A PEG hydrogel sealant (PleuraSeal™) is used as an adjacent to standard closure of pleural air leaks during lung resection surgery and has demonstrated shorter hospital stays balanced with standard of care in 100 hypothetical patients from a UK hospital who had an air leak after lung resection surgery using the cost offset from shorter hospital stays balanced against the cost for PleuraSeal™. METHODS: We assumed the cost for PleuraSeal™ to be $60 per treatment applied to all 100 hypothetical patients compared to standard of care. We then balanced the added cost for PleuraSeal™ with the reduction in number of hospital days and subsequent costs compared with standard of care ($280/day vs. 1.7 days fewer per patient) and calculated the potential cost offsets for PleuraSeal™. RESULTS: A hospital with 100 lung resection surgery patients with air leaks can expect to save $11,588, or approximately $17 per patient when compared to standard of care as patients who had air leaks stayed in hospital an average of 1.7 days longer than those without air leaks. CONCLUSIONS: The cost for PleuraSeal™ is a compelling option for hospitals who perform lung resection surgeries as the cost of the treatment is completely offset by the reduction in air leaks and subsequent hospital stay.

ALBUTEROL AND LEVALBUTEROL USE AND SPENDING IN MEDICARE BENEFICIARIES WITH COPD

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OBJECTIVES: To compare the use and spending of these two short-acting beta agonists in a nationally representative sample of Medicare patients with COPD enrolled in Medicare Part D. The study also examines patient characteristics associated with albuterol use and compares the use of other Medications. RESULTS: Data were obtained from the 2005–2006 5% Medicare files linked to the 2006 Medicare Part D files. The sample consisted of all fee-for-service beneficiaries with COPD enrolled in stand-alone Part D plans in 2006. Patient characteristics and other COPD medication use were compared across albuterol-only users, levodopa-only users, and users of both medications. Multinomial logistic regressions identified the independent predictors for levodopa use. RESULTS: There were 3.5 times more albuterol users than levodopa users; yet total spending on levodopa was $169 million whereas on albuterol was $50 million in 2006. Levodopa-only users were more likely to be older, sicker, and reside in the South than albuterol-only users. Part B costs covered roughly four times the amount of levodopa used among patients taking levodopa only whereas albuterol-only users were more likely to use inhalers under Part D.

CONCLUSIONS: Our findings on the striking differences between levodopa and albuterol users in terms of spending, patient characteristics, geographic region, and drug formulation/device type call for further investigations into these issues as well as comparative effectiveness and cost-effectiveness studies of these agents.

COST-UTILITY ANALYSIS OF ANTI-SMOKING TREATMENTS

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OBJECTIVES: To assess cost effectiveness of Naltumab, Glutzimeter Aceta (GA) and Interferon-β in treating patients diagnosed with relapsing-remitting multiple sclerosis (RRMS) from a United States (US) patient’s perspective. METHODS: A 30-year Markov model was developed with transitions through health states based on the Kurtz Expanded Disability Status Scale (EDSS). Patient health status was defined as mild, moderate, or severe when their EDSS score was 0.0–3.5, 4.0–6.0, 6.5–9.5, respectively. The model was parameterized with data from an extensive literature review and was adjusted where necessary to 2008 values. Transition probabilities included patients initial distribution based on EDSS score, relapse rate, mortality rate, and progression rate. The total cost included direct (inpatient and outpatient admissions, office visits to physicians, examinations, medication, medical devices, alterations to the home, and informal care from family) and indirect costs (productivity losses, and early retirement). The utility considered was Quality Adjusted Life-Year (QALY). Sensitivity analyses were conducted on all the transition probabilities at a range of 2.25% to check the robustness of the result. RESULTS: Based on the result of the 31 year Markov Model, patients treated with Natalumab spend $1,104,773 to gain 10.47 QALYs, while patients treated with Interferon-β spend $880,199 to obtain 9.88 QALYs and for those patients treated with GA have to pay $907,854 to yield 7.07 QALYs, which means patients treated with Natalumab, Interferon-β or GA have to spend $105,417, $89,088, $128,409 respectively to gain one QALY. The model suggests that Interferon-β is the most cost-effective DMT agent, with an ICER of $380,634 per QALY compared with Natalumab. Compared with GA, the ICER for Interferon-β per QALY was $9,841. Sensitivity analysis showed that the results were robust to changes in all parameters. CONCLUSIONS: In our study, Interferon-β proved to be more cost effective than both Natalumab and GA for RRMS patients.

SMOKING AND WORKPLACE CONSEQUENCES: EVALUATION IN FRANCE

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OBJECTIVES: To assess cost effectiveness of Naltumab, Glutzimeter Aceta (GA) and Interferon-β in treating patients diagnosed with relapsing-remitting multiple sclerosis (RRMS) from a United States (US) patient’s perspective. METHODS: A 30-year Markov model was developed with transitions through health states based on the Kurtz Expanded Disability Status Scale (EDSS). Patient health status was defined as mild, moderate, or severe when their EDSS score was 0.0–3.5, 4.0–6.0, 6.5–9.5, respectively. The model was parameterized with data from an extensive literature review and was adjusted where necessary to 2008 values. Transition probabilities included patients initial distribution based on EDSS score, relapse rate, mortality rate, and progression rate. The total cost included direct (inpatient and outpatient admissions, office visits to physicians, examinations, medication, medical devices, alterations to the home, and informal care from family) and indirect costs (productivity losses, and early retirement). The utility considered was Quality Adjusted Life-Year (QALY). Sensitivity analyses were conducted on all the transition probabilities at a range of 2.25% to check the robustness of the result. RESULTS: Based on the result of the 31 year Markov Model, patients treated with Natalumab spend $1,104,773 to gain 10.47 QALYs, while patients treated with Interferon-β spend $880,199 to obtain 9.88 QALYs and for those patients treated with GA have to pay $907,854 to yield 7.07 QALYs, which means patients treated with Natalumab, Interferon-β or GA have to spend $105,417, $89,088, $128,409 respectively to gain one QALY. The model suggests that Interferon-β is the most cost-effective DMT agent, with an ICER of $380,634 per QALY compared with Natalumab. Compared with GA, the ICER for Interferon-β per QALY was $9,841. Sensitivity analysis showed that the results were robust to changes in all parameters. CONCLUSIONS: In our study, Interferon-β proved to be more cost effective than both Natalumab and GA for RRMS patients.