health policy issues. The effects of each policy category were disentangled into Price, Volume and Quality, and where an effect was identifiable, by comparing to the identical comparison group, it was qualified by sets of parameters: Direct or Indirect Effect, Desired- or Undesired Effect and Decreasing-or-Increasing Effect. RESULTS: The identified 10 policies were grouped into 5 main categories: Essential Drug Listing & Price Control (3), Essential Drug Usage Promotion (2), Reimbursed Drug Listing & Price Control (2), Hospital Drug Price Controls (2), and Prescription-Dispensing Separation (1). The majority (4/5) of the policy categories were targeted directly at lowering drug prices, and did achieve certain Direct-Desired-Decreasing effects on Price. Three of these four policy categories, however, also had indirect-undesired effects, mainly expressed as increasing prescribing or lowering drug quality. The other policy aimed at promoting rational pharmaceutical prescription failed to make tangible impact at national level. CONCLUSIONS: The drug policies implemented during 2009-2011 achieved limited success and new approaches towards reform will be needed to obtain better results.

EX4 RECENT TRENDS IN COMMUNITY PHARMACY PAYMENT OF NATIONAL HEALTH INSURANCE IN SOUTH KOREA
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OBJECTIVES: To investigate recent trends in reimbursement payment for pharmacy service and pharmaceuticals from the Korean National Health Insurance (NHI) using the NHI claims database. METHODS: Pharmacy claims data were extracted from the Korean NHI database from January 1, 2008 to March 31, 2011 by quarterly unit. The monthly number of prescriptions of each pharmacy, the average number of supply-days per prescription, and payment amount to each pharmacy were calculated. RESULTS: Total claims of 15,967 pharmacies were included for analysis. The monthly reimbursed payment per pharmacy increased from 29.73 million Korean Won (KW) in 1Q 2008 to 36.41 million KW in 1Q 2011. While the increase related to dispensing fees was 1.73 million KW per pharmacy for this period, the amount contributing to pharmaceuticals increased from 4.95 million KW. The daily supply-days per prescription was ranged from 9.12 in 2008/1Q to 11.32 in 2010/3Q. The average number of supply-days per prescription was ranged from 7.24 days of prescriptions were relatively stable, the reimbursement amount per pharmacy service and pharmaceuticals from the Korean National Health Insurance (NHI) using the NHI claims database.

podium session II: HEALTH TECHNOLOGY ASSESSMENT STUDIES

HT2 COST-EFFECTIVENESS ANALYSIS OF BONE MINERAL DENSITY SCREENING TOOLS Kang L1, Lee HK2
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OBJECTIVES: The aim of this study was to compare the cost effectiveness of BMD (Bone Mineral Density) screening tools- RA, QUS, pDXA, QCT, and DXA, for women aged in 60s’ and to estimate sensitivity and specificity of each BMD screening tool. A Markov model was developed to analyze the cost-effective- ness of DXA, QUS, RA, pDXA, and QCT. A cohort of 10,000 women aged 66 was constructed for each bone densitometry and a cohort of 10,000 women aged 66 was also constructed as a non-exam group. The Markov model of osteoporosis and its related fractures, costs and effectiveness measured by QALY were estimated until the cohorts reached 100 years old or died. It was assumed that only costs were discounted by 5% and the compliance for osteoporosis drugs was 38%. Sensitivity analysis was performed on the discount rate and the compliance to osteoporosis drugs. RESULTS: ICER (incremental cost-effectiveness ratio) is an indicator of how much extra costs are needed to increase an extra 1 QALY compared to the reference group. The magnitude of ICER’s were ordered as DXA<pDXA<QCT<RA<QUS. DXA and pDXA cost extra 398,618 won and 453,947 won, respectively, in order to increase 1 extra QALY compared to the non-exam group, which meant that DXA and pDXA were very cost-effective. The extra costs for QUS, RA, and QCT to increase 1 QALY compared to the non-exam group ranged 350,000 won~590,000 won, which meant that these were also cost-effective. CONCLUSIONS: All the BMD screening tools that were examined in this study were found to be cost-effective in terms of ICER. When the relative cost-effectiveness of pDXA, QUS, RA, and QCT compared with DXA, DXA was predominant over the other.

