Introduction: Frequent admitters FA, defined as patients with three or more inpatient acute hospital admissions within one year, account for about 27% of episodes and incur high healthcare costs. National University Health System Regional Health System NUHS-RHS Integrated Interventions and Care Extension NICE, launched in 2014, targeted FA with the aim of reducing avoidable hospital utilisation. NICE patients were assigned a case manager who customised their care plan based on holistic needs assessment. NICE provided post-discharge home visits and/or phone calls to monitor patients’ progress, appropriate referrals to community health and social services, and consolidated care under one team. We retrospectively evaluated NICE’s effect on reducing utilisation over 1-year post-enrolment: all-cause admissions ADM, emergency admissions EM, emergency department visits ED, specialist outpatient clinic visits SOC, and total inpatient length of stay LOS.

Methods: NICE patients enrolled between June 2014 to December 2015 were grouped as cases n=668. Unenrolled patients who were FA during the same period were designated as potential controls n=5,714, taking their third admission date during this period as proxy date of enrolment. Propensity score matching was conducted with the following: gender, race, age, residential housing type, number of comorbidities at enrolment, date of enrolment and pre-enrolment utilisation 1-year prior. This resulted in 604 matched case-control pairs.
As the variance of each measure of utilisation is greater than its mean, negative binomial regression was used to model post-enrolment utilisation, adjusting for log-transformed pre-enrolment levels and matching propensity score, with an offset term to account for potential mortality during follow-up. We report incidence rate ratios IRR of cases to controls, with 95% confidence intervals 95%CI.

**Results:** Cases unadjusted mean=6.7 had significantly fewer post-enrolment SOC than controls unadjusted mean=8.6, IRR=0.86 95%CI: 0.77-0.97. No statistically significant differences were observed for post-enrolment ADM, EM, ED, and LOS.

**Discussion:** The results suggest that NICE provided adequate post-discharge follow-up care that patients would otherwise seek from SOC, thus potentially decreasing patients’ time and cost burden. For a significant proportion of patients in both groups, post-enrolment ADM, EM, ED, and LOS may have regressed to a low mean following an acute period of high admissions, resulting in floor effects which limit any further reductions in a 1-year period.

**Conclusion:** NICE had an impact in reducing patients’ SOC post-discharge.

**Lessons Learned:** The higher than expected variability in the utilisation patterns suggest FA are a heterogeneous group, and stratification could allow for more targeted interventions that better cater to care needs.

**Limitations:** Patients were not randomised into cases and controls, but inherent bias from confounding factors was mitigated with matching. Different patient profiles and needs possibly also led to implementation inconsistencies.

**Suggestions for Future Research:** Future research could stratify FA into subgroups and explore programme effects in reducing readmissions within patient subsets over a longer follow-up period. Targeted interventions for various subsets could be tested and inform future iterations of such programmes. Cost-benefit analysis should be conducted to determine if the savings from reduced SOC that are attributable to NICE outweighs the cost to run the programme.

**Keywords:** hospitalization; patient discharge; patient readmission; length of stay