A Quality Improvement Initiative on the 'Diagnosis and Management of Acute Heart Failure in Older Adults'

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INTRODUCTION

Heart Failure (HF) poses a significant public health challenge and economic burden, with its increasing prevalence, incidence, and contributing to high morbidity and mortality (1). The incidence of HF increases steeply with age, affecting above 20% of people over the age of 75 (1, 3). HF is the leading cause of hospitalisation for adults aged 65 and older in the Western world (4, 5).

The 2023 update to the European Society of Cardiology (ESC) guidelines has introduced significant changes to the management of decompensated heart failure in acute settings. Adherence to Guideline-directed medical therapy (GDMT) is associated with improved patient outcomes—such as lower mortality, lower readmission rates, and better quality of life (2,3). Also, treatment with IV iron infusion in patients with Iron deficiency improves the quality of life and reduces recurrent hospitalizations in patients with HF (6).

This audit was carried out to compare our departmental practice against the updated ESC guidelines.

AIMS AND OBJECTIVES

To assess the,

1. Identification and documentation of heart failure phenotype during acute admission.
2. Appropriate initiation of GDMT during admission.
3. Screening for iron deficiency in HF patients and treatment with IV iron infusion

METHODOLOGY

Two PDSA cycles were completed between July 2024 and April 2025 in the Acute Frailty Unit and two Elderly Care wards. Interventions were implemented over 4 months, in-between the PDSA cycles.

Patients presenting with decompensated HF above 65 years were included. Data were collected from electronic health records on diagnosis of HF and its phenotype, initiation of appropriate guideline-directed medical therapy, and diagnosis and management of anemia.

Interventions following the 1st PDSA cycle included departmental teaching, discussing the HF phenotype and management at board rounds, teaching during ward rounds, presenting at departmental teaching sessions, grand rounds, governance meetings, and displaying posters.

RESULTS

The first PDSA cycle included 28 patients, and the second one included 42 patients. Five out of 28 patients (18%) had their phenotype mentioned in the initial clerking, and 11 (39%) in their discharge notifications during the first cycle, compared to 23 out of 42 (54.7%) and 27 out of 42 (64.3%) in the second cycle.

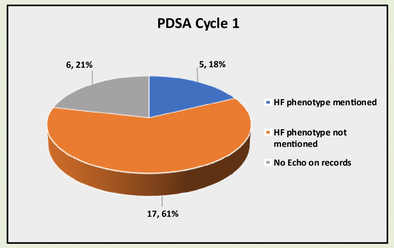
The patients investigated for iron deficiency showed an improvement from 43% to 69% post-intervention. Out of 12 patients with iron deficiency, only 5 received iron infusion in the 1st cycle, whereas 14 out of 15 received it in the 2nd cycle (42% to 93%).

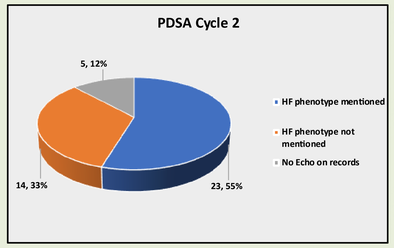
10 out of 22 (45%) eligible patients were started on SGLT2i in 1st cycle as opposed to 22 out of 28 (79%) in the 2nd cycle.

RESULTS

Out of 9 appropriate patients, only 3 were commenced on ACE/ARB/ARNI in the first cycle, which improved to 17 out of 18 post-intervention (33% to 94%). 3 out of 9 (33%) eligible patients were started on MRAs in the 1st cycle, which improved to 13 out of 13 (100%) in the 2nd cycle.

Identification of heart failure phenotype





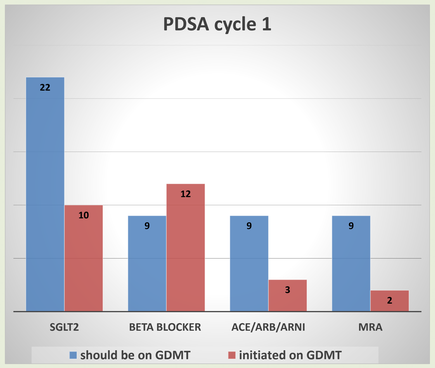
Identification and management of Fe deficiency anaemia

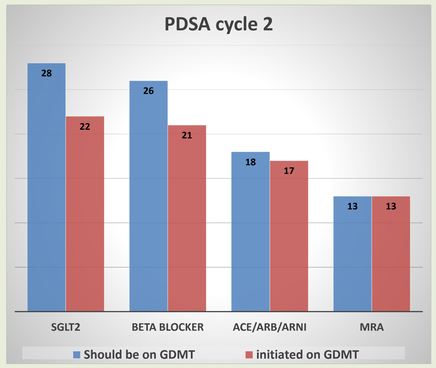
PDSA cycle 1

	TSAT <20%	Received Monofer
HFpEF	7	3
HFrEF	3	1
Unclassed	2	1

Post intervention

Type	TSAT <20%	Received Monofer	Remarks
HFpEF	14	9	4 had high CRP
HFrEF	4	3	1 had high CRP
HFmrEF	3	2	1 had high CRP
Unclassed	2	0	2 had high CRP





Adherence to Guidelines in first & second PDSA cycles

DISCUSSION

Appropriate guideline-directed medical therapy for HF is based on the phenotype. Therefore, the identification of the phenotype on initial assessment (clerking/ post-take) is vital in order to guide appropriate management.

We identified a gap in the knowledge amongst doctors of ESC guidelines, which led to poor identification of HF phenotype and initiation of GDMT during the first PDSA cycle. Post-intervention, following education and reinforcement, we managed to achieve a significant improvement in adherence to ESC guidelines during the second PDSA cycle.

We faced significant challenges in initiation and uptitration of GDMT due to frailty, multiple co-morbidities and complex acute issues such as sepsis, hypotension, etc. within our patient cohort.

Overall, a significant improvement was demonstrated in the management of acute HF during the second PDSA cycle. The interventions implemented were effective, and this study is reproducible in similar settings across the UK.

Limitations: Small sample size and confinement to three clinical areas only would affect the generalisability.

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