MATLAB Simulink r2014a software package. Methods are used for modeling the utility function of a number of diagnostic strategies. The aim of this study is to evaluate the most efficient cervical screening strategies using “cost-utility” method. METHODS: “Cost-utility”-based analysis and evaluation are based on the results of own clinical and laboratory studies of 1257 cervical samples (HPV DNA tests and cytological diagnostics) from women aged 19-65 (mean age 30.68 (±7.72)), living in different regions of Ukraine. Statistical and mathematical Methods are used for modeling the utility function of a number of diagnostic strategies. Analytical representation and evaluation of the data was performed using MATLAB SIMULINK 2014a software package. RESULTS: Initial hypothesis of the utility function form for HPV DNA and cytological tests was put forward. It was assumed that the first test has a maximum utility at a defined age due to the age-dependent increase of the probability of cytological test being positive. This result is a reduction of the predictive utility of HPV DNA test. The utility function of cytological test must resemble cumulative sigmoid function. Stated hypothesis was verified by the data on normal cytology and cervical intraepithelial lesions using MethodSoft mathematical modeling. CONCLUSIONS: The study confirmed given hypothesis. The obtained Results can be used “cost-utility”-based method of pharmacoeconomic analysis of different cervical screening strategies.

PMD3 EFFECTIVENESS OF THE ANTIBIOTIC-IMPROGNATED CATHERS - A SYSTEMATIC REVIEW

Oliveira FM1, Oliveira D1, Andrade PC2, Luque A2, Junqueira Junior SM1, Cabra HA3

1Johnson & Johnson, São Paulo, Brazil, 2JohnsonJohnson Medical Brazil, São Paulo, Brazil, 3Johnson & Johnson Medical, D.F., Mexico

OBJECTIVES: The ventricular drainage of the cerebrospinal fluid (CSF) is an essential procedure in the care of patients with hydrocephalus and intracranial hypertensive. However, the literature shows evidences of an infection rate (IR) of 5% to 10%. Infections can cause neurological sequelae and death. To reduce the risk of contamination antibiotic-imregnated catheters (AIC) are indicated. The aim of this study is to systematic review (SR), the efficacy of these catheters. METHODS: The electronic databases, MEDLINE via Pubmed, The Cochrane Central Register of Controlled Trials, The Cochrane Library, LIILACS, CRD and EMBASE were reviewed until June, 2013. No language and time limits were applied. Meta-analysis, SR and BAC analysis to the current status of the literature. RESULTS: 232 records were identified. 45 studies were revaluated. 4 met the inclusion criteria – SR and 1 RCT. The first SR evaluated 14 studies. Among the 9,049 cases evaluated, SC and AIC presented an IR of 7.0% and 3.5% respectively. The second SR evaluated 2,664 cases and observed a global and pediatric IR of 7% (SC) and 3% (AIC) and 5% (AIC). The third SR showed through a meta-analysis, similar Results for the adult and pediatric population and included the neonate where they observed a significant difference for the AIC in internal shunts: IR 0.37, IC 0.16-0.86; p=0.02. The RCT evaluated the IR for SC and AIC and found not statistically significant lower IR in the AIC, probably because of the low global IR. CONCLUSIONS: The studies suggest AIC reduces infections related to drainage especially in the pediatric population.

MEDICAL DEVICE/DIAGNOSTICS - Cost Studies

PMD4 BUDGET IMPACT MODEL FOR CERVICAL CANCER SCREENING USING HPV TESTS IN CHILE

Franco Figueira S1, Cachoeira CV2, Souza FH3, Kano BY4, Silva M5, Poulos N5

1Roche Diagnostics LATAM, São Paulo, Brazil, 2Roche Diagnostics Chile, Santiago, Chile, 3Roche Molecular Systems, Inc., Pleasanton, CA, USA

OBJECTIVES: The aim of this study is to estimate, in Chile, the clinical and budget impact of cervical cancer primary screening with a HPV-16/18 genotyping test which simultaneously detects 12 other high-risk HPV types. METHODS: A decision tree framework was used to model the screening and diagnosis of cervical cancer to compare three strategies: (1) Cytology alone – Screening Interval (SI): 3 years; (2) Fooled HPV with reflex cytology – SI: 5 years; (3) HPV with 16/18 genotyping and reflex cytology (cobas® 4800) – SI: 5 years, from a payer’s perspective. The impact model was run by having the women cohort progress through the model with 2 screening cycles. In addition, the screening and cancer treatment costs were calculated from FONASA public data (Fondo Nacional de Salud) reported in 2014 converted to US dollars (USD). RESULTS: The Budget Impact Model indicates that, when comparing the Strategy 1 (Cytology alone) and Strategy 3 (HPV with 16/18 genotyping and reflex cytology (cobas® 4800)) there is a reduction in the number of patients progressing to cervical screening. Increasing the number of strategies 2 to strategy 1, the model estimates that 36% of patients according to the annual cost of cervical cancer treatment. There is also a decrease of 25% and 33% at the incidence of Cervical Cancer and Mortality Rate, respectively. Better clinical Results could be achieved when the strategy 3 is implemented. An additional investment of only 0.37% at the annual cost of cervical cancer treatment could decrease the incidence of Cervical Cancer by 43% and the mortality rate by 54% in Chile. CONCLUSIONS: This analysis suggests that the use of the HPV genotyping test (strategy 3) is a potential effective management strategy given that the clinical impacts are highly positives and budgetary impact is basically neutral, comparing to the current screening program in Chile.

