Effect of preventive primary care outreach on health related quality of life among older adults at risk of functional decline: randomised controlled trial

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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary
The objective was to evaluate the impact of primary care outreach to prevent decline in adults aged over 75 years, who were at risk of functional decline. The authors concluded that there was insufficient evidence to support the adoption of the primary care intervention for Canadian older adults. The study was well reported and used appropriate methods. The authors’ cautious conclusions appears to be appropriate, but care should be taken when generalising the results.

Type of economic evaluation
Cost-effectiveness analysis, cost-utility analysis

Study objective
The objective was to evaluate the impact of primary care outreach to prevent decline in adults aged over 75 years, who were at risk of functional decline.

Interventions
The intervention was a 12-month primary care outreach programme implemented in Ontario, from 2004 to 2006. It consisted of a comprehensive initial assessment, delivered by experienced home care nurses; collaborative care planning; health promotion; and referral to community health and social support services. The comparator was usual care.

Location/setting
Canada/primary care.

Methods
Analytical approach:
The economic evaluation was conducted alongside a randomised controlled trial. A one-year time horizon was used, and the authors did not explicitly state the perspective.

Effectiveness data:
The effectiveness data were from the randomised controlled trial. Participants were randomised to either the outreach programme (361 people) or usual care (358 people). Multiple imputation was used for missing data. The primary outcome was quality-adjusted life-years (QALYs), measured by the Health Utilities Index (HUI)-3. This assessed health status for eight items: vision, hearing, speech, ambulation, dexterity, emotion, cognition, and pain. Participants were asked to describe their health status over the previous two weeks at the start, and at six and 12 months. Secondary outcomes, including functional status, self-rated health and death, were recorded at the start and at 12 months.

Monetary benefit and utility valuations:
The unique health states were defined by the HUI-3 questionnaire. For each health state, the utility weight was assigned using community preferences.

Measure of benefit:
The primary measure of health benefit was QALYs.

Cost data:
The analysis included the costs for health and social services and intervention delivery. Resource use was collected using the Health and Social Service Utilization Survey. Participants were asked to recall their resource use for the previous six months (for hospital admissions, emergency visits, and admission to long-term care), two weeks (for other health and social services), or four days (for prescription drugs and special treatments). The unit costs of services and drugs were from the Ontario Health and Social Service Utilization Survey (2001) and an Ontario drug formulary. All costs were reported in Canadian dollars (CAD), with some converted to UK £, Euros, and US $.

Analysis of uncertainty:
Standard deviations were reported for the resource use and cost outcomes. Confidence intervals were reported for the mean differences. A post hoc subgroup analysis was conducted to assess the differential effect of the intervention on patients with a higher or lower risk of functional decline.

Results
The mean QALYs were 0.5554 (SD 0.2621) with the outreach programme, and 0.5079 (SD 0.2820) with usual care. With multiple imputation, the mean difference in QALYs (intervention minus control) was 0.017 (95% CI -0.022 to 0.056). There were no statistically significant differences in mortality, change in functional status, and change in self-rated health, between the groups.

The total costs were CAD 7,779 (SD 7,980) with the outreach programme, and CAD 8,096 (SD 9,582) with usual care. With multiple imputation, the mean difference in costs was CAD -165 (95% CI -16,545 to 16,214).

In the subgroup analysis, there was no significant treatment effect for either the low-risk or the high-risk group, and no interaction existed between the risk groups and the treatment effect.

Authors' conclusions
The authors concluded that there was insufficient evidence to support the adoption of the primary care intervention for Canadian older adults.

CRD commentary
Interventions:
The intervention was clearly reported and comprehensively described. An appropriate comparator, standard care, was used, but it was not well described. The authors suggested that the participants in the control group may have already been receiving the key services that they needed.

Effectiveness/benefits:
The effectiveness outcomes and methods used to measure them were clearly reported and appear to have been appropriate. It was unclear if the initial utility scores were controlled for when calculating changes in utility score; the initial utilities appear to have been fairly similar, but small differences could introduce bias in the results. The results of the analysis were clearly reported. The authors suggested that the limited benefit from the intervention may have been due to comprehensive services being received with usual care; the intervention could be useful where usual care provides a more basic service.

Costs:
The perspective was not explicitly reported, but the costs were consistent with a health service provider perspective. The resource use was clearly reported. The methods used to measure resource use were open to recall bias (relying on participants' memory); the impact of this should be limited, as longer recall periods were only used for items that should be less frequent and more easily recalled. Appropriate sources, specific to Ontario, were used for the unit costs. The resource use outcomes were clearly reported, but the individual unit costs applied to these resource items were not reported. The price year was not reported, so it is unclear if the costs were adjusted for inflation.

Analysis and results:
Key details of the trial methods were reported. An appropriate method of randomisation was used, blinding of research staff was conducted, where possible, and baseline characteristics between the two groups appear to have been balanced; this should minimise the risk of bias in the results. An appropriate method was used to deal with missing data. The intervention was associated with a small positive QALY gain and cost reduction, but there was significant uncertainty in
these results, as shown by the wide confidence intervals. Further analysis of uncertainty, using bootstrapping methods, would have been useful. A larger study with greater power is required to confirm any benefits. Due to the lack of description of usual care, and the use of efficacy and cost data specific to Ontario, care should be taken when generalising these results to other settings.

Concluding remarks:
The study was well reported and used appropriate methods. The authors' cautious conclusions appears to be appropriate, but care should be taken when generalising the results.

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