



PHARMACIST-LED VIRTUAL CLINIC FOR UPTITRATION OF GUIDELINE DIRECTED MEDICAL THERAPY (GDMT) IN HEART FAILURE

Hussein Al Hakem, Dr Sadia Khan, Department of Cardiology, Chelsea & Westminster NHS Foundation Trust

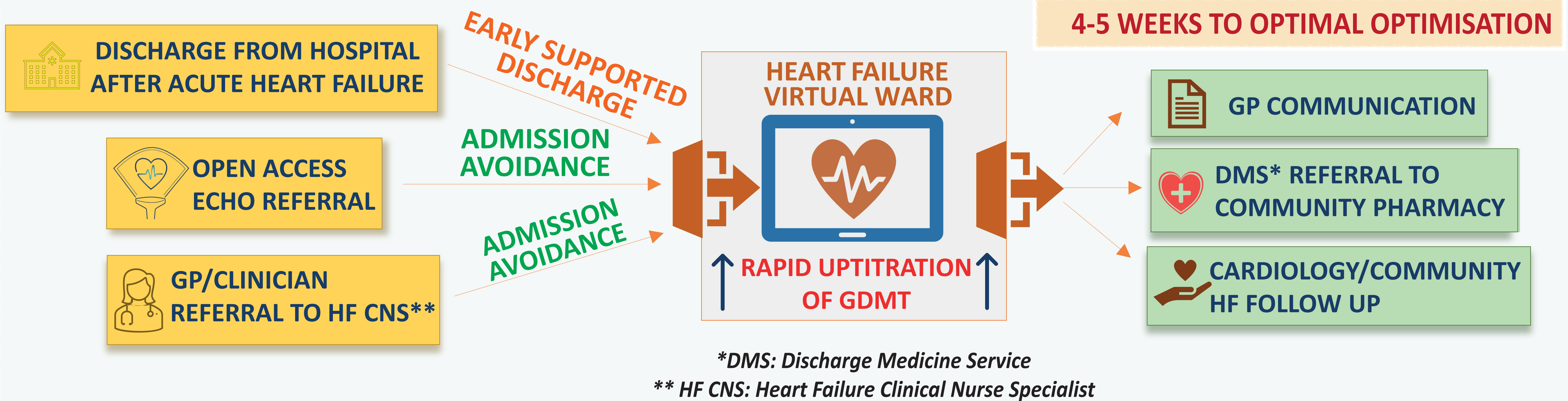
INTRODUCTION

Heart failure (HF) is a chronic medical condition affecting millions of individuals worldwide. Pharmacotherapy is considered the cornerstone of treatment in patients with Heart Failure with reduced Ejection Fraction (HFrEF). Effective medical optimisation have been shown to improve survival, quality of life, reduce the risk of hospitalisations, and HF re-admission rates. Evidence has shown consistent patterns of low dose up-titration, prolonged optimisation process, and early therapy discontinuation.

SOLUTION

With the support of a telemonitoring service and as part of a multidisciplinary team, implement an admission avoidance/ Early Supported Discharge (ESD) virtual pharmacist-led clinic to **intensively** optimise GDMT following a diagnosis of HFrEF. The service will shorten the long sequential approach associated with GDMT up-titration, improve just-in-time decision support, and in formulating exit strategies at the end of the up-titration period.

