Project Title

To Reduce the Readmission Rate of Heart Failure Patients

Project Lead and Members

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Organisation(s) Involved

National Heart Centre Singapore

Project Period

Start date: Nov 2014

Completed date: Oct 2015

Project Category

Care Redesign, Process Improvement, Technology, Quality Improvement, Safety

Keywords

National Heart Centre Singapore, Care Redesign, Process Improvement, Technology, Quality Improvement, Quality Improvement Methodology, Quality Improvement Tools, Safety, Patient Safety, , Reduce Healthcare Cost, Cost Effectiveness, Cost Saving, Public Health, Patient Management, Patient Education, Patient Engagement, Patient Activation, Transitional Care, Care Continuity, Care Coordination, Cardiology, Mobile Application, Communications, Information Accessibility, Reduce Readmission Rate, Post Discharge Care, Follow-Up, Heart Failure, Multidisciplinary Care, Patient Navigators, Root Cause Analysis, Cause And Effect Diagram, Fishbone Diagram, Affinity Diagram, Personalised Teaching, Heart Failure Buddy Application , Patient

Experience, Job Satisfaction, Expanded Role, Team Work, Multi-stakeholder Collaboration

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Singapore Healthcare Management 2018

Project Team Members:
Ong Bee Geok, Marilyn Tay May Gin, Dr Louis Teo Loon Yee, Azizah Bte Jaafar, Kelli Cheong

National Heart Centre Singapore
SingHealth

BACKGROUND

In Singapore, Heart Failure (HF) is the most common cardiac cause of hospitalization, accounting for 17percent of all cardiac admissions. In 2015, public hospitals recorded in excess of 5,700 unique HF admissions. Heart failure is recognized as an emerging public health problem due to increasing hospitalizations, readmissions and direct healthcare costs. An improved multidisciplinary care coordination in heart failure transitional care will help ensure discharge success. Our project target to reduce readmission of heart failure patients.

Reduction of heart failure patients 30 days re-admittance rate from 8.3% to 4%

Reduction of heart failure patients 6 months re-admittance rate from 13.6% to 7%

PRE-IMPLEMENTATION

Heart failures patients are typically admitted for fluid overload and given treatment to help them tide over the fluid overload stage. After 4 to 6 days of treatment and heart failure education, patients are discharged. The ward nurse will do follow-up call to patient the day following his/her discharge. The patients will then return to NHCS for their follow up appointment with the doctor 4-6 weeks after their discharge.

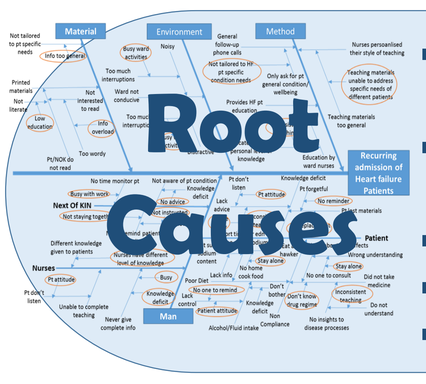
Current HF Patient Management

Patient admitted for the treatment of HF → HF education teaching → Patient is discharged → Ward nurse call patient 1day post discharge → Patient return for follow up appt with doctor (4-6weeks from discharge)

Between Nov 14 – Oct15, 8.4% of the heart failure patients were readmitted within 30 days, somewhere between the third to fourth week, before their appointment date to see Doctor.
The data showed a rather consistent percentage of re-admission of heart failure patients.

Time period	Nov14 – Apr15	May15 – Oct15
Number of patients admitted for heart failure	256	295
Number of patient who were readmitted within 6months	40	35
Number of first timers readmitted within 30 days	22	24
Percentage of patients who were readmitted within 6 months	15.6%	11.9%
Percentage of patients who were readmitted within 3o days	8.6%	8.1%

A **Cause and Effect Diagram** was used to analyze the roots causes. Six Root Causes were identified:



- Information given to HF patients are not specific to their needs
- Nurses attending to HF patients have different levels of knowledge
- There is no reminders given to patients
- Patients do not know the drug regime
- Next of Kin not given instructions

