OBJECTIVES: Mastectomy and lumpectomies are often carried out using ultrasound technology. This study was conducted to determine whether the reduction in complications associated with the use of ultrasonic energy in mastectomy and lumpectomies at 100 mastectomies and 100 lumpectomies annually. The model incorporates the costs associated with surgery, length of stay, and costs of postoperative complications. The objective of our study was to evaluate the budget impact of changing the technology for AAA repair from the EVAR approach to the EVAA approach. METHODS: We examined the budget impact of replacing the EVAR approach with the EVAA approach in a Canadian hospital that performs 100 endovascular AAA repairs annually. The model incorporates the costs associated with surgery, length of stay, and postoperative complications occurring within 30 days. The cost data used in the model was obtained from peer-reviewed literature, the Ontario Case Costing Initiative and case costing based upon published costs, where available. The model establishes that switching to EVAA from standard EVAR in a Canadian hospital performing 100 mastectomies and 100 lumpectomies annually would allow for a cost avoidance of $177,966. CONCLUSIONS: In a Canadian hospital, the use of ultrasonic energy in mastectomy and lumpectomy procedures provides a cost savings when compared to the use of electrocautery.

PM21
BUDGET IMPACT OF THE ADOPTION OF A NEW MECHANICAL FIXATION DEVICE ALONG WITH A NEW SKIRRTED INTRA-ARTERIAL ONLAY MESH (IPOM) ON HOSPITAL COSTS OF OPEN VENTRAL HERNA REPAIR SURGERIES

OBJECTIVES: Demonstrating economic value of new products is important for hospital adoption. The combination of two devices: ETHICON SECURESTRAP™ Open Absorbable Strap Fixation Device and ETHICON PHYSIMESH™ Open Flexible Composite Mesh Device, offers a standardized approach to open IPOM repair of ventral hernia. This analysis assesses the potential economic value of using these devices in all ventral hernia repairs. METHODS: An economic model was developed to evaluate the budget impact to hospitals adopting ETHICON SECURESTRAP™ Open Fixation Device with ETHICON PHYSIMESH™ Open Flexible Composite Mesh Device. The model was implemented in the Excel-based model. An increasing utilization rate for ETHICON SECURESTRAP™ Open (20% – 60%), and ETHICON PHYSIMESH™ Open (10% – 30%) was assumed over a 3-year horizon. Costs of the mechanical fixation device, sutures and mesh were taken from hospital cost data. These costs were used to calculate the total cost of a new procedure using the 2 devices.

PM22
COST ANALYSES OF LUTONIX® 035 DCB PTA CATHETERS FOR THE TREATMENT OF PERIPHERAL ARTERY DISEASE: A U.S. HOSPITAL PERSPECTIVE

OBJECTIVES: The Lutonix® 035 Drug Coated Balloon PTA catheter (DCB) is indicated for percutaneous transluminal angioplasty (PTA), pre-dilation of, de novo or restenotic lesions up to 150mm in length in native superficial femoral arteries with vessel diameters of 3 to 4mm. These analyses estimated the potential cost impact of DCBs vs. current care. METHODS: These economic modeled analyses compared total costs with vs. without DCBs over one year in a real-world scenario treatment mix for femoropopliteal PAD. In a real-world PAD scenario, these analyses were not based upon head-to-head clinical comparisons.

PM23
SAFETY PEN NEEDLE (SPN) DEVICES IN THE ACTUE CASE SETTING: AN ANALYSIS OF HEALTH RESOURCE UTILIZATION (HRU) IN THE UNITED STATES

OBJECTIVES: Diabetes (DM) is prevalent among hospitalized patients making insulin administration a regular practice in acute care. Variability in the method of administration leaves room for optimization. A budget impact model was created to evaluate the impact of passive SPN on healthcare worker safety and HRU in the acute care setting. METHODS: Model inputs included fixed assumptions of insulin waste and cost, needle stick injury (NSIs) rates from safety syringe (SS) and SPN, nursing time, and supply costs. Inputs were obtained from the literature and real-world studies. The model compares 4 scenarios using insulin vial with SS versus using insulin pen with SPN: 1) SS + 3mL vial patient supply, 2) SS + 30mL vial floor stock, 3) SS+3mL vial patient supply, 4) SS + 3mL vial floor stock. RESULTS: Using insulin pens with SPN reduced NSIs, decreased nursing time, and increased injection supply cost. Insulin consumption varies based on the scenario and affects economic outcomes. The real-world impact of using SPN in acute care has been shown to significantly reduce total HRU in the acute care setting in the US. Benefits of switching to SPN include reducing NSIs and decreasing nursing time needed to prepare an insulin injection. For individual patient supply scenarios (scenarios 1 and 3), switching to SPN can reduce both NSIs and total cost to the institution. It is important to note that although the real-world pilot study results above are not generalizable, the model is adaptable to any institution based on number of beds and yearly insulin consumption. NSI rates may be underestimated, and in these cases, adoption of SPN may have a positive budget impact while improving healthcare worker safety.

