

# Improving The Percentage of Patients with Heart Failure on Guideline Directed Medical Therapy (GDMT) Within Three Months from Diagnosis



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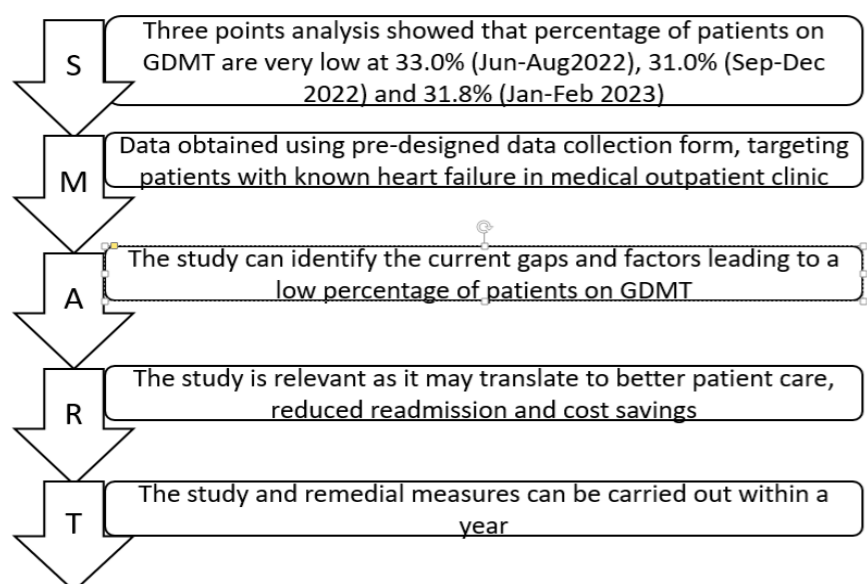
## INTRODUCTION

Guideline directed medical therapy (GDMT) in heart failure refers to the combined use of four classes of medications that are proven to reduce hospitalizations and mortality, however despite the consistent strong evidence, many eligible patients are not optimally treated with this therapy.

## 1.0 SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

### 1.1 PROBLEM PRIORITIZATION: SMART

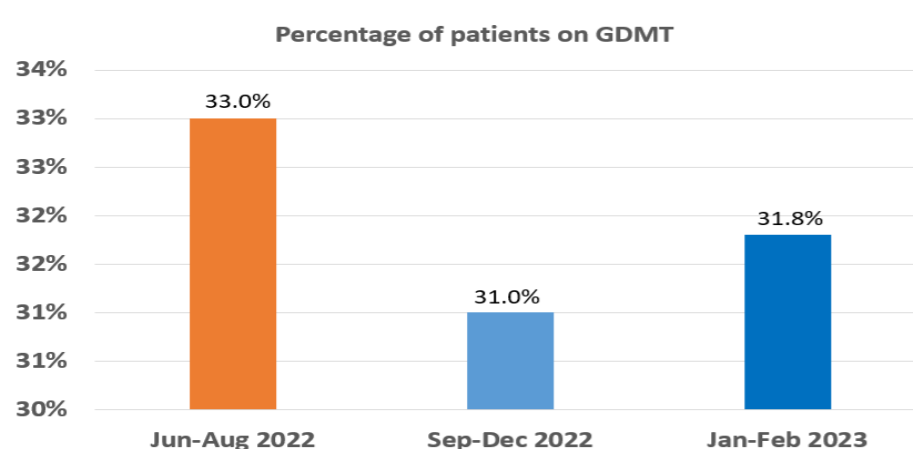
NO	PROBLEM	VOTE					
		S	M	A	R	T	TOTAL
1	Low percentage of eligible patients with heart failure on optimal guideline directed medical therapy (GDMT) within 3 months.	9	7	7	8	9	40
2	Low percentage of post stroke patients undergoing formal standardized swallowing assessment	5	5	5	9	7	31
3	Delay in diagnosis of lymphoma due to delayed lymph node excision biopsy	5	4	5	6	3	24
4	Long waiting time for echocardiogram in Hospital Taiping	5	5	6	5	4	25



## 1.2 LITERATURE REVIEW

- SS Tan et al, Guideline-directed medical therapy (GDMT) has been shown to improve prognosis for patients who have heart failure. Despite the proven benefits of, its utilization is less than optimal among patients with HF in Malaysia.
- Sumarsono et al., optimal GDMT use was achieved by only 6.2% of patients at 12 months after diagnosis of heart failure.
- Wan Ahmad et al, proportion of patients on GDMT from Malaysian Heart Failure Registry (2021) ranged from 12 to 50% only during index admission.
- SS Tan et al, patients on GDMT had lower rate of readmission for HF at 1 year relative to patients who received the standard of care.

