Effect of telephone health coaching (Birmingham OwnHealth) on hospital use and associated costs: cohort study with matched controls

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Abstract

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Objectives To test the effect of a telephone health coaching service (Birmingham OwnHealth) on hospital use and associated costs.

Design Analysis of person level administrative data. Difference-in-difference analysis was done relative to matched controls.

Setting Community based intervention operating in a large English city with industry.

Participants 2698 patients recruited from local general practices before 2009 with heart failure, coronary heart disease, diabetes, or chronic obstructive pulmonary disease; and a history of inpatient or outpatient hospital use. These individuals were matched on a 1:1 basis to control patients from similar areas of England with respect to demographics, diagnoses of health conditions, previous hospital use, and a predictive risk score.

Intervention Telephone health coaching involved a personalised care plan and a series of outbound calls usually scheduled monthly. Median length of time enrolled on the service was 25.5 months. Control participants received usual healthcare in their areas, which did not include telephone health coaching.

Main outcome measures Number of emergency hospital admissions per head over 12 months after enrolment. Secondary metrics calculated over 12 months were: hospital bed days, elective hospital admissions, outpatient attendances, and secondary care costs.

Results In relation to diagnoses of health conditions and other baseline variables, matched controls and intervention patients were similar before the date of enrolment. After this point, emergency admissions increased more quickly among intervention participants than matched controls (difference 0.05 admissions per head, 95% confidence interval 0.00 to 0.09, P=0.046). Outpatient attendances also increased more quickly in the intervention group (difference 0.37 attendances per head, 0.16 to 0.58, P<0.001), as did secondary care costs (difference £175 per head, £22 to £328, P=0.025). Checks showed that we were unlikely to have missed reductions in emergency admissions because of unobserved differences between intervention and matched control groups.

Conclusions The Birmingham OwnHealth telephone health coaching intervention did not lead to the expected reductions in hospital admissions or secondary care costs over 12 months, and could have led to increases.

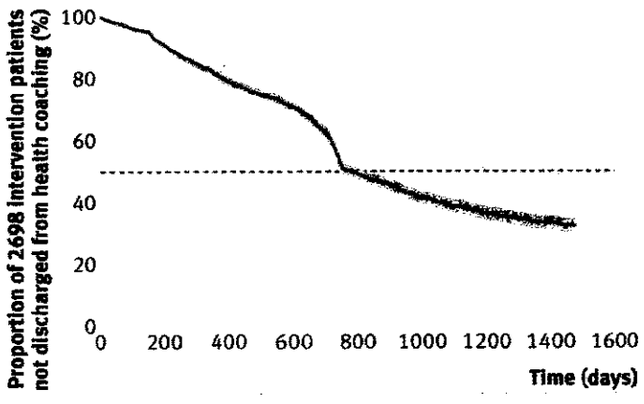

Fig 1 Length of time spent enrolled in the Birmingham OwnHealth service. Solid line=best estimate; shaded area=95% confidence interval