tiveness of SNM versus OMT and BonT-A. **METHODS:** A Markov model with Monte-Carlo simulation was used to assess the ICER of SNM vs. BonT-A and OMT both in deterministic (base-case) and probabilistic (sensitivity) analysis from a provincial payer perspective over a 10-year time horizon with 9 month Markov-cycles. Clinical data, healthcare resource utilization and utility scores were acquired from recent publications and an expert panel of 7 surgeons. Cost data (2011 Dollars) were derived from provincial health insurance policy, drug benefit formulary and hospital data. All cost and outcomes were discounted at 3% rate. **RESULTS:** The annual (year 1-10) incremental QALY for SNM vs. BonT-A was 0.05-0.51 and SNM versus OMT was 0.19-1.76. The annual incremental cost of SNM versus BonT-A was $7,237 in year-1 and -$9,402 in year-10 and was between $8,878 to -$11,447 vs. OMT. In the base-case deterministic analysis, the ICER for SNM vs. BonT-A and OMT were within the acceptable range ($44,837 and $15,130 respectively) at 2nd-year of therapy, and SNM was dominant in consequent years. In the base-case analysis the probability of ICER being below the acceptability curve of (Willingness-To-Pay=$50,000) was >99% for SNM versus BonT-A at year 3 and >95% for OMT at year-2. **CONCLUSIONS:** SNM is a cost-effective treatment option for the management of patients with refractory OAB when compared to either BonT-A or OMT. From a Canadian payers' perspective, SNM should be considered as first-line treatment option in management of patients with OAB.

PMD28

COST EFFECTIVENESS OF DRUG-ELUTING STENT FOR PATIENTS UNDERGOING PERCUTANEOUS CORONARY REVASCULARIZATION IN HONG KONG

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OBJECTIVES: Drug-eluting stents (DES) reduce the need for target repeat revascularization (TVR) compared with bare metal stents (BMS) but are two to three more expensive. We aim to assess the cost-effectiveness of DES in Hong Kong. **METHODS:** Consecutive patients undergoing percutaneous coronary intervention (PCI) at our institution from September 2009 to September 2010 were evaluated. Clinical outcome was measured by the occurrence of major adverse cardiac events (MACE), including death, myocardial infarction and clinically driven TVR. Direct healthcare costs for index procedure, TVR, and follow-up costs were assessed. An EQ-5D questionnaire was used to measure quality of life for the baseline and 6 months post PCI. The main outcome was the incremental cost-effective ratio (ICER) for additional cost per TVR avoid and per quality-adjusted life-year (QALY) gained. Costs are expressed in US dollars (1USD = 7.7HKD). **RESULTS:** A total of 761 patients (DES=476, BMS=285) were evaluated. Clinically driven TVR occurred in 3.6% and 4.2% of DES and BMS patients, respectively (p=0.68). One year total healthcare costs was higher for DES patients (US$13,303) than BMS patients (US$12,075, p<0.01). Both groups experienced significant improvement in health utility score at 1 year compared to baseline but there was no significant difference between DES and BMS patients (p=0.07). QALY gained for DES and BMS patients were 0.415 and 0.375, respectively (p=0.61). The incremental cost per QALY gained was US$30,700 and per TVR avoided was US$204,667. **CONCLUSIONS:** In this real-world PCI registry, the use of DES was associated with significant improvement in quality of life and low TVR rates which were similar in comparison with BMS. Based on these results, DES can be considered cost-effective in terms of QALY gained but not for additional TVR avoided in Hong Kong.

