

Mission Statement

We will design a bundled plan that will promote patient empowerment, improve patient health outcomes, and is of better convenience and value to patients with chronic diseases visiting NHGP, with a recruitment target of 300 patients within 6 months.

With the NHGP Chronic Care Plan (CCP), the team hopes to use research and evaluation methodology and innovation to achieve the organisational visions of adding years of healthy life and to be the leading health-promoting institution to advance family medicine and transform primary healthcare in Singapore. Ultimately to also move towards the 3 Beyonds of the Singapore healthcare system – Beyond Healthcare to Health, Beyond Hospitals to Community, and Beyond Quality to Value.

Team Members

	Name	Designation	Department	
Team Leader	David Kok	Director	Finance	
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Team Members	Dr Karen Ng	Director	Clinical Services	
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	Sponsor	A/Prof Chong Phui-Nah	Chief Executive Officer	CEO's Office

Evidence for a Problem Worth Solving

With increasing numbers of patients with chronic conditions, engaging patients to actively manage their own health will improve health outcomes and reduce healthcare costs. As of 2017, diabetes (8.6%), hypertension (21.5%) and hyperlipidemia (33.6%) are the top 3 most prevalent chronic diseases in Singapore and top 3 primary diagnoses seen in NHGP, contributing to 15%, 10% and 4% of visits respectively.

In Singapore, fee-for-service is the predominant payment model in primary health care. With increasing healthcare costs, there is impetus to adopt a new payment model, such as bundled payment, that contains cost while ensuring good health outcomes.

In line with NHG and NHGP's mission to improve health and reduce illness through patient-centred quality primary healthcare, the team has designed the CCP with the following features:

- Co-payment to emphasise personal responsibility, and for CCP to be an appropriate and cost-effective intervention.
- Advanced payment and essential healthcare services packaged into one plan for patients' convenience. Any unconsumed monetary value left in the bundle at the end of the calendar year will be refunded to patients.
- 5% discount for chronic disease-related services at each visit, to improve compliance with polyclinic visits.
- Good outcome rewards of \$5-\$20 per year to incentivise patients to adopt better self-care practices, meeting the process and outcome targets for HbA1c, blood pressure, cholesterol, and diabetic retinopathy and diabetic foot screenings.

Implementation

Patient focus group discussions were conducted to understand patients' concerns, perceptions and expectations of the plan. Findings from the discussions were incorporated into the design of CCP, which was introduced to Yishun Polyclinic in April 2017. The team also engaged Yishun Polyclinic, Clinical Services, Corporate Communications, Office of Clinical Informatics, Nursing Services, and Operations to advise on workflow, patient profile, publicity and data analysis. Regular updates on recruitment and challenges were presented among the team and to organisational stakeholders. Several briefing sessions for clinic staff were conducted for the team to understand and resolve issues.

A patient satisfaction telephone survey was also conducted in Sep 2018.

Results

From April to September 2017, 301 patients from Yishun Polyclinic were enrolled into CCP, with a response rate of 70.7%. After 1 year, compared to control group:

- There was a greater increase in the proportion of CCP patients who achieved HbA1c $\leq 7\%$ (4.3% vs 0%) ($p=0.009$) and LDL-c $< 2.6\text{mmol/L}$ (12.6% vs 5.4%) ($p=0.032$).
- CCP patients had fewer chronic care doctor visits (Difference-in-difference = -0.68, $p=0.002$).

