for the three countries were used in the model. The model focused on the initial imaging, the need for further or confirmatory imaging and unnecessary or modifi- cation of the surgery. The model will be available from the model developer.

RESULTS: Using PV-MRI resulted in increased certainty in the decision-making, demonstrated by the reduced need for further imaging: 23.5% for MD-CT, 18.5% for ECCM-MRI and 8.6% for PV-MRI. There was a need for confirmatory imaging in high-risk patients for 7.6% and 5.4% in the MD-CT and ECCM-MRI groups respectively. Unnecessary surgery was performed in 3.4% of PV-MRI and 5.4% of MD-CT and ECCM-MRI patients respectively. The need for intra-operative modifi- cation of the surgical plan was 7.7% for PV-MRI, 10.5% for MD-CT and 10.3% for ECCM-MRI. The cost of imaging, unnecessary and modified surgery was 6992 for MD-CT, 6997 for ECCM-MRI and 6988 for PV-MRI. Additionally, it was, as expected, more patients undergoing potential curative surgery in the PV-MRI group (49.4% versus 47.6% for MD-CT and 45.4% for ECCM-MRI).

CONCLUSIONS: Using PV-MRI rather than ECCM-MRI and MD-CT for the initial imaging in patients with CRCLM leads to a significant reduction in unnecessary and inefficient surgery. A clinical trial, using a similar protocol as the model, is currently being analyzed. The results of the trial will be used to further validate the modeling approach and to demonstrate the impact on health outcomes.

PMD34 ECONOMIC COMPARATIVE EVALUATION OF A SURGICAL FİLM DRESSING IN THE MANAGEMENT OF POST-OPE RATİVE SURGICAL WOUNDS. AN INEXPENSIVE AND SIMPLE SOLUTION TO A COSTLY PROBLEM

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Inadequate management of post-operative surgical wounds can lead to delayed healing and complications, notably infection. Surgical site infections (SSI) have been shown to extend hospital stay by an average of 14 days. OPSITE POST-OP VISIBLE (Smith & Nephew) is a surgical film dressing that provides a waterproof, breathable, bacteria barrier for surgical wounds and allows exudate management. The visible nature of the dressing means that the wound area can be monitored without removal of the dressing. OBJECTIVES: to compare the costs and outcomes associated with the use of a surgical film dressing compared to standard treatment in the management of post-operative surgical wounds. METHODS: An economic evaluation was conducted alongside an open controlled trial conducted in 14 cen- tres throughout Spain which compared a surgical film dressing to the standard treatment with gauze dressings in the management of surgical wounds; 196 pa- tients treated with gauze and 215 with a surgical film dressing. RESULTS: SSI rates were significantly lower in patients treated with surgical film dressing compared to gauze dressings (6.6% vs. 1.4%, p = 0.004), erythemas (12.2% vs. 2.8%, p < 0.001) and weekly dressing changes (4.81 vs. 1.79 vs. 1.51 +0.087, p < 0.001). CONCLUSIONS: The cost of SSI in Spain is according to evidence published by Trueman et al. 2002.

RESULTS: In 2010, the prevalence and economic burden ranged from 77,700 and 236 million EUR in Belgium to 884,000 and 2.04 billion EUR in Japan. In 2025, the prevalence and economic burden ranged from 88,800 and 270 million EUR in Belgium to 970,000 and 2.24 billion EUR in Japan. Sensitivity analyses revealed that prevalence and economic burden were most affected by forecasted population changes. The prevalence and economic burden were forecasted based on 2010 estimates of AF prevalence. Population forecasts for the selected countries were taken from United Nations Department of Economic and Social Affairs forecasts. The adult population was adjusted for the percentage of the population with access to health care. The model assumed current age-adjusted prevalence rates would remain constant through 2025. All costs are reported in 2011 euros. One-way sensitivity analysis was performed for the health care accessible population and the country forecasted for the highest and lowest prevalence. RESULTS: In 2010, the prevalence and economic burden are forecasted to be €77,700 and €236 million in Belgium, and €884,000 and €2.04 billion in Japan. In 2025, the prevalence and economic burden are forecasted to be €88,800 and €270 million in Belgium, and €970,000 and €2.24 billion in Japan. Sensitivity analyses revealed that prevalence and economic burden were most affected by forecasted population changes.

