Improving the Quality of Published Economic Evaluations of Health Technologies Through Better Reporting of the Effectiveness Evidence (the Case of Single Trials)

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BACKGROUND
The growing concern over the cost-effectiveness of health care resulted in an increasing number of economic evaluations of health technologies. Guidelines for the conduct and reporting of analyses have been developed to improve standards, and some journals have published guidelines for authors and reviewers of economic submissions.1-3 Furthermore, there are detailed guidelines on reporting the effectiveness evidence in the medical literature.4

The quality of an economic evaluation of a health technology can only be as good as the underlying effectiveness analysis. Thus, when single-trials are used to obtain the effectiveness evidence, sufficient details should be reported in order to assess their internal and external validity.

OBJECTIVE
To investigate the quality of reporting the effectiveness evidence from single-trials within economic evaluations of health technologies, and to identify the minimum data set, to be reported in published cost-effectiveness papers.

METHODS
The NHS Economic Evaluation Database (NHS EED) is a database of structured abstracts of economic evaluations of health care, published after 1991. It is a powerful research tool because of its consistency in reporting a number of features of published economic evaluations.

We analysed the abstracts of economic evaluations, included on the NHS EED, extracting the following details on the effectiveness evidence from single-trials:

- Hypothesis/study question
- Data to which data relate
- Source of effectiveness data
- Study sample – sample size calculation
- Study design
- Analysis of effectiveness

Descriptive statistics were used in reporting the results.

RESULTS
As of July 2001, approximately 2500 abstracts of economic evaluations were available on the database. We identified 156 abstracts (over 60% of all abstracts), which were based on economic evaluations deriving the effectiveness evidence from a single study only. All these abstracts were further analysed. See Chart 1 for breakdown of abstracts according to year of publication.

Abstracts According to Year of Publication of Original Paper

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<td>2000</td>
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In 27 (18.2%) of the papers the authors did not report the dates when effectiveness data were collected.

Only 204 (13.5%) studies reported the method of determining the sample size or retrospectively calculated the power of the study. In the remaining of the papers the sample size was not justified and may have been inadequate. (See Chart 2.)

When Were the Effectiveness Data Collected?

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How Was Sample Size Determined?

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CONCLUSIONS
Our findings show that basic details are often omitted when reporting effectiveness evidence within an economic evaluation. Routine information, such as dates of the trial and patients’ baseline characteristics, are often not provided in the published paper. Quality assessment of the cost analysis is only meaningful when there is sufficient detail to judge the quality of the underlying effectiveness evidence. There is room for improvement in the reporting of economic studies and in particular the baseline characteristics of patients are too often not provided in published papers. A good quality economic evaluation should be carried out and reported with good quality economic analyses. Reporting of studies, however, is also an art, and failing in it can just be dangerous.

