Poster Tour Guide Packet

ISPOR 2022

Poster Session:	**In-Person and Virtual Poster Session 2**
Tour Name:	**LMIC**
Tour Time:	Monday, May 16, 2022, 5:30 - 6:30 PM
Tour Area:	Area B, Prince George Exhibit Hall

Acceptance Code:	EE117
Abstract Title:	Estimating Economic and Disease Burden of Snakebite in South East Asia: A Decision Analytic Model
Presenting Author:	Chanthawat Patikorn

Abstract Body:

OBJECTIVES: Understanding the burden of snakebite is crucial for developing evidence-based strategies to pursue the goal set by the World Health Organization to halve morbidity and mortality of snakebite by 2030. Therefore, this study aimed to estimate economic and disease burden of snakebite in South East Asia.

METHODS: A decision analytic model was developed to estimate burden of snakebite in 2019 in seven countries, including Malaysia, Thailand, Indonesia, Philippines, Vietnam, Lao PDR, and Myanmar. Country-specific input parameters were sought from published literature, data from the country's Ministry of Health, unpublished local data, and expert opinion. Economic burden was estimated from the societal perspective. Costs were expressed in 2019 US Dollars (USD). Disease burden of snakebite was estimated as disability-adjusted life years (DALYs). Probabilistic sensitivity analysis was performed for 1,000 iterations to estimate a 95% credibility interval (CrI) of burden of snakebite.

RESULTS: There are five antivenom manufacturers in South East Asia, including Thailand, Indonesia, Philippines, Vietnam, and Myanmar. However, antivenoms were not enough to treat all snakebite victims. We estimated that there were 242,648 snakebite victims (95%CrI 209,810-291,023) of which 15,909 victims (95%CrI 7,592-33,949) were dead and 954 victims (95%CrI 383-1,797) were amputated. Annual disease burden of snakebite was estimated at 391,979 DALYs (95%CrI 187,261-836,559 DALYs). Total costs of snakebite were estimated at 2.5 billion USD (95%CrI 1.2-5.4 billion USD) which were equivalent to 0.09% (95%CrI 0.04-0.20%) of the region's gross domestic product. More than 95% of the estimated burden was attributed to premature deaths.

CONCLUSION: Our estimates highlighted the high burden of snakebite in South East Asia despite the availability of domestically produced antivenoms. Almost all of the estimated economic and disease burdens were attributed to premature deaths from snakebite envenoming which suggested that the remarkably high burden of snakebite could be averted by increasing access to antivenom.

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Acceptance Code:	EE4
Abstract Title:	Cost-Effectiveness Analysis of Trastuzumab Emtansine in the Treatment of Patients with HER2+ Early Breast Cancer (EBC) and Residual Disease after Neoadjuvant Treatment in Colombia
Presenting Author:	Alejandra Taborda

Abstract Body:

Objective: To estimate, from the health system perspective, the cost-effectiveness of the use of trastuzumab emtasine (T-DM1), compared with trastuzumab, for the adjuvant treatment of adult patients with HER2+ early breast cancer who have residual invasive disease after neoadjuvant therapy in Colombia.

Methods: We developed a Markov model with six health states (invasive disease-free survival, non-metastatic recurrence, remission, metastatic setting that include first and further lines of treatment, and death) to estimate long-term costs and health outcomes. The model uses a time horizon equivalent to the life expectancy for this population. Clinical outcomes of trastuzumab emtansine (T-DM1) were taken from the KATHERINE clinical trial. Only direct medical costs associated with the pharmacotherapy and follow-up in each health state were included. Monetary valuation was performed using official databases for Colombia and expressed in 2021 Colombian pesos (COP). Health outcomes were expressed as quality-adjusted life years (QALYs). The discount rate was 5% per year for the costs and outcomes. Deterministic and probabilistic sensitivity analysis were performed.

Results: The expected costs were higher for T-DM1 than for trastuzumab: COP$ 300 million (USD 80.147,68), compared to COP$ 272 million (USD 72.667,23), but T-DM1 therapy offers better results: 10.48 QALYs vs 9.45, generating an ICER of COP$ 27.433.214 (USD 7.329,02) per QALY gained. The probabilistic sensitivity analysis shows that for a willingness to pay of COP$ 50 million (USD 13.357,94) per QALY gained, the probability that the intervention will be cost-effective is almost 80%.

Conclusion: From the perspective of the Colombian health system, T-DM1 is a cost-effective strategy compared to trastuzumab in the adjuvant treatment of adult patients with HER2+ early breast cancer who have residual invasive disease after neoadjuvant therapy compared with the 3 GDP per capita threshold (COP$ 61.999.878/USD 16.563,82).

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Acceptance Code:	EE327
Abstract Title:	Surgical Sites Infection: A Micro-Costing Approach from the Brazilian Private Healthcare System Perspective
Presenting Author:	Diana Campos

Abstract Body:

OBJECTIVE: Our objective was to estimate the resource utilization and direct medical costs associated with postoperative infections from the private payer perspective in Brazil.
METHODS: A literature review was conducted regarding the cost-of-illness of surgical sites infections segmented as: sternotomy (ST); cardiac surgeries (CS); inguinal incisions (ING); hip, knee, and lower limb trauma (TR); periprosthetic fractures (PF); and revision of hip and knee arthroplasty (REV). No published studies reporting these postoperative costs were found. As such the strategy of a micro-costing construction was carried out, A medical specialist was consulted to validate all procedures. Costs were assigned in a bottom-up approach. Only direct medical costs were considered from Brazilian official price lists in 2021 Brazilian Real (BRL) values. In-hospital and outpatient acute managements related to infectious events were considered. , costs were segmented as in-hospital (daily taxes and new surgical procedures; drug treatment; complementary exams) or those related to outpatient care.

