Project Title

NHGP Chronic Care Plan

Project Lead and Members

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Organisation(s) Involved

National Healthcare Group Polyclinics

Healthcare Family Group(s) Involved in this Project

Medical

Applicable Specialty or Discipline

Endocrinology @ NHGP

Project Period

Start date: Jan 2019

Completed date: Jan 2020

Aim(s)

To evaluate the impact of CCP on patients' adherence to a pre-defined set of evidence-based care processes, chronic disease control, polyclinic healthcare utilisation and total polyclinic gross charge at one-year.

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Conclusion

See poster appended/ below

Project Category

Care & Process Redesign

Value Based Care, Utilisation

Care Continuum

Chronic Care, Primary Care

Keywords

NHGP – Chronic Care plan (CCP)

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NHGP Chronic Care Plan

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INTRODUCTION

Chronic Care Plan (CCP), a pre-paid bundle payment scheme, was introduced to Ang Mo Kio Polyclinic in January 2019 to incentivise better adherence to evidence-based care processes and to achieve pre-specified health targets.

Key features of the CCP are **(Figure 1):**

- **Mode of pre-payment:** Payment of scheme can be made via Medisave (up to 85%) and cash/ Flexi-Medisave (15%)
- **Enrolment incentive:** A 5% discount (increased to 10% in 2020 to encourage sign-ups) on chronic disease services in the polyclinic
- **Shared decision-making:** Use of a monitoring card as a form of shared decision-making tool to set goals and facilitate discussions on chronic disease management between doctors and patients
- **Financial rewards:** Good outcome rewards per annum if pre-specified health targets were achieved

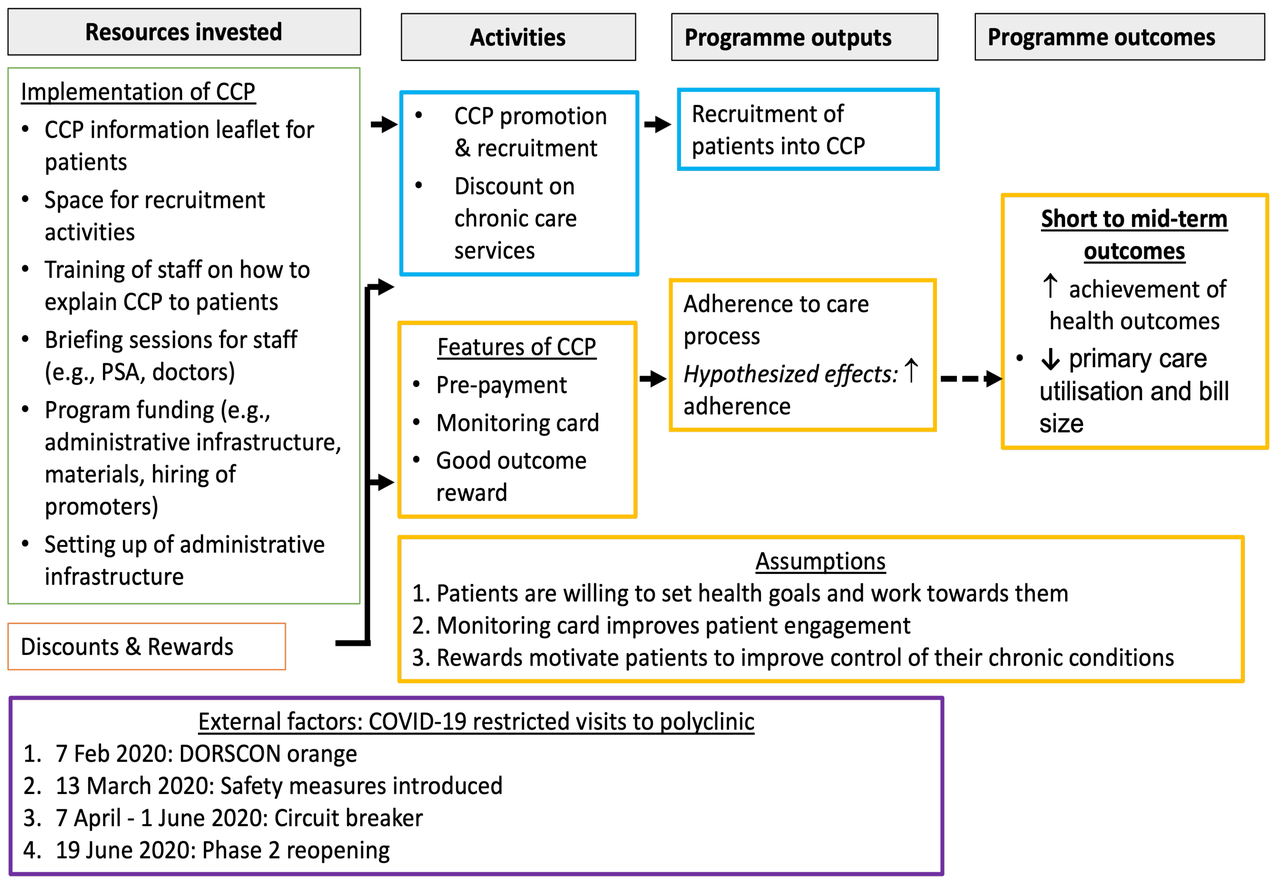


Figure 1. Logic model of CCP

AIMS

To evaluate the impact of CCP on patients' adherence to a pre-defined set of evidence-based care processes, chronic disease control, polyclinic healthcare utilisation and total polyclinic gross charge at one-year.

