A pharmacoeconomic analysis of compliance gains on antipsychotic medications
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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.

CRD summary
This study compared the impact of different compliance rates on the costs and effectiveness of atypical antipsychotics, for the treatment of schizophrenia. With equal compliance, the other effectiveness parameters were assumed to be equal. The authors concluded that increases in compliance increased effectiveness and reduced the costs. Given the scope of the study, the methods were valid and the authors’ conclusions appear to be appropriate.

Type of economic evaluation
Cost-effectiveness analysis, cost-utility analysis

Study objective
The objective was to compare the compliance rates and costs for atypical antipsychotics for the management of schizophrenia.

Interventions
The interventions were two hypothetical atypical antipsychotics for the treatment of schizophrenia. The two treatments were assumed to have equal effectiveness, but different patient compliance rates, to assess the impact of compliance.

Location/setting
Sweden/primary and secondary care.

Methods
Analytical approach:
A pharmacoeconomic discrete event simulation with a five-year time horizon was used. This was based on a published model (Heeg, et al. 2005, see ‘Other Publications of Related Interest’ below for bibliographic details) that was slightly modified for the Swedish setting. The authors reported that the third-party payer perspective was taken.

Effectiveness data:
The effectiveness data were mainly from the literature or were estimated by an expert panel. The main outcome measures were the disease severity, measured by the Positive and Negative Syndrome Scale (PANSS), and patient compliance. The two treatments were assumed to be identical, in all aspects, except compliance.

Monetary benefit and utility valuations:
Using a specific relationship (negative correlation), identified from the literature (Lenert, et al. 2004, see ‘Other Publications of Related Interest’ below for bibliographic details), the PANSS scores were translated into utility scores. The PANSS scores for patients who relapsed were from a randomised controlled trial, while those for patients who were in remission were from another study.

Measure of benefit:
Quality-adjusted life-years (QALYs) were the measure of benefit and they were discounted at an annual rate of 3%.

Cost data:
The analysis included the costs of community care, a staffed hostel, hospitalisation, and psychiatric visits. The probability of hospitalisation based on patient characteristics was reported, but the resource use data were not. The costs were from official national sources (the Regional Price List) and were reported as total categories, with unit costs provided only for psychiatric visits. All costs were reported in Swedish kronor (SEK) for the price year 2007. They
were adjusted for inflation, using the Consumer Price Index, and were discounted at an annual rate of 3%.

Analysis of uncertainty:
Sensitivity analysis was conducted, using a scenario where all partially compliant patients were assumed to be either fully compliant or fully non-compliant.

Results
An incremental analysis was conducted and the incremental costs and benefits were not combined.

Assuming a difference in compliance of 5% between the two treatment arms, the incremental QALYs were 0.021 and the cost savings were SEK 31,500. With a difference of 10%, the incremental QALYs were 0.037 and the cost savings were SEK 62,000. With a difference of 15%, the incremental QALYs were 0.062 and the cost savings were SEK 104,500. Over a five-year period, one percentage point gain in compliance resulted in cost savings of SEK 6,000 and 0.004 QALYs gained.

Assuming all patients were fully compliant or non-compliant, a 10% difference in compliance resulted in a gain of 0.053 QALYs and cost savings of SEK 118,500.

Authors' conclusions
The authors concluded that increased compliance resulted in increased effectiveness and reduced costs and so compliance should be considered when evaluating the effectiveness of antipsychotic drugs.

CRD commentary
Interventions:
Atypical antipsychotics were the general intervention. Alternative compliance rates were compared rather than the effectiveness of alternative antipsychotics.

Effectiveness/benefits:
No systematic review of the literature was reported. The databases searched by the authors and any inclusion criteria were not defined. The characteristics of the primary sources of evidence were not reported. Given this lack of detail, it is difficult to make an objective assessment of the validity of the data, but the focus on alternative compliance rates makes this less important. The derivation of the QALYs seems to have been appropriate and the methods were briefly reported.

Costs:
The costs appeared to reflect the perspective adopted. The unit costs were not presented separately from the resource quantities and the costs were presented as total categories. This reduces the transparency of the analysis and might limit its generalisability to other settings. The sources of costs, price year, and use of discounting were well reported, but the medical component of the price index would have been more appropriate for inflation adjustments rather than the Swedish Consumer Price Index. The impact of this on the results is not clear, but it was likely to be small.

Analysis and results:
The costs and benefits were clearly reported and an incremental approach was adopted. The issue of uncertainty was addressed adequately for the scope of analysis, but only limited results were presented. The authors compared their results with those of previous studies and discussed the similarities. They also highlighted the major limitations of their study.

Concluding remarks:
Given the scope of the study, the methods were valid and the authors’ conclusions appear to be appropriate.

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Other publications of related interest

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