## 1.3 SITUATIONAL ANALYSIS

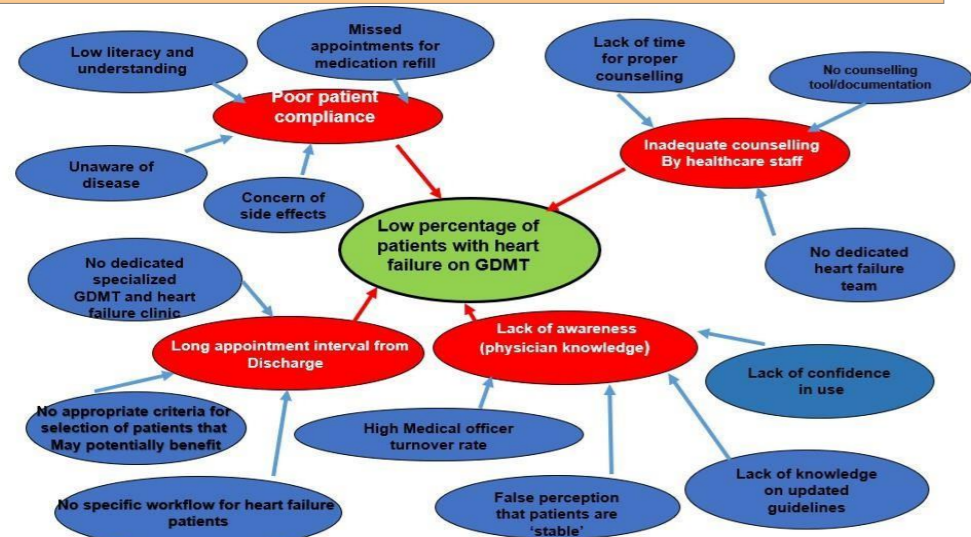


## 1.4 PROBLEM STATEMENT

Cross sectional random sampling of three intervals showed that only the percentage of patients on GDMT was very low at 33% (Jun-Aug2022), 31.0% (Sep-Dec2022), and finally 31.8% (Jan-Feb 2023). Suboptimal medical therapy may lead to increased readmission rates and mortality, which translates to increased healthcare burden. Multiple factors may contribute to the low percentage including the lack of knowledge among doctors, lack of knowledge among patients, and also a long appointment interval in the medical outpatient clinic post discharge. This study aims to increase the percentage of patients with heart failure to be on GDMT within 3 months.

