Training community psychiatric nurses in schizophrenia family work: a study of clinical and economic outcomes for patients and relatives
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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
The health technology examined was cognitive and behavioural therapies given by community psychiatric nurses to families caring for a person with schizophrenia. The complete package included two educational sessions, techniques for improving communication within the family, reducing relatives' criticism and over-involvement, lowering contact time between the patients and high expressed emotion (EE) relatives, increasing the social networks of family members, and setting realistic objectives. The comparator comprised only the two educational sessions about schizophrenia.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis

Study population
The study population comprised patients aged 16 to 35 years, living on a regular basis with at least one high EE relative and a recent episode of schizophrenia.

Setting
The setting was the community. The economic study was carried out in London, UK.

Dates to which data relate
The effectiveness and resource use evidence were collected prospectively in the trial. The dates during which the data were collected were not stated. The unit costs were drawn from national estimates and facility specific accounts published in 1996. The price year was not stated.

Source of effectiveness data
The effectiveness data were derived from a single study

Link between effectiveness and cost data
The costing was undertaken retrospectively on the same study population as that used in the effectiveness study.

Study sample
Power calculations to determine the sample size were not reported. Sixteen patients were assigned to the intervention group and 14 to the control group. The inclusion and exclusion criteria for the study sample were not reported.
Study design
The study was a randomised controlled trial. However, the identification of suitable patients and their induction into the trial was slower than expected. Consequently, patients were entered in the trial sequentially until each pair of therapists was working with one family. Randomisation was then instituted, but the ratio of control to experimental patients was increased in the randomisation procedure in order to balance the numbers in each group.

Follow-up was one year after the patient was discharged from hospital or had recovered from an episode in the community. The study was carried out in three centres in London, although originally only a single-centre study was to be conducted. The additional sites were invited to join due to the lack of numbers.

Twelve of the 19 relatives in the intervention group were followed up at one year. Eleven of the 15 relatives in the control group were followed up. All patients in the intervention group were followed up for relapse rates. One patient in the control group died and two spent the year in hospital. This allowed 11 to be followed up for relapse rates. No patients were lost to follow-up for the economic evaluation of the study. Clinicians and researchers, who were blind to the treatment group allocation, assessed both the patients and the relatives.

Analysis of effectiveness
The analysis was carried out on an intention to treat basis. The primary health outcomes were reduction in EE for relatives and reduction in relapse rates for patients. The investigators reported that the patients and relatives were closely matched on all variables of importance. No formal adjustment for confounding factors was made.

Effectiveness results
All relatives scored highly on EE initially.

Of the 12 relatives followed up in the intervention group, 7 changed to low EE, compared to 2 of the 11 control relatives, (Fishers exact p=0.053).

The relapse rates for the patients over one year were 4 out of 16 (25%) in the intervention group and 4 out of 11 (36%) in the control group.

Two patients in the intervention group discontinued their medication during the trial year.

Clinical conclusions
Community psychiatric nurses working in a routine service can learn the skills needed to effect beneficial changes in families caring for a schizophrenic member. Problems with medication compliance may be a confounding factor in the assessment of effectiveness.

Measure of benefits used in the economic analysis
The outcome measure used in the economic evaluation was the number of inpatient days avoided.

Direct costs
No discounting was carried out since the follow-up period was one year. The resource use and unit costs were estimated separately. The costs were estimated using actual data. Data on hospital inpatient days were obtained from general practitioner (GP) records. The costs collected in the study were for inpatient care, the community psychiatric nurse sessions and the training of community psychiatric nurses in family work. The dates over which the study was carried out were not stated. The price year was not stated, but the unit costs of health and social care were published in 1996.

Statistical analysis of costs
The mean and standard deviation (SD) of the costs were reported. It was stated that a statistical test of difference was
carried out, but further details of the type of test used were not reported.

**Indirect Costs**  
No indirect costs were included.

**Currency**  
UK pounds sterling (€).

**Sensitivity analysis**  
No sensitivity analysis was reported.

**Estimated benefits used in the economic analysis**  
Patients in the intervention group spent a mean of 61 (SD=101) days in hospital, compared with 106 (SD=142) days for the control group. Two control patients spent the whole year in hospital and one control patient spent some time in prison. The result was not statistically significant. The distribution of the data was highly skewed.

**Cost results**  
The total mean cost per patient for inpatient care was 10,996 (SD=17,951) for the intervention group and 14,938 (SD=20,191) for the control group. The mean difference was 3,942, (p non significant).

The training costs were 745 per trainee for the didactic part of the course and 1,096 for the subsequent clinical supervision. Therefore, the training cost 1,841 in total.

The mean cost of family sessions was 725 (SD=398) for 12 hours of therapy, and 120 for 2 hours of education for the controls.

**Synthesis of costs and benefits**  
The costs and benefits were not synthesised.

**Authors’ conclusions**  
The additional cost of the family sessions was more than compensated for by the lower cost of hospital care for the intervention group.

**CRD COMMENTARY - Selection of comparators**  
The choice of the comparator was not explicitly justified in the paper. You should decide whether the education-only element of the package is a relevant comparator in your own clinical setting.

Validity of estimate of effectiveness:

The analysis used a pseudo-randomisation design, which may introduce a source of bias into the estimate of effectiveness. The study sample appears to have been representative of the study population. The authors reported that the patients in the arms of the trial were comparable. They also acknowledged that the study sample size was too small to demonstrate even large differences in benefit. Although inpatient days were not distributed normally, this was not taken account of in the analysis.

Validity of estimate of benefit:

The primary economic outcome was inpatient days avoided. This was justified by reference to the findings of prior
studies. The choice of measure makes it difficult to compare the benefits of the study intervention with the benefits of other treatments funded by the health care provider.

**Validity of estimate of costs**
The perspective was not explicitly stated, but it appears to have been that of the health service. Some relevant elements of total cost were omitted from the analysis. For example, the costs of medication were not presented. It was reported that failure to follow medication routines was a factor in explaining relapse rates. Therefore, this would be expected to be an important factor in assessing the cost-effectiveness. Resource use was collected prospectively from GP notes, while the unit costs were taken from published sources.

**Other issues**
The authors compared their findings with other studies in other countries. They concluded that the findings of all studies concurred that the investment of training and time in family sessions is more than compensated for by savings in hospital inpatient costs.

**Implications of the study**
The authors recommend that family work skills be taught to community practice nurses in conjunction with medication management. A large-scale trial is needed to determine whether the effectiveness of ordinary clinical teams in reducing relatives EE is reflected in clinical and social benefits for patients.

**Source of funding**
None stated.

**Bibliographic details**
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**Other publications of related interest**

**Indexing Status**
Subject indexing assigned by CRD

**MeSH**
Chronic Disease; Community Health Nursing; Community Mental health Services; Cost-Benefit Analysis; Family Nursing /economics; Humans; Nurse-Patient Relations; Nurses /education; Nursing Process; Outcome Assessment (Health Care); Professional-Family Relations; Psychiatric Nursing; Schizophrenia /nursing

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