HT3 DEVELOPMENT OF A CHECK LIST FOR QUALITY ASSESSMENT OF PHARMACOECONOMIC EVALUATIONS SUBMITTED FOR REIMBURSEMENT IN TAIWAN Wu GHM1, Liao CH2, Shau WY1, Lo FC1, Pau RF2
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OBJECTIVES: It is not mandatory for pharmaceutical manufacturers to submit cost-effectiveness evidence yet in Taiwan, but an incentive of a maximum 10% mark-up for conducting local cost-effectiveness analysis has been announced since 2010. HTA/CDE (Division of Health Technology Assessment, Center for Drug Evaluation) is the first and the strongest asset of the development of the local cost-effectiveness evaluation, and a checklist was therefore developed to ensure the consistency and to improve the transparency. This study presents the impact of local pharmacoeconomic incentive and the development of the checklist. METHODS: By reviewing dossiers for quality assessment, pharmacoeconomic evidence and adding items for local adaptation and transferability, a checklist consisting of four dimensions including PICOS, cost-effectiveness analysis design, source of parameters, and overall quality was developed with a four-level grading for evidence strength. The local pharmacoeconomic evidence was identified from the dossiers submitted by the manufacturers during 2008-2011, and was independently assessed by the four reviewers in the economic evaluation team of HTA/CDE as reference cases. Discrepancies between reviewers were discussed until consensus was reached. RESULTS: There were 83 and 67 dossiers submitted for reimbursement before and after the incentive was announced, respectively. However, no local pharmacoeconomic evidence has been submitted until eight months after the incentive was announced. Another four dossiers consist of five local pharmacoeconomic evaluation (one with multiple indications) were submitted in 2011. The strengths of evidence were graded as strong, medium, low, and very low for 0, 1, 2, and 3 cases according to the checklist. CONCLUSIONS: A pragmatic strategy was used to incorporate cost-effectiveness evidence into the drug reimbursement decisions in Taiwan. Local pharmacoeconomic evidence submissions increase slowly after the incentive was announced. A quality assessment checklist was proposed. Further experience will be cumulated and discussed among the submitting bodies, the appraisal committee members, and HTA/CDE.

HT4 HEALTH TECHNOLOGY ASSESSMENT MAP IN ASIA – REGIONAL VERSUS INTERNATIONAL INFLUENCES
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OBJECTIVES: To gain insights into health technology assessments (HTA) landscape in Asia and to better understand international influence dynamics across interconnected HTA universe. METHODS: Information on major Asian HTA agencies (NECA, HITAP, CDE, etc) was collected and analysed at the level of four data categories: agencies, institutions, people (members) and assessments. For each category a number of attributes were included (such as location, affiliations, members, budget, type of HTA, decision on technology). The information was applied to add multiple types of connections between the datasets to conduct the analysis and visualize HTA networks. The tool enabled mapping of relationship links that represent direction and weight of influence, overlaying displayed stakeholders with visual charts summarizing sets of quantitative values (such as number of employees or budget) for visual pattern matching and comparison, and geographic analysis. RESULTS: The analysis revealed the initiated collaboration between HTA stakeholders in the Asia region. In the centre of the Asian HTA ecosystem are located the most established agencies in Korea, Taiwan and Thailand where HTA already yields important evidence to inform policy and practice. The visual analysis revealed patterns of collaboration where agencies were 1) referring to each other; 2) referring to the same sources and academic institutions, and 3) absorbing the experience from well-established European HTA agencies such as NICE or IQWiG. CONCLUSIONS: HTA has expanded globally and can be characterised by common patterns in interactions when looking at and refining the evidence required for the reimbursement. Rapidly growing in number and in influence HTA organizations in Asia are strengthening their abilities through collaboration with other, by involving independent research institutions into the HTA process and by building upon European HTA experience.

PODUM SESSION II: PREFERENCE-BASED OUTCOMES STUDIES

PR1 DOES MEDICATION ADHERENCE CORRELATE WITH HEALTH-RELATED QUALITY OF LIFE? FINDINGS FROM A DESCRIPTIVE ANALYSIS
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OBJECTIVES: To evaluate the association between medication adherence and health-related quality of life (HRQoL) in Pakistan. METHODS: A questionnaire based cross sectional study design was undertaken with hypertension patients attending public hospitals in Quetta city, Pakistan. HRQoL was measured by Euroqol 5D-SD. Medication adherence was assessed by Drug Attitude Inventory. Descriptive statistics was used to tabulate demographic and disease related information. Spearman’s correlation was used to assess the association between the study variables. All analysis was performed by using SPSS 17.0. RESULTS: Among 385 study patients, mean age (SD) was 39.02 (6.59), with 68.8% of males dominating the entire cohort. Mean (SD) duration of hypertension was 3.01±0.90 years. Health related quality of life (HRQoL) was rated as poor with 80% score (n=308) working in the private sector. Negative and weak correlation (-0.120, p 0.939 years. Forty percent (n=134) working in the private sector. Negative and weak correlation (-0.120, p <0.05), p <0.05). PR2 PREFERENCE-BASED OUTCOMES STUDIES
prove HRQoL. Factors other than medications adherence should be focused in further studies to improve HRQoL.

