PHI12

GOLD STAGE AND DURATION OF HOSPITAL ADMISSION DETERMINES SIZE AND STRUCTURE OF COPD RELATED DIRECT MEDICAL COSTS IN ELDERLY

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OBJECTIVES: Cost of illness assessment and its dependence on GOLD stage or duration of hospital admission. METHODS: The sample consisted of 186 elderly COPD patients. Chest physicians conducted follow-up and financial data were obtained from administrative registry. Time horizon was one year and Health Insur- ance Fund perspective was selected. Included clinical endpoints were disease exacerbation and hospital admission. Economic data included all inpatient COPD-related medical goods and services consumption, and outpatient drug utilization. We excluded medical costs which did not arise from COPD. RESULTS: An average elderly COPD patient imposed £745.41 of costs annually to the national health care budget. Severity grade (GOLD stage) and duration of all hospital admissions were significantly and directly correlated with overall cost. Expenses structure per year was: £14.54 outpatient care, £62.97 inpatient drug consumption, £377.98 hospital admission (Intensive Care Unit admissions and specialist consultations included in daily price), £133.3 imaging diagnostics, £111.1 laboratory analysis, £86.7 therapeutic interventions, £70.32 consumables, £88.44 outpatient drugs consumption. Most expenses originating from drug acquisition were due to antibiotics prescribed for curing infections and macrolides and anthistamine drugs consumption. Average number of hospitalizations per patient was 1.45 with a duration of 12.94 days. Fifteen persons deceased. Average number of outpatient visits was 2.71 per person. CONCLUSIONS: Overall burden of COPD is mostly driven by outpatient drug consumption and exacerbations leading to hospital admissions. Relative reliance of drug acquisition expenses in our country is higher than in high-income societies, because of still significantly lower human labour wages in the area. Pattern of diagnostic procedures requested and ATC drug classes consumed remains similar and comparable in most countries. More in-depth research of indirect COPD attributable costs e.g. lost productivity, absenteeism, premature death etc, will be needed in the future.

PHI13

PATTERNS AND COSTS OF HOSPITALIZATIONS IN ELDERLY PATIENTS IN RIO DE JANEIRO, BRAZIL

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OBJECTIVES: Ageing population implies greater demand of hospital services and consequent health care costs. This study aims to describe patterns of hospitalization and estimate hospitalization costs for aged patients in public hospitals in the city of Rio de Janeiro, Brazil. METHODS: Retrospective analysis of Rio de Janeiro hospital admissions for elderly people (aged 60 years) as reported in Brazilian Hospital Information System (SIH-SUSATASIS) database from January 1st to December 31st 2007. The costs informed in the dataset represent federal reimbursement values for hospitalizations placed in public hospitals in the city. The admissions were categorized according to ICD-10 groups and age categories. RESULTS: 287,972 hospital admissions were identified in all ages in 2007 and 28.4% were for patient ages 70-77 years (70,077). The five more common reasons for hospitalization were cardiovascular diseases (22.4%), cancer (17.5%), mental and cognitive disorders (11.2%), gastrointestinal (9.3%) and respiratory diseases (7.6%). The in-hospital mortality rate was 14.5%. When disease groups were analyzed, infectious and respiratory diseases had the higher mortality rates (38.6% and 38.3%, respectively). The mean length of stay was 14.3 days and the average cost for elderly patients hospitalizations was 960.62 BRL. The total amount paid for hospitalization of elderly patients in 2007 was 67,117,348 BRL, 30.7% of all hospitalization costs. CONCLUSIONS: The findings showed the significant contribution of the elderly to public hospital expenditures with leading causes of admission including cardiovascular diseases, cancer and mental and cognitive disorders. Additionally, the higher in-hospital mortality rate was seen for preventable diseases. These results reinforce the need of prevention strategies among the elderly population for targeted conditions.

PHI14

COST-BENEFIT OF FLUCONAZOLE FOR VAGINAL CANDIDIASIS

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OBJECTIVES: To perform cost-benefit analysis of fluconazole for VC in Russia. METHODS: Willingness-to-pay (WTP) for treatment of vaginal candidiasis was assessed. 240 women took part in the survey, a specific questionnaire was designed to reveal women’s preferable methods of antifungal drug application and WTP for flucon-azole in comparison with other drugs. Women were proposed: 1) to choose the preferable method of drug application; 2) to choose the preferable drug among 4 options with similar efficacy but different methods of application and price (no con-crete drug names were mentioned, only prices and costs of treatment and application methods); and 3) to give the maximal affordable price for treating vaginal candidiasis. RESULTS: More than 60% of women preferred oral treatment once with the mean costs of therapy 350 rubles ($11) among 4 proposed alternatives. The median WTP for antifungal therapy was 500 rubles ($16) (range from 50 to 5000 rubles, $1.6–161.0) that is less than real cost of treatment with original fluconazole preparation. The cost-benefit ratio (WTP/cost of treatment) was 1.30 (range 0.09–20.6). CONCLUSIONS: Fluconazole is a cost-benefit alternative for VC treatment.