PMD5 REDUCING INSULIN SYRINGE REUSE CAN HELP LOWER COST OF INSULIN WASTE IN BRAZIL

DiMario S, Chandran A

RESULTS: A budget impact model was created to demonstrate the relationship between lower syringe reuse and lipohypertrophy rates. It was assumed 90% of patients use syringes in Brazil. An international survey suggests that lipohypertrophy rate is 48%. Another study showed increasing reuse rate correlates to a higher ratio of lipohypertrophy presence. With estimates including additional insulin requirements for lipohypertrophy, cost of insulin, and annual cost of adding one additional syringe, the difference between insulin wasted from lipohypertrophy and the cost associated with reducing reuse rate was calculated. RESULTS: The estimated insulin injection population with lipohypertrophy using syringes in Brazil is 691,200. If these patients receive 15 units more insulin/day and the cost/ IR (1,000 IR) falls by 25% and 33% at the incidence of Cervical Neoplasia cases detected, treated and a reduction at the number of patients prophylactic treatment. The objective of this study is to investigate the economic impact per department of the study, the projected impact for the year of 2015 ($R 1.9 million) represents less than 0.01% of the budget destined to hospital and ambulatory assistance. CONCLUSION: The incorporation of DCB for the treatment of Peripheral Arterial Disease in Lower Limbs in Brazil.

PMD6 BUDGET IMPACT ANALYSIS OF DRUG COATED BALLOON VS. PERCUTANEOUS TRANSLUMINAL ANGIOPLASTY IN THE TREATMENT OF PERIPHERAL ARTERIAL DISEASE IN LOWER LIMBS IN BRAZIL

Pepe C1, Almada L1, Follador W2, Valencia J3, Orozco J4

1Grupo Resulta, São Paulo, Brazil, 2Sense Company, São Paulo, Brazil, 3Medtronic, São Paulo, Brazil, 4Medtronic, Miami, FL, USA

OBJECTIVES: Budget Impact Analysis (BIA) of Drug Coated Balloon (DCB) vs. Percutaneous Transluminal Angioplasty (PTA) in the Treatment of Peripheral Arterial Disease in Lower Limbs in Brazil. METHODS: A BIA was performed to assess the incremental budget impact of the incorporation, to the Brazilian public healthcare system, of a method of PTA using a drug coated balloons compared to the currently available technology, using an standard balloon on the treatment of the peripheral arterial disease, in a 5 years’ time horizon. The total amount of PTA procedures on the system was extracted from DATASUS (Ministry of Health of Brazil), and the relative costs of each strategy were determined. CONCLUSIONS: The projected impact for the year of 2015 ($R 1.9 million) represents less than 0.01% of the budget destined to hospital and ambulatory assistance. CONCLUSION: The incorporation of DCB for the treatment of Peripheral Arterial Disease in Lower Limbs in Brazil is likely to be cost saving; however, it would represent less than 0.01% of the budget destined to hospital and ambulatory assistance.

PMD7 ECONOMIC BENEFITS ASSOCIATED WITH NT-PROBNP TEST IN BRAZIL AND MEXICO

Franco Figueira S1, Cachoeira CV2, Souza FH3, Kano BY4, Petry Hasegawa AC5, Bertozzi da Conceição Duarte G1

1Roche Diagnostics LATAM, São Paulo, Brazil, 2Roche Diagnostics Brazil, São Paulo, Brazil, 3Roche Diagnostics Mexico, Santa Fe, Mexico

OBJECTIVES: The objective of this study is to investigate the economic impact per patient using NT-proBNP test to guide the diagnostic assessment and management of diabetic patients in the Emergency Department in Brazil and Mexico. METHODS: A cost tool was developed based on a decision tree from Siebert study. It was evaluated the standard clinical assessment (strategy 1) with assessment guided by NT-proBNP (strategy 2), from a payer’s perspective. The direct medical costs were based on the DATASUS (Departamento de Informatica do Sistema Unico de Saude – Brazil) and IMSS (Instituto Mexicano del Seguro Social – Mexico) databases converted to 2015 US dollars (USD). The time horizon was 60 days. Additionally, the sensitivity analysis was performed with a variation of 10%. RESULTS: Based on Siebert study, the optimal use of NT-pro-BNP strategy reduces the use of echocardiography from 25% to 10.5% and the average of hospitalization length from 4.41 days to 3.88 days. Therefore, for the best case scenario the savings achieved is $218.96, after applying the sensitivity analysis the savings achieved is $385.23, and in the worst case is $51.07. A similar result could be achieved in Mexico, in the base case scenario the savings per patient is $20.78. A sensitivity analysis of the savings achieved for the best case scenario, and $74.50 for the worst case. CONCLUSIONS: The optimal use of NT-proBNP test could improve the management of patients with acute Heart Failure according to our analysis. Moreover, it demonstrated incremental cost-saving in diagnosis which may result in improved therapeutic decisions and savings for both countries.