PGI8

## BUDGET IMPACT ANALYSIS OF BIOSIMILAR INFLIXIMAB FOR THE TREATMENT OF CROHN'S DISEASE IN SIX CENTRAL EASTERN EUROPEAN COUNTRIES

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**OBJECTIVES:** Biosimilar infliximab (CT-P13) is the first licensed biosimilar in EU for Crohn's disease (CD). It is expected that spread of biosimilars in the treatment of CD will lead to cost savings and it might improve access to biological therapies. The main aim of this study was to analyse the budget impact of introducing biosimilar infliximab for the treatment of CD in six Central Eastern European (CEE) countries' – Bulgaria, Czech Republic, Hungary, Poland, Romania and Slovakia – health care systems. **METHODS:** This budget impact model estimates potential impact of biosimilar infliximab on health care budget over three-year time frame from third-party payer perspective. Spreadsheet-based country specific population model was developed functioning in quarter year time units. The model tracked movement of CD population between main states: 1) immune therapy, 2) infliximab, 3) biosimilar infliximab, 4) adalimumab. Switching between biologics and biosimilar infliximab was taken into consideration as well. In scenario analyses different rates of interchanging and switching were analysed. A -25% price difference was assumed for biosimilar infliximab compared to originator. Budget impact was calculated as difference in total cost of scenarios with and without biosimilar infliximab. **RESULTS:** In 2013,4, 625 CD patients were treated with biologicals in the CEE. Over the 3-year period with gradually interchanging 80% of infliximab to biosimilar infliximab is expected to lead to a net benefit of 16,635,000 euros compared to the scenario in which biosimilar infliximab would not be available. In scenario in which interchangeabilty was disallowed the budget savings amounted to 7,842,000 euros. If budget savings were spent on reimbursement of additional biosimilar infliximab treatments, approximately further 889 or 420 patients could be treated in the six countries, respectively. **CONCLUSIONS:** Introduction of biosimilar infliximab treatment for CD in CEE is predicted to bring substantial cost savings or increase of the number of patients with access to biological therapy.

PGI9

## PROTON PUMP INHIBITORS IN SOUTH AFRICA: ROLE OF BRANDED GENERICS

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**OBJECTIVES:** Originator products dominate the market, and as soon as patents expire prescribing patterns change as branded generics become the most often prescribed due to mandatory generic substitution in South Africa. This study investigated the prescribing patterns of proton pump inhibitors (PPIs). **METHODS:** A retrospective, cross-sectional drug utilisation study was conducted on prescription data of a medical insurance scheme administrator in South Africa for 2011. The database contained 2 298 312 records for medicine, medical devices and procedures. **RESULTS:** A total of 22 198 PPIs were prescribed to 7 504 patients (average age: 45.09 (SD=15.82) years) at a cost of R3 931 241.43. The average cost per PPI prescription was R177.10 (SD=R140.62). The average cost for a generic PPI prescription was R147.01 compared to R276.17 for a prescription for an originator product. Five different PPIs were prescribed. Omeprazole, lansoprazole and pantoprazole had branded generics available on the market, whereas esomeprazole and rabeprazole only had originator products on the market. Omeprazole was the most frequently prescribed (47.05% of all PPI prescriptions). Nearly all (98.90%) omeprazole prescriptions were for one of its eight branded generics. Esomeprazole had the highest average cost per prescription of R289.23. The 40mg tablet formulation of esomeprazole was the most commonly prescribed. Less than 2% of PPI prescriptions were for rabeprazole. Most prescriptions were for Schedule 4 products (prescription-only), with only 3.91% Schedule 2 prescriptions (over-the-counter, prescribed in lower dosages for acute symptoms over a short period of time). Overall in this study, 76.70% of PPI prescriptions were for branded generics. **CONCLUSIONS:** Omeprazole dominated PPI prescribing, whilst esomeprazole was the most expensive PPI. It will be important to further investigate the impact of patent expiry and the introduction of new branded generics on PPI prescribing patterns. The study confirmed the significant price differences for PPIs between branded generics and originator products.

PGI10

## DIRECT TREATMENT COSTS OF CIRRHOSIS IN THE BRAZILIAN PUBLIC HEALTH CARE SYSTEM: A 2008-2012 RETROSPECTEVE ANALYSIS

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**OBJECTIVES:** Estimate direct health care costs associated with cirrhosis from a brazilian public payer perspective (SUS). **METHODS:** A retrospective study of a public claims database (DATASUS) was used to assess direct health care costs associated with cirrhosis between 2008 and 2012. Patients with cirrhosis were identified based on ICD-10 codes (K70.3, K71.7, K74.3-K74.6). The retrospective analysis considered inpatient costs and outpatient treatment costs of patients during the 4 year time frame. Medication costs were defined as a weighted average during the period of analysis considering official government price lists available at www. comprasnet. gov. br. A sub analysis was carried out for cirrhotic patients with hepatitis C (HCV) treatment, defined as patients treated with peg-interferon with ribavirin (PR). **RESULTS:** Between 2008-2012, 120,082 patients were hospitalized due to cirrhosis (49% of patients accounted by ICD K746) with a total treatment cost of R$ 404 million, 68% accounting for transplant (R$ 276 million), 30% for outpatient procedures (R$ 121 million), 2% for surgical procedures (R$ 6 million) and the remainder for exams and diagnostics. Patients were hospitalized for an average of 10,1 days per year, with an average cost of R$ 2,806 (R$2.149- R$ 3,757) per hospitalization event and R$ 3.378 (R$ 2.523-4.579) per patient. The average cost for transplant was R$ 52.912 (R$43.304-70.274). Between 2008 and 2012 2.933 patients were hospitalized for cirrhosis having received HCV treatment with a total cost of R$ 19 million. The average inpatient cost for HCV-cirrhosis patients was R$ 4,999 for 11,2 days of hospitalization. Organ transplants-associated costs accounted for R$ 15 million, 77% of total costs, with an average cost of R$ 67,319 per transplant. **CONCLUSIONS:** Organ transplant accounts for the majority of hospital health care costs in cirrhosis patients in the Brazilian public health care system. Considering patients with HCV treatment and cirrhosis, the average cost per patient was around 78% higher than the general cirrhosis patient.