PMD29

THE COST-EFFECTIVENESS OF DIAGNOSTIC SIGMOIDOSCOPY BEFORE COLONOSCOPY IN 40 TO 49-YEAR-OLD SYMPTOMATIC PATIENTS

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OBJECTIVES: Early diagnosis of colorectal cancer (CRC) has been shown to improve life expectancy, and colonoscopy and sigmoidoscopy are cost effective techniques for CRC diagnosis in older age groups. The objective of this study was to determine the cost-effectiveness (i.e., cost per QALY) of performing sigmoidoscopy, to check for neoplasms in the distal colon, before performing colonoscopy in a group of symptomatic 40-49 year old patients from a US societal perspective. **METHODS:** Los Angeles County colonoscopy data was reviewed for symptomatic patients without a family history of CRC to obtain neoplasm rates (N=883). Records were collected from April 2003 to April 2008. Additional parameters for the decision tree analysis were extracted from a systematic literature review. **RESULTS:** Diagnostic sigmoidoscopy (DS) followed by diagnostic colonoscopy (DC) in patients with a distal advanced neoplasm was shown to be the most cost-effective strategy (ICER=$48,368), DS followed by DC in patients with any distal neoplasm was next (ICER=$157,114), and DC for all symptomatic patients was the least cost-effective (ICER=$184,724). DS followed by DC in patients with any distal neoplasm was sometimes less cost-effective than DC for all symptomatic patients in a one-way sensitivity analysis. A threshold analysis was completed for the cost of colonoscopy. **CONCLUSIONS:** DS followed by DC in patients with distal advanced neoplasm was shown to be cost-effective at a $50,000 willingness-to-pay threshold. The other diagnostic strategies did not meet that threshold. Although, DS followed by DC in patients with any distal neoplasms nearly met a threshold of $150,000. All strategies were most sensitive to the stage of CRC at diagnosis and the prevalence of patients with advanced neoplasm. A colonoscopy cost reduction of over 40% was necessary to make DC for all symptomatic patients a cost-effective strategy at a $50,000 threshold and over 25% at a $100,000 threshold.

PMD30

COST-EFFECTIVENESS OF SCREENING AND EARLY DETECTION STRATEGIES FOR COLORECTAL CANCER IN COLOMBIA

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OBJECTIVES: To evaluate cost-effectiveness of the implementation, in Colombia, of different screening strategies for colorectal cancer (CRC): fecal occult blood stool guaiac test (OB-GT), fecal occult blood immunochemical test (OB-IT), conventional colonoscopy, sigmoidoscopy, OB-GT followed by sigmoidoscopy, and OB-IT test plus sigmoidoscopy. **METHODS:** We designed a Markov model representing the natural history of CRC in adult Colombians, for the whole lifespan of each individual, in one-year cycles, using local demographic and epidemiological data. This model was then modified for each of the screening strategies, assuming detection rates based on systematic review of the literature. Direct medical costs, from the Colombian health system perspective (third-party payer), were estimated using base-case data analysis from the Instituto Nacional de Cancerología (the Colombian national cancer reference center) and applying two different national tariff manuals (locally known as SOAT and ISS-2001). The costs assigned to each screening strategy included other diagnostic procedures included in standard protocols as well as therapy for pre-neoplasic or cancer therapy at different stages of the disease. A strategy was considered cost-effective if an incremental life year gained (LYG) costs up to three times the per capita GDP of US$6225. Discount rate was 3%, for costs and LYG. **RESULTS:** The cost in US$ per LYG differed markedly depending on the tariff manual used. In both cases, however, biennial OB-GT was cost-effective (US$10,641 and US$2,694 per LYG), compared with annual OB-GT (US$ 18,902 and US$27,237 per LYG), and biennial OB-IT (US$46.439 and US$14.040 per LYG). Other screening strategies were clearly not cost-effective under our assumptions. Probabilistic sensitivity analysis did not change results significantly. **CONCLUSIONS:** The most cost-effective screening strategy for CRC in Colombia (and the only one below our threshold) was biennial feccal occult blood guaiac test.

