

PRESCRIBING PATTERNS OF SODIUM-GLUCOSE CO-TRANSPORTER 2 INHIBITORS (SGLT2i) IN HEART FAILURE: A RETROSPECTIVE STUDY IN A MEDICAL CENTER

I-Ju Chen¹, Shih-Han Wang¹, Yi-Ting Chen², Wen-Wei Zheng³, Jen-Ying Huang², Ai-Yu Yang¹
 Department of Pharmacy¹, Division of Cardiology², Department of Medical Technology³
 Kaohsiung Medical University Hospital, Kaohsiung Medical University, Taiwan



Background and importance

Sodium-glucose co-transporter 2 inhibitors (SGLT2i) are used not only for the treatment of diabetes mellitus (DM) but are also recognized as a first-line therapy for heart failure with reduced ejection fraction (HFrEF), according to the 2021 European Society of Cardiology (ESC) and the 2022 American College of Cardiology(ACC)/American Heart Association(AHA) heart failure (HF) treatment guidelines. [1] [2]

Aim and objectives

This study aims to assess the alignment of HF treatment in our hospital with these guidelines regarding SGLT2i usage, and whether physicians prioritize SGLT2i for HFrEF patients with concomitant DM.

Material and methods

Data from the hospital's HF medication alert system was collected for patients discharged with a diagnosis of HF between April 2021 and February 2024. SGLT2i prescription was defined as either a discharge medication during the index hospitalization or use within three months prior to admission.

Results

- A total of 1,832 patient cases were analyzed from April 2021 to February 2024. The results showed that HFrEF accounted for 33.5% of all HF patients, HFmrEF for 12.1%, and HFpEF for 54.4%. (Figure 1.)
- The prescription rates of SGLT2i across heart failure subtypes in our hospital is shown in Figure 2.
- In 300 HFrEF patients with DM, SGLT2i(66%) was the most prescribed glucose-lowering medication, followed by DPP-4 inhibitors(34%) and metformin(32.7%). (Figure 3.)

