NEUROLOGICAL DISORDERS (Migraine, Alzheimer's, Dementia)

NEUROLOGICAL DISORDERS (Migraine, Alzheimer's, Dementia)—Cost Studies

PNL3

PREDICTORS FOR DIRECT AND INDIRECT COSTS IN PARKINSON'S DISEASE

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OBJECTIVES: Parkinson's disease (PD) is a frequent and chronic neurological disorder representing a growing burden for national health care budgets. We assessed independent predictors for 1) PD-specific drug costs; 2) direct non-drug costs'; and 3) indirect costs **METHODS:** We analyzed data from an ongoing prospective cost study (n = 157) within the German PD Competence Network using multivariate regression techniques. Potential predictors included sociodemographic factors, clinical data represented by the Unified Parkinson's Disease Rating Scale (UPDRS), disease severity (Hoehn&Yahr scale) and quality of life (QoL) data. PD-specific drug costs and non-drug costs were log-transformed prior to model development, resulting in multiplicative models. Indirect costs were calculated using the human capital approach. Model formulation proceeded in two steps: first, presence of indirect costs was modeled by logistic regression, and second, costs were predicted by linear regression in the subgroup of patients with indirect costs. **RESULTS:** Predictors of PD-specific drugs included age, sex, clinical state (all $p < 0.001$) and QoL ($p = 0.02$). Non-drug direct costs were predicted by disease stage $p = 0.05$ and $p < 0.001$) and QoL ($p = 0.03$). Presence of indirect costs depended on age ($p < 0.001$), UPDRS ($p = 0.03$), QoL ($p = 0.04$), presence of depression ($p = 0.02$), and falls ($p = 0.006$). The magnitude of indirect costs was predicted by UPDRS ($p = 0.003$) and falls ($p = 0.007$). Variance explained by the predictors (adjusted R-squared) ranged from 24% to 28% for all models. **CONCLUSIONS:** Based on our analysis, clinical and QoL variables are the most relevant predictors of PD cost. However, we cannot infer from this study whether improved QoL has an effect on PD costs, or is a consequence of more expensive treatment.

PNL4

NEW LEVODOPA/CARBIDOPA/ENTACAPONE (STALEVO®) RESULTS IN BETTER QUALITY OF LIFE FOR PARKINSON'S DISEASE PATIENTS AND SAVES COSTS TO THE SOCIETY

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OBJECTIVES: Studies from Europe and the USA demonstrate that entacapone + levodopa significantly improves the functionality of Parkinson's disease (PD) patients with wearing-off, and is cost-effective compared to standard of care (SOC). This study aimed to evaluate the cost-effectiveness of new levodopa/carbidopa/entacapone (Stalevo) vs. SOC in wearing-off patients in the UK. **METHODS:** Cost-utility analysis was performed using a Markov model based on Modified Hoehn and Yahr (H&Y) stages. Transition probabilities were obtained from two multinational, double-blind RCTs. Mean costs and EQ-5D utilities of local PD population were used with 3.5% discounting. NHS drug costs were obtained from MIMS. Levodopa doses and initial patient distribution by H&Y were derived from data of wearing-off patients from a Finnish cost-of-illness study. Adaptations to local setting were based on expert opinions. Mean levodopa/carbidopa/entacapone intake was 4.8 tablets/day. Both A) societal and B) the NHS perspective was considered. Costs to society included NHS costs, social costs and PD-related private expenditures. **RESULTS:** A) New levodopa/carbidopa/entacapone treatment provided significantly better quality of life (QoL) for the patients (+0.817 QALYs). Simultaneously the costs to society decreased by 8200 GBP, mainly due to savings in social costs and secondary care. The 10-year total direct costs to society were 58,400 GBP/patient on levodopa/carbidopa/entacapone. B) Per patient the 10-year costs to NHS increased by 5500 GBP, resulting in total NHS costs of 26,300 GBP. Thus, from the NHS perspective, levodopa/carbidopa/entacapone was associated with an incremental cost of 6700 GBP/QALY gained. Both results were robust to sensitivity analyses. **CONCLUSIONS:** New levodopa/carbidopa/entacapone treatment provides better QoL for wearing-off patients, simultaneously reducing the costs to UK society, compared to SOC. Although the NHS costs slightly increase, the incremental cost/QALY gained is relatively low. Therefore, from a societal, as well as NHS perspective, use of new levodopa/carbidopa/entacapone treatment in PD patients with wearing-off is economically justified.

PNL5

SOCIAL COSTS OF PARKINSON DISEASE IN ITALY

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OBJECTIVES: Retrospectively assess the total costs of Parkinson Disease (PD) in Italy from a societal perspective. **METHODS:** We dispensed a questionnaire to PD patients divided in three sections: Economic (14 items) Quality of life (36 items) Care Giver Burdens (8 items. We included 268 patients with idiopathic PD, according to the CAPIT criteria. Those patients are representative of the population of 7500 movement disorder patients referring to our medical centre. The study population were divided in 3 groups accordingly to the classification of the Hoehn and Yahr staging scale. Costs of each group were assessed. The distribution of patients is spread on all the Italian territory. **RESULTS:** The mean annual direct cost of PD is 5639.12€. Drug therapy counts for 32.8% of total cost (1849€), rehabilitation for 19.44% (1.096€), inpatient hospital care for 19.61% (1105.83€), "out of pocket" patient expenses (private visits, paid rehabilitation, home care) count for 18.53% (1044.93€), Specialist and Gp visit for 5.92% (333.84€). As the severity of the disease grows the PD costs turns form National Health System to patient "out of pocket" expenses. Costs are significantly higher when patient suffers from motor fluctuations. QoL reduces dramatically as the PD symptoms worsen. **CONCLUSIONS:** This study shows that PD represents a relevant monetary burden for the society associated to a significant worsen of QoL. The total cost of this disease, based on an estimation of 160.000 idiopathic PD patients in Italy, is about €76,000,000 per year. Moreover, due to the demographic tendency in our country we can assume an increase of this value in the coming years.

PNL6

THE HOSPITAL COSTS OF PRIMARY STROKE PATIENTS MANAGEMENT IN POLAND

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