PMD31

COST-EFFECTIVENESS ANALYSIS OF EGFR TESTING AND GEFITINIB FOR NON-SMALL-CELL LUNG CANCER (NSCLC) IN JAPAN

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OBJECTIVES: Gefitinib, selective epidermal growth factor receptor tyrosine kinase inhibitor improves progression free survival and overall survival for non-small-cell lung cancer (NSCLC) patients. However patients with EGFR gene wild-type don't benefit from gefitinib. **METHODS:** We performed cost-effectiveness analysis of EGFR testing and gefitinib treatment as first-line therapy for NSCLC patients. In our analysis, we considered three groups:(A) gefitinib treatment for all the patients without EGFR testing, (B) chemotherapy (carboplatin / paclitaxel) for all the patients without EGFR testing, and (C) gefitinib treatment for mutation patients and chemotherapy(carboplatin / paclitaxel) for wild-type patients with EGFR testing. The cost-effectiveness of two comparison groups was calculated: group A vs. C (cost-effectiveness of EGFR testing) and and group B versus C (cost-effectiveness of gefitinib treatment with EGFR testing). Outcome of gefitinib or chemotherapy was based on Iressa Pan-Asia Study (IPASS) [Fukuoka M et al. (2011)]. Only medical costs were included from the perspective of Japanese healthcare payer (the cost of EGFR testing is JPY 20,000 (=USD 260, 1USD=JPY77). Discount wasn't performed because of short time horizon. **RESULTS:** ICER of gefitinib with EGFR testing was JPY 900,000 (USD 12,000) (group A vs. C) per life year gained (LYG) and the ICER of chemotherapy with EGFR testing was JPY 3,580,000 (USD 46,500) (group B vs. C) per LYG. The cost of EGFR testing was not influenced on the results. If the cost of EGFR testing is increased to JPY 80,000 (USD 1,000), the ICER was changed to JPY 1,100,000 (USD 14,000) (group A vs. C) per LYG and JPY 4,870,000 (USD 63,000) per LYG, respectively. **CONCLUSIONS:** EGFR testing is cost-effective, however it is not clearly shown that gefitinb is cost-effective even if EGFR testing is used. EGFR testing is also recommended from the economic perspective if gefitinib is considered to be administered.

PMD32

COST-EFFECTIVENESS OF DRUG-ELUTING STENTS VERSUS BARE-METAL STENTS FOR SINGLE- AND MULTI-VESSEL PERCUTANEOUS CORONARY INTERVENTION

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OBJECTIVES: We aim to evaluate the cost-effectiveness of drug-eluting stents (DES) in a real world setting of multi-vessel percutaneous coronary intervention (PCI). **METHODS:** We analyzed 795 consecutive patients undergoing PCI at our institution. Health outcomes was estimated in terms of quality adjusted life years (QALYs) gained measured using EQ-5D at baseline, 6 and 12 months after PCI. Total direct healthcare costs including cost of index procedure and follow-up costs incurred over 12 months were calculated. Incremental cost-effective ratio (ICER) per QALY gained was used to evaluate the cost-utility of DES. **RESULTS:** Of the 795 patients, 482, 201 and 61 patients underwent single-, 2- and 3-vessel PCI, respectively. DES was used in 62.7%, 62.6%, 58.7% and 68.9% in overall, single-, 2- and 3-vessel PCI procedures, respectively. There was progressive increase in QALY gain for patients who had PCI to 3- (0.43) than in 2- (0.40) and 1-vessel (0.39, p<0.01). DES was associated with higher 1 year total healthcare cost in all 3 groups but was more effective only in patients who underwent 2- and 3-vessel PCI with an ICER per QALY gained of US$3,131 and US$21,290, respectively. **CONCLUSIONS:** In this real-world

PCI registry, despite higher total healthcare costs, the use of DES was cost-effective in patients who underwent 2- and 3-vessel PCI than in single vessel PCI.

PMD33

COST-EFFECTIVENESS OF MOLECULAR IGE IN VITRO DIAGNOSTICS (IVD) IN CHILDREN SUSPECTED WITH PEANUT ALLERGY COMPARED TO DOUBLE BLIND PLACEBO CONTROLLED FOOD CHALLENGE (DBPCFC) IN EU, USA AND JAPAN

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OBJECTIVES: In vitro diagnostic (IVD) has a considerable health economic impact: 60% of patients' information derives from IVD tests, but IVD makes 1% of the total health care budget in EU (EDMA, 2010). No cost-effectiveness (CE) analyses are available on molecular IVD in allergy; only NICE in the UK made a CE study IgE IVD for peanut allergy (PA). Given the impact of PA on quality of life (Qaly), accurate diagnosis is crucial. 10% of children are considered peanut sensitised, but only 1-2% is true positive for PA. Subjects with IgE antibodies to allergens Ara h1-2-3 have high risk of allergic reactions (Astier, 2006). DBPCFC is the gold standard for food-allergy diagnosis; however it is time-consuming, expensive and might induce severe reactions (Nicolau, 2010). IVD can give clinicians a tool to decide the need of DBPCFC (Sastre, 2010); is IVD CE compared to DBPCFC in suspected PA children in EU, US and Japan? **METHODS:** Data was collected at Stockholm's Sach's Children's hospital (Nilsson, 2011) and from published literature. A 5-year Markov simulation model comparing IVD (ImmunoCap® - allergens f13, Ara h 1- 2-3-8-9) with DBPCFC was developed with Tree AgePro®, to analyse CE for IVD and the incremental cost per Qaly in suspected PA children. The sensitivity and specificity of each diagnostics determines the percentage of patients true-allergic, false-allergic, true-healthy and false-healthy. BaseCase® was used to interactively visualize results. Results are presented from the health care perspective; care giver indirect costs are included in a sensitivity analysis. **RESULTS:** IgE IVD is CE and cost saving for children with suspected PA in multiple countries compared to golden standard DBPCFC. **CONCLUSIONS:** IVD is a CE alternative to DBPCFC in selected patients in multiple countries. DBPCFC might be replaced in selected cases, still being useful in subjects with conflicting immunological/clinical results (Codreanu, 2011).