1. CCP patients were significantly more likely to achieve target HbA1c of $\leq 7\%$ ($p=0.009$)

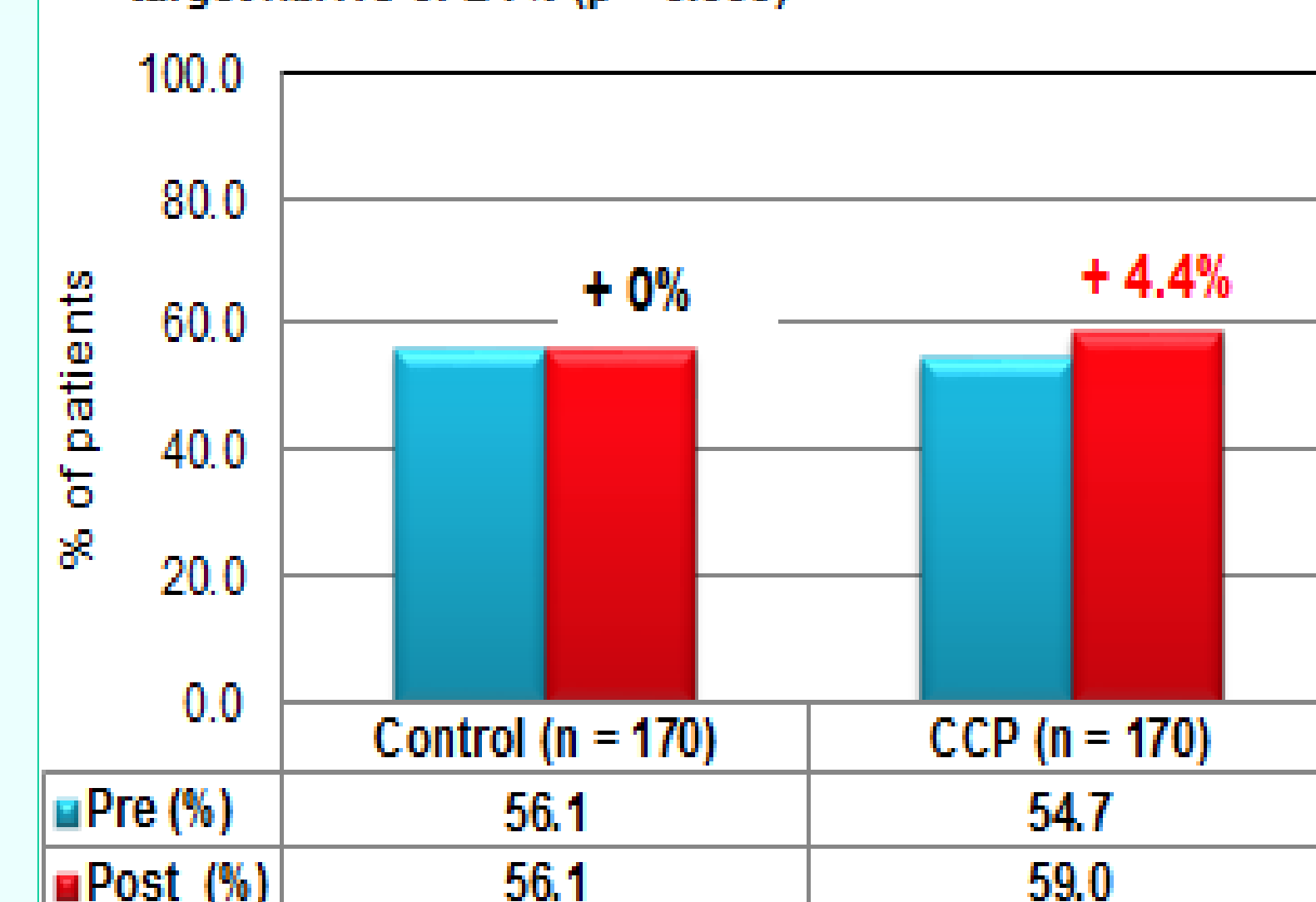


Fig. 1: % of CCP DM patients with HbA1c $\leq 7\%$

2. CCP patients were significantly more likely to achieve target LDL-c of $< 2.6\text{mmol/L}$ ($p=0.032$)

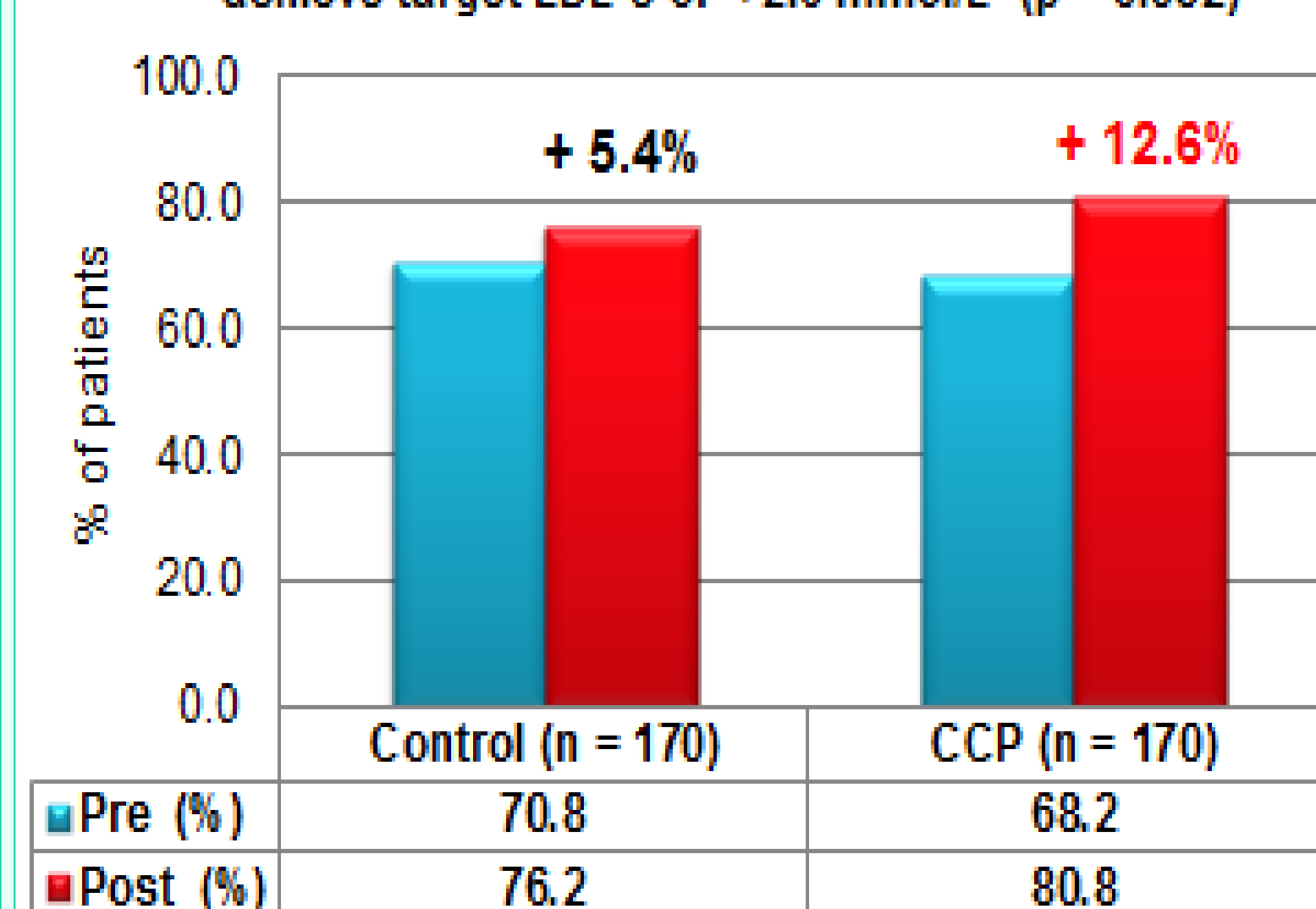


Fig. 2: % of CCP DM patients with LDL $< 2.6\text{mmol/L}$

These show a positive trend towards better clinical outcomes and reduced healthcare utilisation with CCP.

217 patients responded to the telephone survey. 91% were satisfied with the CCP, 84% found it value-for-money, 80% found CCP convenient.

Problems Encountered

Implementation was initially challenging due to limited marketing efforts, insufficient staff training, hurdles in getting buy-in from staff, and coordination between HQ and clinic staff. Financial counsellors also found it challenging to manage between FC appointment and CCP recruitment.

Recruitment fell from April to June due to a variety of reasons:

- Pioneer Generation patients were able to use Flexi-Medisave & CDMP with no out-of-pocket expenses
- Medical coverage by company
- Insufficient balance in Medisave
- Small bill size, so not keen to commit to a plan
- Patients refused to use Medisave

Strategies to Sustain

In order for CCP to be introduced on a larger scale to other polyclinics, the primary focus that is communicated to patients could be shifted to CCP being a tool to encourage patients' greater ownership of and engagement with their health care. Frontline staff, including the care team, administrators, Patient Service Associates, and Patient Care Assistants, have to be trained and equipped with the knowledge to competently explain CCP to patients.

There is a need to look into how NHGP systems could be enhanced for process automation to improve efficiency of sign-ups and refund of Medisave balance to patients.

Regular evaluation of the progress and challenges would have to be conducted to allow the iterative process of learning, continuous development and improvement of the CCP.