PM24
IMPACT OF SAMPLE COLLECTION METHOD FOR EGFR MUTATION TESTING IN THE TREATMENT OF LOCALLY ADVANCED OR METASTATIC NSCLC IN THE US

OBJECTIVES: Sufficient tissue sample is not always available for EGFR mutation testing to direct treatment with tyrosine kinase inhibitors in NSCLC patients. We compared tissue, sputum, and serum samples in a real-world scenario with vs. without EGFR mutation testing and with vs. without EGFR mutation testing on clinical outcomes and costs of treatment for patients with NSCLC. METHODS: A Markov decision model was used to compare EGFR mutation testing methodologies and resulting treatment pathways in a hypothetical NSCLC US population health plan with 5 million covered lives and a baseline EGFR mutation prevalence of 16%. Inputs were based on published literature and Medicare fee schedule reimbursement. Outcomes of the model included patients with test results.

PM25
OBJECTIVES: EGFR mutation status for patients without a tissue sample. More patients received treatment for DCBs, or different utilization/comparator assumptions, were also evaluated. RESULTS: When including DCBs into the mix of treatments (1,000 patients) one-year cost-savings were estimated to be $74,735 and $104,688 for inpatient and outpatient hospital perspectives, respectively. Additionally, DCBs were predicted to be cost-saving in the majority of analyses vs. individual therapies (e.g., DCB plus short spot stents were compared with PTA, bare metal stents (BMS), drug-eluting stents (DES), covered stents (CS), and atherectomy. For the outpatient perspective, DCBs plus short spot stents were compared with BMS, DES, CS, and atherectomy. Equal distribution of treatment options in a world driven by shorter procedure time and related expected clinical benefits.

PM26
IMPACT OF SAMPLE COLLECTION METHOD FOR EGFR MUTATION TESTING IN THE TREATMENT OF LOCALLY ADVANCED OR METASTATIC NSCLC IN THE US

OBJECTIVES: Sufficient tissue sample is not always available for EGFR mutation testing to direct treatment with tyrosine kinase inhibitors in NSCLC patients. We compared tissue, sputum, and serum samples in a real-world scenario with vs. without EGFR mutation testing and with vs. without EGFR mutation testing on clinical outcomes and costs of treatment for patients with NSCLC. METHODS: A Markov decision model was used to compare EGFR mutation testing methodologies and resulting treatment pathways in a hypothetical NSCLC US population health plan with 5 million covered lives and a baseline EGFR mutation prevalence of 16%. Inputs were based on published literature and Medicare fee schedule reimbursement. Outcomes of the model included patients with test results.

PM27
IMPACT OF SAMPLE COLLECTION METHOD FOR EGFR MUTATION TESTING IN THE TREATMENT OF LOCALLY ADVANCED OR METASTATIC NSCLC IN THE US

OBJECTIVES: Sufficient tissue sample is not always available for EGFR mutation testing to direct treatment with tyrosine kinase inhibitors in NSCLC patients. We compared tissue, sputum, and serum samples in a real-world scenario with vs. without EGFR mutation testing and with vs. without EGFR mutation testing on clinical outcomes and costs of treatment for patients with NSCLC. METHODS: A Markov decision model was used to compare EGFR mutation testing methodologies and resulting treatment pathways in a hypothetical NSCLC US population health plan with 5 million covered lives and a baseline EGFR mutation prevalence of 16%. Inputs were based on published literature and Medicare fee schedule reimbursement. Outcomes of the model included patients with test results.
applicable care when the blood-based EGFR mutation testing was used as an alternative to tissue testing when 10% of the EGFR mutation testing was performed. As a result of increased diagnostic yield, there was a 23% decrease in cost per NSCLC patient per month compared to tissue-based testing alone ($1,665 vs $1,265). Costs per NSCLC patient per month are similar when blood-based testing is used in place of PFTs to detect clinical hyperglycemia (12,495 vs 12,195). The blood-based cobas® EGFR Mutation Test has advantages for patient outcomes performed as an alternative test to tissue-based testing when tissue sample is not available. The data indicate that sHEs and the clinico-economic outcomes are a significant contributor to healthcare costs. By correctly identifying more patients for proper treatment, the blood-based test represents a good alternative to tissue-based testing for identification of EGFR mutations in locally advanced or metastatic NSCLC patients.

