Care coordination for patients with chronic conditions did not reduce hospital admissions or Medicare costs

STUDY DESIGN

Design: 15 randomised controlled trials (Medicare Coordinated Care Demonstration). ClinicalTrials.gov NCT00627029
Allocation: concealed.*
Blinding: unblinded.*

STUDY QUESTION

Setting: 15 various healthcare settings in the USA.
Patients: 18 402 patients (181–2657 patients per programme) covered by fee-for-service Medicare (78% aged 65–84 y; 55% women) who had ≥1 chronic condition (eg, coronary artery disease 61%, heart failure 48%, diabetes 59%, and chronic obstructive pulmonary disease 52%). Each programme defined its own target population.
Intervention: 9427 patients were assigned to care coordination (each programme designed its own intervention) and 8975 to usual care. Although the interventions differed, most involved a care coordinator assigned to each patient who assessed patient needs, developed patient care plans, educated patients to improve adherence, and improved care coordination.
Outcomes: hospital admissions, Medicare expenditures (including negotiated programme fees of mean $225/m member per mo but not including prescriptions drugs), and quality-of-care measures. A p value <0.10 was considered statistically significant.
Follow-up period: 1–4 years (mean 30 mo).

MAIN RESULTS

Because of differences in populations, interventions, and practice environments, results were presented separately for each of the 15 care coordination programmes (table). 2 programmes showed reductions in hospital admissions by 17% and 24%; 1 programme showed a 19% increase. The intervention was probably cost neutral in 2 programmes, unlikely to be cost neutral in 4 programmes, and more costly than usual care in 9 programmes, by 8–41%. In most programmes, groups did not differ for receipt of preventive services (based on Medicare claims data).

CONCLUSION

Most care coordination programmes for Medicare beneficiaries with chronic conditions did not reduce hospital admissions, improve care, or reduce costs.

[See glossary.]
Abstract and commentary also appear in ACP Journal Club.

ABSTRACTED FROM


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| Care coordination vs usual care for Medicare beneficiaries with chronic conditions* |
|---|---|---|
| **Outcomes at mean 30 months** | **Control group (mean per patient)** | **Intervention group (relative difference from control group)** |
| Annualised hospital admissions | 0.41 to 2.15 (median 1.11) | 24% fewer to 19% more (median 1.8% fewer) |
| Monthly Medicare expenditures | US $695 to US $3419 (median US $1666) | 4.4% less to 45% more (median 11% more)† |

*Values are range of results in 15 separate trials.
†Including care coordination fees.

The interesting demonstration project reported by Peikes et al investigated whether having a single person dedicated to planning and coordinating individual care packages improved patient care. Of 15 individual programmes that were investigated, 2 claimed to reduce hospital admissions, whereas 1 showed an increase in admissions.

These conclusions highlight an important problem. The p values for these 3 results were 0.02, 0.07, and 0.04, respectively. The usual critical cutoff for p <0.05 is a convention that accepts that 1 in 20 decisions of significance may be in error. Consequently, when there is >1 test, the critical p value should be reduced, commonly done using the Bonferroni correction. For a set of 15 significance tests, the corrected critical p value would be <0.0033. Because Peikes et al chose an unconventionally lenient standard of p <0.1 as a critical value, p <0.0066 would be used for multiple testing.

So, depending on how you analyse the data, it is possible to conclude that there was no statistically significant change in hospital admissions (using the Bonferroni-corrected critical p value) or that 3 of 15 trials showed changes (using p <0.1). Which approach is correct is arguable—the first will increase the chance of missing a true difference, whereas the second will increase the chance of identifying a false difference. With a critical p value of <0.1, the probability of all 15 trials being negative is only 20% (0.914); thus, the 3 “statistically significant” findings could easily be chance findings.

Therefore, it is arguable whether any of the interventions affected hospital admission rates, either positively or negatively. This is an important finding, but it can be interpreted in 2 ways. It could indicate that personalised care coordination fails because it makes no difference to the hospital admission rate, or hospital admission may be the wrong indicator: Personalised care may have reduced unnecessary admissions for some patients but increased necessary admissions for others. Politicians see managed care as a way to reduce unnecessary costs and trim down healthcare budgets. However, managed care may decrease unnecessary care but at the same time increase necessary care; therefore, it should not be seen as a mechanism for saving money.

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