PM050

**OBJECTIVES:** To assess the cost-effectiveness of cardiac resynchronisation therapy (CRT) both with CRT-P (biventricular pacemaker only) and CRT-D (biventricular pacemaker and defibrillator) in patients with severe left heart failure (LHF).

**METHODS:** A Markov model was designed to calculate the cost-utility of both interventions. In the reference case, the treatment effect is based on the COMPANION trial. Costs are based on real-world data. Pharmacoeconomic guidelines were applied, including probabilistic modelling and sensitivity analyses.

**RESULTS:** Compared with optimal medical treatment, on average 1.31 quality-adjusted life-years (QALY) are gained with CRT-P at an additional cost of €14,700, resulting in an incremental cost-effectiveness ratio (ICER) of about €11,200/QALY. As compared to CRT-P, CRT-D resulted in an additional 0.075 QALYs at an additional cost of €30,900, resulting in an ICER of €75,900/QALY. This result was very sensitive to the incremental clinical benefit of the defibrillator function on top of CRT.

**CONCLUSIONS:** Based on efficiency arguments, CRT-P can be recommended for patients with moderate-to-severe heart failure. Further clinical research should focus on the added value of CRT-D over CRT-P.

PM052

**OBJECTIVES:** The potential role of molecular resonance imaging (MRI) in the diagnosis of early breast cancer (EBC) in the UK. Such procedures are associated with adverse effects.

**METHODS:** A systematic review was undertaken to evaluate the clinical effectiveness of the MRI techniques, whilst resource data use and health related utilities were obtained from the literature. **RESULTS:** Our results predict that a replacement strategy for MRI, based on the pooled estimate of all MRI techniques, dominates the baseline SNL and 4-NS strategies, as a result of avoiding AE from surgical techniques. However, this study leads to more false-positive and false-negative cases. The MRI addition strategy may also be cost-effective, but is subject to greater uncertainty. USPPI-enhanced MRI produces the most favourable cost-effectiveness ratio, but the evidence is based on studies with small patient numbers.

**CONCLUSIONS:** These results suggest that there is a potential role for MRI in the replacement of SNL or 4-NS, however, the assessment of cost-effectiveness in this scenario appears to be dependent on further research into USPPI-enhanced MRI. **VALUE IN HEALTH** 14 (2011) A233-A510

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**PM053**

**OBJECTIVES:** Early diagnosis of Alzheimer’s disease may allow for early appropriate treatment, delayed symptom aggravation, delayed nursing home placement, and health outcomes gained (0.028 QALYs) to the nearest comparator strategy are incremental costs saved (US$2340 – without considering cost of Florbetaben tracer) and Florbetaben PET appears to be cost-effective and strictly dominant: both comparator strategies result in higher long-term costs at lower health outcomes. Values of health benefits of Florbetaben PET imaging might complement routine clinical diagnostic procedures and assessment of axillary lymph node metastases in patients with EBC.

**METHODS:** A decision-analytic model using Markov cohorts to simulate Alzheimer's disease (AD) management compares, from a societal perspective, three strategies after routine clinical assessment: 1) use of Florbetaben PET to direct treatment decisions; 2) treat all approaches; 3) “wait and see” approach. **RESULTS:** Florbetaben PET appears to be cost-effective and distinctly dominant: both comparator strategies result in higher long-term costs at lower health outcomes. Values of incremental costs saved (US$2240 – without considering cost of Florbetaben tracer) and health outcomes gained (0.028 QALYs) to the nearest comparator strategy are small. **CONCLUSIONS:** Although Florbetaben PET imaging has significant upfront costs, identifying and treating patients with AD early and correctly results in overall cost savings and QALYs gained. This analysis may underestimate the true benefit of Florbetaben PET imaging because of the value of knowing early about about the pathology from the perspective of patients and caregivers is not implemented in the model – apart from medical and economic value, even emotional aspects and the opportunity for future planning should be considered. This could be subject of further research.

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**PM054**

**OBJECTIVES:** To collect real-life data on costs and resource use, in order to understand the economic burden and reference patterns of inflammatory tract infection (UTI) amongst people with spinal injury, who are in need of chronic, intermittent catheterisation.