CONCLUSIONS: AF prevalence in the five European countries was forecasted to grow substantially in both developing and developed countries. As the world’s population ages and health care becomes more accessible, the economic burden of AF will continue to rise as well.

PMD36 ANALYSIS OF PCR GUIDED PRE-EMPTIVE ANTIBIOTIC TREATMENT OF S.AUREUS-INFECTIONS: AN ANALYTIC DECISION MODEL

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OBJECTIVES: To examine whether rapid PCR-based screening is a cost efficient tool to optimize pre-emptive antibiotic therapy of methicillin resistant and methicillin sensitive S. aureus infections. METHODS: A decision analytic cost model was developed. The model was populated with data from recent literature. Sensitivity analyses were undertaken to investigate the impact of variation in MRSA rate, cost ratio of the cost of appropriate antibiotic therapy to cost of inappropriate antibiotic therapy, PCR test cost and total hospital costs per case. RESULTS: At the current MSRA-rate of 0.4% in Germany, PCR-guided treatment regimen is cost-efficient compared to empirical strategies. Costs of alternative treatment strategies differ, on average, up to € 1780 per case. A pre-emptive MSSA-treatment strategy with PCR test is the least cost at lower rates of MRSA, while a pre-emptive MSSA-treatment strategy with PCR testing is the least cost approach when the MRSA rate is greater than 53.7%. An empirical MRSA-treatment strategy is least costly when the cost ratio is less than 1.06. When the total hospital cost per MRSA-case is increased, pre-emptive MSSA-treatment with PCR test achieves the lowest average cost, and the cost dif- ference between the four treatment strategies increases. CONCLUSIONS: Early verification and adaptation of an initial pre-emptive antibiotic treatment of S. au- reus infections using PCR-based tests are advantageous in most situations to be expected in Germany and other European countries. PCR tests according to should be considered as elements in antimicrobial stewardship programs.
includes diagnosis and subsequent treatment. Whilst there are differences in the results between countries due to coding practices and population, the results are consistent over time and suggest a role of the aging population and speed up diagnosis, thus ensuring more appropriate patient management at an earlier stage.

PMD39 THE ECONOMIC BURDEN OF ATRIAL FIBRILLATION AMONG ELDERLY POPULATIONS IN SELECTED DEVELOPED COUNTRIES

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OBJECTIVES: Atrial fibrillation (AF) is an arrhythmia that progressively worsens and is characterized by uncoordinated atrial activation involving a rapid and irregular heart rate (Fuster et al., 2006). AF patients are likely to have concomitant congestive heart failure (CHF) and stroke (Lee et al., 2008). The prevalence of AF in adults 65 years old was estimated at 3%. This increase is expected to continue as the aging population grows and AF is associated with stroke. The aim of this study was to estimate the economic burden of AF in selected developed countries based on prevalence and direct health care costs.

METHODS: The economic burden of AF in Belgium, Japan, The Netherlands, and Spain was modeled based on prevalence rates identified via a literature search. Annual probabilities of receiving health care treatment and associated costs for AF, stroke, and CHF, and related disability costs were included in the model. If cost data were unavailable, they were imputed based on the ratio of annual per capita health expenditures between the US and the country of interest. Cost estimates were calculated in 2011 euros.

RESULTS: The prevalence of AF in adults aged ≥65 in the countries studied was: 59,600 in Belgium, 83,400 in the Netherlands; 182,000 in Spain; and 593,400 in Japan. The estimated annual economic burden of AF was: EUR 181.2 in Belgium; 256.6 in the Netherlands; 59,600 in Belgium; 83,400 in the Netherlands; 182,000 in Spain; and 593,400 in Japan.

CONCLUSIONS: The increased cost of SSI prevention would be probably broadly offset by the potential reduction of SSI rate including interventions which may imply the substantial reduction of SSI rate.

