Cost-effectiveness of cancer chemotherapy: an economic evaluation of a randomised trial in small cell lung cancer

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
Chemotherapy.

Type of intervention
Treatment.

Economic study type
Costs-effectiveness analysis.

Study population
Patients affected by terminal lung cancer.

Setting
The study was carried out in Canada.

Dates to which data relate

Source of effectiveness data
Single study.

Study sample
There is no evidence that the study sample is representative of the clinical study question. It is unknown whether power calculations were used to determine sample size. The number of patients overall was 289, with 145 in the intervention group and 144 in the control group. The percentage of patients who refused to participate was unknown.

Study design
Multi centre, randomised controlled trial (RCT). The method of randomisation was not recorded and the nature of blinding is unknown. The duration of follow-up of treatment cohort had a median <1 year. Drop out rates (percentage overall, percentage in intervention group and percentage in control group) were unknown.

Analysis of effectiveness
It was not stated whether the analysis was based on intention to treat or treatment completers. The primary outcome was mean survival. At analysis groups were not shown or adjusted to be comparable in age, sex or prognostic.
Effectiveness results
The difference in survival rates was statistically significant (p value of 0.03).

Measure of benefits used in the economic analysis
QALY gained, and life years gained. Category rating and standard gamble were used as a basic method of valuation of health states. Seven descriptive states were used for the health state description. Seven patients and 14 health workers values were used to assess the health states.

Direct costs
Direct costs were to the health service, patient and other agencies and included: chemotherapy, hospitalisation, clinic visits, radiotherapy, and patient costs. Price information related to 1984.

Currency
Canadian dollars (Can $). In the DH Register of Cost-Effectiveness Studies, the original results were converted to UK pounds sterling (£) using GDP purchasing power parities and 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
QALYs gained due to intervention were 0.392, QALYs gained due to comparator were 0.292 and incremental QALYs were 0.100 (benefits not discounted). Outcome duration was life long and treatment side-effects were included.

Synthesis of costs and benefits
Intervention and comparator cost durations were life long. Costs and benefits were not discounted. Incremental cost per life-year gained was 2365. Incremental cost per QALY was 3155. The range of incremental cost per life year was 2365 (baseline), incremental costs were negative and incremental benefits were positive (lowest values) 24243 (highest value). Sensitive parameter was rate of hospitalisation.

CRD Commentary
(This commentary was not written by CRD, but by the authors of the DH Register.) 1) There is insufficient reporting of the trial to assess the comparability of the groups or methodology, hence the extent of potential biases is unknown. 2) The costs are largely driven by hospitalisation. 3) It is uncertain how the rates of use generalise to a pragmatic setting. 4) Most costs and benefits occur within one year so discounting is unnecessary. 5) The authors state that it is unknown what survival would be with supportive care excluding chemotherapy and that such an option would be unacceptable to society! 6) The hypothesis was driven. 7) There were no health omissions. 8) The sensitivity analysis was not adequate.

Bibliographic details

PubMedID
2845011

Indexing Status
Subject indexing assigned by NLM
MeSH
Antineoplastic Combined Chemotherapy Protocols /therapeutic use; Canada; Carcinoma, Small Cell /drug therapy /economics /mortality; Cisplatin /administration & dosage; Cost-Benefit Analysis; Cyclophosphamide /administration & dosage; Doxorubicin /administration & dosage; Etoposide /administration & dosage; Hospitalization /economics; Humans; Lung Neoplasms /drug therapy /economics /mortality; Outpatient Clinics, Hospital /economics; Prognosis; Random Allocation; Retrospective Studies; Vincristine /administration & dosage

AccessionNumber
21995005206

Date bibliographic record published
06/08/1996

Date abstract record published
06/08/1996