Steps towards cost-benefit analysis of regional neurosurgical care

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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
Surgery.

Type of intervention
Treatment.

Economic study type
Cost-utility analysis.

Study population
Patients requiring surgery for: subarachnoid haemorrhage; head injury; malignant intracranial tumour; benign intracranial tumour; non-metastatic spinal disorder and central nervous system metastasis.

Setting
The study was carried out in the United Kingdom.

Dates to which data relate

Source of effectiveness data
Single study.

Measure of benefits used in the economic analysis
Quality-adjusted life years (QALYs). The Glasgow outcome scale was used for the health state description. The Glasgow outcome scale was used as a basic method of valuation of health states. Clinicians values were used to assess the health states and these were valued by postal questionnaire at 6 months.

Direct costs
Direct costs were to the health service and included surgery (reduced long term care is discussed but is not in the summary value). Price information related to 1983/4.

Currency
UK pounds sterling (£). In the DH Register of Cost-Effectiveness Studies, the original results were reflated to 1991 using the NHS pay and prices index.
Sensitivity analysis
Sensitivity analysis was carried out using the method of single parameter variation.

Estimated benefits used in the economic analysis
Incremental QALYs (benefits not discounted) for: surgery for subarachnoid haemorrhage were 5.9; surgery for head injury were 7.9; surgery for malignant intracranial tumour were 0.034; surgery for benign intracranial tumour were 11.3; surgery for non-metastatic spinal disorder were 8 and; surgery for central nervous system metastasis were 0.12. Outcome duration was life long. Treatment side-effects were not included.

Synthesis of costs and benefits
Cost duration was less than one year. Incremental cost per QALY vs. no intervention (costs and benefits not discounted) for: surgery for subarachnoid haemorrhage was 553; surgery for head injury was 269; surgery for malignant intracranial tumour was 12,2601; surgery for benign intracranial tumour was 434; surgery for non-metastatic spinal disorder was 548 and; surgery for central nervous system metastasis was 19,632.

CRD Commentary
(This commentary was not written by CRD, but by the authors of the DH Register.) 1) The values attached to health states are arbitrary. 2) The benefits of these procedures are based on consultants' estimates of prognosis; the study needs replicating with trial evidence. 3) Discounting is absent on benefits of lifetime duration. 4) Averted costs of long term care are discussed but not included in the cost-effectiveness ratios. 5) There were no health omissions. 6) The parameters investigated by the sensitivity analysis were not adequately justified.

Bibliographic details

PubMedID
2121302

Other publications of related interest

Indexing Status
Subject indexing assigned by NLM

MeSH
Brain Diseases /mortality; Brain Neoplasms /surgery; Chronic Disease /economics; Cost-Benefit Analysis; Craniocerebral Trauma /surgery; Great Britain /epidemiology; Humans; Neurosurgery /economics; Outcome and Process Assessment (Health Care); Product Line Management /economics; Quality of Life; Regional Medical Programs /economics; Retrospective Studies; Surgery Department, Hospital /economics; Time Factors; Value of Life

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