RESULTS: Chronic hepatitis B (CHB) is a major health problem in Taiwan where an estimated two million people are infected with the virus, with many being untreated. The disease is associated with a high risk of long-term sequelae including cirrhosis and hepatocellular carcinoma (HCC). Treatment with anti-virals such as entecavir reduces the risk of complications and may lead to long-term cost savings. The aim of this economic modelling study was to investigate the societally important resource use, costs and cost-effectiveness of treatment.

METHODS: A Markov model was developed that comprised health states describing the management and consequences of CHB. Data from the Taiwanese observational REVEAL cohort were used to estimate the risk of CHB complications. The effectiveness of complications derived from literature and prevalence estimates were included to calculate the burden of disease amongst 30-59 year olds eligible for treatment in Taiwan. The model compared the economic impact of doubling the number of eligible patients treated with entecavir on the incidence of hepatic complications and associated costs. The model was conducted from a Taiwanese payer perspective with a 40 year time horizon.

RESULTS: Treatment of more eligible patients reduced the number of CHB complications over 40 years and was associated with a 1.06% (NTD 1.7 billion) reduction in total costs for all diagnosed patients. Inclusion of productivity losses accentuated this with relative cost savings of 1.68% (NTD 17.2 billion). Based upon this setting, cost savings would be realised by year 15. CONCLUSIONS: CHB is likely to have a substantial economic impact over the next 40 years in Taiwan. Treating a greater proportion of patients can help mitigate this burden and lead to cost savings. Furthermore, treating more patients is predicted to reduce productivity losses, improve quality of life, and reduce mortality.

PSY8 BUDGET IMPACT ANALYSIS OF USTEKINUMAB FOR THE TREATMENT OF MODERATE TO SEVERE CHRONIC PLAQUE PSORIASIS IN THAILAND

OBJECTIVES: To estimate the budgetary consequences of adding Ustekinumab to the reimbursement list in Thailand. METHODS: From payer’s perspective, a 5-year budget impact model was developed based on the current treatment algorithm and reimbursement criteria for moderate to severe chronic plaque psoriasis. We assumed the current biologic reimbursement program for psoriasis in civil servant health care scheme (CSMS) was expanded to cover all Thai population. Annual budget impact assessment was a result of changes of current mix of biologic therapies by introduction of Ustekinumab. This use is as 1st or 2nd biologic therapy.

RESULTS: Ustekinumab’s inclusion showed the average total budget spending of 260 million baht per year (226 – 309 million baht from 1st – 5th year respectively). Comparing to current scenarios with two biologics available, we found the diminished total budget spending was 154 million baht per patient. Average budget growth rate was slightly lower with the inclusion of Ustekinumab (9.0% vs. 11.75%). Comparative total cost per responder was found lowest in Ustekinumab followed by Infliximab and Etanercept respectively. We compared the budget impact for biologics and distribution of patients among the available therapies.

CONCLUSIONS: The addition of Ustekinumab to the current biologic reimbursement list provides more efficient management approach for the treatment budget of moderate to severe chronic plaque psoriasis in Thailand.

PSY9 MEDICAL COST OF ORGAN DAMAGE DUE TO SYSTEMIC LUPUS ERYTHEMATOSUS

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OBJECTIVES: Systemic lupus erythematosus(SLE) is a chronic autoimmune disorder that may affect basically every organ of the body, such as the skin, joints, kidneys, lungs and nervous system. The aim of this study was to demonstrate the cost of organ damage caused by SLE. METHODS: A population-based dataset from the Taiwan’s National Health Insurance Research Database (NHIRD) from 2006 to 2010 was used to collect SLE caused organ damage related medical cost. The cases of SLE was identified according to the ICD-9-CM code 710.0 and catastrophic illness certificates. SLE related organ damage condition was defined inclusion criteria relating to the patient population, setting and outcomes of interest.