PGI11

## BURDEN OF HOSPITALIZATIONS RELATED TO CHRONIC HEPATITIS C IN FRANCE: EVOLUTION BETWEEN 2009 AND 2012

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**OBJECTIVES:** To assess the burden of hospitalizations related to Chronic Hepatitis C (CHC) in France in 2012 and to benchmark it to the 2009 estimate. **METHODS:** All hospital stays with chronic viral hepatitis C (ICD-10 code B18.2) as principal, related or significantly associated diagnosis were extracted from the PMSI 2012 (French Medical Information System Program) database. Through an algorithm and a medical review, hospitalizations not related to CHC were excluded. Patients were assigned to a liver disease stage: F0-F3; compensated cirrhosis; decompensated cirrhosis; hepatocellular carcinoma; liver transplant. Same database and method (without making the distinction between compensated/decompensated cirrhosis) were used in 2009 allowing descriptive benchmark. Valuation was performed on French official tariffs for 2009 and 2012 and expressed in 2013 value (Euros). **RESULTS:** 22,056 hospitalizations were extracted in 2012 *vs* 27,258 in 2009 corresponding to 12,040 and 15,482 patients, respectively. Sex-ratio M/F increased between 2009 and 2012 (1.66 *vs* 1.78), as well as proportion of patients aged of 50 years old and over (60% *vs* 70%). In 2012, 5,834 patients were in F0-F3 fibrosis stage, 3,547 had cirrhosis and 2,105 had hepatocellular carcinoma. Crude estimates for the evolution for these stages between 2009 and 2012 was -32%, -36% and +17%, respectively. Between 2009 and 2012, number of liver biopsies was reduced by one third, and also less liver transplants were performed (293 *vs* 254). Overall, the economic burden of hospitalizations related to CHC was €60 millions in 2012, 8% lower than in 2009. **CONCLUSIONS:** 3 major facts were highlighted: the decline in the number of liver biopsies, the decrease in the number of patients hospitalized for cirrhosis and the increase in patients hospitalized for hepatocellular carcinoma. This increase might be due to an improvement in screening techniques and aging of the population.

PGI12

## MEAN ANNUAL COST OF PATIENTS HOSPITALIZED FOR CHRONIC HEPATITIS C IN FRANCE: THE HEPC-LONE STUDY

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**OBJECTIVES:** To assess the mean annual cost of patients hospitalized for Chronic Hepatitis C (CHC) in France stratified by liver disease stage. **METHODS:** Patients hospitalized for chronic viral hepatitis C (ICD-10 code B18.2) were identified in the PMSI-MCO 2010-2012 database (French Medical Information System Program-Medicine, Surgery, Obstetric) between January, 1st 2010 and December, 31st 2012 and tracked in the PMSI-SSR/HAD databases (post-acute care/hospitalizations at home: alternative management of care). An algorithm and a medical review excluded people under 18 years old, viral co-infected patients and non CHC related stays. During the study period, patients were followed from their first stay to censoring (i. e December 31st 2012 or death). For each patient, cumulative time in days in the different liver disease stages (F0-F3 fibrosis; compensated cirrhosis; decompensated cirrhosis; hepatocellular carcinoma; liver transplant) were calculated. Associated costs during these periods were added up and a mean annual cost per patient per liver disease stage estimated. As only inpatient deaths are captured into the PMSI, estimated outpatient deaths were imputed. Valuation was performed considering the national costs study (ENCC) expressed in 2013 Euro. **RESULTS:** 58,405 stays were identified, extracted and considered as directly related to CHC corresponding to 26,621 patients. 743 additional hospitalizations were extracted from PMSI SSR/HAD. Patients were 56±13.5 years old on average, 62% were male. Mean annual costs of patients hospitalized for CHC reason were: €1,107 for F0-F3 fibrosis; €2,104 for compensated cirrhosis; €10,400 for decompensated cirrhosis; €11,739 for hepatocellular carcinoma; €62,098 for 1st year of liver transplant and €7,449 for subsequent year. **CONCLUSIONS:** CHC patients are mainly managed in acute care. Costs associated to CHC complications are important. These estimated hospital-related costs will be useful to populate cost-effectiveness and disease cost models.

PGI13

## DIRECT HEALTH CARE COSTS ASSOCIATED WITH OPIOID-INDUCED CONSTIPATION

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**OBJECTIVES:** Opioid-induced constipation (OIC) is the most common and distressing side effect of opioid treatment in patients with chronic pain. There are limited data to estimate the occurrence of OIC; however, estimates in non-cancer patients range from 40-50% and can be as high as 90% in cancer patients. Increased resource utilisation is associated with the diagnosis and management of OIC; however, the economic burden of OIC remains under-reported. **METHODS:** This review considered the cost of illness associated with OIC. A targeted literature review was conducted for all publications since 2000 that evaluated the economic burden of OIC. Databases used for the literature search were PubMed, Embase, and HEED. All costs were converted to a 2014 USD cost base. **RESULTS:** Eleven studies were identified which reported direct health care costs associated with OIC. All studies reported increased direct costs related to OIC; however, estimates per country varied significantly. Direct health care costs specifically related to OIC ranged