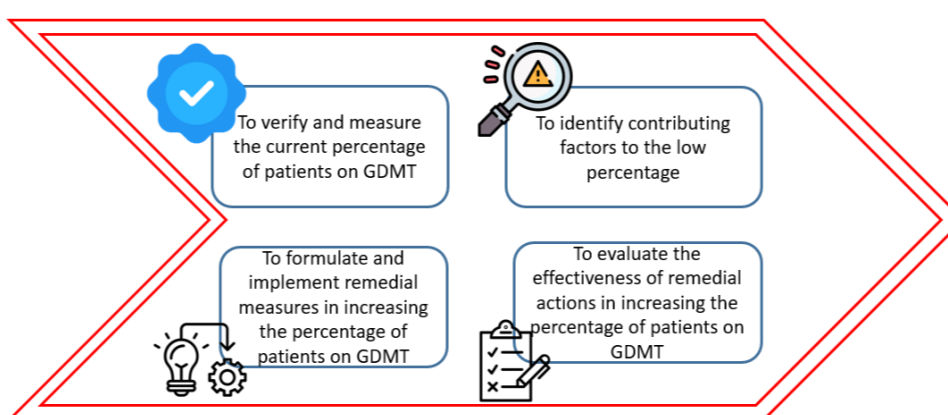
## 2.0 KEY MEASURE FOR IMPROVEMENT

### 2.1 PROBLEM ANALYSIS CHART

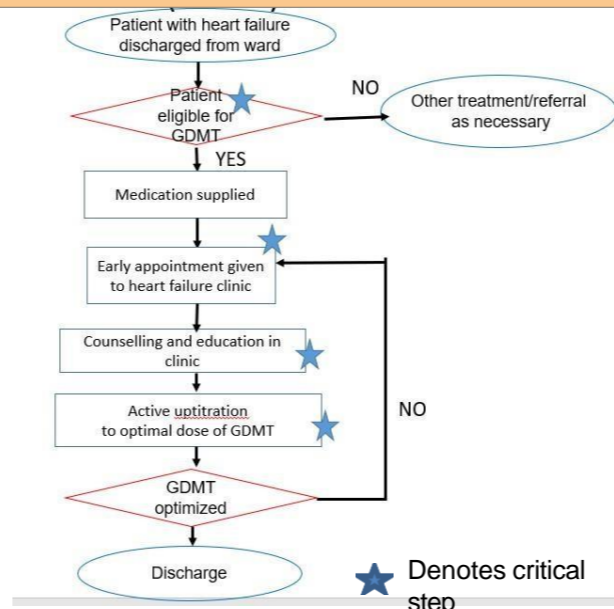


## 2.2 STUDY OBJECTIVE

GENERAL: To increase percentage of eligible patients with heart failure to be on GDMT within THREE months



