

Hospitalizations and In-Hospital Mortality from Heart Failure in Brazil: An Updated Overview

Adriana Lopes Latado^{1,2}

Universidade Federal da Bahia - Faculdade de Medicina da Bahia,¹ Salvador, BA – Brazil

Universidade Federal da Bahia - Hospital Universitário Professor Edgard Santos,² Salvador, BA – Brazil

Short Editorial related to the article: Temporal Trends of Hospital Admissions Due to Heart Failure in Brazil

Heart failure (HF) accounts for a growing burden of disease and healthcare costs both globally and in Brazil. It represents the final common pathway of several cardiovascular diseases, including specific and well-defined conditions such as ischemic heart disease. Prevalence and incidence data have shown progressive increases over recent decades, with the current HF prevalence estimated at 2.5% among U.S. adults, and projected to reach 3.0% by 2030.^{1,2} HF-related hospital admissions are also on the rise in the United States. Meanwhile, adjusted in-hospital mortality has declined, from 6.8% in 2002 to 4.9% in 2016, consistent across age groups, sex, and racial/ethnic categories.¹

In Brazil, the self-reported prevalence of HF is estimated at 1.1% among adults over 18 years old and 3.3% in individuals over 60.² Regarding hospitalizations and in-hospital mortality, temporal trend studies indicate a decline in the number of HF-related admissions, with hospital mortality ranging from 9% to 17%, also showing a decreasing trend, especially over the past decade.^{1,3,4} However, national data remain scarce, with limitations in population representativeness and a need for regular updates.

The article by Girardi et al.,⁵ published in this issue, examines the temporal trends of HF-related hospitalizations in adults aged ≥40 years in Brazil between 2000 and 2021, using data from DATASUS and stratifying by age and sex. It also analyzes in-hospital mortality trends over this 22-year period. The authors report a steady decline in hospitalizations for HF among both men and women across all age groups. The average annual percentage decrease in hospitalization rates among men ranged from 6.7% (ages 40–49) to 8.1% (ages ≥80). Among women, the decline ranged from 7.5% (ages 70–79) to 8.3% (ages 50–59). In contrast, in-hospital mortality rates showed an upward trend across all age groups and in both sexes from 2000 to 2021. Among men, the average annual increase ranged from 1.8% (ages 40–49) to 3.6% (ages ≥80). Among women, the increase ranged from 3.1% (ages ≥80) to 3.5% (ages 60–79). Some additional variations

were observed in sub-period and age-specific analyses, but without major impact on the overall findings.⁵

Do the findings reported in article⁵ reflect the global epidemiological landscape of HF? U.S. data show that HF-related hospitalizations increased from 1.06 million in 2008 to 1.27 million in 2018, with higher rates among racially and ethnically underrepresented groups in clinical studies, such as Black and Hispanic populations. Hospitalizations increased across all HF subtypes based on left ventricular ejection fraction (LVEF), with men more frequently admitted for HF with reduced ejection fraction (HFrEF), and women for HF with preserved ejection fraction (HFpEF). Between 2002 and 2016, in-hospital mortality declined from 6.8% to 4.9%, a trend consistent across age, sex, and race.¹

In Europe, data vary significantly between countries depending on income levels, access to healthcare, and HF phenotypes based on LVEF. In the United Kingdom, a population-based retrospective study found increasing HF hospitalizations among women from 1998 to 2017, while rates remained stable in men. Individuals from lower socioeconomic backgrounds showed a trend toward increased admissions, a pattern not observed among the most disadvantaged populations.⁶ An Italian study reported a decline in HF hospitalizations over a 38-year period (1977–2014) among individuals over 65,⁷ whereas in Sweden, an age-based analysis found increased HF admissions in younger adults, but not in older age groups (55–84 years). Furthermore, hospital mortality declined across all age groups from 1987 to 2001, but plateaued thereafter.⁸

It is clear that inconsistencies in HF epidemiology and prognosis can exist across countries and even within regions of large nations, regardless of the syndrome's etiology or phenotypes. These differences are multifactorial.⁹ However, it is well established that disease-modifying therapies for HF – especially HFrEF – have significantly impacted overall mortality and reduced hospitalizations over the past three decades.^{10,11} If this is the case, current hospitalizations and readmissions are likely occurring in clinically more severe patients, in whom adverse outcomes, such as in-hospital death, are more frequent.

The lack of a uniform improvement in HF prognosis is complex and extends beyond the efficacy of guideline-directed pharmacologic therapy. Factors such as healthcare access, medication availability, regional or national income, and the population's socio-economic and educational status significantly influence the real-world outcomes of strategies that have proven effective in randomized clinical trials.

