Project Title

Nurse/ Pharmacist-led, Doctor-supervised, multidisciplinary care team improves outpatient heart failure management

Project Lead and Members

Project Lead: Dr Chan Po Fun

Project Members: Elaine Boey, Toh Lay Cheng, Saw Yik Cheun, Dennis Chua, Carrie Yan

Organisation(s) Involved

Ng Teng Fong General Hospital

Healthcare Family Group(s) Involved in this Project

Nursing, Pharmacy

Applicable Specialty or Discipline

Cardiology

Aim(s)

To establish a nurse/pharmacist-led, and doctor-supervised approach so that workforce efficiency was enhanced, and more patients could benefit from optimal heart failure care

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

The pharmacists and nurses involved were encouraged to undergo the National Collaborative Prescribing Programme (NCPP), as HFMDC work largely involves medication uptitration. While it was smooth-sailing for the pharmacists, nurses who were not advanced practising nurses (APN) were not eligible even after appealing to the commitee.

A greater pharmacist representation, or recruiting APNs over nurse clinicians, may constitute a more efficient workforce.

Conclusion

See poster appended/ below

Additional Information

This innovation has been adopted for 2 years and 9 months (Since October 2019).

We have grown to 3 HFMDC teams. There is also a clinic managing post percutaneous coronary intervention patients, based on the same model.

Project Category

Care & Process Redesign

Clinical Practice Improvement

Keywords

Target Dose Guideline Directed Medical Therapy, Heart Failure Treatment, Nurse/Pharmacist Directed Clinic

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[Restricted, Non-sensitive] ❑ SAFETY ☑ QUALITY ❑ PATIENT EXPERIENCE ☑ PRODUCTIVITY ❑ COST

NURSE/PHARMACIST-LED, DOCTOR-SUPERVISED, MULTIDISCIPLINARY CARE TEAM IMPROVES OUTPATIENT HEART FAILURE THERAPY

MEMBERS: CHAN PO FUN, ELAINE BOEY, TOH LAY CHENG, SAW YIK CHEUN, DENNIS CHUA, CARRIE YAN

Define Problem, Set Aim

Problem/Opportunity for Improvement

The QUALIFY study documented poor physician-adherence to ***target-dose guideline-directed medical therapy (GDMT)*** for patients with Heart Failure Reduced Ejection Fraction (HFrEF). Rates at Ng Teng Fong General Hospital were similarly low. Only 19.2% of HFrEF patients achieved target doses of beta-blockers, and 22.1% achieved target doses of ACEI/ARB/ARNI between January to September 2019. Inadequate treatment results in disease progression, acute deteriorations, and poor quality of life.

Aims

The Heart Failure Multi-disciplinary Care (HF-MDC) team aims to double the % of HFrEF patients who are on target-dose GDMT, within 12 months of integrating a holistic multi-disciplinary approach at the Outpatient Cardiology Clinic.

Our goals include:

1. Increase in % patients on target-dose betablockers from 19% to 29%.
2. Increase in % patients on target-dose ACE-I/ARB/ARNI from 22% to 33%.

Establish Measures

Outcome Measures

1. % patients on target-dose beta-blockers.
2. % patients on target-dose ACE-I/ARB/ARNI.

