Enhancing cost-effective care with a patient-centric chronic obstructive pulmonary disease program
Chuang C, Levine SH, Rich J

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
The aim was to evaluate the cost-effectiveness of a programme to improve the self-management skills of patients with chronic obstructive pulmonary disease (COPD). The authors concluded that the programme produced higher quality care and was cost-effective, compared with usual management. The study was sufficiently well conducted, given its objectives and a third-party payer perspective; and the conclusions appear to be appropriate.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
To evaluate the cost-effectiveness of a programme to improve the self-management skills of patients with chronic obstructive pulmonary disease (COPD). The primary goal was to evaluate cost efficiency.

Interventions
A COPD self-management programme was compared with usual care. The programme was a face-to-face assessment by a nurse, followed by scheduled phone calls from the nurse, for education and disease management, at intervals based on the patient’s COPD stage; Body mass index, Obstruction, Dyspnoea, and Exercise (BODE) Index; and evolving condition. Educational leaflets were provided and reviewed during the phone calls. The management strategies highlighted symptom recognition and action plans according to severity.

Usual care consisted of care by a general practitioner and a pulmonary specialist, or urgent treatment in the emergency department.

Location/setting
USA/secondary care.

Methods
Analytical approach:
The cost-effectiveness analysis was based on one clinical study. The time horizon was the follow-up in the study, which was 12 months. No study perspective was stated.

Effectiveness data:
The effectiveness data were proxies for health outcomes, such as hospital admissions, length of stay and emergency department visits. These data were from the prospective cohort pilot study. Patients in the intervention group were prioritised based on a risk-stratification study, and their characteristics. Those in the control group were matched to intervention patients for age, gender, risk-stratification score, and medical delivery group. It appears that 141 patients were included in each group. The average patient age was approximately 75 years.

Monetary benefit and utility valuations:
Not relevant.

Measure of benefit:
The proxy health outcomes (hospital admissions, length of stay and emergency department visits) were the measures of
Benefit.

Cost data:
The authors calculated the average total claims, by an individual, that were paid over the 12 months of the study. These costs were reported in US $.

Analysis of uncertainty:
Comparisons between groups were made using an unpaired Student’s t-test.

Results
The average of all paid claims was $4,661 in the intervention group, and $7,070 in the control group ($p<0.001$).

Hospital admissions were 40 in the intervention group, and 57 in the control group. Bed-days were 115 in the intervention group, and 190 in the control group. Emergency department visits were 71 in the intervention group, and 92 in the control group. General practitioner visits were 887 in the intervention group, and 683 in the control group ($p<0.001$).

Authors’ conclusions
The authors concluded that the self-management programme produced higher quality care and was cost-effective, compared with usual management.

CRD commentary
Interventions:
The interventions were well described and current practice was appropriately included, which was useful for local decision-makers.

Effectiveness/benefits:
The effectiveness data were from a prospective cohort study. The patients in each group were matched for several of their characteristics, but there remains the possibility of an unknown factor that biased the results. The effectiveness outcomes were proxy health outcomes. Specific health outcomes would have been useful for a broad perspective, but from a third-party payer perspective and for the purposes of this study, the proxy outcomes may have been sufficient. It was unclear how these proxy outcomes related to patient health benefits.

Costs:
The perspective appears to have been that of a third-party payer, the medical group. This included the total payment claims for each patient. The items in these payment claims were not reported, but they should have represented all the costs relevant to the hospital. These costs may have included profits, which was appropriate for the perspective of a third-party payer, but for a broader perspective, they would not reflect the opportunity cost to society.

Analysis and results:
The analysis was adequately reported. The results were mostly well reported, but the difference between the payment claims results in the text and those in Table 1 was not clear.

Concluding remarks:
The study was sufficiently well conducted, given its objectives and a third-party payer perspective; and the conclusions appear to be appropriate.

Funding
Not stated.

Bibliographic details