
CONFERENCE ABSTRACT**The Impact of a Patient-Centred Medical Home (PCMH) on Healthcare
Utilization of Complex Needs Patients in Singapore**

21st International Conference on Integrated Care, Virtual Conference – May 2021

Silvia Sim¹, Junxing Chay, Soon Hoe Ho, Zoe Lim, Mimaika Luluina Ginting, Grace Sum,
Mary Ann Tsao, Eugene Yuen, Moana Jagasia, Chek Hooi Wong1: Geriatric Education And Research Institute, Singapore

Introduction

Patients with complex needs require greater biopsychosocial support. Fragmented services often result in gaps, duplication or incompatibility in treatments, leading to poorer health outcomes and higher utilization of costly hospital-based healthcare services. Patient-Centred Medical Home (PCMH) is a primary care model reform, often advocated for patients with complex needs because of its emphasis on comprehensiveness, coordinated care, patient-centeredness, accessible services, quality and safety. Community for Successful Ageing (ComSA)-PCMH, launched on November 2016, is the first PCMH in Singapore. It serves older adults with complex needs within a geographical precinct, delivering care integrated: 1) between its primary care clinic and home-based care management; 2) vertically with an acute hospital; and 3) horizontally with other community-based services. This study aimed to assess the impact of ComSA-PCMH on their patients' healthcare utilization.

Theory/Methods

This study used a difference-in-difference approach to compare quarterly healthcare utilization of 165 ComSA-PCMH participants (enrolled between Oct'2017 and Apr'2019) against 10,939 controls from a neighbouring geographical precinct selected using Coarsened Exact Matching. Healthcare utilization data spanning Oct'2014 to Mar'2020, which includes other primary care, specialist outpatient clinic (SOC) and emergency department (ED) utilization, and inpatient hospital admissions, were extracted from a regional health system database. Two-part models were fitted, consisting of logistic regression to assess the binary outcome of having any utilization per calendar quarter (Part 1), followed by Poisson regression to assess number of utilization events amongst those with any utilization per calendar quarter (Part 2). All regressions controlled for socio-demographics, weighted Charlson Comorbidity Index, secular trends including effect of COVID-19, and between-group differences. Statistical inferences were based on cluster-robust standard errors at the individual level.

Results

ComSA-PCMH participants had 0.74 fewer quarterly visits to other primary care in the calendar quarter after enrolment ($p < 0.001$), and 1.08 fewer quarterly visits to other primary care four or more quarters after enrolment ($p < 0.001$). PCMH study participants also had 0.37 fewer quarterly SOC

Sim: The Impact of a Patient-Centred Medical Home (PCMH) on Healthcare Utilization of Complex Needs Patients in Singapore.

visits ($p=0.047$), 0.04 fewer quarterly ED visits ($p=0.013$) and 0.02 fewer quarterly inpatient hospital admissions ($p=0.093$) four or more quarters after enrolment.

Discussion

Post-enrolment reductions in healthcare utilization were observed. A one-year lag occurred before significant reductions in hospital-based healthcare utilization, possibly due to time needed for developing patient-provider relationship and trust.

Conclusions

The study found that ComSA-PCMH participants had reduced healthcare utilization after enrolment into the programme, adding to a growing body of evidence supporting the benefits of PCMHs on care consolidation and patient-centred approach.

Lessons learnt

PCMH shows potential in reducing costly hospital-based healthcare utilization after a year.

Limitations

Pre-enrolment healthcare utilization trajectories of participants and controls were not parallel due to difficulties identifying counterfactuals with similar complex needs. Thus, casual inference of estimates should be interpreted with some caution. Nonetheless, comparisons with pre-enrolment trends suggest that post-enrolment reductions in hospital-based healthcare utilisation were attributable to ComSA-PCMH.

Suggestions for future research

Long-term impact of PCMH on healthcare utilization could be better assessed with a longer follow-up period.