METHODS

Evaluation: Retrospective propensity score matched cohort study

Inclusion criteria:

CCP group

- Ang Mo Kio Polyclinic patients who signed up for CCP from 01 Jan 2019 – 31 Jan 2020
- ≥ 1 Chronic doctor / Care Manager/ Advanced Practice Nurse consult visit to Ang Mo Kio Polyclinic between 01 Jan 2018 – 30 Apr 2021

Non-CCP group

- Ang Mo Kio Polyclinic patients under the Primary Care Chronic Bundle (excluding patients who have ever enrolled in CCP before)
- ≥ 1 Chronic doctor / Care Manager/ Advanced Practice Nurse consult visit to Ang Mo Kio Polyclinic between 01 Jan 2018 – 30 Apr 2021

Propensity score matching criteria:

Population with diabetes

Socio-demographic factors: Age, gender, ethnicity, past year spending, CHAS status, Pioneer/ Merdeka generation
Clinical factors: BMI, hypertension status, hyperlipidaemia status, treatment regime, CCI score, DCSI score, HbA1c, BP and LDL-c control
Others: CCP approved date by calendar quarters

Population without diabetes

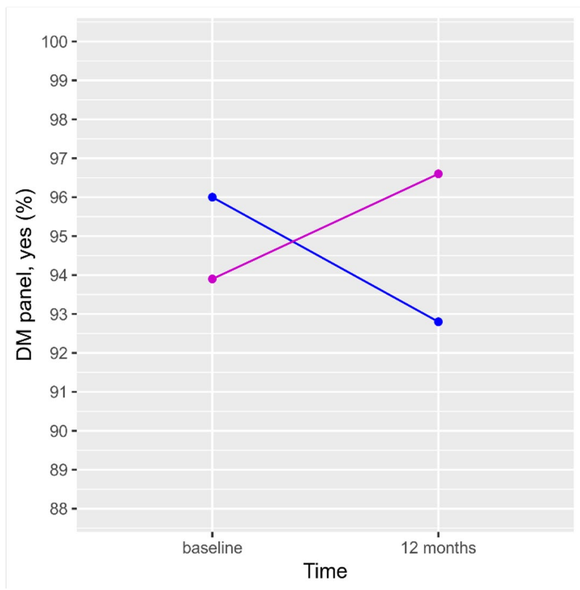
Socio-demographic factors: Age, gender, ethnicity, past year spending, CHAS status, Pioneer/ Merdeka generation
Clinical factors: BMI, hypertension status, hyperlipidaemia status, asthma status, COPD status, CKD status, stroke, IHD status, CHD status, HF status, CCI score, BP and LDL-c control
Others: CCP approved by calendar quarters

Statistical analysis: Difference in differences was employed to assess difference in outcomes at 1-year adjusted for differences at baseline

RESULTS

- 5,401 CCP patients were enrolled. 49.8% had diabetes, 50.2% did not have diabetes
- The change in probability of adherence to diabetes lab panel (mean difference (MD) [95%C.I]:0.06 [0.04, 0.08]) and diabetic foot screening (MD:0.04 [0.01, 0.06]) was greater in CCP compared to non-CCP (**Figure a, b**)
- Decrease in chronic doctor consultations for CCP was greater compared to non-CCP for the diabetes group (incidence rate ratio (IRR):0.93 [0.89, 0.98]) and non-diabetes group (IRR:0.93[0.88, 0.97]) (**Figure c, d**)
- No significant differences were observed between the CCP and non-CCP for chronic disease control, polyclinic healthcare utilisation and total polyclinic gross charge outcomes among the population with diabetes and population without diabetes.

a) Diabetes panel attendance



b) Diabetic foot screening attendance

c) Chronic doctor consultations for patients with diabetes

d) Chronic doctor consultations for patients without diabetes

CONCLUSION

- CCP had a significant impact on care process adherence and reducing chronic doctor visits.
- Our observations suggest that a pre-paid plan with financial incentives is a useful strategy to improve care process compliance.
- No observed improvement in chronic disease indicators and polyclinic gross charge suggest a longer follow-up period is needed to observe the impact on these outcomes.

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