

assessment processes may facilitate more consistent adoption of best practices across the public system, reduce unwarranted regional disparities, and ensure that patients treated within the SUS benefit from the same evidence-based standards increasingly applied in the private sector.¹⁴

Conclusions

Evidence highlights the need to move beyond fragmented, process-driven systems toward a unified, patient-centered, and equity-sensitive framework for evaluating HF care in Brazil. Despite advances through registries and quality initiatives, the country still lacks a coordinated national strategy integrating patient-centered outcomes, guideline adherence, efficiency metrics, equity, and care integration across healthcare settings. Measuring what truly matters will be essential to align clinical practice, health system performance, and policy decisions to improve outcomes for patients with HF.

Author Contributions

Conception and design of the research, Acquisition of data and Analysis and interpretation of the data: Bernardez-Pereira S; Writing of the manuscript: Bernardez-Pereira S, Alvarez G, Souza GEC; Critical revision of the manuscript for intellectual content: Franken M, Lemos Neto PA, Souza GEC, Bacal F.

Potential Conflict of Interest

No potential conflict of interest relevant to this article was reported.

Sources of Funding

There were no external funding sources for this study.

Study Association

This study is not associated with any thesis or dissertation work.

Ethics Approval and Consent to Participate

This article does not contain any studies with human participants or animals performed by any of the authors.

Use of Artificial Intelligence

The authors did not use any artificial intelligence tools in the development of this work.

Availability of Research Data

The underlying content of the research text is contained within the manuscript.

References

1. Bocchi EA, Arias A, Verdejo H, Díez M, Gómez E, Castro P, et al. The Reality of Heart Failure in Latin America. *J Am Coll Cardiol*. 2013;62(11):949-58. doi: 10.1016/j.jacc.2013.06.013.
2. Rohde LEP, Montera MW, Bocchi EA, Clausell NO, Albuquerque DC, Rassi S, et al. Diretriz Brasileira de Insuficiência Cardíaca Crônica e Aguda. *Arq Bras Cardiol*. 2018;111(3):436-539. doi: 10.5935/abc.20180190.
3. Porter ME. What is Value in Health Care? *N Engl J Med*. 2010;363(26):2477-81. doi: 10.1056/NEJMp1011024.
4. Porter ME, Teisberg EO. Redefining Health Care: Creating Value-Based Competition on Results. Boston: Harvard Business School Press; 2006.
5. Albuquerque DC, Souza JD Neto, Bacal F, Rohde LEP, Bernardez-Pereira S, Berwanger O, et al. I Brazilian Registry of Heart Failure - Clinical Aspects, Care Quality and Hospitalization Outcomes. *Arq Bras Cardiol*. 2015;104(6):433-42. doi: 10.5935/abc.20150031.
6. Langley GJ, Moen RD, Nolan KM, Nolan TW, Norman CL, Provost LP. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance. 2nd ed. San Francisco: Jossey-Bass; 2009.
7. Langley GJ, Moen R, Nolan KM, Nolan TW, Norman CL, Provost LP. Establishing Measures: The Foundation for Improvement. Cambridge: Institute for Healthcare Improvement; 2009.
8. Hong Y, LaBresh KA. Overview of the American Heart Association "Get with the Guidelines" Programs: Coronary Heart Disease, Stroke, and Heart Failure. *Crit Pathw Cardiol*. 2006;5(4):179-86. doi: 10.1097/01.hpc.0000243588.00012.79.
9. Kittleson MM, Breathett K, Ziaieian B, Aguilar D, Blumer V, Bozkurt B, et al. 2024 Update to the 2020 ACC/AHA Clinical Performance and Quality Measures for Adults with Heart Failure: A Report of the American Heart Association/American College of Cardiology Joint Committee on Performance Measures. *J Am Coll Cardiol*. 2024;84(12):1123-43. doi: 10.1016/j.jacc.2024.05.014.
10. Abidin A, Wilkinson C, Aktaa S, Böhm M, Polovina M, Rosano G, et al. European Society of Cardiology Quality Indicators Update for the Care and Outcomes of Adults with Heart Failure. The Heart Failure Association of the ESC. *Eur J Heart Fail*. 2024;26(9):1867-75. doi: 10.1002/ehf.3376.
11. Burns DJP, Arora J, Okunade O, Beltrame JF, Bernardez-Pereira S, Crespo-Leiro MG, et al. International Consortium for Health Outcomes Measurement (ICHOM): Standardized Patient-Centered Outcomes Measurement Set for Heart Failure Patients. *JACC Heart Fail*. 2020;8(3):212-22. doi: 10.1016/j.jchf.2019.09.007.
12. Taniguchi FP, Bernardez-Pereira S, Ribeiro ALP, Morgan L, Curtis AB, Taubert K, et al. A Nationwide Initiative to Improve Cardiology Quality: The Best Practice in Cardiology Program in Brazil. *Arq Bras Cardiol*. 2023;120(10):e20230375. doi: 10.36660/abc.20230375.
13. Freitas DCA, Costa LMPR, Nadruz W Jr, Marcondes-Braga FG, Vieira JL, Bernardez-Pereira S, et al. Rosa dos Ventos Multicenter Cohort Study of Patients with Reduced or Mildly Reduced Ejection Fraction Heart Failure in Brazil: Rationale and Design. *Arq Bras Cardiol*. 2024;121(10):e20240120. doi: 10.36660/abc.20240120.
14. Pereira GAR, Lopes MC, Dama BL, Polanczyk CA, Bertoldi EG. Cost-Effectiveness of Therapies for Heart Failure in Brazil: A Systematic Review. *Arq Bras Cardiol*. 2026;123(3):e20250712. doi: 10.36660/abc.20250712.



This is an open-access article distributed under the terms of the Creative Commons Attribution License