## 2.3 PROCESS OF CARE (POC)

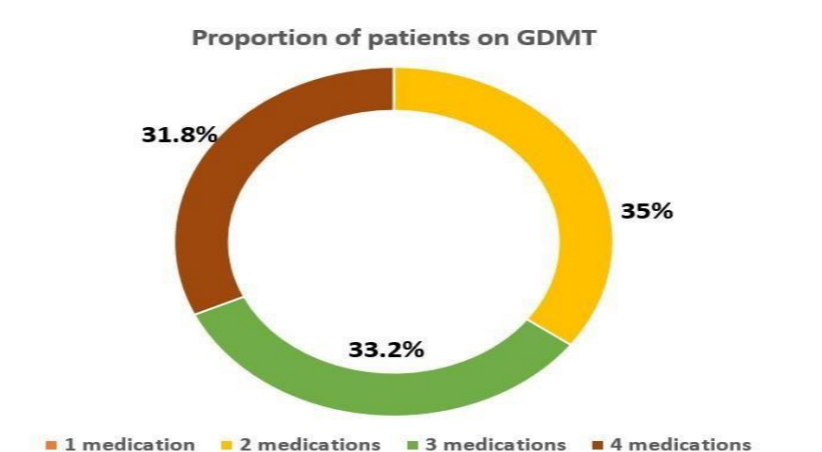
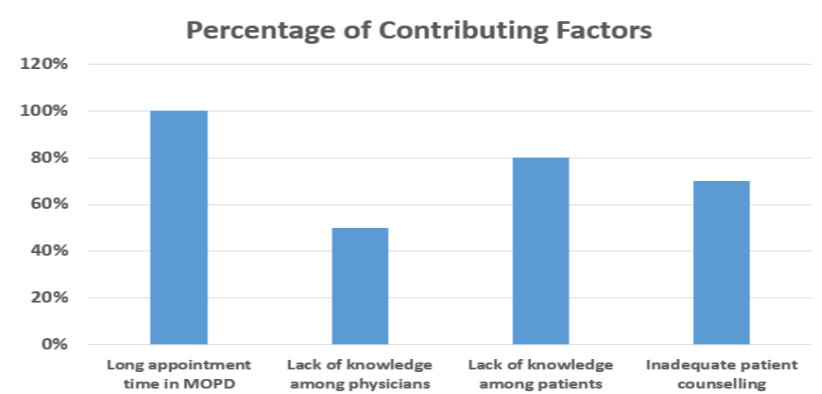
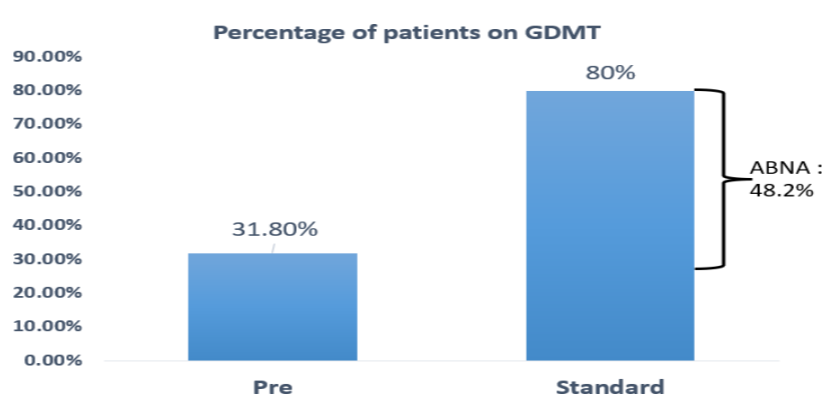
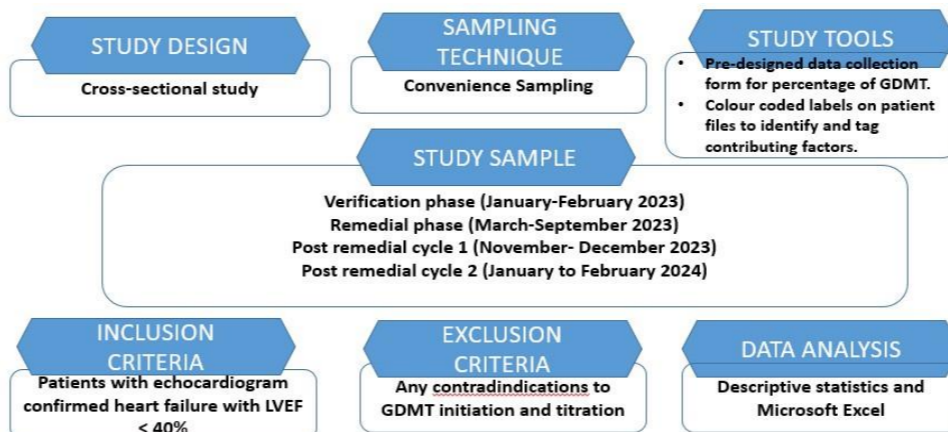


## 2.4 INDICATOR & STANDARD

INDICATOR	FORMULA	STANDARD
Percentage of patients with heart failure on GDMT by 3 months	$\frac{\text{Number of patients with heart failure on GDMT by 3 months}}{\text{Total number of patients with heart failure}} \times 100\%$	80% Based on American College of Cardiology (ACC/AHA) 2022 guidelines

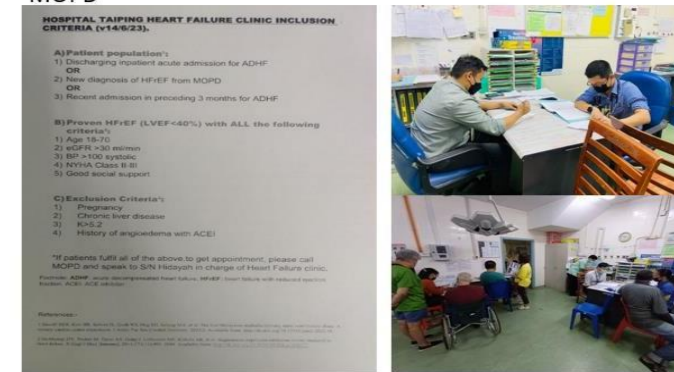
## 3.0 PROCESS OF GATHERING INFORMATION

### 3.1 METHODOLOGY



## 5.0 STRATEGIES FOR CHANGE

CONTRIBUTING FACTOR 1: Long appointment time in MOPD



CONTRIBUTING FACTOR 2: Inadequate patient counselling



Allocation of dedicated heart failure pharmacist for medication reconciliation. Joint agreement between Medical Department & Pharmacy Department : July 2023

