PMS11

CALCULATING INDIRECT COSTS – DIFFERENCES CAUSED BY VARIOUS APPROACHES TO UNIT COSTS. RESULTS OF MOVE TO WORK STUDY (M2W)

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INTRODUCTION: Leaving aside the difference in valuation of indirect costs of disease between various methods of estimating (human capital, friction cost method), the result of estimation of indirect costs may vary significantly in relation to other methodological decisions, such as the unit costs of work. **OBJECTIVES:** To show the variability of results obtained using various methods of indirect cost calculation illustrated with data from M2W study. **METHODS:** We have analyzed data on presenteeism and absenteeism measured with WPAI (Work Productivity and Activity Impairment) questionnaire from an observational, cross-sectional M2W study of patients with rheumatoid arthritis (RA), Crohn's disease (CD) and psoriasis (Ps) in productive age in Poland (N=814, 464 and 822, respectively). We estimated indirect costs of presenteeism and absenteeism of employed patients, using human capital method. We compared two methods of estimating unit costs of lost productivity recommended in the literature: the reflection of the productivity loss on GDP and market value of unit of work time. The loss of productivity was estimated as GDP per worker per hour at 51.04 PLN and was then multiplied by 0.65 to correct for the output elasticity of labor. The value of an hour of loss of productivity defined as the market value of work time was estimated using average hourly gross income in Poland (21.98 PLN). **RESULTS:** Mean rate of overall productivity loss (presenteeism and absenteeism) for RA was 43%, for CD equaled 36% and for Ps 35%. Total annual costs of productivity lost due to RA, CD and Ps using work market value equaled 1.03, 0.05 and 5.25 billion PLN respectively. Costs of lost productivity estimated using GDP amounted to 1.56, 0.08 and 7.92 billion PLN. **CONCLUSIONS:** Depending on the theoretical assumptions for what constitutes the unit cost of productivity loss the results of indirect costs analysis show great variability.

PMS12

THE ECONOMIC COST OF RHEUMATOID ARTHRITIS IN TAIWAN

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OBJECTIVES: Rheumatoid arthritis (RA) is an autoimmune disease that results in a chronic, systemic inflammatory disorder. It can be a disabling and painful condition, which can lead to substantial loss of functioning and mobility if not adequately treated. The aim of this study was to estimate the economic cost of RA patients and their family in Taiwan. **METHODS:** We estimated cost of RA from the societal perspective. Data Sourced both from the Taiwan's National Health Insurance Research Database (NHIRD) in 2010 and a face-to-face interview survey to the patients with RA. We identified all patients by both the primary diagnosis code ICD-9-CM 714.0 and the catastrophic illness certificate from NHI claim data. In addition, Patients were recruited from rheumatology outpatient clinics at two medical centers and one regional hospital from March 2010 to June 2011. Direct medical costs, direct nonmedical costs, and productivity loss due to job loss and sick leave of patients with RA were estimated. **RESULTS:** The mean annual per patient total medical costs were NT$177084. Drug expense represented more than half of the Medical costs. The mean annual direct nonmedical costs were NT$11195 per patient. Annual productivity loss due to job loss and sick leave were around NT$299635 per patient. **CONCLUSIONS:** In this study, the indirect cost of RA is higher than the direct cost of RA in Taiwan. This result may represent that the government should make efforts not only to improve the treatment and care of RA patients but also to create a supportive and well social welfare environment for RA patients and their family.

PMS13

ECONOMIC BURDEN OF CHILDHOOD INJURY: A REVIEW

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OBJECTIVES: This study aims to summarize the results of the available evidence on economic burden of childhood injury in the world. **METHODS:** We summarized Chinese literatures from CNKI and searched English studies from Pub-Med. "Children", "Injury" and "burden " as the initial search words identified in English. We selected articles with injury burden referring to economic burden and collected the major results of literatures on study design, methods of calculating economic burden. **RESULTS:** We searched 34 literatures in Chinese and identified 33 articles in English, according to the inclusion criteria, 11 Chinese and 9 English articles were collected. We found that the result of each study was different in study design, criteria of injury, children's gender and age, injury types and the areas and periods of studies ,especially the method to calculate the economic burden of childhood injury. Researchers in China usually include only direct cost and sometimes indirect cost when calculating the economic burden, while scholars abroad usually cover direct, indirect cost of injury and sometimes intangible cost which caculating the cost of QALYs. **CONCLUSIONS:** We got different results affected by types of injuries, characteristics of population, regions of children and their social and economic situations. It's necessary to build a unified way to calculate economic burden of children injury.

PMS14

HEALTH CARE RESOURCE REQUIREMENTS AND COSTS DURING THE RECOVERY PHASE OF FASCIECTOMY FOR THE TREATMENT OF DUPUYTREN'S CONTRACTURE: CLINICIAN SURVEY

