

# Heart failure is a substantial health burden in low- and middle-income countries

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Heart failure is a major public health burden in many low- and middle-income countries (LMICs), with substantial variation in the presentation, causes, management, and outcomes of heart failure across different LMICs, according to a study published in this week's *PLOS Medicine*. The study, led by Kazem Rahimi and colleagues from the George Institute for Global Health, also finds that a large proportion of patients are not receiving pharmacological treatments for heart failure.

The researchers conducted a systematic review and identified 49 published studies and 4 unpublished databases covering 31 countries and 237,908 hospitalizations for heart failure. By pooling the data from these studies, they found that the average age of patients admitted for [acute heart failure](#) was 63 years, which ranged from 42 years in Cameroon and Ghana to 75 years in Argentina, and correlated with the [human development index](#) (a measure of national well-being) of individual LMICs. The leading causes of heart failure differed across countries, with [ischemic heart disease](#) the most common cause in countries outside of Africa and the Americas, hypertension the most dominant cause in Africa (46%), and hypertension and ischemic heart disease similarly common in the Americas (31 and 33%, respectively). While 69% of heart failure patients in LMIC were prescribed diuretics, the three main treatments currently recommended in guidelines for managing heart failure—angiotensin converting enzyme inhibitors, beta-blockers, and mineralocorticoid receptor agonists—were prescribed at lower rates (57, 34, and 32%, respectively).

While the findings indicate that the burden of heart failure is substantial in LMICs, data from all LMICs were not available and the estimates are mostly derived from urban tertiary referral hospitals, therefore these findings may not reflect the broader picture of heart failure in the community in LMICs. The limited available data on and substantial impact of heart failure in LMIC emphasizes the need for more research attention in this area.

The authors stress the importance of this public health issue: "This review shows that heart failure places a considerable burden on health systems in LMICs, and affects a wide demographic profile of patients in these countries."

In a linked Perspective, Druin Burch examines how inconsistencies in diagnosis and selection of patients for clinical trials may contribute to treatment burden of heart failure in LMICs, saying: "The gap between suboptimal treatment of [heart failure](#) and what is achievable represents not just a failure to practice evidence-based medicine but a greater gap in knowledge and the research agenda."

**More information:** Callender T, Woodward M, Roth G, Farzadfar F, Lemarie J-C, et al. (2014) Heart Failure Care in Low- and Middle-Income Countries: A Systematic Review and Meta-Analysis. *PLoS Med* 11(8): e1001699. [DOI: 10.1371/journal.pmed.1001699](https://doi.org/10.1371/journal.pmed.1001699)

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