RESULTS: A total number of 22,258 SLE patients were identified and used to extract data of organ damage. Number of prevalent cases increased from 14,748 in 2006 to 18,047 in 2010, and prevalence rates per million populations increased from 464.7 (623.0 after adjustment) in 2006 to 779.2 (729.9 after adjustment) in 2010. Among 41 damage items, two of them (shrinking lung and minor tissue loss) do not have corresponding ICD-9-CM codes. Recurrent cerebral vascular accidental or resection, cardiomyopathy, and recurrent myocardial infarction caused most medical interventions, and mean costs doubled in the first year were NT$ 502,171, NT$ 498,871, and NT$ 357,979, respectively. CONCLUSIONS: Organ damages caused by SLE have incurred tremendous resource utilization to health care system in Taiwan. New treatment which can avoid organ damages with neuropsychiatric, renal and cardiovascular systems is needed for SLE patients.

PSY11 THE EFFECT OF SERUM ALBUMIN LEVEL WITH KABIVEN FOR NUTRITION SUPPORT IN A REGIONAL HOSPITAL

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OBJECTIVES: Chronic hepatitis B (CHB) is a major health problem in Taiwan where an estimated two million people are infected with the virus, with many being untreated. The disease is associated with a high risk of long-term sequelae including cirrhosis and hepatocellular carcinoma (HCC). Treatment with anti-virals such as entecavir reduces the risk of complications and may lead to long-term cost savings. The aim of this economic modelling study was to investigate the societally important resource use, costs and cost-effectiveness of treatment.

METHODS: A Markov model was developed that comprised health states describing the management and consequences of CHB. Data from the Taiwanese observational REVEAL cohort were used to estimate the risk of CHB complications. The effectiveness of complications derived from literature and prevalence estimates were included to calculate the burden of disease amongst 30-59 year olds eligible for treatment in Taiwan. The model compared the economic impact of doubling the number of eligible patients treated with entecavir on the incidence of hepatic complications and associated costs. The model was conducted from a Taiwanese payer perspective with a 40 year time horizon.

RESULTS: Treatment of more eligible patients reduced the number of CHB complications over 40 years and was associated with a 1.06% (NTD 1.7 billion) reduction in total costs for all diagnosed patients. Inclusion of productivity losses accentuated this with relative cost savings of 1.68% (NTD 17.2 billion). Based upon this setting, cost savings would be realised by year 15. CONCLUSIONS: CHB is likely to have a substantial economic impact over the next 40 years in Taiwan. Treating a greater proportion of patients can help mitigate this burden and lead to cost savings. Furthermore, treating more patients is predicted to reduce productivity losses, improve quality of life, and reduce mortality.

PSY12 THE PREVALENCE AND TREATMENT STATUS OF HEMOPHILIA IN INDIA, RUSSIA, TAIWAN AND TURKEY: A SYSTEMATIC REVIEW AND META-ANALYSIS

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OBJECTIVES: To describe the prevalence and the treatment status of hemophilia A (HA), hemophilia B (HB) and Von Willebrand disease (VWD) in India, Russia, Taiwan and Turkey based on existing data, and to compare prophylaxis with on-demand therapy.

METHODS: We conducted a systematic literature review in Aug, 2011 using PubMed, EMBASE, and Cochrane Library. No retrieval limitation was set. We also carried out general and targeted internet searches of hemophilia related websites. Reference lists of key reviews were hand-searched for further researches. Studies providing data of prevalence, treatment or cost of hemophilia in India, Russia, Taiwan and Turkey were included. Notepress 2 was used to manage the literatures. Meta-analysis was done using the generic inverse variance model.

RESULTS: Overall, 7 epidemiological and 15 economic studies were included for the analysis. The prevalence of hemophilia in India, Russia, Taiwan and Turkey was 2.27 per 100 000 (HA) and 2.03 per 100 000 (HB) respectively. 73.6% patients used previous blood transfusion, 12.5% used cryoprecipitate and 25% used factor concentrate. 37% of patients used prophylaxis in India. Taiwan prophylaxis was superior to on-demand therapy even when given in a twice-weekly period with intermediate concentrates. Annual extra expenditure of below $5000 per case with prophylaxis compared to on-demand therapy would be needed to permit hemophiliac children to achieve similar capacity as unaffected ones. In Taiwan, approximately $2 million per year would be added to the cost of treatment by having all severe HA patients receive secondary prophylaxis instead of on-demand therapy while 12566 bleeding would be prevented.

