and secondary analysis, respectively. Extensive sensitivity analyses indicated that results would be robust. The most influential number of relapses avoided for the overall study population was 0.74 per patient over 2 years. The average cost-effectiveness of 44 mcg scIFNβ1a was estimated to be $107,861 per relapse avoided for the EDSS > 3.5–5.0 cohort. The average cost-effectiveness for the overall study population was estimated to be $184 per relapse avoided. Secondary analyses confirmed that results were robust to changes in key input parameters such as DMD costs, the number of relapses in untreated patients, the relative risk reduction in clinical relapse rates, the rate of adherence, and the average cost of EDSS relapse. **Conclusions:** Based on model results, the average cost-effectiveness of 44 mcg scIFNβ1a was favorable for both the overall study population and the EDSS > 3.5–5.0 cohort.

**PND4**

**A COST-UTILITY ANALYSIS OF SACRAL ANTERIOR ROOT STIMULATION (SARS) COMPARED TO MEDICAL TREATMENT IN COMPLETE SPINAL CORD INJURED PATIENTS WITH A NEUROLOGICAL BLADER**

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**OBJECTIVES:** To estimate the cost-utility of sacral anterior root stimulation (SARS), using the Finetech-Brindley device, compared to medical treatment (anticholinergics + catheterization) in complete spinal cord injured patients with a neurological bladder. **Methods:** A probabilistic Markov model was elaborated with a 10-year time horizon, one-year cycles and a 2.5% discount rate. Three irreversible states were defined: 1) treatment without urinary complication, 2) surgery for urinary complication (spincterotomy, urinary derivation); 3) death. Reversible states (urinary calculus; Finetech-Brindley device failures) were integrated in the two first irreversible states. The decision analytic review and analysis were performed to estimate the transition probabilities and Quality Adjusted Life Years (QALYs). In the perspective of the French Healthcare System, costs were estimated from a published comparative cost-effectiveness research (Neurosurgery 2014; 73: 600), and through simulations using the 2013 French prospective payment system (PMSI) classification. **Results:** In the primary analysis, the cost-utility ratio was 10.647/QALY gained. At a 30,000€ ceiling ratio, the probabilities of SARS being cost-effective were 66% and 58%, respectively. **Conclusions:** Our model shows that SARS using Finetech-Brindley device offers the most important benefit and should be considered cost-effective at a 30,000€ ceiling ratio. Despite a high uncertainty, EVPI and partial EVPI may indicate that further research would not be profitable to inform decision making.

**PND5**

**COMPARISON OF A MARKOV COHORT MODEL AND A DISCRETE-EVENT SIMULATION FOR ECONOMIC ANALYSES OF TREATMENTS FOR MULTIPLE SCLEROSIS**

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**Objective:** Multiple sclerosis (MS) is a disease with lifelong impact, making the cost-effectiveness (CE) of its treatments particularly sensitive to assumptions on disease progression and sensitivity to changes in model design. Our objective is to compare the CE of MS treatments using the classical Markov model and the discrete event-simulation (DES) model. **Methods:** A systematic review and meta-analysis were performed to estimate transition probabilities and Quality Ajusted Life Years (QALYs). In the perspective of the NHS and the DES model, aggregated cost and utility estimates were compared over varying time horizons. The average expanded disability status scale (EDSS) for the MM and the DES model; aggregated cost and utility estimates were compared. The decision analytic model was populated with real-world inputs and related to the MM and the DES model; aggregated cost and utility estimates were compared. The decision analytic model was populated with real-world inputs and related to the MM and the DES model; aggregated cost and utility estimates were compared. The decision analytic model was populated with real-world inputs and related to the MM and the DES model; aggregated cost and utility estimates were compared. The decision analytic model was populated with real-world inputs and related to the MM and the DES model; aggregated cost and utility estimates were compared. The decision analytic model was populated with real-world inputs and related to the MM and the DES model; aggregated cost and utility estimates were compared. The decision analytic model was populated with real-world inputs and related to the MM and the DES model;...