

Project Title

Increasing The Percentage of Cardiac Rehabilitation Patients Receiving
Cardioprotective Dietary Education By A Dietitian, Prior To Discharge

Project Lead and Members

Project lead: Diane Ashley Seto Ern

Project members: Christina Khoo, Dr Christopher Koo

Organisation(s) Involved

Ng Teng Fong General Hospital

Healthcare Family Group Involved in this Project

Allied Health

Applicable Specialty or Discipline

Dietetics and Nutrition

Project Period

Start date: 2019

Completed date: 2020

Aims

This project aims to improve the average percentage of Cardiac Rehabilitation patients receiving cardioprotective dietary education, from 56% per month in 2019, to at least 70% per month in 2020.

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

Patient access to care can be improved if gaps in the system are identified and rectified (e.g. finding out why referrals were declined and missed, and implementing solutions).

Interdisciplinary collaboration (e.g. between dietitians and nurses in the CR program) is required to ensure the successful implementation of changes.

Conclusion

See poster appended/ below

Project Category

Care & Process Redesign

Workflow Redesign

Keywords

Cardiac Rehabilitation

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INCREASING THE PERCENTAGE OF CARDIAC REHABILITATION PATIENTS RECEIVING CARDIOPROTECTIVE DIETARY EDUCATION BY A DIETITIAN, PRIOR TO DISCHARGE

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- SAFETY
- QUALITY
- PATIENT EXPERIENCE
- PRODUCTIVITY
- COST
- VALUE
- TEAMWORK

Define Problem, Set Aim

Problem/Opportunity for Improvement

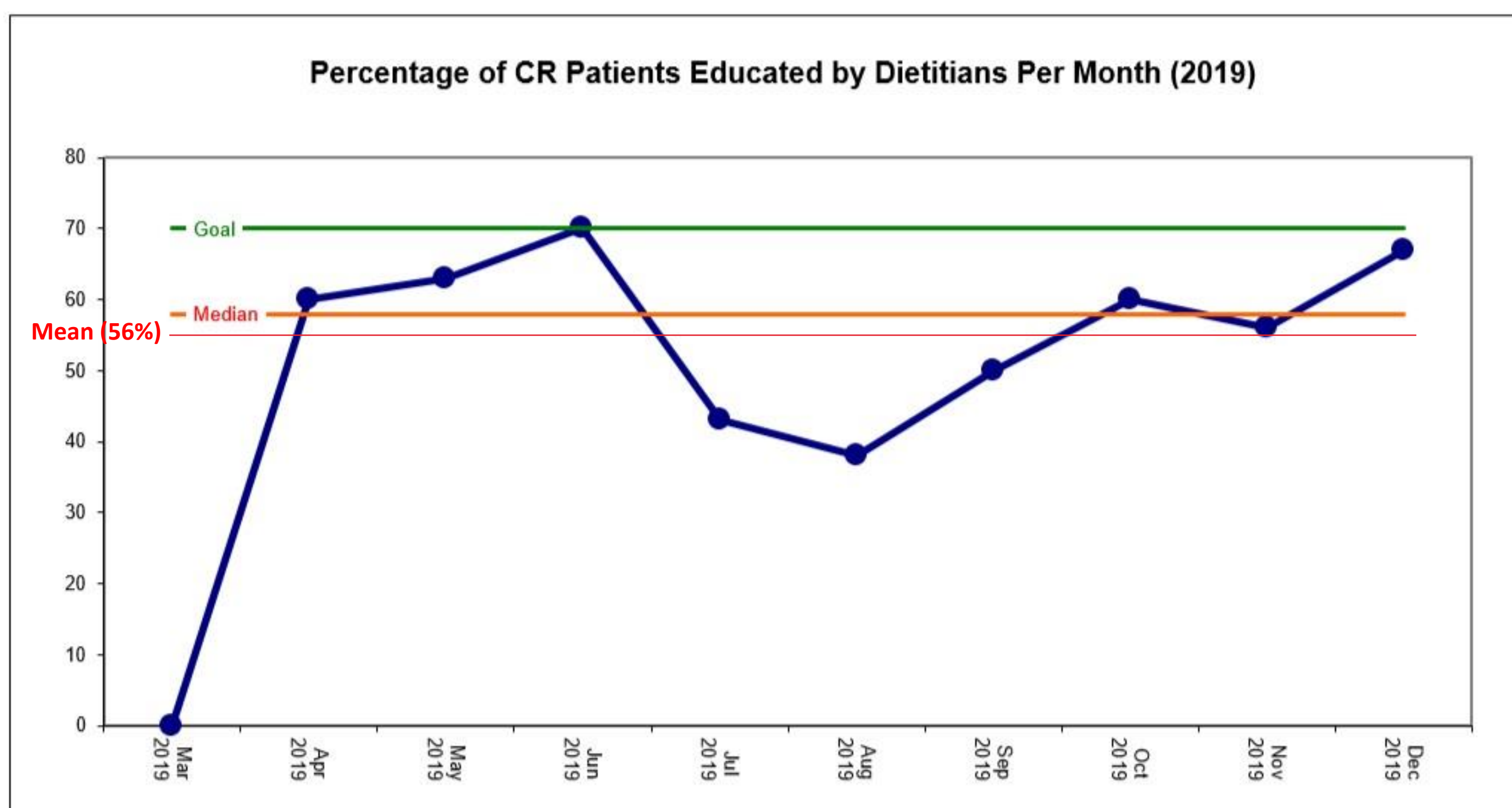
At Ng Teng Fong General Hospital (NTFGH), all cardiac rehabilitation (CR) patients are referred to a dietitian for cardioprotective dietary education before discharge. Diet education is a vital part of routine care to reduce cardiovascular risk in this patient group [1,2]. However, between April and December 2019, only 56% of CR patients per month (on average) received dietary education from a dietitian. The remaining 44% of CR patients did not receive dietary education because they either declined (38%) or were missed due to discharge (6%). The low percentage of CR patients receiving dietary education suggests that 1) many patients are missing out on an important intervention to reduce cardiovascular risk, and 2) manpower is not being utilised efficiently.