CONCLUSIONS: The prevalence of hemophilia is different among those 4 districts. Hemophiliacs lack adequate treatment generally. It is practical to switch from on-demand therapy to Prophylaxis.

PSY13 SYSTEMATIC REVIEW OF THE ECONOMIC AND EPIDEMIOLOGICAL BURDEN OF BLEEDING-RELATED COMPLICATIONS IN HONG KONG

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OBJECTIVES: To explore peri-operative bleeding and its relationship with patient morbidity, mortality and increased healthcare cost in Hong Kong. METHODS: EMBASE and Medline databases were searched to identify relevant epidemiological and economic evidence of the estimated bleeding-related complications in the last 15 years were considered. Relevant studies were identified using a priori defined inclusion criteria relating to the patient population, setting and outcomes of interest.

RESULTS: Eighteen studies were included in this systematic review. The mean volume of blood transfused ranged from 20–2000 mL. Laparoscopic procedures were generally associated with lower blood loss (20–350 mL), while orthognathic and liver surgery were associated with greater blood loss (600–2000 mL). Similarly, the mean volume of blood transfused varied by surgical procedure ranging from 0.17 units (head and neck surgery) to 1.8 units (orthognathic surgery). With the cost of 1 unit of whole blood estimated at US$200 in Hong Kong, the need for transfusions potentially represent a substantial cost to patients and the health care sys-
term. The transfusion of blood during surgery was associated with increased risk of wound infection (OR 1.92–3.81, p<0.001), post-operative complications (OR 3.63, p<0.001) and increased mortality (OR 1.16–10.2, p<0.005). Per-operative blood transfusion was also associated with an increased hospital stay of 4.1 days in Hong Kong. equating to approximately US$4300 in excess hospital expenses. CONCLUSIONS: This review has identified several areas in which peri-operative bleeding may increase the burden to the Hong Kong health care system. This includes the greatest need for transfusions, risk of complications and extended hospital stay. Accord- ingly, improvements in haemostasis have the potential to reduce direct health care resource utilisation through a reduction in blood use, hospital length of stay, need for additional procedures and patient mortality.

PSY14 COST- EFFECTIVENESS ANALYSIS OF PREGABALIN IN THE TREATMENT OF FIBROMYALGIA
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OBJECTIVES: Fibromyalgia is a neuropathic syndrome which is more common in adult females. Pregabalin is the first medicine which was approved by FDA for treatment of fibromyalgia. In this study we aim to evaluate the cost- effectiveness of pregabalin in the treatment of fibromyalgia in Iran. METHODS: To evaluate the efficacy of pregabalin, a systematic review by searching on PubMed, Scopus and Google scholar was conducted. The keywords included “fibromyalgia” and “prega- balin”. The outcome of interest in the reports was the score pain. To evaluate costs of treatment, the direct costs were considered. RESULTS: Out of 899 primary reports only three reports were included in the study which all of them were Randomized Clinical Trial with placebo control. Considering the efficacy extracted from these reports and because the same cost were applied to the reports, the ICER for treatment of one clinical parameter was studied. The results of this study showed that ICER for 450 mg/day, the ICER for generic medicine was 0.72 dollar per day per pain score reduction and for imported brand (Lyrica) was 6.47 dollar per day per pain score reduction and for pregabalin 600 mg/day these results were 0.78 and 5.53 respectively. CONCLUSIONS: Our analysis indicated that pregabalin in the treat- ment doses of 300, 450, 600 mg/day is cost- effective and could be included into insurance positive list.