Process Measures

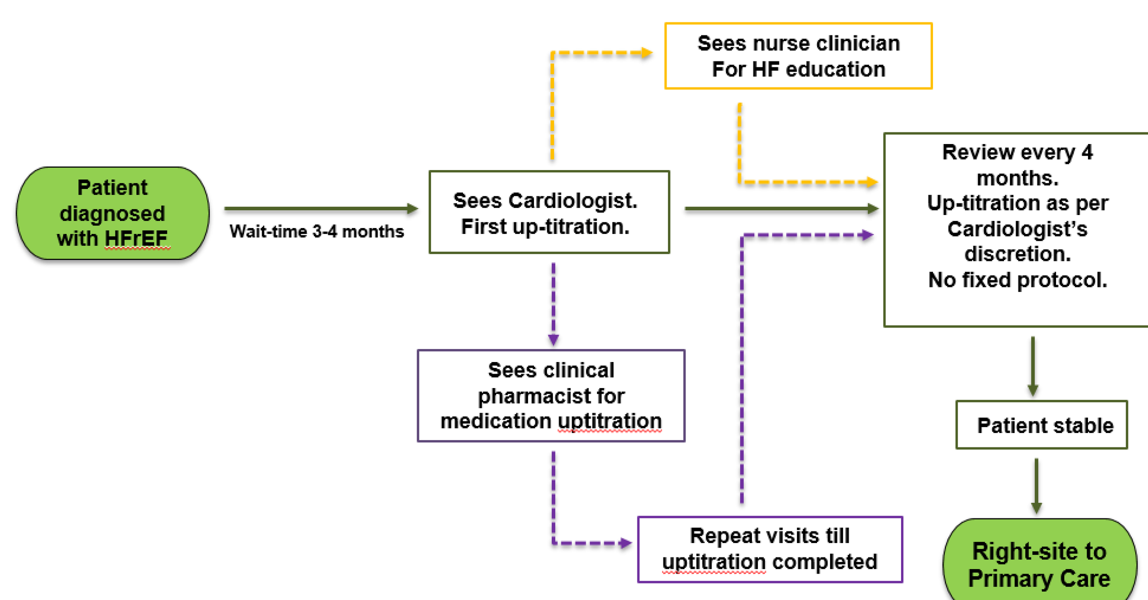
1. Cost per patient
2. Clinic capacity

Balancing Measures

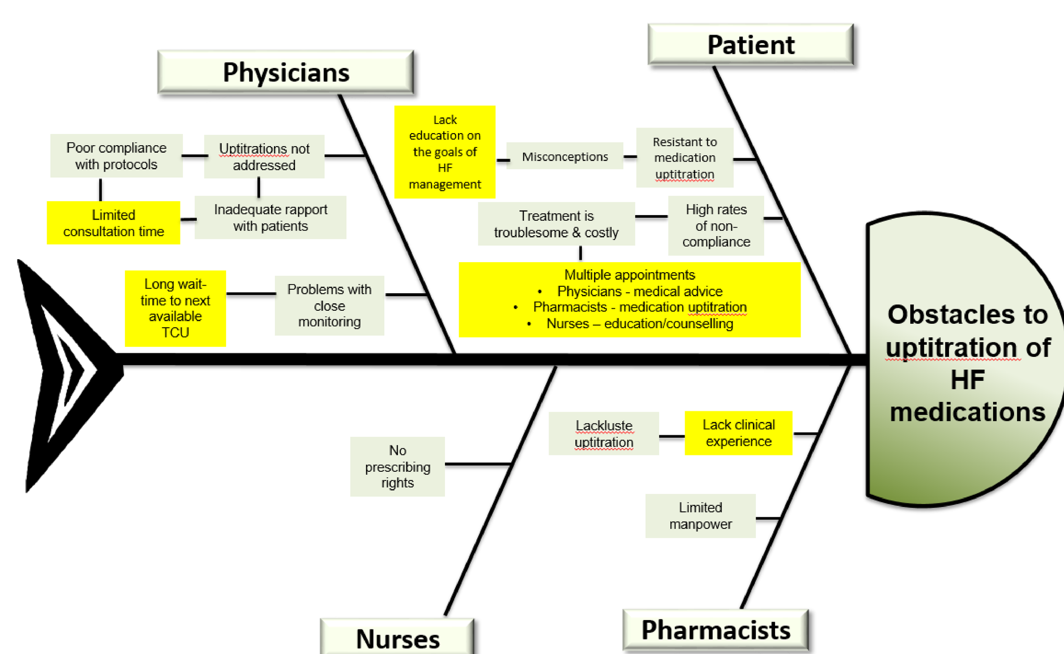
1. Time to maximum prescribed doses

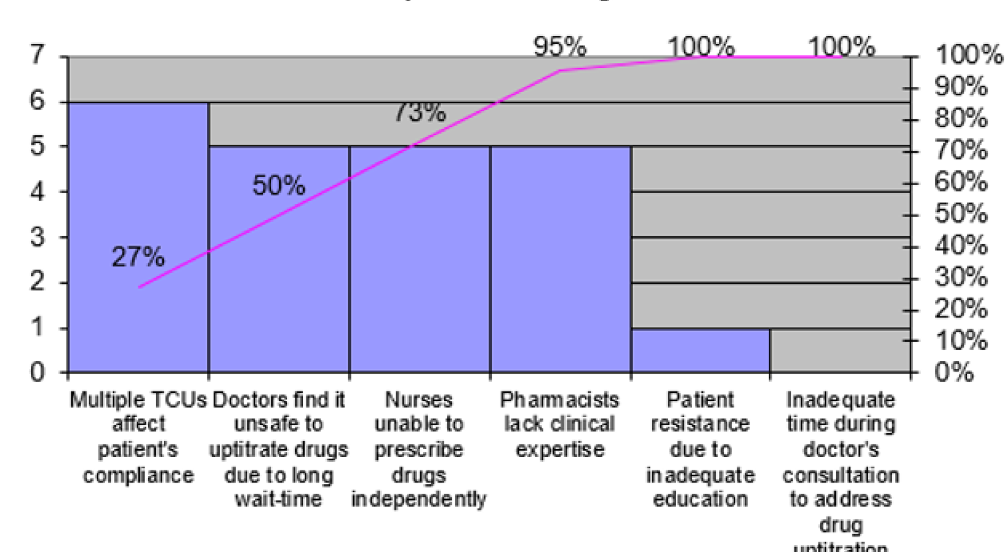
Analyse Problem

What is your process before interventions?



What are the probable root causes?

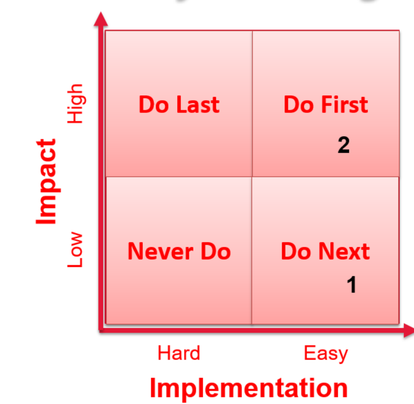




Select Changes

What are all the probable solutions? Which ones are selected for testing?

Root Cause		Potential Solutions
Multiple TCUs affect patient's compliance	1	*Consecutive TCUs on a single day*