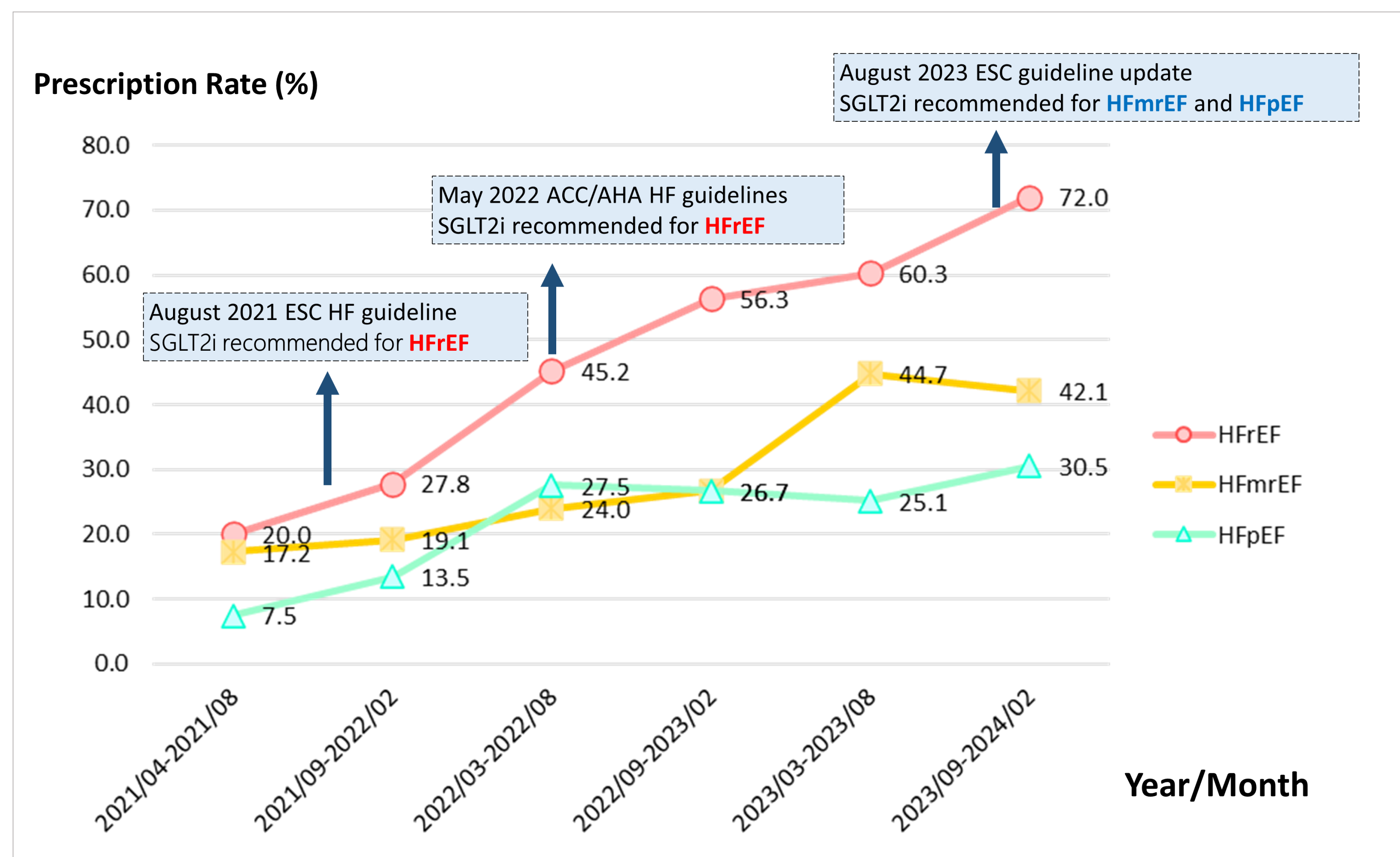


Figure 2. The prescription rates of SGLT2i across heart failure subtypes.

HFrEF (Heart Failure with Reduced Ejection Fraction)
 HFmrEF (Heart Failure with Midly Reduced Ejection Fraction)
 HFpEF (Heart Failure with Preserved Ejection Fraction)