PMD4
A MODEL TO EXPLORE THE POTENTIAL BUDGET IMPACT OF A NOVEL SCREENING TOOL FOR THE DETECTION OF SUBCLINICAL REJECTION AMONG KIDNEY TRANSPLANT PATIENTS
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OBJECTIVES: Advances in molecular diagnostics for the detection of disease can provide opportunities for healthcare providers to intervene earlier and subsequently, improve outcomes. Payers are increasingly focused on assessing cost and overall value of such tools. The kSORT assay is a non-invasive test that serves as a screening tool to detect subclinical rejection (SCR) among kidney transplant patients. The current standard of care may consist of routine screening for clinical acute rejection (AR) or the use of invasive surveillance biopsies to detect SCR through histopathology. Preliminary data show that the kSORT assay performs as well as and potentially superior to biopsies for the detection of SCR and prediction of AR. The objective of this analysis is to evaluate the potential budget impact of the kSORT assay compared to a commercial payer perspective using a conservative set of assumptions. METHODS: A 2-year Markov model incorporating SCR, AR, and graft failure was developed to evaluate the budget impact from a U.S. commercial payer perspective of the kSORT assay among patients undergoing kidney transplantation. Probabilities for progression were obtained by calibrating the values to correspond with reported prevalence rates of SCR and incidence rates of AR from published registry data. Costs were obtained through the peer-reviewed literature and sensitivity analyses were performed using alternative sets of assumptions. RESULTS: A conservative assumption scenario using the kSORT assay may have a minimal budget impact ($<0.05) PMM across most scenarios. Key value drivers include the frequency of monitoring, costs of the assay, and concurrent use of protocol biopsies with the assay. CONCLUSIONS: The use of kSORT to detect SCR is likely to produce a minimal budget impact for commercial payers. Additional studies demonstrating the clinical performance of the assay compared to biopsies can help to provide further insight into the clinical and economic benefits.

PMD25
BLOOD GLUCOSE MEASUREMENT DEVICE USING PATTERN ALERT TECHNOLOGY IN INSULIN-TREATED DIABETICS IN THE UNITED STATES
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OBJECTIVES: Hypoglycemic events (sHEs) are important acute complications in patients with diabetes requiring insulin therapy, especially in insulin-naïve patients. Despite high costs and high treatment rates and costs, it is important to lower costs of therapy. The objective of the study was to evaluate the cost-effectiveness of an innovative blood glucose measurement device (BiGMG), using a technology identified by pattern alerting the patient about a potential sHE (“pattern alert technology”, PAT), by which blood and behavioral input variables were taken from scientific literature and authoritative sources. The objective of this study was to estimate the cost-effectiveness of BiGMG. METHODS: Values were derived from economic evaluation and a randomized controlled trial (RCT). The costs were evaluated by using economic input (S$88) and sensitivity analyses. The objective of the study was to evaluate the cost-effectiveness of an innovative blood glucose measurement device (BiGMG). CONCLUSIONS: The BiGMG姐妹effectiveness of BiGMG was estimated to be $21,572 per patient with a quality-adjusted life-year (QALY). This is lower than the cost-effectiveness threshold of $50,000 per QALY. The BiGMG is cost-effective in the treatment of patients with diabetes requiring insulin therapy.

