PMID15  
SOCIAL COSTS OF ROUTINE FOLLOW-UP SERVICES FOR CARDIAC IMPLANTABLE ELECTRIC DEVICES IN GERMANY AND THE UNITED KINGDOM - AND THE IMPACT OF REMOTE MONITORING  
Smola A1, Gesler M2, Stoopen C3  
1Biotronik SE & Co KG, Global Reimbursement and Health Economics, Berlin, Germany, 2Biotronik SE & Co KG, Global Sales Strategy, Berlin, Germany, 3Städtische Kliniken Neuss, Lukasfrankenhaus GmbH, Medizinische Klinik I, Neuss, Germany  
OBJECTIVES: Expert consensus recommends calendar based in-office follow up (OFU) for implantable cardioverter defibrillators (ICD) or cardiac resynchronisation therapy devices (CRT) four times a year. To estimate the societal costs of these OFUs in Germany and the UK (UK). To estimate potential cost savings from switching to home monitoring (HM), a BIOTRONIK Home Monitoring FU (HMFU) regimen.  
METHODS: Cost-base evidence-based estimations are performed. The number of in-office FU visits were combined with data on private and ambulance transport and hospital services, with costs projected until 2015.  
RESULTS: Annual cost of routine OFU in Germany is estimated to climb from EURO 106 mio (2010) to 142 mio (2015). For the UK, costs are forecast to rapidly increase from EURO 31 mio (2010) to 49 mio (2015). In Germany, patients bear the majority of the costs (61%), followed by hospital service costs (31%). In the UK, the situation is reversed with hospital costs constituting the most (84%), followed by patient travel costs (12%). The remainder is health insurance costs for ambulance transport. If 50% of all patients would attend one in-office visit annually and have their other FU visits performed with Home Monitoring, annual cost savings in 2015 could reach EURO 43.9 million in Germany and EPS 32.7 million in the UK.  
CONCLUSIONS: If the switch from OFU to HMFU is implemented the estimated annual costs of OFU can be reduced in both countries. This could be achieved over 5 years.

PMID16  
ACTIVITY-BASED COST ANALYSIS OF SPINAL FUSION PROCEDURE FROM HOSPITAL PERSPECTIVE  
Corbo M1, Marchese E2, Iliara Z3  
1Medtronic Italia, Sesto San Giovanni, Milano, Italy, 2Istituto Clinich e, Milano, Italy, 3Medtronic International, Toechenaz, Switzerland  
OBJECTIVES: Open spine surgery (OS) is associated with significant muscle trauma leading to delayed recovery, prolonged pain, and significant medical resource utilisation. Minimal Access Spinal Technologies (MAST™) aim at minimizing muscle trauma, reduce blood loss, decrease postoperative pain, and reduce length of stay in hospital (LoS), and expedite return to normal activities for the patient. The objective of this study is to determine and compare the resource consumption associated with open vs. minimal invasive surgery in patients with degenerative spinal disorder. METHODS: This activity-based cost-analysis was conducted in two Italian hospitals where patient flow and resource utilization were mapped and segmented through interviews with medical staff. Unit costs were retrieved from public and private hospital data for the following categories: 1) pre-hospitalisation (35%); 2) drugs; 3) pre-operative rooms (OR); 5) spinal implants/instrumentation; and 6) general costs. Costs were compared between pathways (open vs. MAST™) and for each phase (pre-hospitalization, hospitalization, surgery, post-surgery and follow-up). RESULTS: Both surgery and post-surgery were the most resource intensive episodes: on average post-surgery accounted for 14% of the total costs in MAST™, and 24% in OS. MAST™ was associated with less overall resource use in both hospitals, mainly driven by shorter LoS post surgery (2 vs. 4 days), less blood loss and less demanding wound care. Total hospitalization costs were €6970-8310 for MAST™ and €8021-8760 for OS. CONCLUSIONS: The study confirms published evidence on the shorter LoS with MAST™ and the economic benefits of a less invasive procedure. Despite initial higher investments (instrumentation, learning curve), the MAST™ may be an effective and cost-saving alternative to OS. Further cost savings may be incurred due to faster return to work, not investigated in this study.