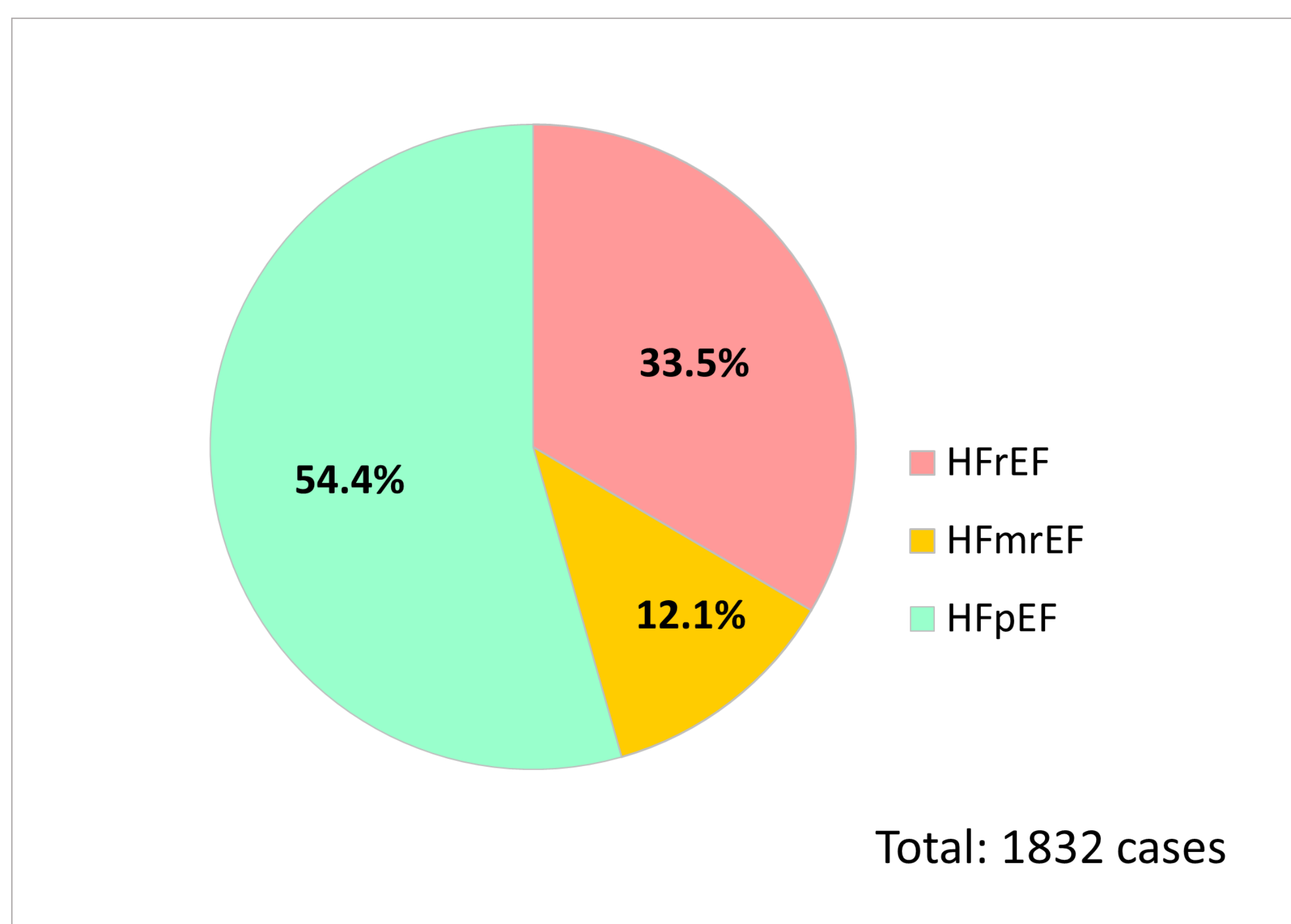


Figure 1. The distribution of heart failure subtypes

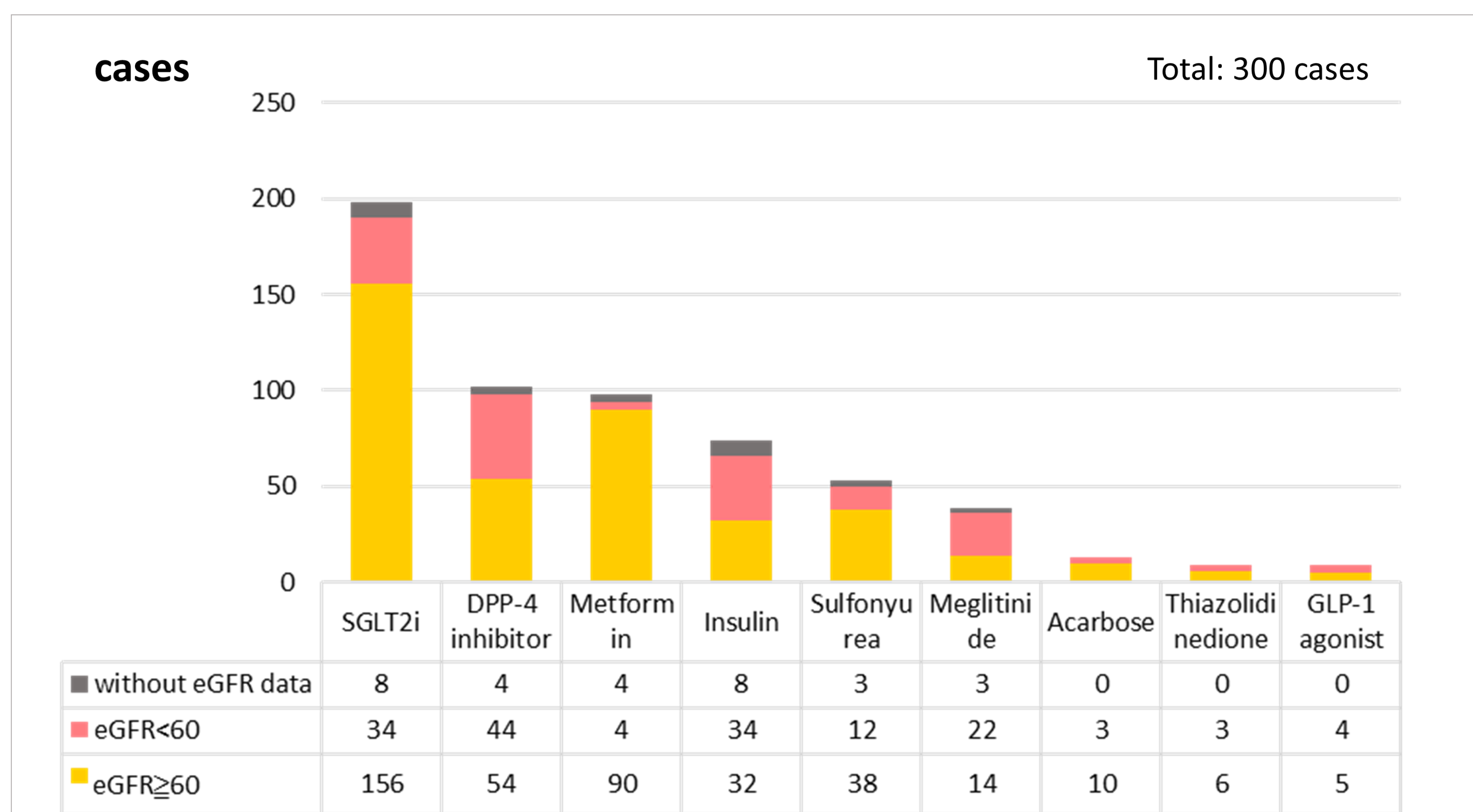


Figure 3. Distribution of glucose-lowering medications in HFrEF patients with DM

Conclusion and relevance

The increasing SGLT2i prescription rate demonstrates strong adherence to guideline recommendations. In HFrEF patients with DM, the preference for SGLT2i over metformin suggests that physicians prioritize medications that address both heart failure and diabetes.

References and/or acknowledgements

1. McDonagh, T.A., et al., 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure. Eur Heart J, 2021. 42(36): p. 3599-3726.
2. Heidenreich, P.A., et al., 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Circulation, 2022. 145(18): p. e895-e1032.