PHI15

ECONOMIC EVALUATION OF DARBEPOETIN ALFA (ARANESP) COMPARED TO EPOETIN ALFA (ERETR) AND EPOETIN BETA (ERB) IN THE TREATMENT OF CHEMOTHERAPY-INDUCED ANEMIA (CIA) IN AUSTRIA

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OBJECTIVES: Anemia is a common side effect observed in patients receiving myelo-suppressive chemotherapy [1]. The purpose of this pharmacoeconomic analysis was to evaluate the cost-effectiveness of the long-acting erythropoiesis-stimulating agent (ESA) darbopeitin alfa (DA) 500 mg once every 3 weeks (Q3W) and 150 mg weekly (QW), and short-acting ESAs epoetin-alfa (EA) 40,000 IU EQ, epoetin-beta (EB) 30,000 IU QW and 3-times weekly (TIW) for the treatment of CIA. METHODS: A cost-consequence model was constructed using a decision-analysis tree. The treatment period considered was based on 12 weeks and was aligned with routine chemotherapy cycle administration. Model inputs included medical treatment, outcomes, and health care service utilization from published clinical trials and summary of product characteristics recommendation. Effectiveness of therapeutic alternatives was deter-mined by comparing hemoglobin response rates. Costs included direct medical costs (cost of intervention, drug, inpatient and outpatient) and transportation costs. Results were presented reflect 2010 data. The analysis was performed from the perspective of the Austrian health care system. RESULTS: The average expected direct costs per patient were €3,675 for DA Q3W, €3,980 for DA QW, €4,290 for EA QW, €4,240 for EB QW and €4,745 for EB TIW. Cost-savings associated with DA QW were 4% relative to DA QW, 14% to EA QW, 13% to EB QW and 21% to EB TIW. The cost per hemoglobin response rate (therapeutic success) amounted to €5,035 for DA Q3W, €5,247 for DA QW, €6,309 for EA QW, €6,235 for EB QW and €6,977 for EB TIW. CONCLUSIONS: In the treatment of CIA among cancer patients in Austria, darbopeitin alfa QW and QW are projected to provide more efficient use of health care resources compared to alternative treatment strategies such as epoetin-alfa and epoetin-beta. [1] Ludwig et al. Eur J Cancer 2004;40:2293–306.

PHI16

SURGICAL REPAIR OF ANTERIOR VAGINAL WALL PROLAPSE USING PROLIFT® AND COLPORRAPHY: A COST-EFFECTIVENESS ANALYSIS FOR A THIRD LEVEL HOSPITAL IN MEXICO

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OBJECTIVES: Estimate the clinical and economic outcomes of the surgical repair of anterior vaginal wall prolapse using Prolift® vs. colporraphy to assess its cost-effectiveness under a third level hospital perspective in Mexico. METHODS: A multi-state Markov model was developed to assess the evolution of a patient with anterior vaginal wall prolapse. The lead-in phase was two years (colpocleisis + a mesh grant (Prolift®) after 2, 4, 10 and 20 years. A specialist panel was conducted to collect current clinical practice, resource utilization and collaboration data. After the first surgical prolapse repair, the base-case patient could face two additional surgical prolapse repairs if they required them (colpocleisis + a mesh grant (Prolift®) after 2, 4, 10 and 20 years). Clinical data, transition probabilities and mortality rates were taken from published sources. Only direct medical costs were considered, and cost data was retrieved from IMSS official cost list. The price of Prolift® was internally estimated. Results are expressed as 2010 inflation-adjusted Mexican pesos (MXN) and MXN/QALY for ICERs. A 4.5% discount rate was used for costs and outcomes. RESULTS: Total costs for year 1 were higher for the Prolift® strategy ($273,598 vs. $29,942/QALY vs. $29,942/QALY for DA QW, €3,980 for DA QW, €4,240 for EB QW and €4,745 for EB TIW. Cost-savings associated with DA QW were 4% relative to DA QW, 14% to EA QW, 13% to EB QW and 21% to EB TIW. The cost per hemoglobin response rate (therapeutic success) amounted to €5,035 for DA Q3W, €5,247 for DA QW, €6,309 for EA QW, €6,235 for EB QW and €6,977 for EB TIW. CONCLUSIONS: In the treatment of CIA among cancer patients in Austria, darbopeitin alfa QW and QW are projected to provide more efficient use of health care resources compared to alternative treatment strategies such as epoetin-alfa and epoetin-beta. [1] Ludwig et al. Eur J Cancer 2004;40:2293–306.