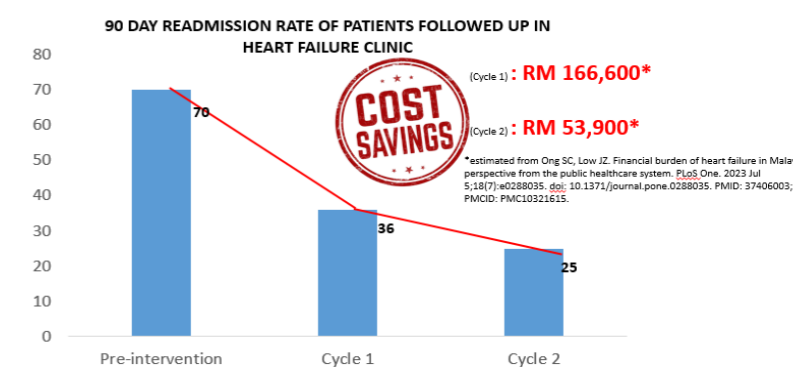
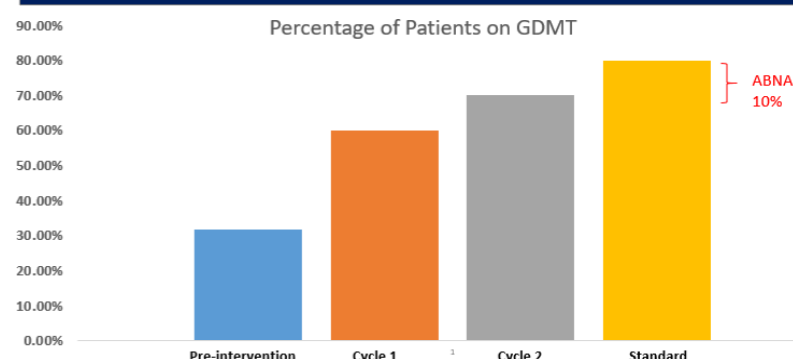
CONTRIBUTING FACTOR 3: Lack of knowledge among patients



Prepared pamphlets for patient education

CME provided to doctors

## 6.0 EFFECT OF CHANGE



No	Critical Step	Criteria	Standard	Pre-remedial	Cycle 1	Cycle 2
1	Eligibility for GDMT	✓ Review vital signs and bloodwork on discharge ✓ Fulfill check-list for eligibility for GDMT	100%	0%	100%	100%
2	Give early appointment to heart failure clinic	✓ Ward nurse informs heart failure clinic MA ✓ Schedule appointment within 1 month ✓ Ensure discharge summaries and relevant investigations attached	100%	0%	80%	90%
3	Counselling and education	✓ Counsel patient using standard counselling pamphlet ✓ Review vital signs and bloodwork ✓ Assess any side effects reported by patient ✓ Optimize dose of medications	100%	0%	50%	80%
4	Active up titration of doses	✓ Counsel patient using standard counselling pamphlet ✓ Review vital signs and bloodwork ✓ Assess any side effects reported by patient ✓ Optimize dose of medications	100%	100%	100%	100%

## 7.0 THE NEXT STEP



National Taskforce formed with two formal meetings held in November 2023 and March 2024 to Develop protocol for heart failure clinics in Malaysia without resident cardiologists.

## Acknowledgements

We would like to thank the Director-General of Health Malaysia for his approval to present this study. We are also grateful to our Perak State Health Director, Head of Department of Internal Medicine of Hospital Taiping, and to all colleagues for their contribution, commitment and support for this project.

## References

1. Tan SS, Hisham SA, Bin Abdul Malek AM, Lik CP, Lau GSK, Bin Abdul Ghapar AK. Impact of Multidisciplinary Heart Failure Clinic on Guideline-Directed Medical Therapy and Clinical Outcomes. Can J Hosp Pharm. 2024 Jan 10;77(1):e3364. doi: 10.4212/cjhp.3364. PMID: 38204512; PMCID: PMC10754400.
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