Solution Development Process

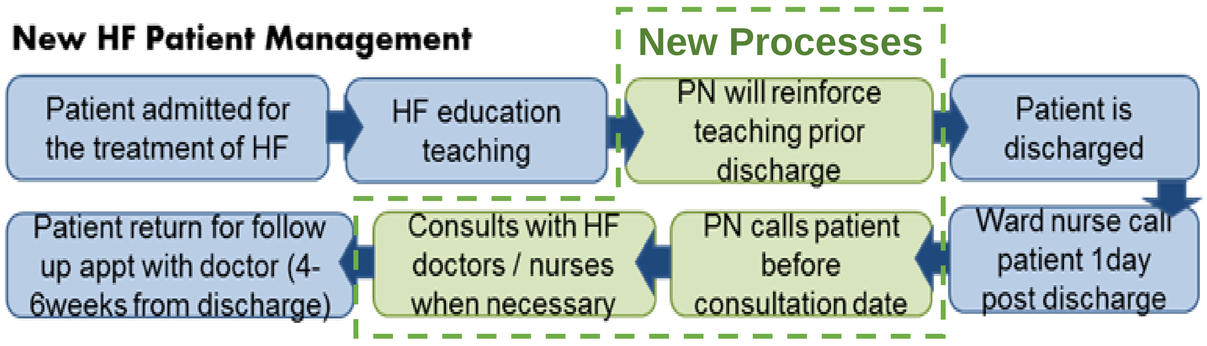
Group Brainstorming
Affinity Diagram to group ideas
Ideas exploration

→ Stakeholders Engagement
Sharing of possible ideas
Address Stakeholders interest & concerns

→ List possible solutions
Determine Pros & Cons of each solutions
Solution matrix development

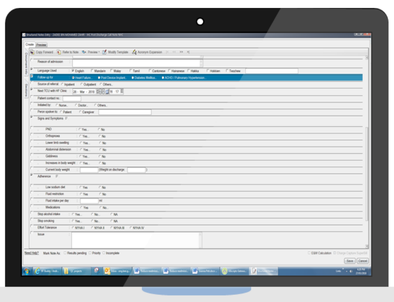
SOLUTIONS DEVELOPMENT

New HF Patient Management



Specialized assigned nurses to conduct one to one teaching

Personalized teaching targeted at different patient's condition for better information retention. The teachings include monitoring of patient's condition, symptoms control, and body weight, salt and fluid restriction. The name of the educator will be reflected on computer for follow up purposes.



Additional follow up calls by the Patient Navigators

The newly extended role of Patient Navigators (PN) aim to provide patients with seamless discharge to the community. PN use the heart failure discharge template online to enquire patient's signs & symptoms and adherence to diet and salt intake.

Improved accessibility of information

Electronic copies of the HF materials are available on the Heart Failure Buddy application. Patients and their next of kin are encouraged to download the online health mobile application so that they can easily access the HF related information and advice after discharge.

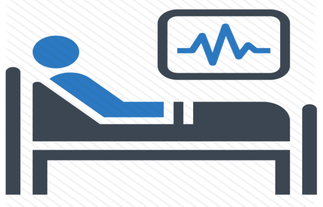
Our solutions which include steps taken to pay additional attention and care to the HF transition back to their homes after discharge resulted in reduction in the re-admission rate of our HF failure patients.

RESULTS

30 Days Re-Admission Rate
Before 13.6% After 5.8%

6 Months Re-Admission Rate
Before 8.3% After 3.5%

The number of patients re-admitting for heart failure had been **reduced from 8.3% to 3.5%** for re-admission within 30 days and **from 13.6% to 5.8%** for re-admission within 6 months.



Frees Up 215 Beds Each Year

The project led to an estimated **Patient Hospital Cost Savings** of **$116,400 per annum!**

Intangible Benefits

- **Enhanced patients' safety**
- **Improved patient & caregiver experience**
- **Enhanced organization's image**
- **Increased work efficiency and job satisfaction**
- **Cross- department team work & collaboration**

CONCLUSION

With the implementation of several interventions in this project, patients and next of kin are better informed about the importance of the post discharge care. We have taught the patients to be more responsible for their well-being by emphasizing on the importance of their lifestyle towards their recovery. The implementation of the follow up calls has received a positive feedback from the patients and their next of kin as they could feel the sincerity of care from our staff.