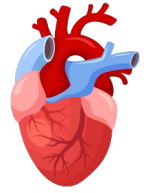


Are heart failure medications being prescribed post hospitalisation?



Authors

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Introduction

- Heart failure (HF) medications aim to prevent hospitalisations, reduce the rate of morbidity and mortality. These evidence-based therapies include¹⁻³:
 - Angiotensin-converting enzyme inhibitors (ACEi)/angiotensin receptor blockers (ARB)
 - Angiotensin receptor/neprilysin inhibitor (ARNI)
 - Heart failure specific beta-blockers (HFBB) including carvedilol, bisoprolol, metoprolol succinate and nebivolol.
 - Mineralocorticoid receptor antagonists (MRA)
 - Sodium-glucose cotransporter-2 inhibitors (SGLT2i)
- Other medications commonly used for HF symptomatic management include non-HF specific beta blockers (BB), loop diuretics, thiazide diuretics and digoxin.
- There has been few studies reporting the prescribing rates of heart failure medications on discharge in an Australian hospital setting, and none since the PBS listing of SGLT2i.⁴

Objective

To determine the prevalence of heart failure medication prescribing on discharge after a heart failure related admission.

Methodology

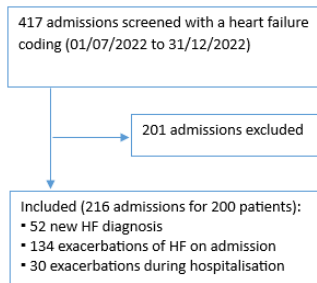


Figure 1: Methodology – a retrospective audit of medical records at a single tertiary hospital

Demographics	Number of patients	
Gender		
Male	85	42.5%
Age		
< 55	3	1.5%
55 to 64	7	3.5%
65 to 74	29	14.5%
75 to 84	53	26.5%
≥ 85	108	54.0%
Comorbidities		
Hypertension	139	69.5%
Asthma	24	12.0%
COPD	27	13.5%
Diabetes	50	25.0%
Chronic kidney disease (CKD)	94	47.0%
Ischaemic heart disease (IHD)	70	35.0%

Table 1: Patients' demographic information (N = 200)

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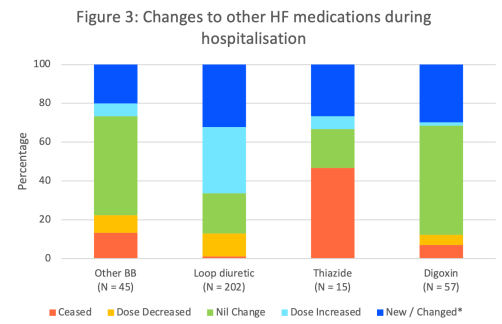
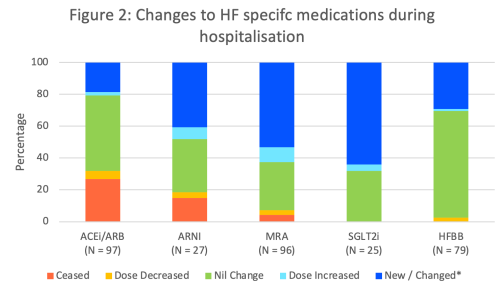
Results

Medication	Number	Percentage
ACEi / ARB	83	38.4%
ARNI	16	7.4%
MRA	48	22.2%
SGLT2i	9	4.2%
HFBB	48	22.2%
Other BB	55	25.5%
Loop diuretics	139	64.4%
Thiazide	11	5.1%
Digoxin	40	18.5%

Table 2: Prescribing rates of medications on admission (N = 216)

Medication	Number	Percentage
ACEi / ARB	71	32.9%
ARNI	23	10.6%
MRA	92	42.6%
SGLT2i	25	11.6%
HFBB	68	31.5%
Other BB	50	22.9%
Loop diuretics	200	92.6%
Thiazide	8	3.7%
Digoxin	52	24.1%

Table 3: Prescribing rates of medications on discharge (N = 216)



*Change to medication within same class (e.g., irbesartan to candesartan)

Discussion

- Prescribing rates of HF specific medications within the service is consistent with other Australian studies conducted prior to SGLT2i PBS approval for HF.⁵⁻⁶ The primary presentation within the cohort was an exacerbation of HF, the hospitalization focus leaned towards symptomatic control. This is consistent with other studies that found high rates of diuretic use (~55% to 90%) and lower rates of ACEi/ARB (~40% to 50%) or any BB's (30% to 50%).⁵⁻⁶
- Most patients within this study had an advanced age, which limited the ability for up-titration of evidence-based HF medications which can be poorly tolerated in this population. Additionally, the large number of patients with a history of CKD limited the use of ACEi/ARB/ARNI or in end-stage CKD SGLT2i.
- Implications:**
 - This study quantified the gap in evidence-based HF medication prescribing post hospitalisation and outlined local prescribing patterns.
 - This study highlights the need to explore and implement strategies to better optimise local HF medication prescribing on discharge
- Limitations:**
 - Information bias: limited data collection and sample size, possibly affecting the generalisability of current prescribing trends.
 - Misclassification bias: the data screened were pulled based on the coding system in the medical notes. There could be missed heart failure admissions if not picked up in the coding process.

Conclusion

Local prescribing patterns of HF medications at discharge post HF hospitalisation remains relatively low, highlighting the challenges for prescribing these medications. Further studies should explore strategies to optimise evidence-based prescribing patterns in heart failure patients during hospitalisation.