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OBJECTIVES: The average inpatient procedural cost for fasciectomy in Australia is $3,079.57; however this does not capture the true cost of the surgery to the health care system or to society in total. This study sought to determine the extent and cost of health care resource use and productivity loss post-surgical fasciectomy for the treatment of Dupuytren's contracture (DC) inclusive of medical consultations, allied health care services, and loss of work hours in Australia. **METHODS:** A survey of Australian clinicians was performed to inform the estimation of health care resource use and productivity loss during the recovery phase. The survey was sent to 89 hand, orthopaedic and plastic surgeons responsible for the treatment of DC across Australia, with 19 completed surveys received giving a response rate of 21%. Local unit costs were applied to these estimates of resource use and productivity loss. **RESULTS:** Results from the clinician survey indicated on average the following number of visits to health care professionals were required: 3.2 surgeon, 3.8 physiotherapy, 5.6 occupational therapy, 0.4 home nurse and 0.4 general practitioner visits. Based on this data the resource requirements associated with fasciectomy during the recovery phase were estimated to be $862.18. Loss of productivity informed by the survey suggests 85% of patients in the workforce required time off work for an average of 15.6 days. Based on labour force participation rates by age and gender the average productivity loss was estimated to be 6.1 days at a mean cost of $1,147.18 per patient treated. When considering both the direct health care costs and productivity costs, it was estimated a total of $2009.36 was incurred per patient during the recovery phase following fasciectomy. **CONCLUSIONS:** Fasciectomy for DC is associated with considerable rehabilitation, follow-up and loss of productivity costs which account for a sizable proportion (39%) of total fasciectomy costs.

PMS15

COST-EFFECTIVENESS ANALYSES OF SCREENING AND TREATMENT STRATEGIES FOR POSTMENOPAUSAL OSTEOPOROSIS IN CHINESE WOMEN

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OBJECTIVES: The aim of the study was to determine the cost effectiveness of osteoporosis screening strategies in Chinese postmenopausal women. **METHODS:** A Markov model including first and second order Monte Carlo simulation was constructed using a lifetime horizon, from which cost effectiveness of osteoporosis screening strategies from age 65 were compared to that of no screening from the Chinese health care perspective. The screening strategies were 1) Osteoporosis Self-Assessment Tool (OST) followed by dual-energy X-ray absorptiometry (DEXA), 2) quantitative ultrasound (QUS), and 3) DEXA. Patients were assumed to receive alendronate if osteoporosis was detected or they experienced an osteoporosis-related fracture, and were rescreened every 5 years if osteoporosis was not detected. First order Monte-Carlo using trackers was used to record fracture history. Probabilistic sensitivity analysis was performed to account for parameter uncertainties. Input parameters, including age-specific osteoporosis prevalence, fracture probabilities and costs and mortality probabilities were retrieved from published Chinese data where available. Costs were presented in 2013 USD. Both costs and effectiveness were discounted at 3% annually. A willingness-to-pay (WTP) threshold of 20,000 USD/quality adjusted life year (QALY) gained was used according to the China Guidelines for Pharmacoeconomic Evaluations. **RESULTS:** All screening strategies were more effective than no screening, but were more costly. Compared to no screening, the incremental cost-effectiveness ratio (ICER) for screening with OST followed by DEXA from age 65 was $21,107/QALY gained. ICER for QUS screening was $9,756/QALY gained. ICER for DEXA screening was $8,527/QALY gained. Compared to DEXA alone, OST followed by DEXA and QUS screenings were dominated. Given a WTP threshold of $20,000/QALY gained, screening with DEXA alone had a probability of 56% being cost effective. **CONCLUSIONS:** Based on incremental cost-effectiveness analysis, DEXA screening alone every 5 years from the age of 65 is recommended for osteoporosis screening in a Chinese setting.

PMS16

COST-EFFECTIVENESS OF DENOSUMAB VS. BRAND OR GENERIC ZOLEDRONIC ACID IN PATIENTS WITH BREAST CANCER IN KAZAKHSTAN

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OBJECTIVES: Denosumab is recomended for preventing skeletal-related events (SREs) in adults with bone metastases from breast cancer (BC). Since recently generic zoledronic acid (ZA) became available, the aim of present study was to access the cost-effectiveness of denosumab vs. brand or generic ZA in the prevention of SREs in Kazakhstani patients with BC. **METHODS:** An excel-based Markov model was constructed with 4-week model cycles to analyse the cost-effectiveness of the treatments from the perspective of Ministry of Health with a 10-year time horison for BC cohort. Direct costs (in 2014 tenge) included costs of drug, adverse event and SRE(pathologic fracture, surgery to bone, radiation to bone, spinal cord compression) treatment. A discount rate of 3% per year was applied for all costs. Effectiveness was appraised based on the number of SREs. The health states were defined according to SRE occurance,SRE history and death. The model assumed that a maximum of 1 SRE could occur in each cycle. Transition probabilities were derived from the relevant phase III trials. Results were present in the incremental total cost per SRE avoided. One-way sensitivity analyses were performed to examine the robustness of the model. **RESULTS:** Over 10-year period, denosumab incurred 1044 tenge lower costs than brand ZA, 568558 tenge higher costs than generic ZA, 1.28 fewer SREs per BC patient. The estimated incremental total direct costs per SRE avoided with the use of denosumab were -816 tenge (instead of brand ZA) and 444186 tenge (instead of generic ZA). Results were robust to one-way sensitivity analyses. **CONCLUSIONS:** With assumption that brand and generic ZAs are equally effective in the prevention of SREs in BC patients, denosumab seems to be cost-effective alternative for brand ZA, and costly alternative for generic ZA from a perspective of Ministry of Health of Republic of Kazakhstan.

PMS17

COST-EFFECTIVENESS OF DENOSUMAB VS. BRAND OR GENERIC ZOLEDRONIC ACID IN PATIENTS WITH PROSTATE CANCER IN KAZAKHSTAN

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