Keywords

Heart Failure; Hospitalization; Prognosis; Hospital Mortality

Mailing Address: Adriana Lopes Latado •

Universidade Federal da Bahia - Faculdade de Medicina da Bahia – Av. Reitor Miguel Calmon, s/n. Postal Code 40110-100, Canela, Salvador, BA – Brazil
E-mail: adrianalatado@cardiol.br

Manuscript received April 19, 2025, revised manuscript May 02, 2025, accepted May 02, 2025

DOI: <https://doi.org/10.36660/abc.20250284i>

The study⁵ makes a valuable and timely contribution to understanding HF prognosis in Brazil. While DATASUS-based epidemiological data are limited to the population served by the Brazilian Unified Health System (SUS), it is important to note that approximately 84% of Brazilians currently rely exclusively on SUS – a figure even higher in

the north and northeast regions.¹² More ecological studies on HF are urgently needed to expand knowledge about its epidemiology and prognosis. These studies should address the diverse realities of this complex syndrome and provide data reflective of Brazil's regional, ethnic, cultural, and socioeconomic diversity.

References

1. Martin SS, Aday AW, Allen NB, Almarzooq ZI, Anderson CAM, Arora P, et al. 2025 Heart Disease and Stroke Statistics: A Report of US and Global Data from the American Heart Association. *Circulation*. 2025;151(8):e41-e660. doi: 10.1161/CIR.0000000000001303.
2. Oliveira GMM, Brant LCC, Polanczyk CA, Malta DC, Biolo A, Nascimento BR, et al. Cardiovascular Statistics - Brazil 2023. *Arq Bras Cardiol*. 2024;121(2):e20240079. doi: 10.36660/abc.20240079.
3. Nicolao CZ, Ferreira JB, Paz AA, Linch GFC, Rover M, Souza EN. Heart Failure: An Overview of Morbidity and Mortality in Rio Grande do Sul. *Int J Cardiovasc Sci*. 2019;32(6):596-604. doi: 10.5935/2359-4802.20190032.
4. Fernandes ADF, Fernandes GC, Mazza MR, Knijnik LM, Fernandes GS, Vilela AT, et al. A 10-Year Trend Analysis of Heart Failure in the Less Developed Brazil. *Arq Bras Cardiol*. 2020;114(2):222-31. doi: 10.36660/abc.20180321
5. Girardi JM, Girardi IA, Nascimento ACS, Silva DML, Soares LVC, Dias SAL, et al. Temporal Trends of Hospital Admissions Due to Heart Failure in Brazil. *Arq Bras Cardiol*. 2025; 122(6):e20240505. DOI: <https://doi.org/10.36660/abc.20240505i>.
6. Lawson CA, Zaccardi F, Squire I, Ling S, Davies MJ, Lam CSP, et al. 20-Year Trends in Cause-Specific Heart Failure Outcomes by Sex, Socioeconomic Status, and Place of Diagnosis: A Population-Based Study. *Lancet Public Health*. 2019;4(8):406-20. doi: 10.1016/S2468-2667(19)30108-2.
7. Lorenzoni G, Azzolina D, Lanera C, Brianti G, Gregori D, Vanuzzo D, et al. Time Trends in First Hospitalization for Heart Failure in a Community-Based Population. *Int J Cardiol*. 2018;271:195-9. doi: 10.1016/j.ijcard.2018.05.132.
8. Barasa A, Schaufelberger M, Lappas G, Swedberg K, Dellborg M, Rosengren A. Heart Failure in Young Adults: 20-Year Trends in Hospitalization, Aetiology, and Case Fatality in Sweden. *Eur Heart J*. 2014;35(1):25-32. doi: 10.1093/eurheartj/ehf278.
9. Rosano GMC, Seferovic P, Savarese G, Spoleitini I, Lopatin Y, Gustafsson F, et al. Impact Analysis of Heart Failure Across European Countries: An ESC-HFA Position Paper. *ESC Heart Fail*. 2022;9(5):2767-78. doi: 10.1002/ehf2.14076.
10. 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.
11. Bonatto MC, Coiradas AO, Moura LAZ. Treatment of Heart Failure with Reduced Ejection Fraction in 2022: The Essential Pillars. *ABC Heart Fail Cardiomyop*. 2022;2(1):15-23. doi: 10.36660/abchf.20220003.
12. Brasil. Ministério da Saúde. Departamento de Informática do SUS (DATASUS) [Internet]. Brasília: Ministério da Saúde; 2025 [cited 2025 Apr 19]. Available from: <https://datasus.saude.gov.br>.



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