Anaphylaxis is a severe life threatening acute event that can have a mortality of 0.5%. Specialist services are believed to be important in preventing recurrence and current lack of referral might mean high recurrence rates and unnecessary cost. Also, lack of timely and correct use of adrenaline injectors might lead to significant excess mortality. The study objective was therefore to assess the cost of specialist service with or without pre-scription of adrenaline injectors. METHODS: A Markov model validated by clinical experts was constructed, which modeled anaphylaxis according to trigger, either food, drug, insect or idiopathic. Anaphylaxis mortality was modeled as a function of age and time since diagnosis. Emergency response and emergency room visits were key parameters was performed. RESULTS: Standard care with injectors was dominated by specialist service with or without injectors. Specialist service with no injectors would be cost effective if the threshold for a Quality Adjusted Life Year was greater than about £740 and with injectors would be cost effective if the threshold was greater than £1800. These results were robust to all sensitivity analyses except at relatively extreme values of a small number of parameters. CONCLUSIONS: This is the first study to address the cost effectiveness of specialist service or adrenaline injectors in anaphylaxis. The results showed that specialist service with adrenaline injectors was cost effective at a threshold of £20,000 per Quality Adjusted Life Year. More well designed prospective studies on the effectiveness of specialist services are needed to confirm these findings.

Cost-effectiveness analysis of a specialist service and adrenaline injectors in anaphylaxis

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OBJECTIVES: Anaphylaxis is a severe life threatening acute event that can have a mortality of 0.5%. Specialist services are believed to be important in preventing recurrence and current lack of referral might mean high recurrence rates and unnecessary cost. Also, lack of timely and correct use of adrenaline injectors might lead to significant excess mortality. The study objective was therefore to assess the cost of specialist service with or without pre-scription of adrenaline injectors. METHODS: A Markov model validated by clinical experts was constructed, which modeled anaphylaxis according to trigger, either food, drug, insect or idiopathic. Anaphylaxis mortality was modeled as a function of age and time since diagnosis. Emergency response and emergency room visits were key parameters was performed. RESULTS: Standard care with injectors was dominated by specialist service with or without injectors. Specialist service with no injectors would be cost effective if the threshold for a Quality Adjusted Life Year was greater than about £740 and with injectors would be cost effective if the threshold was greater than £1800. These results were robust to all sensitivity analyses except at relatively extreme values of a small number of parameters. CONCLUSIONS: This is the first study to address the cost effectiveness of specialist service or adrenaline injectors in anaphylaxis. The results showed that specialist service with adrenaline injectors was cost effective at a threshold of £20,000 per Quality Adjusted Life Year. More well designed prospective studies on the effectiveness of specialist services are needed to confirm these findings.

Cost-effectiveness analysis of a secondary prevention program in patients with myocardial infarction: results from a randomized controlled trial: controlled trial

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OBJECTIVES: Participation in coronary heart disease (CHD) secondary prevention programs is low, therefore an innovative program is needed to meet this treatment gap. As a secondary aim within a large trial, the current study evaluated cost-effectiveness of a telephone-delivered secondary prevention program for myocardial infarction patients compared to usual care. METHODS: A total of 430 adult myocardial infarction patients were randomised to a six-month CHD secondary prevention ‘health coaching’ intervention or usual care condition. Primary outcome variables were health-related quality of life (SF-36) and physical activity (Active Australia Survey). Data were collected at baseline, 6 months (post-intervention) and 12 months (6 months post-intervention). A secondary cost-effectiveness analysis was conducted. Health utility (SF-6D) and health care utilisation data were collected using self-reported (GP, specialist, other health professionals, health services, and medication) and claims data (hospitalisation rates). Multiple imputation techniques were applied to adjust for missing data. Intervention effects are presented as mean difference (95% CI), p value. RESULTS: Improvements in health status (SF-6D) were observed in both groups, with no significant difference between the groups at 6 [0.012 (-0.016, 0.041), p=0.372] or 12 months [0.011 (-0.028, 0.051), p=0.738]. Patients in the health coaching group were significantly more often admitted to hospital due to causes not related to CHD (8.6%) compared to usual care (0.9%). The overall cost for the health coaching group was higher ($10,514 vs. $8,534, p=0.021), mainly due to higher hospitalisation costs ($6,841 vs. $4,984, p=0.036). The incremental cost-effectiveness ratio was $85,423 per QALY. CONCLUSIONS: Pro-Active Heart is not a cost-effective intervention compared to usual care. There was no intervention effect on SF-6D at 6 or 12 months and it resulted in significantly increased costs. This higher cost may in the future eventuate in cost savings, as patients are better monitored and health problems may be identified at an earlier stage resulting in better health outcomes.

