Comparison of outcomes of acute care in short-term residential treatment and psychiatric hospital settings

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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
Acute care in short-term residential treatment and psychiatric hospital settings.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Adults suffering from various mental illnesses and presenting in either short-term acute residential treatment programmes or psychiatric hospital programmes.

Setting
The practice settings were both short-term residential treatment and psychiatric hospital settings. The economic analysis was carried out in California, USA.

Dates to which data relate
Effectiveness and resource data were obtained between August 1993 and December 1995. No price year was stated.

Source of effectiveness data
The estimates for the costs and outcomes were obtained from a single study.

Link between effectiveness and cost data
Costing appears to have been undertaken on the effectiveness study sample. It was not clear whether cost information was collected prospectively or retrospectively.

Study sample
344 subjects received residential treatment. Of these 58% had major depression, and 16% had schizophrenia/schizoaffective disorders (53% substance-related secondary diagnosis). The mean age of subjects was 36.2 years and 52% were male. 85% were unemployed, 44% were single, 47% were divorced/separated. The group was 78% white, 9% African American, and 9% Hispanic. 174 patients received hospital care. 49% had major depression, and 30% had schizophrenia/schizoaffective disorders (52% substance-related secondary diagnosis). The mean age of this group was 36.5 years and 37% were male. 78% were unemployed and 65% were single. The group was 82% white, and 9% African American. Inclusion criteria stipulated that the subjects must be able to speak English,
must not have a substance-related primary diagnosis, and must sign a consent form. No power calculations were reported.

Study design
Prospective case-control study. 16% of original residential clients and 14% of original hospital programme clients were discharged without completing the discharge testing. 6% of original residential and 8% of hospital clients withdrew consent during the study. The length of follow-up was for four months after discharge.

Analysis of effectiveness
The analysis of the clinical study was based on treatment completers only. The primary health outcomes assessed were the severity of the clients' disturbance at the time of admission (using BASIS-32 subscales as well as SF-36 social functioning scales), the outcome of treatment (BASIS-32, SF-36), the length of stay and satisfaction with services received (CSQ-8 questionnaire). Significant differences were found by the authors between samples around gender, marital status and employment. A significant effect was found for the primary diagnostic category between samples, (p=0.01).

Effectiveness results
In terms of the severity of the clients' disturbance at the time of admission, the differences between treatment settings were not found to be statistically significant. Most measures found that the residential sample had slightly more severe symptoms on admission: 18.9 (+/- 17.2) compared with 32.9 (+/- 22.7) for the hospital group. With regard to the outcome of treatment, the two groups obtained similar levels of improvement in outcomes on discharge as well as similarities in short-term stability of treatment gains.

The mean length of stay for residential clients was 12.7 days, compared with 10.1 days for hospital clients with psychotic disorders. Patients suffering from bipolar disorders stayed 14.5 days (residential) and 9.2 days (hospital). Both groups expressed comparable levels of satisfaction with the services received. On a scale of 1 to 4, residential subjects' satisfaction scored 3.6 whereas hospital subjects scored 3.4, on average, for quality of service received.

Clinical conclusions
Short-term residential treatment is a similarly effective alternative to psychiatric hospitalisation for many voluntary adult patients.

Measure of benefits used in the economic analysis
As the effectiveness results were similar in terms of health outcomes, the benefits were expressed in terms of mean cost savings per treatment episode. As such the economic analysis was based on a cost-minimization approach.

Direct costs
Direct cost estimates for short-term acute residential treatment and psychiatric hospital programmes were obtained from Californian Medicaid reimbursement rates. A hospital perspective was adopted. Discounting was not relevant due to the short study period (less than 1 year). The price year was not stated. Costs and quantities were not reported separately.

Statistical analysis of costs
The results were reported as mean values with standard deviation. P values were provided along with F and df values although it is not clear which statistical test was employed in the cost analysis.

Indirect Costs
Currency
US dollars ($).

Sensitivity analysis
No sensitivity analysis was performed.

Estimated benefits used in the economic analysis
As the analysis was based on cost-minimization the benefits were expressed in terms of mean cost savings per treatment episode.

Cost results
Mean costs per treatment episode were:

- major depression, $1,977 (residential), $4,508 (hospital), p=0.00;
- psychosis, $2,366 (residential), $4,010 (hospital), p=0.00;
- bipolar disorder, $2,699 (residential), $3,627 (hospital), p=0.036;
- other depressive disorder, $2,300 (residential), $4,288 (hospital), p=0.00.

All cost results were therefore statistically significant.

Synthesis of costs and benefits
Costs and benefits were not combined. The results suggest that short-term residential treatment is dominant as it is as effective as hospital-based treatment, and costs less to administer.

Authors’ conclusions
Short-term residential treatment is as effective and cheaper than psychiatric hospitalisation for many voluntary adult patients.

CRD COMMENTARY - Selection of comparators
The selection of short-term residential treatment and psychiatric hospital treatment settings were justified.

Validity of estimate of measure of benefit
Benefits were expressed in terms of cost savings and primary outcomes.

Validity of estimate of costs
Adequate details of cost estimations were provided, although no price year was stated. The analysis also included statistical tests of significance.

Other issues
No sensitivity analysis or power calculations were provided. The authors admitted that the positive effects experienced
up to and after four months may not necessarily have been attributable to treatment factors. Also, study samples were not similar in a number of demographic areas which limits the validity of comparability and therefore the outcomes assessed.

**Implications of the study**
The authors stated that efforts need to be directed towards introducing cost-effective alternative treatments to hospital care. Research around this area should contain more robust economic analysis, with adequate and comparable sample sizing, randomised subject allocations, assumption testing via sensitivity analysis, as well as a synthesis between costs and benefits in terms of cost-effectiveness ratios.

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