Management in general practice of patients with persistent dyspepsia: a decision analysis
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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
Omeprazole followed by endoscopy (if no symptom improvement) or prompt endoscopy for management of persistent dyspepsia.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Hypothetical study population of patients with persistent and troublesome dyspeptic symptoms that justify upper gastrointestinal endoscopy. The empirical treatment group included all patients without symptoms indicating malignancy.

Setting
Primary care setting. This study was carried out in Nijmegen, the Netherlands.

Dates to which data relate
Effectiveness and resource use data were collected between 1983 and 1996. Costs were based on 1993 price levels.

Source of effectiveness data
Effectiveness data were derived from a review of previously published studies.

Modelling
A decision tree was used to model the empirical treatment strategies with calculated clinical probabilities and average costs per patient.

Outcomes assessed in the review
The review assessed the following outcome measures which were used as inputs to the decision tree: prevalences of different disorders found in patients during upper gastrointestinal endoscopy, percentage of patients who respond positively to omeprazole treatment, percentage of patients in the empirical treatment group undergoing endoscopy and symptom relief during 1 year.

Study designs and other criteria for inclusion in the review
Not stated.

**Sources searched to identify primary studies**
Not stated.

**Criteria used to ensure the validity of primary studies**
Not stated.

**Methods used to judge relevance and validity, and for extracting data**
Not stated.

**Number of primary studies included**
The number of primary studies included was approximately 36.

**Methods of combining primary studies**
Not stated.

**Investigation of differences between primary studies**
Not stated.

**Results of the review**
Prevalence values of different disorders found in patients during upper gastrointestinal endoscopy were: malignancy (2%), reflux esophagitis (16%), peptic ulcers and relevant inflammations (27%), relevant disorders (3%) and functional dyspepsia (52%). 46% of patients responded positively to the 2-week omeprazole treatment. 30% of patients relapsed, but responded positively to the 8-week omeprazole treatment. Subsequently, 26% of patients relapsed. 20% of patients underwent a third therapy, after which 8% of patients relapsed. 62% of patients in the empirical treatment group had upper gastrointestinal endoscopy. During 1 year, 57% of the patients in the control group had symptom relief, compared to 62% of patients in the empirical treatment group. When the percentage of patients with an organic disorder varied between 31% and 61%, the percentage of patients who would have an endoscopy lay between 74% and 49% and the percentage who had symptom relief lay between 61% and 68%.

**Measure of benefits used in the economic analysis**
The measure of benefits was the percentage of patients with symptom relief.

**Direct costs**
Direct costs for upper gastrointestinal endoscopy included the materials used, administrative staff and maintenance, the costs of the endoscopy equipment, charges for gastrointestinal endoscopy, charges for laboratory tests and costs for clinical consultation. Costs were not discounted. Costs and quantities were not reported separately. The quantity/cost boundary adopted was that of the health care system. The estimation of quantities and costs was based on actual data. Cost data were based on real costs from the University Hospital Nijmegen.

**Statistical analysis of costs**
Not included.
Indirect Costs
No indirect costs were included.

Currency
US dollars ($).

Sensitivity analysis
A sensitivity analysis was carried out on all clinical probabilities and medical costs.

Estimated benefits used in the economic analysis
During 1 year, 57% of the patients in the control group had symptom relief, compared to 62% of patients in the empirical treatment group.

Cost results
The average medical costs per patient in the control group during 1 year of follow-up was $590, compared to $517 in the empirical treatment group. For patients in the control group, the most expensive treatment was for those with reflux esophagitis ($1,349); the least expensive treatment was for functional dyspepsia ($342). Mean costs per patients lay between $524 and $504 in the empirical treatment group when the percentage of patients with an organic disorder varied between 31% and 61%.

Synthesis of costs and benefits
A cost-effectiveness ratio was not calculated since the empirical drug treatment increased effectiveness and generated fewer costs, and it was, thus, the dominant strategy.

Authors' conclusions
The proposed empirical drug treatment strategy for patients with persistent dyspepsia results in the performance of fewer diagnostic upper gastrointestinal endoscopies per year with greater effectiveness compared to upper gastrointestinal endoscopy followed by treatment.

CRD COMMENTARY - Selection of comparators
The rationale for the choice of the comparator was clear.

Validity of estimate of measure of benefit
The measure of benefit is likely to be valid. The choice of a 1-year time horizon for the follow-up period was not justified. A statistical analysis on the benefit results should have been added.

Validity of estimate of costs
Hospital overhead costs and indirect costs were not included, although they may be substantial. The results of the sensitivity analysis on costs could have been more extensively reported. For instance, ranges over which parameters were varied could have been included. Moreover, a statistical analysis of the costs should have been provided and p-values and confidence intervals included.

Other issues
Caution should be exercised in generalising the results because the patient population in this study was different from that of other studies. In order to further improve generalisability, more details on costs and quantities should have been
given as they are probably specific to the Nijmegen hospital or the Dutch health care system.

**Implications of the study**
A well-conducted randomised controlled trial should be undertaken to further determine which treatment strategy is best for treating patients with persistent dyspepsia in general practice.

**Source of funding**
None stated.

**Bibliographic details**

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**Other publications of related interest**

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