	2	*Single point-of-contact, with input from doctor, nurse, and pharmacist*



A steering committee with special interest in HF, comprising Nurse Clinician, Clinical Pharmacist, and a Cardiologist was formed. Plans were made for a **nurse/pharmacist-led clinic that is doctor-supervised**. A protocoled workflow was created based on input from key stakeholders.

The team will review the cases and make plans prior to the clinic session.
2 clinic rooms will run concurrently in the same session.

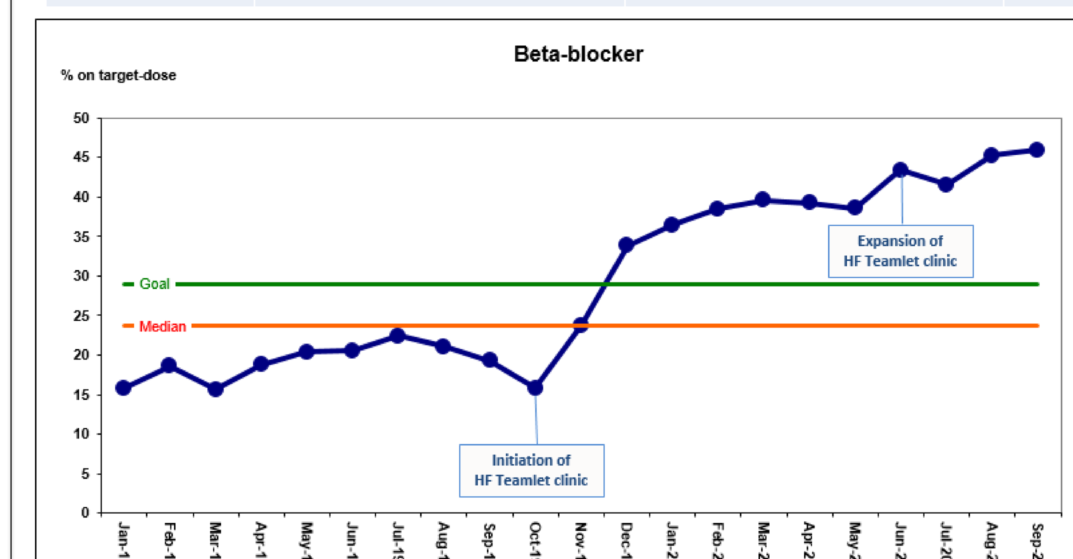
- Room A: Nurse Clinician
- Room B: Clinical pharmacist

