Cost-effectiveness of pharmacy and group behavioural support smoking cessation services in Glasgow
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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 examined the cost-effectiveness of pharmacy (Starting Fresh) versus group (Smoking Concerns) behavioural support services for smoking cessation in smokers aged 16 years or older. The authors concluded that both programmes were very cost-effective from the perspective of the UK National Health Service. The study appears to have been well conducted and the multiple definitions of quit rate enhance the validity of the findings. The authors' conclusions are likely to be valid.

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

Study objective
This study examined the cost-effectiveness of pharmacy-based and group-based behavioural support services for smoking cessation for smokers aged 16 years or older.

Interventions
The pharmacy-based service to support smoking cessation (Starting Fresh) offered one-to-one support on a weekly basis and the use of nicotine replacement products. The group-based service (Smoking Concerns) involved group therapy and smoking cessation medication. This was based on the Maudsley model approach and was followed-up with pharmacy support. Starting Fresh was an easily accessible medium-intensity intervention, whilst Smoking Concerns was a higher-intensity programme, which required more commitment for group sessions. These were also compared with self-quit, which was no intervention.

Location/setting
UK/community.

Methods
Analytical approach:
The economic evaluation was based on a simple decision tree model. A very short-term four-week time horizon was considered for the cost-effectiveness analysis and a longer-term 52-week time horizon was considered for the cost-utility analysis. The authors stated that the perspective of the UK National Health Service (NHS) was adopted.

Effectiveness data:
The clinical data came from an ongoing observational study implemented in Glasgow and from published studies. The observational study provided initial data (at four weeks) on the treatment effect, based on 1,979 smokers (1,508 for Starting Fresh and 571 for Smoking Concerns), who accessed the cessation services between March and May 2007. There were differences in age, sex and other characteristics between the two groups. The primary clinical endpoint was the quit rate and, for self-quitters, this was based on published evidence for the UK and authors’ assumptions. The long-term (at one year) quit rate was based on other published studies.

Monetary benefit and utility valuations:
No details were given of the methods used to obtain the utility weights, but the total quality-adjusted life-years (QALYs) were taken directly from the literature.
Measure of benefit:
The summary benefit measure was the quit rate. A rough estimate of the expected QALYs was also calculated using published evidence and authors’ opinions.

Cost data:
The four broad categories of costs were nicotine replacement therapy (NRT), professional time, overheads, and materials. A breakdown of the cost items was provided. Resource use data were derived from the observational study using patient level data. The costs were obtained from the NHS Greater Glasgow and Clyde data. They were in UK pounds sterling (£) and the price year was 2007.

Analysis of uncertainty:
Different definitions of quitters were considered in the sensitivity analysis. While the base-case analysis classified quitters as those who were carbon monoxide-validated, alternative scenarios considered self-reported quitters or those who remained in the programme for four weeks after quitting. The quit rate was also varied by ±5%. Another scenario incorporated the additional costs to the NHS for the self-quit control group, which assumed a further general practitioner consultation and a prescription of NRT. A change in the fee paid to the pharmacists for patients who completed the programme was also assessed.

Results
The cost per participant was £0 for self-quit, £53.31 for Starting Fresh (pharmacy), and £338.54 for Smoking Concerns (group). The quit rates were 0.10 for self-quit, 0.17 for Starting Fresh, and 0.31 for Smoking Concerns. Thus, the incremental cost per quitter over self-quit was £772 for Starting Fresh and £1,612 for Smoking Concerns.

The sensitivity analysis showed that the incremental cost-effectiveness ratio of Starting Fresh ranged from £184 to £2,791 depending on the model assumptions, and that of Smoking Concerns ranged from £826 to £2,116. In general, a broader definition of quit rates resulted in more favourable cost-effectiveness ratios.

Assuming a relapse rate of 75% from four weeks to one year and a further 35% beyond one year and assuming an average gain of 1.98 QALY for permanent cessation, the cost-utility analysis showed that the incremental cost per QALY gained was £4,400 for the pharmacy service and £5,400 for the group service.

Authors’ conclusions
The authors concluded that both programmes were very cost-effective from the perspective of the UK NHS.

CRD commentary
Interventions:
The rationale for the selection of the two interventions was clear. Both were considered in the ongoing study that was used as the main source of evidence. The use of no intervention as the background comparator was appropriate as it allowed the evaluation of the active value of the two interventional strategies. A comparison between the two programmes would have been interesting, but they were directed at different target populations, as shown by the demographic characteristics of the samples.

Effectiveness/benefits:
The bulk of the clinical evidence came from an ongoing study, the interim results of which were published. Key clinical details on the baseline characteristics of the patients involved were provided, but little information on the design of the study was given. This limits the possibility of making an objective assessment of the validity of the clinical data. The other published sources of data were not clearly described. The key clinical input, which was the quit rate, was appropriately subjected to extensive sensitivity analysis. The preliminary analysis provided a rough estimate of the QALYs, which are a relevant benefit measure because they can be compared with the benefits of other interventions and they capture the interventions’ impact on both quality of life and survival.

Costs:
The analysis of costs was consistent with the perspective. The costs were presented as macro-categories. Most of the details of the cost analysis were presented in an interim report, which was available online. The price year and the
sources used to derive both the resource use and cost data were reported. The most uncertain economic estimates were varied in the sensitivity analysis. In general, the economic analysis was carried out satisfactorily.

**Analysis and results:**
The costs and benefits were appropriately synthesised using an incremental approach. The findings were clearly reported. The issue of uncertainty was restricted to the analysis of individual model inputs. This approach showed the sensitivity of the findings to the definition of quit rate, which is a critical issue in the evaluation of smoking cessation programmes. The authors compared their results with those of other interventions for smoking cessation in the UK, which reported similar results. This study was an interim analysis.

**Concluding remarks:**
The study appears to have been well conducted and the multiple definitions of quit rate enhance the validity of the findings. The authors’ conclusions are likely to be valid.

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