PMID17  
THE ECONOMIC AND EFFICIENCY GAINS ASSOCIATED WITH THE USE OF A STANDARDISED, AUTOMATED BCR-ABL MONITORING TEST (SBAT): RESULTS FROM A BUDGET IMPACT ANALYSIS FOR THE USA  
Bacigalupo L1, Batcliffe M2, O’Hallion H3, Hegarty D3, Cross D3  
OBJECTIVES: In the US, the monitoring of patients with Chronic Myeloid Leukaemia (CML) presents extensive intra- and inter-lab variability, thus a standardised, automated test should allow for improvement in patient management and health outcomes. The aim of the study was to estimate the budget impact and improved testing accuracy associated with the use of a standardised, automated BCR-ABL monitoring test (SBAT) when compared to laboratory developed tests (LDTs) for newly diagnosed CML patients over a 5-year period in the US.  
METHODS: Epidemiology data regarding the incidence of Philadelphia positive (Ph+) CML patients who would be treated with a tyrosine kinase inhibitor (TKI) were combined with work flow cost and accuracy (sensitivity and specificity) data associated with the sequential testing and monitoring of newly diagnosed CML patients. A survey of US laboratories was conducted to determine the labour and materials costs associated with both A test in Germany and the UK are presented. As modern devices are capable to self-declare parameter deviations indicative for malfunctions or worsening disease, remote monitoring can help eliminating unnecessary visits. The presented savings are expected to be heavily underestimated due to not considering the impact of earlier event detection and improved disease outcomes. Savings could be improved by implementing automation, technologies, and frequent medical specialists capacity be re-directed to CIED patients in need of FU visits.

PMID18  
COST-EFFECTIVENESS OF IMPLANTABLE DEBRILLIATORS AFTER MYOCARDIAL INFARCTION BASED ON 8-YEAR FOLLOW-UP DATA (MADIT II)  
Gandjour A1, Haller A2, Adarshk A1  
1Pennsylvania Medical Research, Pennsylvania State University, Baton Rouge, LA, USA, 2University of Cologne, Köln, Germany, 3Maastricht University, Maastricht, The Netherlands  
OBJECTIVES: About 190,000 Germans suffer a myocardial infarction (MI) each year. Of these, 25% may be eligible for an implantable cardioverter defibrillator (ICD) due to life-threatening ventricular arrhythmia. The purpose of this study was to assess the cost-effectiveness of ICDs compared to conventional therapy in patients with an ejection fraction ≤30% after MI in Germany. METHODS: The economic evaluation was performed from the perspective of an urban statutory health insurance (SHI). In order to simulate costs and effectiveness over lifetime, a Markov model was constructed with 7 health states. The model was based on 8-year follow-up data for ICD implantation after MI (MADIT II), which were published recently. RESULTS: The analysis shows that ICD implantation compared to conventional therapy in patients fulfilling MADIT-II criteria has a cost-effectiveness ratio of €44 736 per quality-adjusted life year gained. If every patient insured by the SHI and fulfilling the MADIT-II criteria would receive an ICD, this model assumes expenditures between €173 million and €1.7 billion per year. CONCLUSIONS: ICD therapy cannot be considered cost-effective when compared to many well-accepted interventions. If policy makers decide to reimburse ICDs in the MADIT-II population, they will need to either raise premiums or abandon coverage for other currently funded medical interventions.

PMID19  
COST ANALYSIS OF RECHARGEABLE DEEP BRAIN STIMULATOR IN DYSTONIA  
Puchalla J1, Fuchs J2, Fluck L2, Ziegler R1,  
1Hôpital Gui de Chauliac, Montpellier, France, 2Medtronic, Bouloune-Billancourt, France  
OBJECTIVES: Deep brain stimulation (DBS) use in dystonia is associated with high energy needs and as such frequent replacement of the device. The first rechargeable deep brain stimulator (Activa RC) has been introduced. The objective is to perform a cost analysis of Activa RC compared to the non rechargeable neurostimulators in dystonia patients in France. METHODS: A retrospective data collection was performed in a Neurosurgery Department (Pr. Ph. Coubes - Montpellier Public Hospital) with significant experience in DBS for dystonia. The cost analysis was based on direct medical costs, from a national insurance perspective. The evaluation concerns the device and hospitalization tariffs, the procedure cost being included in the hospitalization tariffs, in France, for the public hospitals. We compared the time to replacement with non-rechargeable devices versus rechargeable device, extrapolated over 9 years. A sensitivity analysis was performed using time-to-replacement variable. RESULTS: The cohort included 63 consecutive dystonia