PMD40 BURDEN OF SSI IN GASTROINTESTINAL, CARDIAC AND ORTHOPAEDIC SURGERIES IN KOREA

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OBJECTIVES: To evaluate the burden of SSI (surgical site infection) in common surgeries in Korea. The considered surgeries: gastrointestinal surgery, coronary artery bypass grafting (CABG) and orthopaedic surgery represent the procedures with high, medium and low SSI risk.

METHODS: The analysis was conducted from the hospital perspective. Costs were evaluated on the basis of Health Insurance Review Agency (HIRA) data. Risk of SSI and the influence of SSI on hospital length of stay (LOS) were calculated according to studies from a review Lee 2011. The influence of prolonged hospitalization on expenses was obtained with an assumption that the costs are evenly distributed during the stay.

RESULTS: The risk of SSI depends on surgery type. Among the procedures considered, the highest SSI rate – 5% was related to gastric surgery and the lowest SSI rate – 1% to knee replacement. LOS in case of SSI is prolonged for about 60%. According to current data on hospitalization cost from HIRA, the influence of SSI on providers’ budget could be substantial. The estimated increase in hospitalization costs was about EUR 29 million (2.700 €) for gastrointestinal surgery, 4.3 million (3.000 €) for orthopaedic surgery and even 10 million (6.900 €) for CABG. Halving the SSI rate would reduce the mean expenses for about 1%. CONCLUSIONS: The burden of SSI in Korea is high as SSI implies the significant prolongation of LOS. The detailed analysis should then be carried out in order to define the possible ways of minimizing the infection risk. The possible range of relatively non expensive risk-reducing interventions which may imply the substantial reduction of SSI rate include the use of antimicrobial sutures, antibiotics prophylactics, a safety checklist and other. The increased cost of SSI prevention would be probably broadly offset by the decreased costs of hospital stay.

PMD41 ECONOMIC EVALUATION OF CONTINUOUS SUBCUTANEOUS INSULIN INFUSION FOR CHILDREN WITH DIABETES – A PILOT STUDY

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OBJECTIVES: To assess the cost of using continuous subcutaneous insulin infusion (CSII) to treat children with diabetes and to compare it with the changes in HbA1c (%) and BMI before and after CSII.

METHODS: A retrospective and prospective analysis of the patient’s records after the introduction of CSII was performed. Cost of CSII, blood glucose monitoring system and strips was calculated. The primary outcome measure was the HbA1c (%) and the secondary was the BMI change.

RESULTS: Subcutaneous insulin infusion (CSII) systems are of a limited usage because they are not reimbursed by the health insurance fund in the country. The university pediatric clinic is introducing them on the request of the parents and only once a year. 13 children with diabetes type 1 during the period 1999–2001 were observed (mean age 10 years, mean duration of the disease 7 years, average usage of CSII - 3 years). The CSII price is 3896 Euro and compared to the duration of usage it costs 1292 euro per patient per year. The blood glucose monitoring system costs 20 Euro and for the duration of the disease - 94 Euro per patient per year. The test strips costs 533 Euro/ year (1100 strips per year) and their average cost according to the duration of the disease is 3779.45 Euro since 2009.

CONCLUSIONS: Thus the total yearly cost weighed with the duration of the disease is 1850 Euro (30% reimbursed). The average improvement of HbA1c (%) after the CSII introduction is 1.72 and the average BMI is 1.73. CONCLUSIONS: Reduction in glycosylated hemoglobin associated with CSII led to reduced HbA1c(%) that can guarantee good diabetes management, but its control over BMI in growing children is still unclear.

PMD42 THE INCIDENCE OF THYROID CANCER AND MEDICAL COST AMONG PATIENTS WITH THYROID NODULES IN KOREA: USING HEALTH CLAIM DATABASE

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OBJECTIVES: The frequency of newly diagnosed thyroid nodule is increasing, probably because of the widespread use of ultrasonography in Korea. However, there are few researches about the incidence of thyroid cancer in patient with thyroid nodules. The objective of this study was to investigate the incidence of thyroid cancer and medical costs among patients who were newly diagnosed as thyroid nodule in South Korea.