PATHWAY



BENEFITS

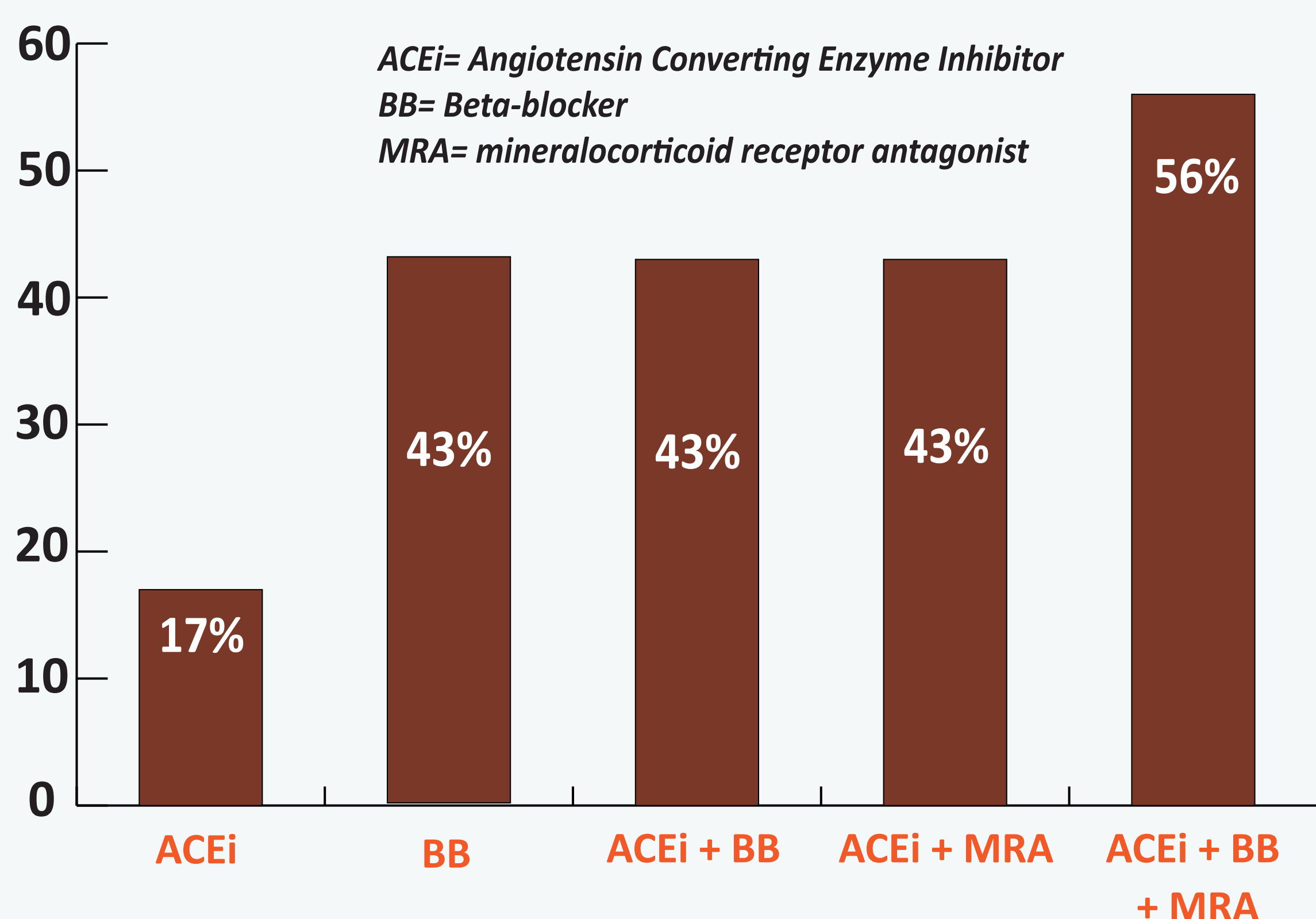


Figure 1: Percentage reduction in all-cause mortality over 1-3 years in patients with HFrEF on selected, optimal heart failure medications versus placebo. (4)

TITRATION SCHEDULE

| Medication | Week 0 intervention | Week 1 intervention | Week 2 intervention | Week 3 intervention |
|----------------------|---------------------|---------------------|---------------------|---------------------|
| Eplerenone | 25mg OD | - | 50mg OD | - |
| Spirolactone | 25mg OD | - | 50mg OD | - |
| Bisoprolol | 2.5mg OD | 2.5mg BD | 5mg AM, 2.5mg PM | 5mg BD |
| Carvedilol | 6.25mg BD | 12.5mg BD | 25mg BD | 25mg-50mg BD |
| Nebivolol | 2.5mg OD | 2.5mg BD | 5mg AM, 2.5mg PM | 5mg BD |
| Ramipril | 2.5mg OD | 2.5mg BD | 5mg AM, 2.5mg PM | 5mg BD |
| Enalapril | 5mg BD | 10mg BD | 15mg BD | 20mg BD |
| Lisinopril | 10mg OD | 20mg OD | 20mg OD | 35mg OD |
| Perindopril | 2mg OD | 4mg OD | 6mg OD | 8mg OD |
| Candesartan | 8mg OD | 16mg OD | 24mg OD | 32mg OD |
| Losartan | 50mg OD | 75mg OD | 100mg OD | 150mg OD |
| Valsartan | 40mg BD | 80mg BD | 120mg BD | 160mg BD |
| Sacubitril/Valsartan | 24/26mg BD | 49/51mg BD | - | 97/103mg BD |

