The PRaCTiCaL study of nurse led, intensive care follow-up programmes for improving long term outcomes from critical illness: a pragmatic randomised controlled trial


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
This study investigated the costs and health effects of offering patients, who were discharged from critical care, an intensive follow-up programme led by a nurse. The authors concluded that the follow-up intervention was neither more effective, nor more cost-effective, than standard care at one year. The effectiveness outcomes of the follow-up intervention appear to be valid, but the costing methods and results were not fully reported and this makes it difficult to assess the authors’ conclusions.

Type of economic evaluation
Cost-utility analysis

Study objective
The aim was to assess the incremental costs and effects on health-related quality of life of a nurse-led follow-up programme, for patients discharged from intensive care. The patient population had a median age of 59 years, 60% were male and around 30% had either respiratory or cardiovascular system failure.

Interventions
The nurse-led follow-up programme for patients discharged from intensive care was compared with the standard clinical practice, which was no intensive intervention. The follow-up intervention was a manual-based, self-directed, physical rehabilitation programme developed by physiotherapists and led by a nurse, who formally reviewed patients at three and nine months after discharge. The full details of the programme were provided.

Location/setting
UK/out-patient.

Methods
Analytical approach:
The economic evaluation was undertaken alongside a single pragmatic, multi-centre clinical trial. The time horizon was from hospital discharge to one year after discharge. The authors did not report the study perspective.

Effectiveness data:
The clinical data were from a non-blind, prospective, pragmatic, multi-centre randomised controlled trial. The primary outcome was health-related quality of life (HRQoL) and this was measured at one year using the Short Form (SF-36) Health Survey, completed by patients. Secondary outcomes were HRQoL at six months after discharge, the incidence and severity of post-traumatic stress disorder, anxiety, and depression, the health care costs, and the mortality at six months and one year. The sample size was 286 patients and the study was adequately powered to detect significant differences in the physical component of the SF-36 at one year. An intention-to-treat approach was taken for the primary analyses, with adjustments for minimisation factors and baseline outcome measures.

Monetary benefit and utility valuations:
The health states were measured in the trial participants using the European Quality of life (EQ-5D) questionnaire and valued using UK population tariffs.

Measure of benefit:
The measure of benefit was quality-adjusted life-years (QALYs).

Cost data:
The resource types included were patient-reported health care use and clinical resources, from the review of medical charts, over one year. Both published unit costs and study-specific estimates were used to value the resource consumption. The costs were reported in UK pounds sterling (£).

Analysis of uncertainty:
Bootstrap methods were used to estimate the uncertainty around the costs, QALYs, and incremental cost per QALY ratios. Sensitivity analysis was used to test whether the results were affected by loss to follow-up.

Results
The mean costs were £7,126 for the follow-up intervention compared with £4,810 for standard practice, with a difference of £2,316 (95% CI -269 to 4,363). The mean total QALYs were 0.423 for the intervention and 0.426 for standard practice, with a difference of -0.003 (95% CI -0.065 to 0.060).

The difference in costs was significant at the 5% level, but the difference in QALYs was not.

These results were unaffected by loss to follow-up. The follow-up intervention produced similar levels of effectiveness, across all outcome measures, at a higher cost.

Authors' conclusions
The authors concluded that an intensive follow-up programme for patients discharged from critical care was neither effective, nor cost-effective, in enhancing health-related quality of life.

CRD commentary
Interventions:
The intervention and control groups were well described. The non-intervention standard care group represented the usual clinical practice across the three participating centres in the UK.

Effectiveness/benefits:
The effectiveness data were based on a pragmatic, multi-centre randomised controlled trial, which was sufficiently powered to detect meaningful differences in the primary outcome and therefore likely to have produced valid outcomes. The authors were thorough in documenting the success of randomisation, patient withdrawals from the study, and the quality of the clinical findings. The utility values were appropriately measured using the UK-recommended EQ-5D.

Costs:
There was limited reporting of the types of costs included and their measurement. This is likely to have been due to the authors focus on the extensive efficacy outcomes. The price year was not reported, nor were any cost adjustments. As the perspective was not reported, it is unclear whether all the relevant costs were included. Bootstraping was appropriately used to assess the uncertainty around the costing.

Analysis and results:
The socio-demographic characteristics and clinical data were comprehensively reported as were all the clinical outcomes for the two groups. The authors did not state the type of sensitivity analyses undertaken and they did not report the results. They acknowledged the possible reasons for the intervention having no effect and these included infrequent or late clinic follow-ups and the inclusion of short-stay critical care patients, who might have had little to gain compared with more serious long-stay patients.

Concluding remarks:
The clinical effectiveness results were comprehensive and demonstrated good internal validity, but the cost methods and results were not reported in detail. This makes it difficult to assess whether or not the authors’ conclusions reflected the economic analyses performed.
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