

CONFERENCE ABSTRACT

Cost-effectiveness of an Integrated Care Home Support Service in Oxfordshire, England

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Background: Multi-morbidity is an increasing threat to population health and healthcare systems. A high proportion of people living in care homes have dementia, mental illness and/or physical frailty. Thus, this population has high and complex care needs, which require substantial healthcare expenditure.

Intervention: An Integrated Care Home Support Service (CHSS) in Oxfordshire, England, combined two evidence based approaches to deliver a stepped care and treatment to meet both physical and mental health needs, called the BRIGHTER DAWN programme. These evidenced based approaches trained staff to deliver Dementia Assessment of Wellbeing and Needs (DAWN) and/or a personalised intervention focusing on Building Relationships and Individually Tailored Evaluation and Responses (BRIGHTER).

Methods: Different data sources and methods were combined in this observational study to perform an economic evaluation of the CHSS. Individual patient data (IPD) on two-year community care utilisation and time alive since admission to a care home were used to calculate community care costs and Life Years (LYs) per patient. Mahalanobis one-to-one propensity score matching (PSM) was used to match 443 residents who received DAWN and/or BrighTER with residents from a control cohort of 5,339 residents with respect to community care costs at baseline, date admitted to a care home, date of birth, mental health cluster codes, gender, and care home. Multiple imputation by predictive mean matching was used to impute missing observations in community care cost at baseline. To reduce remaining confounding, 5,000 bootstrapped samples were generated from the paired dataset and for each one, Generalised Linear Models were specified to estimate incremental community care costs and incremental LYs adjusting for confounders. Difference-in-differences analysis supplemented with inverse probability weighting for propensity score matching was performed to estimate incremental non-elective hospital costs based. A decision model was built to combine the incremental costs and effects from the two different analyses to estimate costs per LY gained and to perform probabilistic sensitivity analysis. Uncertainty was displayed in cost-effectiveness acceptability curves.

Results: The CHSS resulted to £575 higher costs and 0.04 more Lys than usual care resulting to an ICER of £13,886, which is considered to be cost-effective under conventional NICE thresholds (i.e. £20,000-£30,000). Looking at the interventions separately, DAWN was even more cost-effective (ICER=£2,081), while DAWN was less cost-effective (ICER=14,837) but still under NICE's threshold. The probability of the interventions to be cost-effective at £20,000 ceiling ration was more than 80%.

Discussion: This study demonstrated a series of methods to be used by health economists when dealing with Murphy's law in the economic evaluation of complex interventions.

Conclusion: The Integrated Care Home Support Service implemented in Oxfordshire was very likely to be cost-effective.

Lessons learned: Evidence-based, integrated, and in-reach care home services improve health outcomes at reasonable costs. These value-for-money interventions can improve efficiency in elderly care and meet the complex needs of an rapidly increasing part of the population.

Limitations: The impact of the CHSS on quality of life is not included in the economic evaluation.

Suggestions for future research: Investigate whether the cost-effectiveness results are sustainable in time and replicable in other settings.

Keywords: economic evaluation; integrated care home; multimorbidity; england