Above schedule is a guide - interventions are individualised on a patient by patient basis and is dependent on multiple parameters e.g. vitals, blood results, symptoms, baseline doses and side effects

RESULTS

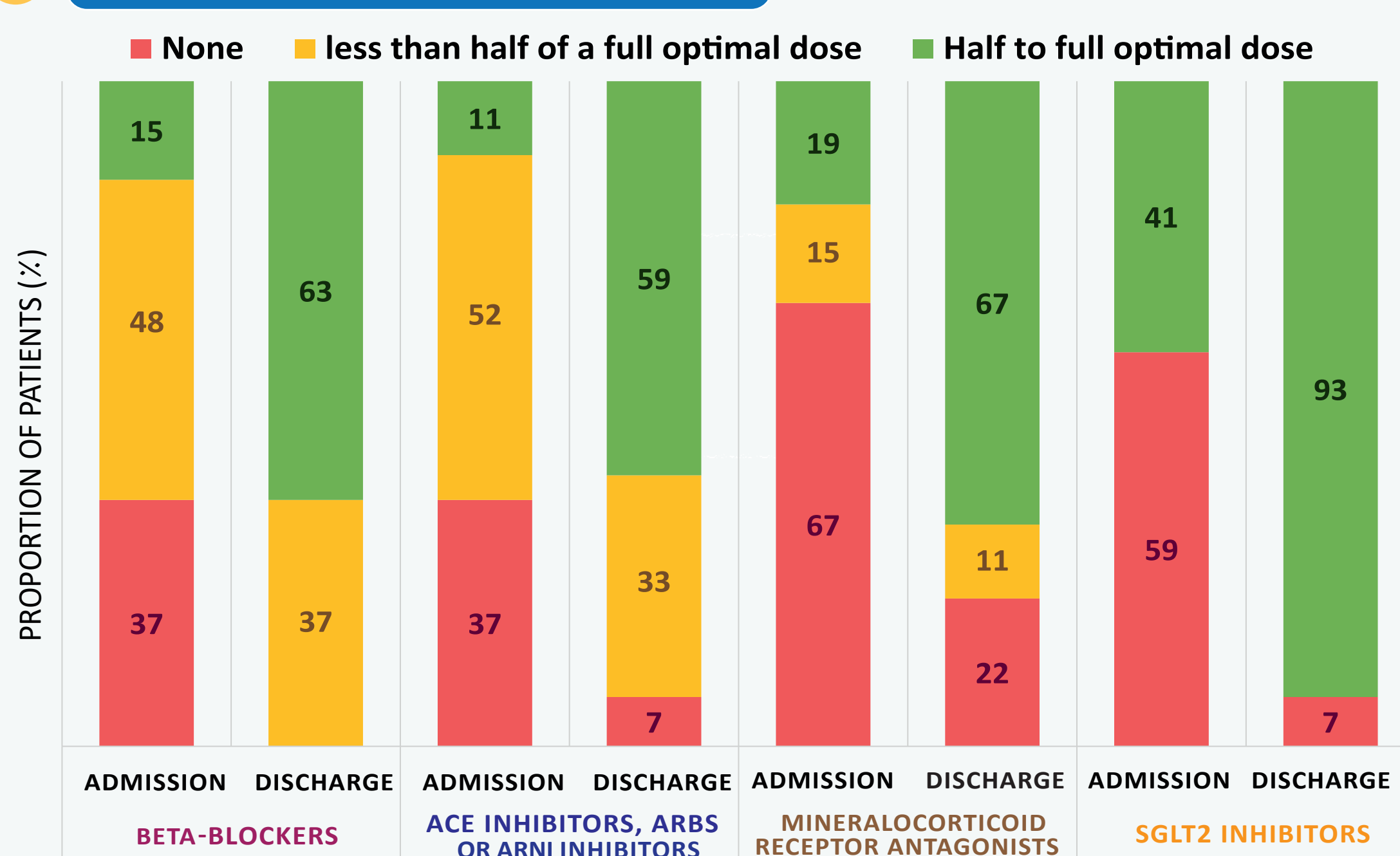
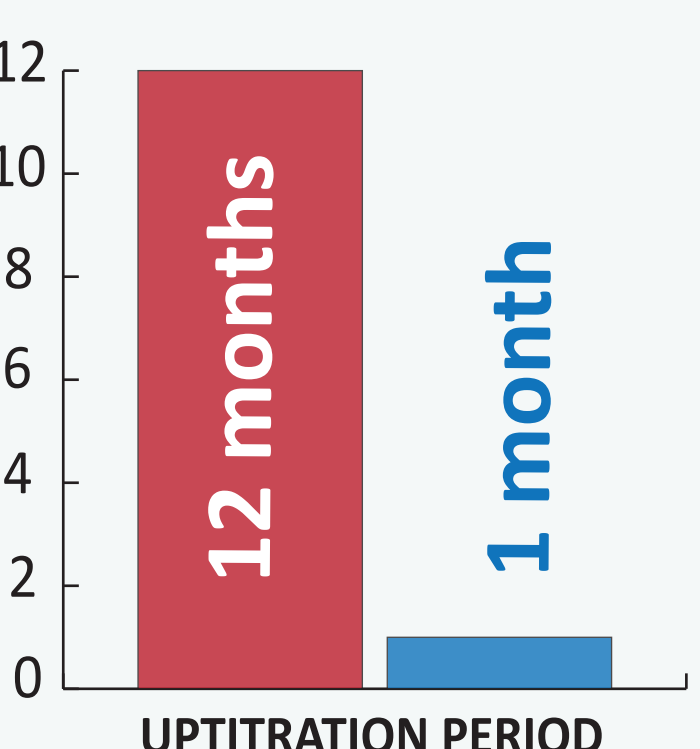