PMD26
CLINICAL AND COST OUTCOMES FROM DIFFERENT HYALURONIC ACID (HA) TREATMENTS IN PATIENTS WITH KNEE OSTEOARTHRITIS
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OBJECTIVES: Intra-articular injection of hyaluronic acid (HA) for knee osteoarthritis (OA) effectively reduces pain and delays total knee replacement (TKR). However, little is known about relative differences in clinical and cost outcomes among different HA products. We aimed to compare disease-specific costs and risk of TKR among patients receiving different HA treatments in a commercially-insured cohort of patients with knee OA. METHODS: A 2-year Markov model incorporating SCR, AR, and graft failure was developed to evaluate the budget impact from a U.S. commercial payer perspective using a set of conservative assumptions. The objective of this analysis was to evaluate the potential budget impact of the kSORT assay compared to a commercial payer perspective using a conservative set of assumptions. RESULTS: A conservative assumption scenario using the kSORT assay may have a minimal budget impact ($<0.05) PMM across most scenarios. Key value drivers include the frequency of monitoring, costs of the assay, and concurrent use of protocol biopsies with the assay. CONCLUSIONS: The use of kSORT to detect SCR is likely to produce a minimal budget impact for commercial payers. Additional studies demonstrating the clinical performance of the assay compared to biopsies can help to provide further insight into the clinical and economic benefits.

PMD27
ECONOMIC VALUE OF PREVENTING CENTRAL VENOUS CATHETER SEPSIS INFECTIONS WITH EARLY CANNULATION ARTERIOVENOUS GRAFTS (eCAGVS) COMPARED TO NON-eCAGVS
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OBJECTIVES: Approximately 80% of US hemodialysis patients initiate dialysis with a central venous catheter (CVC) despite their high incidence of infections compared to other vascular access devices (VADs). Early vascular access cannulation is a cost-effective intervention. Costs of CVC infections (eCAGVSs) can be calculated within 24 hours of implantation thus minimizing the dependency on CVCs compared to non-eCAGVSs. We compare CVC sep costs for patients implanted with eCAGVSs to those with non-eCAGVSs. METHODS: An economic model for dialysis was estimated using chart and observational study data (ClinicalTrials.gov NCT01173718), clinical literature, and publicly available cost sources. The GAVG study was a prospective, multi-center, single-arm study to establish the safety and efficacy of the GAVG for use in hemodialysis. The study collected data on the first three consecutive hemodialysis sessions, which is a surrogate endpoint for time to potential CVC removal. The median days to potential CVC removal was 15.5 compared to an average of 34 days for non-eCAGVSs from Quin (2009) and Shumaker (2011). CVC sept costs were divided in the dependent costs and delay TKR when compared to other products.

PMD28
ECONOMIC IMPACT OF OPEN MECHANICAL STAPLING VS. MANUAL SUTURING IN ILEOCOLIC ANASTOMOSIS IN MEXICAN PUBLIC HEALTHCARE INSTITUTIONS
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OBJECTIVES: Manual suturing is currently used to perform ileocolic anastomosis in colorectal surgery because of its documented post-surgical complications shown in literature (anastomotic leaks and reoperations), alternative techniques such as mechanical stapling might yield clinical and economic benefits for hospitals. The objective of this study was to estimate the economic impact derived from the use of mechanical stapling and handsewn techniques in open ileocolic anastomoses from a Mexican public hospital perspective (MSS). METHODS: An Excel-based decision tree model was used to compare clinical and economic outcomes of both anastomosis techniques. Data for anastomotic leak and reoperation rates for mechanical and handsewn suturing were taken from international published literature. Given procedure volume variability in comparable hospitals, base-case scenario assumed 100% annual procedures with each anastomosis technique. Assumptions were validated by empirical data. No additional outcomes were required. RESULTS: Open anastomosis potentially reduces CVC sep episodes by 11.7 since it reduces the number of catheter-dependent days by 18.5 compared to the non-eCAGVS. The CVC sep costs (eCAGVS) were $268,171 versus $585,100, respectively, due to the extended time on the CVC. The eCAGVS potentially reduces CVC sep episodes by 11.7 since it reduces the number of catheter-dependent days by 18.5 compared to the non-eCAGVS. On a per patient basis, the estimated average CVC sep costs in the ecAVG group were $2,682/patient versus $5,851/patient in the non-eCAGVS group, resulting in a cost savings of $3,189/patient of $14,959 and $14,224 switch to Supartz/Hyalgan, they can save $1,223 and $906 respectively. Hazard ratios showed a significantly higher risk of TKR when compared to non-ecAVG. CONCLUSIONS: Multivariate statistical modeling showed that Supartz/Hyalgan represents a cost-effective alternative for providers. Both HAS reduce disease-specific costs and delay TKR when compared to other products.