Coordinating and standardizing long-term care: evaluation of the West of Scotland shared-care scheme for hypertension

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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.

Health technology
Shared general practitioner-hospital care for hypertensive patients.

Type of intervention
Treatment

Economic study type
Cost-effectiveness analysis

Study population
Outpatient and nurse practitioner clinic attenders in an urban area who have hypertension.

Setting
The practice settings were primary care, outpatient and nurse practitioner clinics. The economic study was carried out in Scotland, UK.

Dates to which data relate
The clinical data were collected between 1986 and 1989 and costs related to the same period but were reflated to 1993 prices.

Source of effectiveness data
Single study.

Link between effectiveness and cost data
Cost data were collected prospectively alongside the trial.

Study sample
The authors did not state whether power calculations determined the sample size. A total of 554 outpatient clinic attenders -considered suitable for shared care - were randomly allocated to shared care (277) or to follow-up in the outpatient clinic (277). A third group of 277 patients was selected from a nurse practitioner clinic.

Study design
A randomised controlled trial with additional analysis on a non randomised comparator group, multicentre study. Patients already attending an outpatient clinic were randomised to continue the conventional care or received shared
care. A sample of patients already attending nurse practitioner clinics were matched by age and sex with the shared care group. The randomised patients were randomised in matching pairs for age, sex and length of clinical attendance.

Ten patients in the shared care group and seven in the two other groups could not be followed-up because they died.

**Analysis of effectiveness**
The effectiveness results were based on an analysis of completers. The principal units of outcome were the numbers of patients who had a complete clinic review after two years and the acceptability of the scheme. A complete review included blood pressure measurement, serum creatinine and electrocardiograph report.

Control blood pressure was assessed using age and sex-specific targets derived from a questionnaire for the British Hypertension Society. A questionnaire for patients and general practitioners was formulated to assess the acceptability of the shared care scheme. Groups were matched for age and sex.

**Effectiveness results**
A complete review of patients was done in: 82.4%, 54.1% and 74.8% for shared, outpatient and nurse practitioner care respectively (n=267, 270, 270) (p < 0.05 for comparisons between shared and other forms of care, 95% CI of difference is 20.8 to 35.8 for shared versus outpatient care and 0.7 to 14.5 for shared versus nurse practitioner care).

Of the 218 respondents to the questionnaires who received shared care, 22% had no preference and 29.8% preferred outpatient care. After two years, 61.2% of the 147 responding GPs wanted shared care to continue and 13.6% did not; the remaining 25.2% were unsure.

**Clinical conclusions**
Shared care is an acceptable and effective approach of managing patients with hypertension.

**Measure of benefits used in the economic analysis**
Numbers of completely reviewed patients at two years.

**Direct costs**
Costs and some resource quantities were reported separately.

Health service and outpatient costs were considered: staff costs, investigation, administration and patient travel. The measurement of costs and resources was based on actual data (units of analysis and questionnaire for patients). Salary scales were used to compute a cost per consultation. Costs were not discounted. Costs were updated to 1993 levels by using the NHS inflator for health service costs.

**Indirect Costs**
Costs and quantities were reported separately. Patient time spent travelling and in the consultations was collected from the questionnaire for patients, and was valued using government estimates. Costs were not discounted. Costs were updated to 1993 prices.

**Currency**
UK Pounds sterling

**Sensitivity analysis**
This was undertaken by varying the GP consultation lengths from 5 to 20 minutes. The method used was not specified.
Estimated benefits used in the economic analysis
Complete review of patients was done in: 82.4%, 54.1% and 74.8% for shared, outpatient and nurse practitioner care respectively (n=267, 270, 270) (p < 0.05 for comparisons between shared and other forms of care, 95% CI of difference is 20.8 to 35.8 for shared versus outpatient care and 0.7 to 14.5 for shared versus nurse practitioner care).

Cost results
The total costs were: 8,988, 10,413, 8,822 for shared, outpatient and nurse practitioner care respectively.

Synthesis of costs and benefits
The average NHS cost-effectiveness ratio (cost per complete review) for the 3 types of care were: 28.72, 37.58 and 26.45 for shared, outpatient and nurse practitioner care respectively. Including patient costs the totals were: 40.86, 71.32 and 43.68.

Authors' conclusions
Shared care is a cost-effective method of long term care. There are strong economic and clinical arguments for the operation of shared care.

CRD Commentary
The non-randomised element of the nurse practitioner arm of the study must give rise to concern. However the authors did carefully match the patients in this arm of the trial. Also, no description of the randomisation was provided, but analysis of baseline characteristics did not show any failure of randomisation. The economic conclusions the authors drew are inaccurate, particularly if only NHS costs are considered. Their use of average cost per review is inappropriate. They should have used an incremental analysis (incremental costs over incremental outcomes) of shared care versus practitioner care, since this tells us how much we are paying (for each extra completed review) in adding the extra NHS resources. The incremental cost-effectiveness ratio is in the region of 50, nearly double the average cost. Including patient costs the average cost is not much greater for nurse practitioner care and given the stochastic nature of patient costs, if cost confidence intervals for the data had been calculated then there may have been no difference. Therefore, this paper does not show that nurse practitioner care is less cost effective than shared care. However, if the choice is between just outpatient and shared care then shared care is the most cost effective.

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