rubles ($209) per extra patient without moderate and severe disability after 3 months of treatment. CONCLUSION: Betahistine is an appropriate alternative to cinnarizine for patients with vertigo.

**PNL9**

**COST-EFFECTIVENESS OF ALTERNATIVE POLIO IMMUNIZATION POLICIES IN SOUTH AFRICA**

Griffiths KU1, Botham L2, Schoub BD3

1Muismann Research and Consulting, Kolding, Denmark; 2Department of Health, Pretoria, South Africa; 3National Institute for Communicable Diseases, Sandringham, South Africa

OBJECTIVE: To assess the cost-effectiveness of switching from oral polio vaccine (OPV) to inactivated poliovirus vaccine (IPV), or to cease polio vaccination in routine immunization services in South Africa. METHODS: The incremental cost-effectiveness of three different polio vaccination alternatives was compared to the current schedule of six doses of OPV: (1) IPV at 2, 4, and 6 months; (2) IPV at 6, 10, 14 weeks and 18 months and (3) cessation of polio vaccination. The costs of introducing IPV in a separate vial as well as in different combination vaccines were estimated. Assumptions about IPV vaccine prices were based on indications from vaccine manufacturers. Treatment costs of polio and the costs of lost productivity were included. The health impact of OPV cessation was measured in terms of Vaccine Associated Paralytic Paralysis [VAPP] cases and Disability Adjusted Life Years [DALYs] averted. One-way sensitivity analysis was performed on the most uncertain variables. RESULTS: The use of OPV in routine immunization services is projected to result in 2.96 VAPP cases in the 2005 cohort. A switch to IPV will increase the total vaccine budget by at least 20%. The cost-effectiveness of the different IPV alternatives varies between US$118,000 and US$594,000 per discounted DALY averted. 3 doses of IPV in a 10-dose vial is the most cost-effective option. CONCLUSION: Due to the risk of VAPP, it has been recognized that when global polio eradication has been achieved, all countries must cease the use of OPV if the world is to remain polio-free. However, at the assumed vaccine prices, IPV does not appear to be cost-effective in the South African situation. The alternative of ceasing polio vaccination altogether is more economically acceptable, but the perceived risks of this alternative could be a hindrance for its implementation.

**PNL10**

**THE COSTS OF INFORMAL CARE IN NEUROLOGICAL DISORDERS IN SPAIN**

Oliva J1, Osuna R2, Lobo F1, Cabaña M1, León T1, Rejas J1

1University Carlos III of Madrid, Getafe, Madrid, Spain; 2UNED, Madrid, Spain; 3Pfizer Spain, Alcobendas, Madrid, Spain

OBJECTIVE: In addition to the costs of treatment and prevention, diseases generate other types of costs that are not always addressed. The purpose of the present work is to identify measure and evaluate the costs of informal care for neurological diseases in Spain. METHODS: The data collected in the Survey on Disabilities, Impairments, and State of Health (EDDES, for its initials in Spanish) of the National Institute of Statistics (INE) was used to estimate these costs. The EDDES is a national survey that covers all individuals residing in primary family housing. A total of 79,000 households were selected and information regarding 290,000 people was collected. We estimate that 423,188 people (1.03% of Spanish population in 2001) suffer an incapacity caused by a neurological disease: stroke, sclerosis, dementia (including Alzheimer) and Parkinson. Our estimation includes only those costs that have to do with informal care; that is, those caregivers that are not paid for their work. We estimated the opportunity cost of the time of caregivers, distinguishing if the caregiver has given up his job or has reduced the total supply of hours of work. RESULTS: The informal costs estimated range between 2402 and 2926 millions of euros (at year 2002 prices), depending on how comorbidity is handled. The estimated costs of informal care of each neurological disease were: stroke (823 to 1007); dementia (1021 to 1246); Parkinson disease (329 to 401); and multiple sclerosis (229 to 272). The estimated informal costs represent a %6.3 to %7.7 per cent of the total health care costs of the Spanish National Health System. We also estimated the informal costs per patient and disease. CONCLUSIONS: The cost of informal care in main neurological disorders is substantial, and if financed it could devote a considerable budget from the overall Spanish Health Care System expenditure.

**PNL11**

**A REVIEW OF THE ECONOMIC EVIDENCE FOR BOTULINUM TOXINS IN SPASTICITY ASSOCIATED WITH STROKE AND CEREBRAL PALSY**

Richard LJ1, Odeyemi IA2, Ward AB3

1Heron Group, Letchworth Garden City, Herts, UK; 2Allergan Ltd, High Wycombe, UK; 3North Staffordshire Rehabilitation Centre, Stoke-on-Trent, Staffordshire, UK

OBJECTIVES: To identify and summarise the economic evidence for botulinum toxins in post-stroke spasticity and spasticity associated with cerebral palsy. METHODS: Cost-effectiveness and cost-analysis studies of interventions for treatment of postictal and cerebral-palsy-related spasticity, in which at least one arm consists of a botulinum toxin, were considered for inclusion in the review. Medline, Embase, NHSEED and the proprietary Allergan Botulinum Database were searched up until February 16, 2004 for relevant studies. Additionally, conference proceedings of seven clinical and pharmacoeconomic organisations were hand searched for the period of 2001 to 2004. RESULTS: One cost-effectiveness (Wallesch 1997), two cost-consequence (Houltram 2001, Loaiza 2000) and two cost studies (Balkrishnan 2002, Radensky 2001) met the criteria for inclusion in the review. Wallesch presented the incremental cost per unit improvement in Ashworth scale, Loaiza presented quality adjusted life years and Houltram presented Modified Ashworth Scale together with several other functional measures. The cost analyses found that overall treatment costs were lower in treatment plans that included botulinum toxin A (Btx-a). Although Btx-a increased drug costs by between $750 and $1000 annually, overall treatment costs were lower due to the reduced hospitalisation and nursing facility admissions associated with Btx-a treatment. Btx-a treatment was also associated with fewer co-administered treatments, and resulted in lower treatment costs than treatment plans that did not include Btx-a. CONCLUSION: The addition of botulinum toxin to a treatment regimen appears to be cost neutral. There is a need for cost-effectiveness analyses using outcome measures with greater external validity than those identified in the studies included in the review. A cost-utility analysis based on clearly derived utilities is required.

**PNL12**

**A RETROSPECTIVE STUDY OF DRUG TREATMENT PATTERNS AMONGST UK PRIMARY CARE PATIENTS WITH RESTLESS LEGS SYNDROME (RLS) BETWEEN 1ST APRIL 2004 AND 31ST MARCH 2005**

Das Gupta R1, Chaudhuri K2

1Boehringer Ingelheim, Bracknell, Berkshire, UK; 2King’s College Hospital, London, UK