PHI17

COST-EFFECTIVENESS OF SEASONAL INFLUENZA VACCINATION IN PREGNANCY IS DEPENDENT ON VACCINATION EARLY IN FLU SEASON

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OBJECTIVEs: To estimate the impact of vaccination timing on the cost-effectiveness of seasonal influenza vaccination in pregnancy for prevention of disease in women and infants under 6 months of age. METHODS: We constructed an open cohort...
Markov simulation of US pregnant women and infants under 6 months of age for 1 calendar year, from July 1 through June 30. National statistics on live births and infant mortality were used to generate probabilities of delivery and infant death based on gestational age. Each week, women entered the cohort with new pregnancies, and left by delivery; infants entered by delivery and left by death or reaching 6 months of age. Annual influenza-attributable rates of outpatient visits and hospitalizations for pregnant women and infants were obtained from the literature, and adjusted to weekly incidences using CDC data on influenza-positive respiratory isolates. In the base case, we assumed vaccination would begin in calendar week 40, be administered at routine prenatal visits across all gestational ages, and continue throughout the rest of the year, with vaccine efficacy of 73% for prevention of maternal flu and 63% for prevention of flu in infants under 6 months. Costs and maternal utilities were obtained from previously published analyses; we used published paternal utilities for relevant infant health states.

RESULTS: Base-case cost-effectiveness was $65,112/QALY gained. Fifty-six percent of the reduction in morbidity was attributable to prevention of disease in infants, and all of this benefit was accrued by vaccination within the first 4 weeks of vaccine availability. CONCLUSIONS: Vaccination of pregnant women against seasonal influenza is cost-effective, with much of the benefit derived from prevention of infant disease. Vaccination is most efficient when the majority of pregnant women are vaccinated within 4 weeks of vaccine availability.

COST-EFFECTIVENESS OF COMBINATION THERAPY WITH DUTASTERIDE AND TAMSULOSIN FOR THE TREATMENT OF MODERATE TO SEVERE BENIGN PROSTATIC HYPERPLASIA IN SPAIN

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OBJECTIVES: To evaluate the cost-effectiveness of the combination therapy with dutasteride and tamsulosin (D+T) as initiation treatment versus tamsulosin (T), considered the standard of care, in the treatment of moderate to severe benign prostatic hyperplasia (BPH) in Spain. METHODS: A semi-Markov model was developed using 4-year and 35-year time horizons. Data were obtained from the COMBAT and literature review, and the analysis was made from the National Healthcare Service perspective. Effectiveness was measured in terms of reduction of acute urinary retention (AUR) events in the future, related surgeries and quality-adjusted life-years (QALYs). Health care resources were defined by an experts' panel, and unitary costs were obtained from published Spanish sources and expressed in 2010 Euros. The model calculates costs, AURs and surgeries, and QALYs related to each therapy. Costs and effectiveness outcomes were discounted at 3.0%. One-way and probabilistic sensitivity analyses were conducted to test the robustness of the model. RESULTS: Combination therapy with D+T improves patients' outcomes. At 4 years, D+T patients have a 9.9% reduction in AURs and surgeries over T, reaching 43.9% at 35 years. At 4 and 35 years, total costs related to T treatment add up to 1,373.90€ and 5,187.37€, and total costs related to D+T are 2,184.43€ and 8,630.99€, respectively. Therefore, at 4 years, treatment with D+T presents an additional cost of 81,66€ per AUR and surgery avoided and 14,023.32€ per QALY gained compared to T. At 35 years results were 79,10€ per AUR and 8,215.15€ per QALY gained. Sensitivity analyses showed that results are robust. CONCLUSIONS: Given the assumptions, combination treatment with D+T not only represents a more effective alternative versus T due to the reduction in AURs and surgeries, but also is a cost-effective treatment in patients with moderate to severe BPH in Spain.

IS ROUTINE IMMUNIZATION OF ELDERLY WITH THE 13-VALENT PNEUMOCOCCAL CONJUGATE VACCINE LIKELY TO BE CONSIDERED AS COST-EFFECTIVE?

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OBJECTIVES: To estimate the cost-effectiveness in relation to the efficacy of PCV-13 among elderly (both the total population and those at increased risk) aged 65 years and older for the The Netherlands, for various levels of efficacy assumed. METHODS: We previously published cost-effectiveness model was updated to include, age-specific epidemiological data and health care utilization and costs for a hypothetical cohort of elderly aged over 65 years of the population of the The Netherlands. This cohort was followed twice once on vaccinated elderly and once as a vaccinated cohort over a time period of 5 years. Outcome measures included costs, life-years (LYs), quality-adjusted life-years (QALYs) and cost-effectiveness ratios (CERS). All analyses were performed from a societal perspective. RESULTS: Vaccination remained well below the 800,000 per LY except if the vaccine was only assumed to be protective against gastroenteric pneuma with a relatively low effectiveness (40%) in combination with a high vaccine price (665) and indirect effects of serotype replacement would largely offset the direct effect of vaccination. For various assumptions, introduction PCV-13 (assuming a 60% efficacy against invasive and non invasive disease due to vaccine serotypes, and a cost of 530 per vaccinated person) the incremental cost-effectiveness ratio varies over from cost-saving to 56,676 per LY. More probable scenarios generated cost-effectiveness ratios which would be labeled as cost-effective. CONCLUSIONS: In the The Netherlands, vaccination with PCV-13 is likely to be considered cost-effective for the total and for the high-risk population over 65 year of age from a societal perspective over a five-year time horizon. The main limitation of this study was the uncertainty regarding the share of pneumococcal related pneumonia.