years, while low risk patients exceeded it in 15 years, respectively. Coexisting risk factors also influenced the incidence of CRC exceeding the benchmark risk in less than 3 years. **CONCLUSIONS:** Intervals based on incidence of CRC diverge from adenosia only surveillance recommendations and suggest a longer interval of follow-up except for those with co-existing risk.

**MEDICAL DEVICE/DIAGNOSTICS - Cost Studies**

**PMD13**

**BUDGET IMPACT MODEL OF A BLOOD BASED PROTEOMIC CLASSIFIER FOR INDETERMINATE PULMONARY NODULES**

**Armstrong S.**

1Boston Healthcare, Boston, MA, USA, 2Boston Healthcare Associates, Boston, MA, USA, 3Trindix, Seattle, WA, USA, 4Yohna Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

**OBJECTIVES:** To determine the penetration of screening recommendations, it is possible that the incidence of detected pulmonary nodules (PNs) could increase exponentially in coming years. Currently PN evaluation routinely requires costly procedures including imaging, biopsy and surgery. A molecular blood based test that may be utilized for initial screening could have a significant impact on the patient. The cost offsets of the Proteus offering were calculated for the following subgroups: abnormal liver, metastatic cancer, anatomic/ non-anatomic liver (classifications using HPBPA definitions), cirrhotic/stenotic liver, and if patients were obese or coagulopathic. Published U.S. costs were used as a resource use. Analysis results were weighted based on trial size. **RESULTS:** The surgical analysis predicted that the EVARREST test was offset versus SoC with a tri-weighted cost saving of $7 per patient. The hospital analysis predicted further reduction with the EVARREST test versus SoC with a cost savings of $868 per patient. Subgroup analyses demonstrated a range of results from cost impact to cost savings with EVARREST versus SoC (i.e. $1,976 to $4,30 per patient, hospital analysis). **CONCLUSIONS:** The EVARREST use in coagulopathic patients was found to have the largest degree of cost savings with $1,859 and $5,176 per patient anticipated, surgical and hospital results respectively. **CONCLUSIONS:** In addition to meeting an important unmet need in controlling problematic bleeding in liver tissue, this analysis suggests that Proteus can be a cost saving strategy.

**PMD14**

**AN ECONOMIC MODEL OF THE IMPACT OF DIGITAL MEDICINES WITH A MOBILE APPLICATION IN PATIENTS WITH COMORBIT HYPERTENSION, DIABETES, AND HYPERCHOLESTEROLEMIA**

Kim VA1, Raja P1, DiCarlo L1, Virdi N1, Park H2

1Protein Digital Health, Redwood City, CA, USA, 2University of Florida, Gainesville, FL, USA

**OBJECTIVES:** There is a strong correlation between cardiovascular disease and diabetes with management of blood pressure (BP), blood glucose (BG), and lipids being essential to preventing disease progression and complications. The FDA-cleared Proteus and shares information on medication-taking behavior, medication adherence, activity patterns through a mobile device and app, a patch with a wearable sensor inside, and sensor-enabled pills. This offering facilitates patient engagement and behavioral change, and has the potential to prevent disease progression and improve outcomes. An economic model was developed to estimate the impact of reducing BP, BG, and lipids via the Proteus offering. **METHODS:** The value of 1-month use of the Proteus offering was estimated to be $90-185 per month of use, including current reimbursement for medications and medication adherence solutions. Medical cost savings consisting of reductions in outpatient and inpatient services, monitoring, disease management, and medication costs were estimated to be $650-980 per patient per year (PPY), which was mainly driven by a 5-11% reduction in diabetes and CVD complications. Revenue opportunities via meeting quality measures presented an additional value equation to $80-95 PPY, bringing the total value of the Proteus offering to $100-1260 PPY. **RESULTS:** The testing and reporting opportunities to mitigate the high costs of managing at-risk patients with multiple cardiometabolic comorbidities.

**PMD15**

**MEDITREE BENEFICIARY OUT-OF-POCKET SPENDING FOR STROKE PREVENTION IN NON-VALVULAR ATRIAL FIBRILLATION: A BUDGET ANALYSIS**

Armstrong S1,2, Mathieu C3, Kearney P3, Diette G4

1Boston Healthcare, Boston, MA, USA, 2Boston Healthcare Associates, Boston, MA, USA, 3Trindix, Seattle, WA, USA, 4Boehringer Ingelheim Pharmaceuticals, Ridgefield, CT, USA

**OBJECTIVES:** Healthcare costs today are increasingly being shifted from payers to patients.**CONCLUSIONS:** Intervals based on incidence of CRC diverge from adenosia only surveillance recommendations and suggest a longer interval of follow-up except for those with co-existing risk.