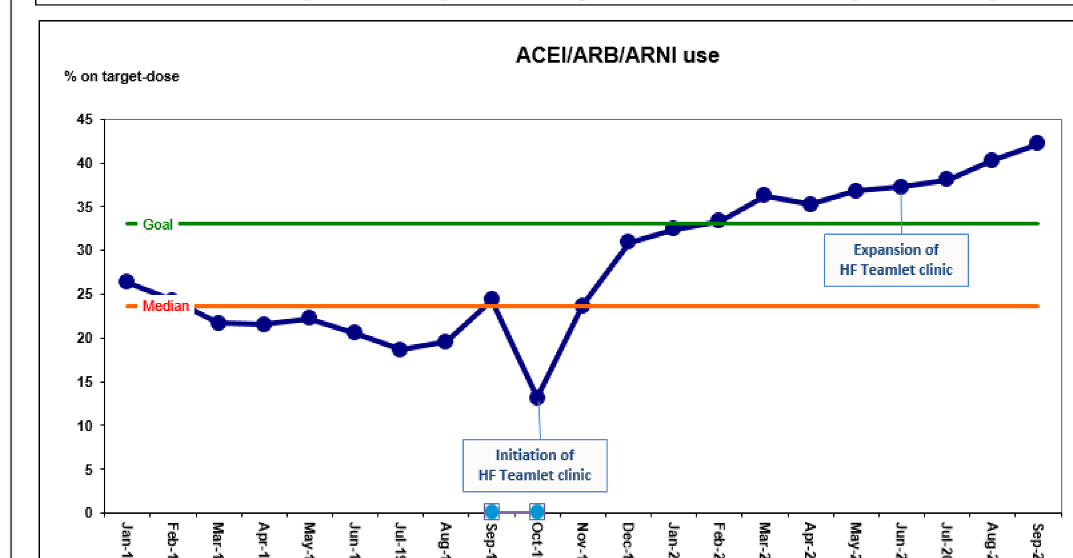
Beta-blockers and ACEI/ARB/ARNI are uptitrated according to protocol.
The Cardiologist is be on-site to supervise both rooms.

Test & Implement Changes

How do we pilot the changes? What are the initial results?

CYCLE	PLAN	DO	STUDY	ACT
1	Test-run logistics feasibility, by the steering commitee, at the outpatient Cardiology clinic, on 26/09/2019	Participants' feedback: 1. Cardiologist overstretched running between 2 rooms. 2. Pharmacist not confident to address more complex medical issues. 3. Nurse unable to independently prescribe, time wasted waiting around for help. 4. Protocol functional for uptitration of medications.	Reviewed 3 patients. No other data collected.	Adapt workflow. Cases will be graded into simple and complex cases. Nurse + Cardiologist pair will review the complex cases together; Nurse addresses patient's concerns, Cardiologist provides prescription and further input. Pharmacist reviews the simpler cases in the next room; Cardiologist is easily accessible to address any unforeseen issue that crops up
2	Implement new workflow, by the steering commitee, at the outpatient Cardiology clinic, on 03/10/2019	All members felt comfortable with the new implementation.	Reviewed 13 patients. Smooth transition from test-run to actual operations.	Adopt workflow. Scale up to 40 patients per clinic session.





	Before	After
Average time to maximum prescribed dose	61.2 days	52.9 days
Cost per patient	SGD $51.39	SGD $35.54

HF-MDC capacity increased from 15(pre-change) to 40(post-change) to 80(with addition of 2nd session) per week.

Spread Changes, Learning Points

What are/were the strategies to spread change after implementation?

1. A 2nd HF-MDC team was formed in June 2020 to run an additional session each week.
   - Training was provided for 2 more nurses and 2 additional pharmacists to run the clinic
   - HF-MDC capacity increased from 15(pre-change) to 40(post-change) to 80(with addition of 2nd session) per week.
2. A post-myocardial infarction clinic (within Cardiology) was set up in November 2020, based on the same nurse/pharmacist-led and doctor-supervised multidisciplinary model.

What are the key learnings from this project?

The nurse/pharmacist-led and doctor-supervised multidisciplinary approach empowers all members of the healthcare team to deliver effective patient-centric care so that workforce efficiency is improved without safety compromise. This model is highly scalable, and can be potentially applied to management of other chronic conditions beyond heart failure.

Ng Teng Fong General Hospital   Jurong Community Hospital