

COVID-19 pandemic impact on heart failure epidemiology and outcomes in Poland. National database study

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Background: COVID-19 pandemic negatively affected patients' will to seek urgent medical treatment as well as and health service performance.

Purpose: The aim was to evaluate the impact of COVID-19 pandemic outbreak at the beginning of 2020 on heart failure epidemiology and outcomes in Poland.

Methods: The study is based on the Nationwide Polish Ministry of Health Registry, an administrative nation-wide database covering all heart failure patients in Poland who were beneficiaries of the public health sector between 2013 and 2021.

Results: After COVID-19 outbreak in 2020, significantly fewer patients presented to health service due to HF than in previous years (Fig. 1). Compared to 2019, the number of HF hospitalisations declined by 21% and outpatient visits by 10% in 2020.

Simultaneously, for the first time in the last decade, the trend in heart failure prevalence went down dropping by 3.7% (Fig. 1). The trend was driven by the greater reduction in ischaemic vs non-ischaemic HF prevalence (4.7% vs 1.3%)

The longstanding downtrend in heart failure incidence accelerated

markedly in 2020, decreasing by 20% between 2019 and 2020, compared to average fall of 8% in the previous decade (ranging between 4.1–12.9%). Likely, the drop was mainly attributable to the decline in the ischaemic HF incidence (23% vs 15.3% drop in nonischemic HF).

The average in-hospital mortality due to HF in 2020 was higher compared to 2019 (12.9% vs 11.02%). As many as 1.18% of patients died on the day of admission in 2020, contrary to 0.94% in 2019 which accounts to 25% increase. Monthly distribution of in-hospital mortality aligned with peaks of COVID-19 waves (Fig. 2).

Conclusion: The study shows unfavorable changes in HF epidemiology and outcomes due to the pandemic. The drop in prevalence and incidence seems to be associated with lower patient influx to the health service. It is unknown whether patient non-occurrence resulted from patients' actions or preoccupation of the health service with the pandemic. At the same time, a marked rise in in-hospital mortality was noted, with an over 25% increase in the number of deaths on the day of admission that could potentially reflect a more advanced disease state.

Trends in heart failure epidemiology in years 2010-2021

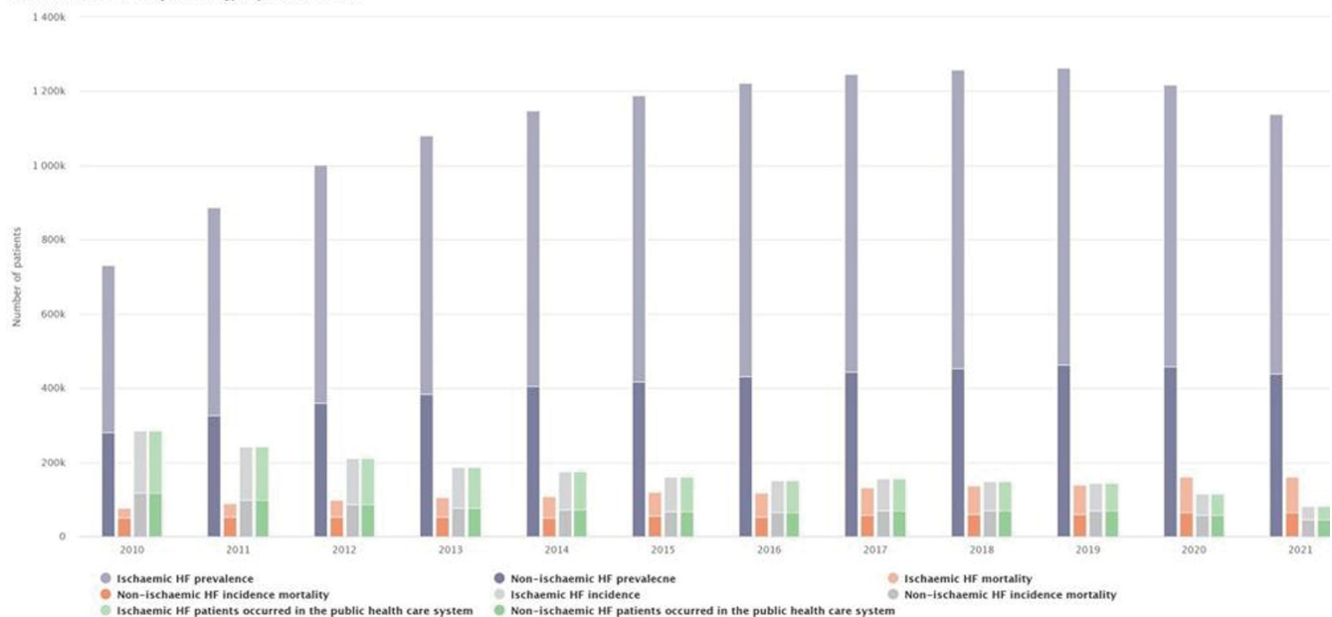


Figure 1