RESULTS: Total costs associated with acute management of surgical site infection were 37,268 BRL (ST); 55,189 BRL (CS); 24,037 BRL (ING); 23,585 BRL (TR); 43,122 BRL (PF); and 69,463 BRL (REV). In-hospital costs were predominant and mainly driven by daily taxes and new surgical procedures in all cases. The second biggest cost drivers were complementary exams in TR and PF, and drug treatment in ST, CS, ING, and REV. Outpatient costs represented 7.6%, 5.2%, 9.8%, 18.8%, 14.8%, and 9.2% for ST, CS, ING, TR, PF, and REV, respectively.

CONCLUSIONS: In the Brazilian private setting, direct costs of surgical site infections are relevant, justifying clinical and economic concerns for payers and society. In the future, new studies with primary data collection should be conducted to assess the economic impact of those infections in a real-world environment.

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Acceptance Code:	EPH93
Abstract Title:	Treatment Patterns of Triple Negative Breast Cancer in Brazilian Private Healthcare Setting: a Claim Database Study
Presenting Author:	Maria Amelia Carlos Souto Maior Borba

Abstract Body:

OBJECTIVES: in Brazil, data on the treatment patterns of triple negative breast cancer (TNBC) is scarce. The study aimed to describe real world data on treatment patterns of Brazilian TNBC patients in the private healthcare setting.

METHODS: this was an administrative claims database study using secondary data from private insured patients. Patients with 18 years or older, with at least one ICD-10 C50 reported between January 2012 and December 2017 were selected. Further selection followed the exclusion of patients with any claim for hormone or targeted therapy. TNBC patients were classified as early (eTNBC) or metastatic (mTNBC) based on the presence of claims related to metastatic treatment/procedures or ICD-10 codes (C76 to C80).

RESULTS: 3,004 patients were included, we identified 2,488 (82.8%) eTNBC and 516 (17.2%) mTNBC patients. Among eTNBC, 75.3% of the treatment was adjuvant (AT), 17.1% neoadjuvant+adjuvant (NAT/AT) and 7.5% neoadjuvant (NAT). The most common for eTNBC was sequential chemo (57.3% for AT), usually starting with anthracycline + cyclophosphamide, followed by taxane. In eTNBC, 4.4% of the patients presented disease progression during early treatment, receiving mTNBC approach. For the mTNBC, 21.6% were prescribed 1L with bevacizumab and 19.8% with taxane. 48% of 1L switched to 2L, where 34.4% received taxane and 18.4% received gemcitabine-based chemo. Among those treated in 2L, only 12.6% went to a 3L, 21.5% with capecitabine and 15.4% with gemcitabine. The treatment duration in months was 2.91 (SD±4.67) in 1L, 2.91 (SD±2.44) in 2L and 2.65 (SD±2.54) in 3L.

CONCLUSIONS: The treatment of eTNBC was mainly based in AT with anthracycline and taxane, while in mTNBC bevacizumab, capecitabine and gemcitabine were often prescribed. Of interest, the estimated treatment duration observed was shorter in this real-world database than expected in pivotal trials, reflecting the poor prognosis of mTNBC and its unmet medical need.

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Tour Time:	Tuesday, May 17, 2022, 5:30 – 6:30 PM
Tour Area:	Area B, Prince George Exhibit Hall

Acceptance Code:	EE448
Abstract Title:	Cost-Utility Analysis of Benralizumab in Severe Eosinophilic Asthma in Panama
Presenting Author:	Jaime Ordóñezk

Abstract Body:

Objectives: Severe asthma is a high-cost chronic disease with different inflammatory phenotypes, the eosinophilic phenotype being the most common. Benralizumab is a monoclonal antibody that targets this phenotype. This study evaluated the cost-utility ratio of Benralizumab in patients with severe eosinophilic asthma in Panama.

Method: A Markov-model was developed considering five disease stages: no exacerbation, exacerbations requiring oral corticosteroids (OCS), exacerbations requiring emergency department (ED) visit, exacerbations requiring hospitalization and death. A cohort of 100 patients was modelled from the social-perspective comparing Standard of Care (SoC) with Benralizumab and Omalizumab, respectively, in terms of avoided exacerbations requiring OCS, ED visits and/or hospitalizations with a time-horizon of 5 years. Costs and healthcare values were discounted by 3.5%, efficacy was based on the pivotal studies of the treatment strategies. The base-case were 50-year-old-patients with uncontrolled severe eosinophilic asthma. Direct and Indirect healthcare costs were considered. The Willingness-to-Pay (WTP) threshold used was 3 times the gross domestic product per capita in Panama (USD 36,807).

Results: Benralizumab avoided 1,240 exacerbations requiring OCS, 750 ED visits, 1,023 hospitalizations, 24,799 disability days and 25 deaths vs SoC. Omalizumab avoided 1,060 exacerbations requiring OCS, 736 ED visits, 938 hospitalizations, 23,010 disability days and 23 deaths vs SoC. Total discounted costs were: SoC, $14,643,066; benralizumab, $17,908,097 and omalizumab, $27,603,807. Benralizumab was a cost-effective strategy against SoC with an Incremental Cost Effectiveness Ratio (ICER) of $8,154 per Quality-Adjusted-Life-Year (QALY) gained, and cost-saving vs Omalizumab, resulting in less costs and better clinical outcomes. Based on the WTP of $36,807, Benralizumab has a 98% probability of being the best treatment option for severe eosinophilic asthmatic patients in Panama.

Conclusions: Benralizumab is a cost-effective treatment strategy for severe eosinophilic asthmatic patients in Panama based on Panama's WTP threshold and it is a dominant strategy compared to Omalizumab.