PMD34

COST EFFECTIVENESS MODEL: COMPARISON OF CLOSED INCISION MANAGEMENT USING NEGATIVE PRESSURE AND STANDARD OF CARE OVER CLEAN CLOSED INCISIONS BASED ON A 2012 RANDOMIZED CONTROLLED TRIAL

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OBJECTIVES: Wound complications following surgical procedures are a significant cost burden to the health care system and have been identified as one of the hospital-acquired infections not reimbursed by payers. Surgical site infections have been associated with both an increased hospital stay of 9.58 extra days and $38,656 in additional medical charges, and postoperative dehiscence can add as much as 9.42 extra days, resulting in $40,323 in additional charges. A health economic model was developed to demonstrate potential cost savings associated with using closed incision management (CIM*) to apply negative pressure wound therapy (NPWT) over clean closed surgical incisions in patients treated for an open fracture of the tibia and fibula. **METHODS:** The hypothetical economic model applied national cost dollars to clinical outcomes of the Stannard et al randomized controlled trial (RCT) using NPWT† over closed incisions. National cost data (Thomson Reuters custom report) were selected using the diagnosis codes related to the population of patients within the Stannard et al RCT, which were open fracture of the tibia and fibula with complications such as infection and dehiscence (ICD9 79.36). The infection rates (10%, 14/141 patients NPWT and 19%, 23/122 patients Control [standard of care], p=0.049) and dehiscence rates (8.6%, 12/141 NPWT and 16.5%, 20/122 Control, p=0.044) were calculated from the Stannard et al RCT and were applied to a hypothetical 100 patient population (50 CIM and 50 Control). **RESULTS:** Reduced infection and dehiscence rates in this patient population resulted in potential per patient cost savings of $5338 for infection and $1586 for dehiscence with CIM. **CONCLUSIONS:** These findings illustrate the potential cost effectiveness of CIM over closed incisions of high-risk fractures. *Prevena™ Incision Management System and †V.A.C. Therapy; KCI USA, Inc., San Antonio, TX, USA

PMD35

COST EFFECTIVENESS ANALYSIS OF DEOXYRIBONUCLEIC ACID CHIP KIT (ANDCK) FOR THE DETERMINATION OF BLOOD ERYTHROCYTE VARIANTS

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Current available methods in Mexico for blood group typing are made through a tube serological antigen/antibody reaction (TST) but has limitations due to the lack of blood weak antigens detection that generate incomplete information on blood group phenotype and potential recipient alloimmunization that can cause life threatening transfusion-related reactions as acute lung injury and hemolytic reactions. **OBJECTIVES:** To develop an economic model based in Mexican Institute of Social Security (IMSS) resource payments to evaluate the cost-effectiveness of ANDCK versus TST for the determination of blood erythrocyte variants in Mexico. **METHODS:** A two branch decision tree model was developed to evaluate and compare the cost-effectiveness in Mexican pesos (MxP) of ANDCK and TST for the determination of blood erythrocyte variants. The effectiveness measure was blood group typing errors rate obtained from published clinical trials. Resource use and cost were obtained from expert interviews and IMSS published data respectively. The model estimated cost per patient and incremental cost-effectiveness ratios (ICER). Costs and effectiveness do not were discounted. A deterministic sensitivity analysis was also performed. **RESULTS:** The rate of blood group typing errors was 0.07% for ANDCK group and 0.17% for TST group. Cost per patient was always lower with ANDCK ($2,340.00 MxP) than TST ($3,921.21 MxP) showing that ANDCK was the dominant alternative. Sensitivity analysis shows model robustness and confirms ANDCK as dominant alternative. **CONCLUSIONS:** Our results show that ANDCK is cost-effective for the determination of blood erythrocyte variants in Mexico and should be considered by clinicians and decision makers as a favorable option for the determination of blood group typing in order to avoid life threatening transfusion-related reactions.