**METHODS:** We used the CEResa database, which combines data from a public claims database for the South-West region of Sweden, comprising around 1.5 million individuals, in parallel with healthcare personnel formation remotely. **RESULTS:** The mean revenue for the centre was estimated between 1100€ (private) and, 400€ (public) per hour of total OR time. **CONCLUSIONS:** Use of “Anatomically-Designed” catheters, 73 “point-by-point” across 7 diversified French centres. Selection criteria were used to ensure comparability of procedures. In parallel an economic analysis was performed to estimate the budgetary impact in terms of DRG result for hospitals, resulting from potential increased OR activity. **RESULTS:** Reduced procedure time was observed in six out of seven participating centres. The difference in median times was 35 minutes (p < 0.0192). There was significant variation of procedures times depending on hospital status (public or private), the experience of electrophysiologists involved and the annual activity. Based on the DRG casemix produced in the rhythmology OR and the current tariffs, the average annual activity (public), the DRG result for hospitals, resulting from potential increased OR activity. **OBJECTIVES:** To evaluate the current patterns of inflammatory tract infection (UTI) amongst people with spinal injury, who are in need of chronic, intermittent catheterisation. **METHODS:** We used the CEResa database, which combines data from a public claims database for the South-West region of Sweden, comprising around 1.5 million individuals, in parallel with healthcare personnel formation remotely. **RESULTS:** We identified a population of spinal injury patients (ICD-10 S14.0, S14.2, S14.9, and T91.3) in which in addition had received a diagnosis of neurogenic bladder (ICD-10 N31.), anytime during the years 2000 to 2009. UTIs were identified through the following ICD-10 codes: N11.0, N30.0, N39.0, N39.1, N12.0 and N12.1. A cost per UTI was calculated through considering UTI-related care contacts that occurred within 14 days from each other (from 2005-07-01 onwards). **RESULTS:** We
identified 295 spinal injury patients, with a mean age at index of 44 years, an average follow-up time of 6 years, and 79% were males. For 67% of the population we observed at least one UTI, which resulted in a care contact. Interestingly, a quarter of the population used prophylactic antibiotics (01XX05), corresponding to an average of 235 DDDs per year, amongst users. A majority of UTIs were handled in primary care, while over 50% of costs were contributed by UTI-related hospitalization. The mean cost per UTI was 14,920 SEK, which varied considerably, with costs ranging from an average of 1,800 SEK for UTIs handled in primary care to 177,200 SEK for inpatient care. CONCLUSIONS: In a population of spinal injury patients, costs for catheter-associated urinary tract infections are of a large extent driven by outlier, expensive hospitalizations. There would be a potential for cost savings if these hospitalisations could be avoided.

PMDS5

RESOURCES UTILIZATION RELATED TO URINARY TRACT INFECTIONS IN SWEDISH SELF-CATHETERIZATION PATIENTS

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OBJECTIVES: To collect real-life data on costs and resource use, in order to understand the economic burden of urinary tract infection (UTI) amongst a population who has received self-catheterization training. METHODS: We used the CERCA database, which combines data from a public claims database for the South-West region of Sweden, comprising around 1.5 million individuals, with national Swedish registers on drug utilization and mortality. We identified a population of patients who had received self-catheterization training anytime between 2006 and 2009 (procedure code GB005). UTIs were identified through the following ICD-10 codes: N10.0, N10.9, N19.0, N19.9, N12.9-P, and N30.9. A cost per UTI was calculated through considering UTI-related care contacts that occurred within 14 days from each UTI. RESULTS: In total, 989 patients identified had 998 patients with a high mean age at index of 65 years, 79% males, and an average follow-up time of 1.5 years. The disease burden of this population was mainly related to the genitourinary system, like retention of urine, benign prostate hyperplasia, cystitis, and neurogenic bladder, although essential hypertonia emerged as the third most common comorbidity. We observed an average frequency of one UTI every two years, while around one-fifth of patients had a yearly UTI-frequency of one or above. A majority of UTIs were handled in primary care, while around 80% of costs were contributed by UTI-related hospitalizations. However, among female patients, inpatient care only contributed to 60% of total costs. The mean cost per UTI was 10,500 SEK, while estimates varied, with costs ranging from an average of 1,800 SEK for UTIs handled in primary care to 177,200 SEK for inpatient care.

CONCLUSIONS: A majority of UTIs were handled in primary care to 177,200 SEK for inpatient care. However, among female patients, inpatient care only contributed to 60% of total costs. The mean cost per UTI was 10,500 SEK, while estimates varied, with costs ranging from an average of 1,800 SEK for UTIs handled in primary care to 177,200 SEK for inpatient care.