Figure 2: Oral guideline-directed medical therapies for heart failure prescribed, on admission and on discharge from heart failure virtual ward.

CONCLUSION

An intensive treatment strategy of rapid up-titration of guideline-directed medication and close follow-up was readily accepted by patients because it reduced symptoms, improved quality of life, and based on the STRONG-HF⁽¹⁾ study, reduced the risk of 180-day all-cause death or heart failure readmission compared with usual care. More work is needed to further develop this initiative to allow for more effective and efficient optimisation of medical therapy. This can be achieved by better integration with the Trust's existing IT systems and platforms and by enabling seamless communication between care providers.

Figure 3: Time taken to reach optimal dosing.



REFERENCES

- 1 - Mebazaa, A. et al. (2022) "Safety, tolerability and efficacy of up-titration of guideline-directed medical therapies for acute heart failure (strong-HF): A multinational, open-label, randomised, trial," The Lancet
- 2 - McDonagh, T.A. et al. (2021) "2021 ESC guidelines for the diagnosis and treatment of acute and chronic heart failure," European Heart Journal, 42(36), pp. 3599-3726. Available at: <https://doi.org/10.1093/eurheartj/ehab368>.
- 3 - Savarese, G. et al. (2021) "Heart failure drug titration, discontinuation, mortality and heart failure hospitalization risk: A multinational observational study (us, uk and Sweden)," European Journal of Heart Failure, 23(9)
- 4 - Burnett H, Earley A, Voors AA, et al. Thirty years of evidence on the efficacy of drug treatments for chronic heart failure with reduced ejection fraction: a network meta-analysis. Circ Heart Fail 2017;10:e003529.