Aim
This project aims to improve the average percentage of CR patients receiving cardioprotective dietary education, from 56% per month in 2019, to at least 70% per month in 2020.

Establish Measures

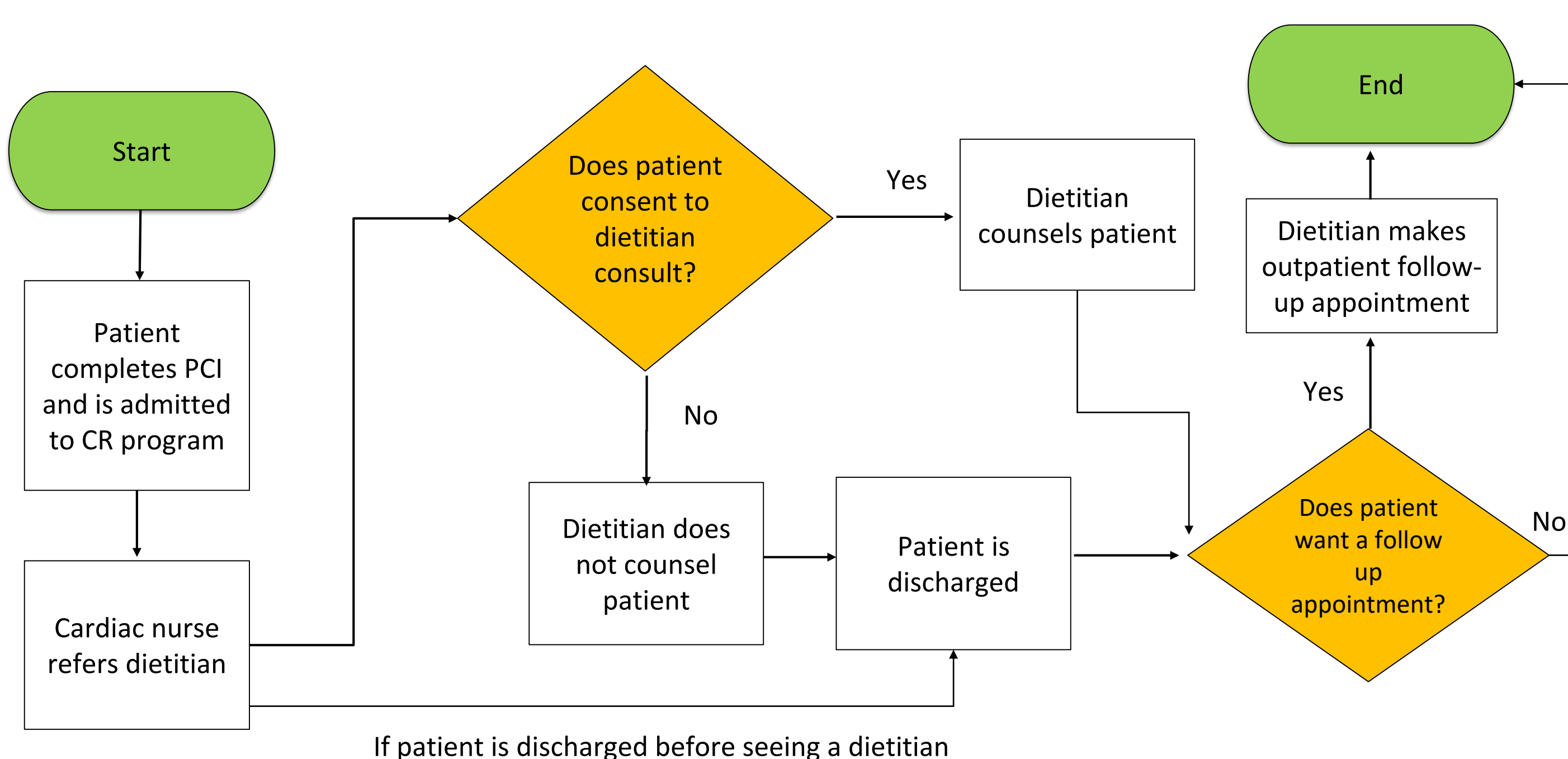
Figure 1: Percentage of CR Patients Educated by Dietitians Per Month in 2019