PR2
A FEASIBILITY STUDY OF PREFERENCE-BASED HEALTH-RELATED QUALITY OF LIFE MEASURES ON PATIENTS WITH IRITABLE BOWEL SYNDROME IN TAIWAN
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OBJECTIVES: Irritable bowel syndrome (IBS) is a relapsing, chronic functional gastrointestinal disorder leading to long-term disturbances on health-related quality of life (HRQoL). Various functional and QoL measures have been developed to evaluate IBS outcomes, but none of the preference-based QoL measure has been applied and validated on Taiwanese people. This study aimed to explore the feasibility of applying preference-based HRQoL measures to IBS patients in Taiwan.

METHODS: This prospective study was conducted from July to December 2010 at gastroenterology clinics in a regional hospital in southern Taiwan. IBS outpatients diagnosed by Rome III criteria were invited to participate semi-structure interview survey by using EuroQol (EQ-SD) questionnaire, 100-mm visual analogue scale (EQ-SDVAS) and standard gamble (SG) method. The EQ-SD assessment was transformed into EQ-SD index using Japanese preference weight. Multiple regression parameter inputs in an economic evaluation incorporating ADEs of a chemotherapeutic agent.

RESULTS: Of the 29 participants (mean age 45.8 ± 16.5 years, 62.1% female) completed QoL survey, except for one rejected survey for disagreeing with SG hypothesis. Participants’ IBS subtypes included constipation-predominant IBS (n = 11, 37.9%), diarrhea-predominant IBS (n = 16, 55.2%), and unsubtyped IBS (n = 6.9%). 12 (41.4%) participants were newly diagnosed IBS and 12 had had two-year disease history. Participants had no problem in EQ-SD survey, some expressed difficulties in dimensions of pain/discomfort and anxiety/depression. Mean utility derived from SG (0.85 ± 0.16), EQ-SD index (0.79 ± 0.15) and EQ-SDVAS (0.59 ± 0.17) were significantly associated with utility values of specific chemotherapy-related ADEs (with the top ten being anemia, nausea and/or vomiting, neutropathy, diarrhea, constipation, stomachitis, fatigue, alopecia, hand-foot syndrome, skin reaction). Regression coefficients of these results derived from EQ-SD and EQ-VAS, and this finding matches previous literature. Further validate the utility measures in more IBS patients with various subtypes and severity is needed.

PR3
UTILITY VALUES FOR CHEMOTHERAPY-RELATED ADVERSE EVENTS: A REVIEW OF THE LITERATURE
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OBJECTIVES: Chemotherapy offers cancer patients the potential benefits of improved mortality and morbidity but may cause detrimental outcomes due to adverse drug events (ADEs) that could require time-consuming, resource-intensive and costly clinical management. To appropriately assess chemotherapy agents in an economic evaluation, the impact of ADEs could be included in terms of their incidence, costs of their management and valuation of the perceived disbenefits via (dis)utility of ADEs. This review aimed to identify published studies reporting utility values for chemotherapy-related ADEs. METHODS: A structured electronic search was performed for utility, utility valuation methods and generic terms for cancer treatment was conducted in MEDLINE and EMBASE in June 2011. Inclusion criteria were: 1) primary data, and 2) elicitation of utility for chemotherapy-related ADE. Two reviewers identified studies and extracted data independently. Any disagreements were resolved by a third reviewer. RESULTS: Eighteen studies met the inclusion criteria from the 853 abstracts initially identified, collectively reporting 218 utility values for chemotherapy-related ADEs. All eighteen studies used short descriptions (vignettes) to obtain the utility values. Of the 218 utility values, 178 were elicited using SG or TTO while 40 were elicited using VAS. There were 169 utility values of specific chemotherapy-related ADEs (with the top ten being anaemia (34 values), nausea and/or vomiting (32 utility values), neutropathy (21 values), neutropaenia (12 values), diarrhoea (12 values), stomatitis (10 values), fatigue (8 values), alopecia (7 values), hand-foot syndrome (5 values) and skin reaction (5 values)) and 49 of non-specific chemotherapy-related adverse events.
CONCLUSIONS: This study has summarised the current evidence base of utility values for chemotherapy-related ADEs. Only 178 of the 218 values were elicited using choice-based methods (SG & TTO) and therefore could potentially be used as parameter inputs in an economic evaluation incorporating ADEs of a chemotherapy agent.