PMDS6

A SYSTEMATIC LITERATURE REVIEW ON THE CLINICAL AND ECONOMIC OUTCOMES ATTRIBUTABLE TO THE USE OF HEMOSTATIC MATRIX DURING TONSILLECTOMY AND ADENOIDECECTOMY

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OBJECTIVES: Approximately 880,000 tonsillectomy/adenoideectomy procedures are performed in the US annually. Hemostatic matrix (FLOSEAL) is used for adjunctive hemostasis in a variety of surgeries, but the health economic rationale supporting its application in tonsillectomy and adenoidectomy has yet to be established. A systemic literature review was conducted in order to examine the evidence for hemostatic matrix and to consider its value in reducing the morbidity of these procedures. METHODS: Applying keywords and inclusion criteria, the PubMed, EMBASE, and Centre for Reviews and Dissemination databases were queried for studies published in English up to March 1, 2011. Reference lists and the American Academy of Otolaryngology-Head and Neck Surgery database were also manually searched. Data on costs, resource utilization, and health outcomes were extracted and summarized. RESULTS: Four prospective, randomized controlled trials provided data on 187 patients treated with hemostatic matrix. In the two studies utilizing crossover design, no patients in the hemostatic matrix groups required electrocautery, whereas 3 of 35 (9%) and 4 of 34 (12%) patients, respectively, required adjunctive hemostatic matrix intraoperatively after failing electrocautery. In all three studies measuring operating room time, use of hemostatic matrix resulted in significantly shorter mean duration ranges, 9.53 to 26.6 minutes compared to electrocautery (range, 9.53 to 32.6 minutes) (all studies, P<0.05). Although postoperative bleeding rates did not differ, hemostatic matrix-treated patients in three of four studies reported significant reductions in postoperative pain scores and narcotic consumption compared to electrocautery-treated patients (P<0.05). CONCLUSIONS: Published evidence suggests that hemostatic matrix is effective in achieving intraoperative hemostasis during tonsillectomy/adenoideectomy. Given the high volume of procedures, using hemostatic matrix during tonsillectomy and adenoidectomy instead of electrocautery may result in a cost saving of 7% of the resulting reductions in operating time and postoperative narcotic consumption. Further research may identify patients who are more likely to benefit from hemostatic matrix in this indication.

PMDS7

DATA VISUALIZATION FOR BUSINESS INTELLIGENCE: ASSESSING AN ONLINE TOOL USED FOR BENCHMARKING HOSPITAL PROCEDURE COSTS TO REIMBURSEMENT IN CARDIAC CATHETERIZATION AND ELECTROPHYSIOLOGY PROCEDURES

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OBJECTIVES: Data visualization as a form of business intelligence and knowledge discovery will democratize the use of large scale payer/claim and electronic medical records databases. The goal of this analysis was to assess the feasibility of using Tableau Software™ and Premier Perspective® to enable data mining and analytic methods for understanding hospital costs and reimbursement patterns in cardiac catheterization and electrophysiology procedures. METHODS: The Premier Perspective® database was utilized for this analysis. The Premier Perspective® database houses data from over 600 hospitals and ambulatory surgery centers across the United States. Eligible procedures were those that occurred during the year 2010 with the associated ICD-9 or CPT code for either cardiac catheterization or electrophysiology procedures. All data were imported into Tableau Software™ and dashboards were created to visualize the data by procedure, costs, and department. Summary statistics of hospital utilization, total costs, components of costs, and hospital charges for both inpatient and outpatient settings are available for exploration in a dynamic manner by each quarter in 2010. Each dashboard is hosted in a secure online environment and fully interactive allowing for dozens of different filters to be applied. RESULTS: For the year 2010 there were 1,104,936 visits of cardiac related procedures With 164,210 unique cardiac catheterization procedures and 22,263 cardiac electrophysiology procedures. Custom developed dashboards show procedures and (associated volumes) by in- and out- patient status, by ICD-9 or CPT code, department, costs and CMS reimbursement levels. This data visualization tool makes it possible to quickly see hospital cost breakdowns on dozens of different dimensions. CONCLUSIONS: Tableau Software™ is a powerful tool to enable the health outcomes researcher to have insights into complex multilevel data. Business intelligence tools developed in this manner enable visual interaction and exploration of data for rapid hypothesis generation and business intelligence.