**MEDICAL DEVICE/DIAGNOSTICS - Cost Studies**

**PMD13**

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Armstrong S1,2, Mathieu C3, Kearney P3, Diette G4

1Boston Healthcare, Boston, MA, USA, 2Boston Healthcare Associates, Boston, MA, USA, 3Trindix, Seattle, WA, USA, 4Boehringer Ingelheim Pharmaceuticals, Ridgefield, CT, USA

**OBJECTIVES:** Healthcare costs today are increasingly being shifted from payers to patients. **CONCLUSIONS:** Intervals based on incidence of CRC diverge from adenosia only surveillance recommendations and suggest a longer interval of follow-up except for those with co-existing risk.
OBJECTIVES: Mastectomy and lumpectomy procedures are often carried out using electrosurgery. The study demonstrated that the use of ultrasonic energy may reduce blood loss, seroma formation, wound infection, flap necrosis, hematoma, prolonged axillary drainage and length of stay. In the Canadian healthcare environment hospitals are faced with increasingly restrictive budgets, creating a need to evaluate the effectiveness of new technologies. This study was conducted to determine whether the reduction in complications associated with the use of ultrasonic energy in mastectomy and lumpectomy procedures offsets the increased device costs in a Canadian hospital. METHODS: We examined the budget impact of replacing electrosurgery devices with ultrasonic devices in a hospital that performs 100 mastectomies and 100 mastectomies annually. The model incorporates the costs associated with surgery, length of stay (taking into account facility and staff costs) and post-operative complications. Data for ultrasonic energy cost was obtained from the Ontario Case Costing Initiative and case costing from a large Canadian hospital. Patient outcomes data was obtained from pooling published peer reviewed literature after completing a comprehensive literature review. A multivariate sensitivity analysis was conducted to ensure scientific rigour. RESULTS: The use of electrosurgery in mastectomy and lumpectomy procedures is associated with lower device costs when compared to the use of ultrasonic energy devices. The model incorporates with ultrasonic energy devices demonstrate reduced operating time, a reduction in length of stay and a reduction in post-operative complications which offsets the increased device costs. The model establishes that replacing electrosurgery with ultrasonic devices in a Canadian hospital performing 100 mastectomies and 100 lumpectomies annually would allow for a potential cost avoidance of $171,966. 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 electrosurgery.

PMD19 BUDGET IMPACT OF PERCUTANEOUS ENDOVASCULAR ABDOMINAL AORTA ANEURYSM (AAA) REPAIR COMPARED TO STANDARD ENDOVASCULAR REPAIR IN CANADIAN HOSPITALS

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OBJECTIVES: Canadian hospitals spend an estimated $111 million annually on elective AAA repair. Percutaneous endovascular abdominal aortic repair approach (FEVAR) is a relatively new minimally invasive technique that is associated with reduced complications when compared to standard endovascular AAA repair (EVAR). Innovations in access devices and low profile stent grafts have enabled the FEVAR approach. According to recent studies, FEVAR may offer substantial efficiency benefits as well as a reduction in post-operative complications and patient pain. The objective of our study was to evaluate the budget impact to a hospital of changing the technique for AAA repair from the EVAR approach to the FEVAR approach. METHODS: We examined the budget impact of replacing the EVAR approach with the FEVAR 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 from a large Canadian hospital. Patient outcomes data was obtained from pooling published prospective studies after completing a comprehensive literature review. A multivariate sensitivity analysis was conducted to ensure scientific rigour. RESULTS: Compared to the EVAR approach, the FEVAR approach demonstrated reduced operating time, a reduction in length of stay and postoperative complications which offset the increased device costs. The model establishes that switching to the FEVAR approach in a Canadian hospital performing 100 AAA repairs annually would result in a potential cost avoidance of $245,130. CONCLUSIONS: A change in treatment technique from EVAR to FEVAR can be a cost-effective solution for Canadian hospitals.

PMD20 SAFETY PEN NEEDLE (SPN) DEVICES IN THE ACUTE CARE SETTING: AN ANALYSIS OF HEALTH RESOURCE UTILIZATION (HRU) IN THE UNITED STATES

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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 (NSI) rates from safety syringe (SS) and SPN, nursing time, and supply costs. Inputs were obtained from the literature and real-world pilot studies. The model compares 4 scenarios using insulin vial with SS versus using insulin pens with SPN: 1) SS+5mL vial patient supply, 2) SS+5mL vial floor stock, 3) SS+5mL vial patient supply, 4) SS+5mL vial floor stock. RESULTS: Using insulin pens with SS reduced NSIs, decreased nursing time, and increased injection supply cost. Insulin consumption varies based on the scenario and affects economic outcomes. However, the overall impact of using insulin pens with SPN compared to insulin pens with SS is that annual cost savings ($72,622) were realized. CONCLUSIONS: The cost of NSI driven by shorter procedure time and related expected clinical benefits.

