Nonionic contrast media: economic analysis and health policy development

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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
Nonionic contrast media in radiologic imaging.

Type of intervention
Diagnosis.

Economic study type
Cost-utility analysis.

Study population
All patients, and high risk patients (30% of total).

Setting
The study was carried out in Canada.

Dates to which data relate
Price related to 1986.

Source of effectiveness data
Review of studies.

Modelling
Epidemiological cohort model (model of survival and disease).

Measure of benefits used in the economic analysis
QALYs. There were 4 descriptive states used, and authors’ values were used to assess the health states.

Direct costs
Direct costs were to the health service and included cost per dose of contrast media, and treatment of reactions. Price information related to 1986.

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 for: all patients were 29.9999; high risk patients (30% of total) were 29.9996 and; all patients were 29.9999 (benefits not discounted). QALYs gained due to comparator for: all patients were 29.9986; high risk patients (30% of total) were 29.9986 and; all patients were 29.9996 (benefits not discounted). Incremental QALYs per patient (not discounted) for: all patients were 0.0013; high risk patients (30% of total) were 0.0003 and; all patients were 0.0013. Outcome duration was 30 years and treatment side-effects were not included.

Synthesis of costs and benefits
Intervention and comparator costs duration were <1 year. Incremental cost per QALY: Use of nonionic contrast media in radiologic imaging for (costs and benefits not discounted): All patients were 41401; high risk patients (30% of total) were 14626 and; all patients were 130649. The range of incremental cost per QALY: Use of nonionic contrast media in radiologic imaging for (costs and benefits not discounted): All patients was 41400 (baseline value), with a lowest value of 41400, and highest value of 57600; High risk patients (30% of total) was 14630 (baseline value), with a lowest value of 14630, and highest value of 36890; All patients was 130700 (baseline value), and lowest value of 130700, and highest value of 203900. The sensitive parameters were reduction in risk of complications achieved by new media and relative cost of new media.

CRD Commentary
(This commentary was not written by CRD, but by the authors of the DH Register.)

1) A deliberately optimistic view is taken of the (poor) evidence concerning the new contrast media. 2) A 10-fold reduction in risk is the baseline but 3-fold reduction, in the sensitivity analysis, is more likely. 3) Perfect assignment to risk status is assumed. 4) Longer term costs of major reactions are not addressed. 5) There were no health omissions.

Bibliographic details

PubMedID
2492446

Other publications of related interest

Indexing Status
Subject indexing assigned by NLM

MeSH
Adult; Contrast Media /adverse effects; Cost-Benefit Analysis /statistics & numerical data; Decision Trees; Health Policy; Hospital Departments /economics; Humans; Ontario; Radiology Department, Hospital /economics; Risk Factors; Technology Assessment, Biomedical; Value of Life

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