PR4
THE EFFECT OF NEUROPATHIC PAIN ON HEALTH STATUS, WORK PRODUCTIVITY LOSS, AND HEALTH CARE RESOURCE USE IN JAPAN
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3Kanaw Health, Privotan, Ni, USA
OBJECTIVES: The current study is to quantify the burden of neuropathic pain (NeP) with respect to health status, work productivity loss, and health care resource utilization among patients in Japan. METHODS: The 2010 Japan National Health and Wellness Survey (NHWS), a self-reported, Internet-based survey of adult Japan population, was used as the data source for this study (N = 25,000). All respondents were categorized as those reporting either NeP, a form of pain other than NeP, and no pain. These groups were compared on health status (using the SF-12v2), work productivity loss (using the WPAI), and health care resource use (provider visits, hospitalizations, and emergency room (ER) visits) in the past six months using regression modeling controlling for demographics, health behaviors, and comorbidities. RESULTS: Of the 25,000 patients in Japan, 0.23% (n = 58) reported experiencing NeP, 5.57% (n = 1392) reported experiencing another form of pain, and 94.20% reported experiencing no pain in the past month. Adjusting for covariates, patients experiencing NeP reported significantly worse physical and mental component summary scores (42.43 and 41.60, respectively) than patients experiencing another form of pain (45.41 and 44.83, respectively) and patients without pain (51.03 and 47.41, respectively) (all p < 0.05). A similar pattern was observed for health utilities (0.69 vs. 0.66 vs. Other pain). Overall well-being was similar between those with NeP and those with other pain (26.63% vs. 26.63%, respectively) (p < 0.01); however, patients with NeP reported greater overall work impairment than those without pain (16.50%, p < 0.05). Patients with NeP also reported more frequent provider visits (18.85) than those with other pain (8.21) and no pain (4.60) (all p < 0.05). CONCLUSIONS: Patients in Japan with NeP report significantly worse humanistic and economic outcomes compared with those without pain and even other forms of pain. The results suggest improved management of NeP may have substantial health outcome benefits.

PR5
A QUALITATIVE EXPLORATION OF MALAYSIAN CANCER PATIENTS’ PERCEPTIONS TOWARDS CANCER SCREENING
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OBJECTIVES: The incidence of cancer is on rise in Malaysia. Despite the existence of different screening methods the response to screening is poor. The current study aims to examine cancer patients’ perceptions towards cancer screening and early diagnosis. METHODS: A qualitative methodology was used to collect in-depth information from consented cancer patients, recruited from February to July 2010. After obtaining institutional ethical approval, patients with different types and stages of cancer from the three major ethnic groups (Malay, Chinese and Indian) were approached. Twenty semi-structured interviews were conducted. All interviews were audio taped, transcribed verbatim and translated into English for thematic analysis. RESULTS: The thematic content analysis yielded four major themes: Awareness on cancer screening, perceived benefits of cancer screening, perceived barriers to cancer screening and cues to action. Majority of the respondents who have had negative results of screening prior to diagnosis perceived such tests as untrustworthy. Lack of knowledge and financial constrains were reported as barriers to cancer screening. Finally, numerous suggestions were given to improve screening behaviour among healthy individuals, including role of mass media in disseminating the message ‘prevention is better than cure’. CONCLUSIONS: Patients’ narratives revealed some significant issues that were in line with the health belief model which could explain negative health behaviour. The description of the personal experiences with the cancer screening could provide many cues to action for those who have never encountered this potentially deadly disease if incorporated into health promotion activities.

PHP1
ECONOMIC COST SAVINGS OF TECHNOLOGICAL IMPROVEMENT FOR LOWER-LEVEL HOSPITALS: A PILOT STUDY IN CHINA
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OBJECTIVES: Rural patients in China requiring cardiac and vascular interventional treatment typically have to travel to an urban “tier3” hospital for treatment instead of using their local “tier2” hospital due to lack of equipment. To understand the economic drivers of improved patient access in China a pilot study was initiated.
METHODS: Data were collected on patient numbers, clinical and social groups, insurance type, reimbursement rates, and travel costs as well as distance travelled for a period six months before and after installation of equipment in the tier2 hospitals in China. RESULTS: The hospital in the six months following installation, 107 patients were treated at an average cost of the patient to 290CNY. In tier 2 hospital in the six months following installation, 107 patients were treated at an average cost of 1992CNY. CONCLUSIONS: The current study demonstrates that 70% and 85% in the tier3 hospital during the 6 months before the equipment was installed, 1700 patients were treated at an average cost of the patient to 290CNY. In tier 2 hospital in the six months following installation, 107 patients were treated at an average cost of 1992CNY. The difference in reimbursement rate per patient was 70% and 85%. In the tier3 hospital the during the 6 months before the equipment was installed, in addition travel costs were reduced by 31CNY/patient. CONCLUSIONS: The variation in reimbursement strategy for tier 2 and tier3 hospitals offer the best financial opportunity for improving access to treatment for patients, however further work is needed to compare regional differences and also the effect of patients having to travel greater distances.