From the month of April to December 2019, an average of 56% of CR patients per month received dietary education from a dietitian.



Analyse Problem

Current Process



What are the probable root causes for the low utilisation rate?

Reasons for Declined Referrals

- Patients:**
 - Educated previously by a dietitian or nurse
- Staff/ Processes:**
 - Blanket dietitian referral does not distinguish patients who need and/or want dietary advice

Reasons for Missed Referrals

- Staff/ Processes:**
 - Nurse makes dietitian referral less than 5 hours before patient is discharged
 - Dietitian unable to contact patient on discharge to make follow-up outpatient appointment

Select Changes

Probable solutions

Root Causes	Probable solutions
(A) Blanket referral to dietitian	<ul style="list-style-type: none"> (1) Implement referral criteria to identify 'higher-risk' patients who require education more urgently (2) Continue blanket referrals but cardiac nurse to refer lower-risk patients to outpatient dietitian
(B) Dietitian referral made < 5 hours before discharge	<ul style="list-style-type: none"> (3) Cardiac nurse to refer dietitian as soon as possible after PCI to avoid last-minute (< 5 hours before discharge) referrals (4) Cardiac nurse to inform dietitian to book an outpatient appointment if patients are missed by dietitian inpatient

Test & Implement Changes

Solution Implementation

SOLUTION #	PLAN	DO	STUDY	ACT
1	<p>Plan: Refer only 'higher-risk' CR patients to dietitians (new referral criteria).</p> <p>Prediction: Percentage of declined referrals will decrease.</p>	CR dietitian trained cardiac nurse to refer only those CR patients that meet the new criteria.	<p>Result: Between Apr-Dec 2019 and Mar-Dec 2020*,</p> <ol style="list-style-type: none"> Average number of CR patients referred to dietitian per month decreased from 10 patients (2019) to 8 patients (2020). Percentage of patients educated rose by 17% (56% in 2019 VS 73% in 2020). Percentage of declined referrals decreased by 20% (38% in 2019 VS 18% in 2020) (prediction confirmed). However, missed referrals remained fairly constant at ~1 patient per month. <p>Suggested explanation:</p> <ul style="list-style-type: none"> The new criteria helped streamline referrals to those patients at higher risk of cardiac events. This made them more receptive to dietary education. However it did not solve the problem of missed referrals due to discharge. 	Continue using the new criteria when referring dietitians as it is effective in reducing declined referrals.
3	<p>Plan: Cardiac nurse to refer dietitian as soon as possible after PCI to avoid last-minute (< 5 hours before discharge) referrals.</p> <p>Prediction: Percentage of missed referrals will decrease. Time taken from referral to discharge will increase.</p>	CR dietitian informed cardiac nurse to refer patient as soon as possible post PCI, and avoid referring patients 5 hours or less before discharge.	<p>Result:</p> <ol style="list-style-type: none"> The time from referral to discharge increased by an average time of 24 hours post intervention (average 19 hours pre-intervention VS 43 hours post-intervention). There were no missed referrals post intervention (average 1 missed referral pre-intervention VS 0 missed referrals post-intervention). <p>Suggested explanation:</p> <ul style="list-style-type: none"> A greater time interval between referral and discharge gave dietitians more time to see patients and this reduced missed referrals. 	Continue to refer as soon as possible post-PCI (< 5 hours before discharge) as it is effective in reducing missed referrals.

* Month of April 2020 was excluded because there were no cardiac rehabilitation patients admitted during that month due to the Circuit Breaker situation.