METHODS: We analyzed national health claim database including all hospital records covering almost every population by national health insurance system. We selected patients aged 20–120 years old with thyroid nodules using ICD-10 codes of D34, E041, E042 in 2008. We excluded all patients who were previously reported to have a thyroid nodule or any type of cancer including thyroid cancer between 2006 and 2007. We conducted a follow-up survey of the selected subjects on the national health claim database at least for 2 years after diagnosis. RESULTS: We identified 283,844 eligible patients with thyroid nodules. Their mean age 48 ±13.2, and 234,388 (82.5%) subjects were female. During median follow-up of 2.4 years, 21,538 (7.6%) lower age, history of thyroid disease or diabetes was associated with the risk of thyroid cancer. Mean direct medical cost per patient paid by national insurer or shared by patient related with newly diagnosed thyroid nodules were about 475 Euros during follow up. The medical cost of thyroid nodules subjects was 274 Euros, and it was especially higher in patients with thyroidectom (1378 Euros). CONCLUSIONS: In Korea, the incidence of thyroid cancer was relatively higher, while the medical cost was much lower than other countries, suggesting that careful follow-up for thyroid nodules required in Korea. Further study is needed to identify the risk factors of thyroid cancer in patients with thyroid nodules.

PMD43 COMPARISON OF ACTUAL COSTS VERSUS DRG REVENUE OF CERVICAL ARTHROPLASTY IN PATIENTS WITH DEGENERATIVE DISC DISEASE IN GERMANY

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OBJECTIVES: Cervical degenerative disc disorders are increasingly common in adults. Patients refractory to conservative therapy require surgery for relief of pain. This micro-costing study sought to compare actual costs of index hospitalization versus DRG revenue for cervical arthroplasty (CDA) in Germany, in order to evaluate the financial profit or loss of this emerging intervention for German hospitals.

METHODS: As published data is scarce, detailed in-hospital resource utilization for 1-level or 2-level CDA was mainly based on information supplied by three experienced orthopaedic surgeons from three public German hospitals. Where available, these estimates were compared and calibrated with existing data. Unit costs collected from hospital accounting departments and information from German reference cost databases and the published literature were subsequently assigned to the respective use items for the calculation of actual hospital costs associated with CDA.

RESULTS: Average total per-patient hospital costs were estimated at €5,930 for 1-level and €8,768 for 2-level arthroplasty. Most important cost drivers were the costs of materials & disposables required for the intervention (relative contribution to total hospital costs for 1-level CDA: 44%, for 2-level CDA: 58%), followed by hospital ward costs (27%, 18%), use of operating and recovery room (15%, 13%), OR-team (8%, 7%), and diagnostic examinations (6%, 4%). With current C-DRG payments for mono-segmental CDA (€6,620) and bi-segmental CDA (€9,815), German hospitals can achieve average earnings of €600 (1-level CDA) and of €1,047 (2-level CDA) when performing this emerging disc replacement technique.

CONCLUSIONS: Our cost study indicates that 1- or 2-level CDA represents a feasible and financially sustainable surgical therapy for German hospitals. First evidence from the literature also tends to show that CDA is associated with additional long-term benefits in terms of reduced size of sick leaves compared to conventional anterior cervical disectomy and fusion.

PMD44 EVALUATING STRATEGIES FOR USING DNA TESTING TO IDENTIFY MUCINOUS PANCREATIC CYSTS

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OBJECTIVES: To estimate the costs and benefits of diagnosis strategies using DNA testing for mucinous pancreatic cysts (MPCs). METHODS: A decision tree was constructed that compared three diagnostic strategies for pancreatic cysts: 1) endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) with cyst fluid testing for carcinoembryonic antigen (CEA); 2) strategy 1 + DNA testing if the CEA is indeterminate. Probabilities of insufficient fluid, positive, negative, and, indeterminate CEA results, and positive DNA results given insufficient fluid or indeterminate results were calculated from the literature and Bayesian techniques. Costs were estimated from a US payer perspective, including all associated costs of testing and treatment. RESULTS: The strategy comparing EUS-FNA plus DNA testing is associated with a lower overall lifetime cost compared to the alternatives. CONCLUSIONS: The strategy comparing EUS-FNA plus DNA testing is more cost effective than a strategy based on cyst fluid testing alone, and is recommended for use in clinical practice.