Cost-utility analysis of rotigotine transdermal patch relative to placebo and oral dopamine agonists (ropinirole and pramipexole) in the treatment of moderate-to-severe idiopathic restless legs syndrome (RLS) from the perspective of National Health Service (NHS) Scotland

Methods: A cost-utility analysis was conducted with an economic tree in order to determine the cost per quality-adjusted life-year (QALY) gained resulting from the treatment of moderate-to-severe idiopathic RLS in 2008. Clinical, safety and quality of life data were extracted from the literature. The decision analytic model was run for a 1-year time horizon with deterministic and probabilistic sensitivity analyses. The model was run in a base-case scenario and for 2 sensitivity analyses, one with an increased discount rate and the other with an increased treatment acceptance rate and the most common adverse events. Sensitivity analyses assessed the effect of varying the time horizon to 9 months, 2 and 5 years. An annual discount rate of 3.5% was applied to costs and benefits for analysis beyond year 1.

Results: Over a 1-year period, treating patients with rotigotine would result in a total cost of €1668 per patient as compared with €606, €1152 and €1150 for placebo, ropinirole and pramipexole respectively. Treatment with rotigotine resulted in 0.842 QALYs gained compared with 0.691 for placebo, 0.753 for ropinirole and 0.780 for pramipexole. The cost per QALY gained for rotigotine was €6990 versus placebo, €5725 versus ropinirole and €9729 versus pramipexole. Sensitivity analysis has shown that the probability of rotigotine being cost-effective compared with placebo, ropinirole and pramipexole is greater than 0.9 at a willingness to pay threshold of €13,000. At a threshold of €20,000, the probability of rotigotine being more cost-effective is close to 1. Both placebo and pramipexole are less cost-effective. The first cost-utility analysis of rotigotine transdermal patch was shown to be a cost-effective treatment in patients with moderate-to-severe restless legs syndrome from the payer’s perspective (NHS Scotland).

Cost-effectiveness analysis of tolvaptan for hyponatremia in South Korea

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OBJECTIVES: To evaluate the cost-effectiveness of tolvaptan for hypervolemic or euvoilemic hyponatremia in South Korea. METHODS: A decision tree was constructed to assess the clinical and economic impact over 30 days from restricted societal perspective. A comparator was supportive care. The result was presented as the incremental cost per QALY gained. We supposed that patients would move to 3 different serum sodium levels; normonatremia (>135mEq/L), mild hyponatremia (130-135mEq/L), marked hyponatremia (130 mEq/L) after 4 days treatment. Each level had three states; discharge, continuing hospitalization and death. According to serum sodium level, Patients had difference their length of hospital stay. Uncertainty was explored with deterministic sensitivity analysis. RESULTS: The analysis showed that cost of tolvaptan was 1,358,370 KRW and supportive care was 1,396,092 KRW. The cost of tolvaptan reduced 37,722 KRW for supportive care. QALYs for tolvaptan was 0.042473, 0.0249 versus supportive care. The first cost-utility analysis of tolvaptan was dominant. The deterministic sensitivity analysis for uncertain parameters demonstrated that this analysis results were robust. CONCLUSIONS: Tolvaptan was cost-effective for hyponatremia in comparison with supportive care. The first medicine as oral vasopressin receptor antagonist, tolvaptan could increase patients’ quality of life for hyponatremia in Korean population.

Cost of hypoglycaemia in patients with diabetes in Poland

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OBJECTIVES: Estimation of indirect and selected direct costs of hypoglycaemia in patients with type 1 and type 2 diabetes in Poland. METHODS: The study was conducted at 4 Polish diabetes centres- 2 urban and 2 suburban. Anonymous questionnaire comprising 35 questions was used in direct interviews. Data were analysed at 4 Polish diabetes centres- 2 urban and 2 suburban. Results: There were on average 0.16 severe (requiring third party support) or/ and non-severe hypoglycaemia during the recall period (1month). An average total monthly cost of severe hypoglycaemia was 328.56 EUR, marked hypoglycaemia 180.31 EUR, non severe hypoglycaemia 91.11 EUR. The total cost of £1658 per patient as compared with £606, £1152 and £1055 for placebo, ropinirole and pramipexole respectively. Treatment with rotigotine resulted in 0.842 QALYs gained compared with 0.691 for placebo, 0.753 for ropinirole and 0.780 for pramipexole. The cost per QALY gained for rotigotine was €6990 versus placebo, €5725 versus ropinirole and €9729 versus pramipexole. The cost per QALY gained for rotigotine was €6990 versus placebo, €5725 versus ropinirole and €9729 versus pramipexole. The cost per QALY gained for rotigotine was €6990 versus placebo, €5725 versus ropinirole and €9729 versus pramipexole. The cost per QALY gained for rotigotine was €6990 versus placebo, €5725 versus ropinirole and €9729 versus pramipexole. The cost per QALY gained for rotigotine was €6990 versus placebo, €5725 versus ropinirole and €9729 versus pramipexole. The cost per QALY gained for rotigotine was €6990 versus placebo, €5725 versus ropinirole and €9729 versus pramipexole. The cost per QALY gained for rotigotine was €6990 versus placebo, €5725 versus ropinirole and €9729 versus pramipexole. The cost per QALY gained for rotigotine was €6990 versus placebo, €5725 versus ropinirole and €9729 versus pramipexole.