Figure 2: Percentage of CR Patients Educated by Dietitians Per Month in 2020

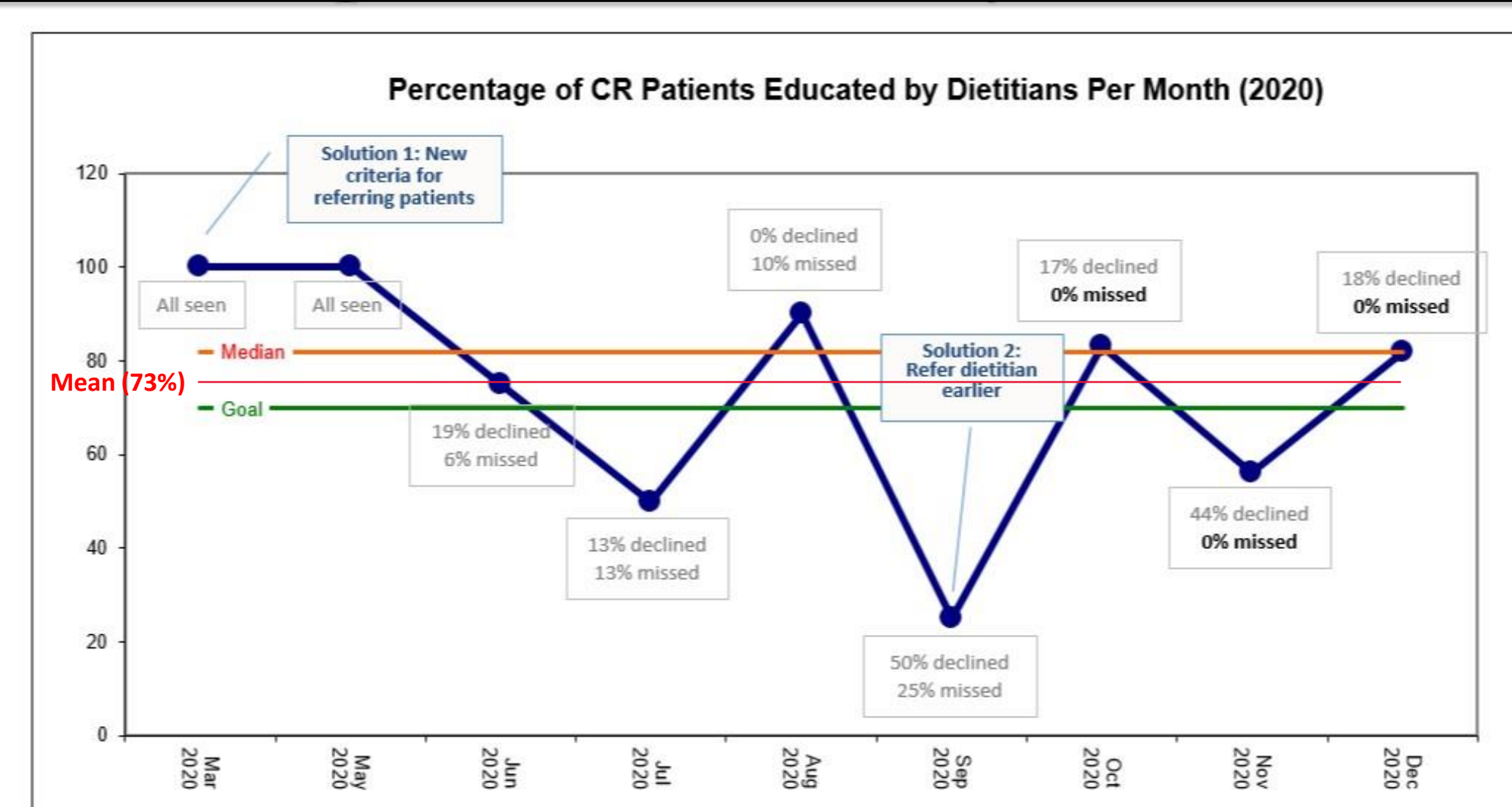


Figure 2: Overall, an average of 73% of CR patients per month received dietary education in 2020, an increase of 17% from 2019.

Spread Changes, Learning Points

Spread change

The CR doctor and nurse-in-charge have been informed about the new referral criteria and the importance of referring patients to dietitian as early as possible to prevent missed referrals. The nurse-in-charge also ensures that the other CR nurses refer patients in the same, standardised manner.

What are the key learnings?

- Patient access to care can be improved if gaps in the system are identified and rectified (e.g. finding out why referrals were declined and missed, and implementing solutions).
- Interdisciplinary collaboration (e.g. between dietitians and nurses in the CR program) is required to ensure the successful implementation of changes.

References

1. Ministry of Health (MOH). Lipids: MOH Clinical Practice Guidelines 2/2016. Singapore: Ministry of Health, Singapore; Dec 2016. 84 p. ISBN 978-981-11-1845-6.
2. National Health Service (NHS). Dietetic Management of Cardiovascular Rehabilitation Policy and Procedure. UK: Salford Royal Care Organisation; 2018. 22 p. TWCG12(12).