PMD21 ASSESSMENT OF THE EFFECTIVE IMPACT OF THE ADOPTION OF A NEW MECHANICAL FIXATION DEVICE ALONG WITH A NEW SKIRRTED INTRA- PERITONEAL ONLAY MESH (IPOM) ON HOSPITAL COSTS OF OPEN VENTRAL HERNIA REPAIR SURGERIES

Panish J.M., Chukan E., Roy K., GfK, Wayland, MA, USA, 2Ethicon, Somerville, NJ, USA, 3Johnson & Johnson (Ethicon), Cincinnati, OH, USA

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 PHYSIOMESH™ 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 when compared with other meshes and a hand-natured fixation approach. METHODS: An economic model was developed to evaluate the budget impact to hospitals adopting ETHICON SECURESTRAP™ Open Fixation Device with ETHICON PHYSIOMESH™ Open Flexible Composite Mesh Device for ventral hernia repair. The model was developed in the Excel-based model. An increasing utilization rate for ETHICON SECURESTRAP™ Open (20%-60%) and ETHICON PHYSIOMESH™ Open (10%-30%) was assumed over 3-year horizon. Costs of the mechanical fixation device, suture and related supplies, mesh, OR time costs were compared with the PEVAR approach.

RESULTS: Based on the model inputs, a 3-year total potential saving of $240,650 was estimated for 100 annual open ventral hernia surgeries using ETHICON SECURESTRAP™ Open Fixation Device versus suture of various meshes. Over three years, although the use of ETHICON SECURESTRAP™ Open Fixation Device added $54,600 in supplies costs, this was completely offset by potential savings in OR time costs ($167,520), potential reduction in infection-related surgical site complications, and a reduction in operating room time ($126,903), and potential reduction in anesthesia costs ($17,189). Similarly, a savings of $40,108 was expected in the very first year. CONCLUSIONS: This economic evaluation represents the impact of PEVAR approach using ETHICON PHYSIOMESH™ Open Fixation Device with ETHICON PHYSIOMESH™ Open in open ventral hernia surgery. Adoption of the two devices would likely result in savings for hospitals, driven by shorter procedure time and related expected clinical benefits.

PMD22 COST ANALYSES OF LUTONIX® 035 DBC PTA CATHETERS FOR THE TREATMENT OF PERIPHERAL ARTERIAL OSTEOSIS: A U.S. HOSPITAL PERSPECTIVE

Delatore P.1, Hollmann S.2, Ferkio N.2

1CB Bard Inc., Murray Hill, NJ, USA, 2Cornerstone Research Group Inc., Burlington, ON, Canada

OBJECTIVES: Peripheral arterial disease affects 8-10 million U.S. adults and 50% involve femoropopliteal arteries. A novel treatment, the Lutonix® 035 Drug Coated Balloon PTA catheter (DCB) is indicated for percutaneous transluminal angioplasty (PTA), after pre-dilation, of de novo or restenotic lesions up to 15mm in length in native femoral arteries with or without atheromatous plaques measuring ≥6-8mm. 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, these analyses were not based upon head-to-head clinical comparators. For the inpatient hospital perspective, DCBs were compared with PTA, bare metal stents (BMS), drug-eluting stents (DES), covered stents (CS), and atherectomy. For the outpatient perspective, DCBs plus short stents were compared with BMS, DES, CS, and atherectomy. Equal distribution of treatment options in a world with vs. without DCBs was assumed. Consumable device-related costs (based on publicly available data) were associated with the repeat procedures (i.e., estimated target lesion revascularizations (TLRs) were included). Average device utilization was informed by RCTs and TLR risk was derived from a network meta-analysis. Alternative analyses, including incremental reimbursement for DCBs, or different utilization/comparison 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. traditional therapies (e.g., DCB vs. CS: $2,202 to $9,967 per patient). Alternative analyses assuming incremental reimbursement predicted that DCBs could provide even greater cost-savings under a Medicare payment scenario. CONCLUSIONS: These analyses suggest that DCBs may provide cost-savings from a hospital perspective when considering the full range of comparators.

PMD23 IMPACT OF SAMPLE COLLECTION METHOD FOR EGFR MUTATION TESTING: RESULTS OF BLOOD-BASED AND TISSUE-BASED COBAS® EGFR MUTATION TESTING IN THE TREATMENT OF LOCALLY ADVANCED OR METASTATIC NSCLC IN THE US

Paulus N.1, Hristova-Neeley D.1, Cavaghan M.2

1Roche Molecular Systems, Inc., Pleasanton, CA, USA, 2GfK, Wayland, MA, USA

OBJECTIVES: Sufficient tissue sample is not always available for EGFR mutation testing to direct treatment with tyrosine kinase inhibitors in NSCLC patients. We conducted a real-world study to determine if using blood-based testing alone versus using blood-based cobas® EGFR Mutation Test as an alternative test for patients without adequate tissue sample in NSCLC patient treatment decision-making can be cost-effective in the US. METHODS: A decision-tree model was developed to compare the impact of two different 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. RESULTS: DBC-based EGFR mutation testing is a more cost-effective method for identifying EGFR mutation status for patients without a tissue sample. More patients received