PMD36

THE USE OF CHLORHEXIDINE GLUCONATE IMPREGNATED SPONGE DRESSINGS TO PREVENT CENTRAL-LINE ASSOCIATED BLOODSTREAM INFECTIONS AND LOCAL SITE INFECTIONS IN CANADIAN HOSPITALS: AN ECONOMIC ANALYSIS

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OBJECTIVES: The objective of the study was to evaluate the economic impact of adding the use of chlorhexidine gluconate (CHG) impregnated sponge dressings to Canadian hospitals' standard infection prevention routine. The current standard of care for catheter insertion in Canada involves hand hygiene, skin preparation and transparent film dressings. The aim of this study was to determine whether the addition of CHG impregnated sponge dressings to catheter insertion procedure was cost-effective. **METHODS:** The economic model was populated with clinical and economic data obtained from peer-reviewed literature along with case-costing data from a large Canadian hospital network. One and two way sensitivity analyses were conducted on economic and clinical parameters to ensure robustness. **RESULTS:** Based on model calculations using a hypothetical hospital with 400 in-patient beds and 20 intensive care unit beds, the use of CHG dressings would reduce the number of CLABSIs from 107 to 43 annually, and would reduce the number of local site infections from 430 to 258 annually. The model demonstrates cost savings through the reduction of CLABSI and local site infections as well as through decreased nursing costs. The model establishes that the use of CHG dressings has the potential to provide $869, 867.49 of net cost savings in one hospital per year. **CONCLUSIONS:** The use of chlorhexidine gluconate impregnated sponge dressings for central venous and arterial catheter insertion sites proves to be a cost-effective intervention in Canadian hospitals.

PMD37

THE COST-EFFECTIVENESS ANALYSIS OF CT CORONARY ANGIOGRAPHY VERSUS MYOCARDIAL SPECT FOR THE DIAGNOSIS OF ISCHEMIC HEART DISEASE IN PATIENTS WITH CHEST PAIN

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OBJECTIVES: The aim of this study is to evaluate the cost-effectiveness of CT coronary angiography (CTCA) and myocardial SPECT for ischemic heart disease in patients with chest pain. **METHODS:** We assessed cost-effective of CTCA and myocardial SPECT for patients with intermediate risk with pre-test likelihood of 10-90. The model was analyzed by using diagnosis accuracy and QALY. The model using diagnosis accuracy used the number of patients accurately diagnosed among 1000 persons as the effect, and reflecting only the medical expenses for tests as the cost. In the model using QALY, a decision tree was developed and the time horizon was 1 year. Utility weights were calculated using questionnaires for each case from general population. Costs were calculated through analysis of Health Insurance Review & Assessment Service claim data and transition probabilities were estimated from retrospective cohort data. Analyses were conducted from the Healthcare system perspectives. **RESULTS:** In the model using diagnosis accuracy, CTCA appeared to be more effective (224.41 correct diagnosis) and even less expensive (US$58,819 per 1,000 persons) than myocardial SPECT proposed to be the dominate alternative. In the model using QALY, CTCA showed more effective (0.00040QALYs) and less cost (US$465) than myocardial SPECT. Sensitivity analysis was performed for transition probabilities, utility weights and costs. The results of sensitivity analysis were robust. In subgroup analysis, myocardial SPECT showed cost-effective in patients with pre-test likelihood of 30-60. **CONCLUSIONS:** In conclusion, cost-effective analysis between CTCA and myocardial SPECT indicated that CTCA was the cost-effective test for both models using diagnosis accuracy and the one using QALY in patients with intermediate risk with pre-test likelihood of 10-90.

PMD38

COST MINIMIZATION ANALYSIS OF A MULTI-SITE RANDOMIZED CLINICAL TRIAL OF HOME-BASED VERSUS LABORATORY-BASED TESTING FOR THE DIAGNOSIS AND TREATMENT OF OBSTRUCTIVE SLEEP APNEA (HOMEPAP STUDY)

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OBJECTIVES: The cost implications of adopting portable monitoring devices for the diagnosis of obstructive sleep apnea ("OSA") are largely unknown. We conducted an