PSY15 EFFECTIVENESS OF FRESH FROZEN PLASMA AND ITS COST-EFFECTIVENESS IN IRANIAN ACUTE ORGANOPHOSPHATE POISONING PATIENTS
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OBJECTIVES: Conventional treatment of organophosphate (OP) poisoning with oxime has had limited success. Fresh frozen plasma (FFP), acting as a bioscavenger to clean up free OP has been recently proposed as a treatment. In this study, we undertook a meta-analysis to evaluate the efficacy of FFP in management of OP poisoning to explore if this bioscavenger therapy can be effective and cost saving in health system or not. METHODS: All relevant databases were searched (till February 2012) for all clinical effects of FFP in OP poisoning. The inclusion criteria were death, development of intermediate syndrome, need for ventilation, and adverse effects. Cost data were collected from standard cost list. Cost-effectiveness grid of adding FFP to OP was created and compared with the conventional regimen. RESULTS: A total of 3 studies and 157 patients were included in the meta-analysis. Overall, we did not find significant effectiveness for FFP to prevent death (RR 1.01, 95% CI 0.32–3.6) or intermediate syndrome (RR 0.67, 95% CI 0.04–12.99). Since FFP in Iran is provided free of charge, the cost is zero. Considering direct cost and clinically important differences between effectiveness of FFP sup- plementing and conventional therapy (Δ effectiveness (for avoiding intermediate syndrome) = 7), however, economics evaluations is not necessary according to cost-effectiveness grid but it could be considered dominate. CONCLUSIONS: Re- sults do not support significant efficacy of FFP in reduction of death or intermediate syndrome in patients with OP poisoning. FFP use, however, has no impact in health cost; by consideration of only direct costs; the possibility of its benefit in lowering rate of intermediate syndrome in terms of productivity loss and indirect cost should be considered in future studies.

PSY16 COST UTILITY ANALYSIS OF REDUCED INTENSITY HEMATOPOIETIC STEM CELL TRANSPLANTATION IN ADOLESCENCE AND YOUNG ADULT WITH SEVERE THALASSEMA COMPARED TO HYPERTRANSFUSION AND IRON CHELATION PROGRAM
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OBJECTIVES: Bone Marrow transplantation is the only therapeutic option that can cure thalassemia disease. Reduced intensity hematopoietic stem cell transplantation (RI-HSCT) has demonstrated a high cure rate with minimal complications compared to other options. Because RI-HSCT is very costly, economic justification for its value is needed. This study aimed to estimate the cost-utility of RI-HSCT compared with blood transfusions combined with iron chelating therapy (BT-ICT) for adolescent and young adult with severe thalassemia in Thailand. METHODS: A Markov model was used to estimate the relevant costs and health outcomes over the patients’ lifetimes using a societal perspective. All future costs and outcomes were discounted at a rate of 3% per annum. The efficacy of RI-HSCT was based a clinical trial including a total of 18 thalassemia patients. Utility values were derived directly from all patients using EQ-SD and SF-6D. Primary outcomes of interest were lifetime costs, quality adjusted life-years (QALYs) gained, and the incremental cost-effectiveness ratio (ICER) in Thai baht (THB) per QALY gained. One-way and probabilistic sensitivity analyses (PSA) were conducted to investigate the effect of parameter uncertainty. RESULTS: In base case analysis, the RI-HSCT group had a better clinical outcomes and higher lifetime costs. The incremental cost per QALY gained was 99,548 baht. The acceptability curve showed that the probability of RI-HSCT being cost-effective was 64% at the willingness to pay of 1 time of Thai Gross domestic product per capita (GDP per capita), approximately US$4210 per QALY gained. The most sensitive parameter was discounting rate. CONCLUSIONS: At a societal willingness to pay of 1 GDP per capita, RI-HSCT was a cost-effective and affordable treatment for adolescent and young adult with severe thalassemia in Thailand compared to BT-ICT.

PSY17 COST-UTILITY ANALYSIS OF IMMUNE TOLERANCE INDUCTION (ITI) THERAPY VERSUS ON-DEMAND TREATMENT WITH RECOMBINANT FVII (RFVIIA) FOR HEMOPHILIA A WITH HIGH TITER INHIBITORS IN IRAN
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OBJECTIVES: To assess the incremental cost-effectiveness ratios of Immune Tol- erance induction (ITI) therapy with plasma derived FVIII concentrates versus on- demand treatment with recombinant FVII (RFVIIA) for hemophilia A patients with high-responding inhibitors. To adapt Knight’s Results to the Iranian context, a few clinical parameters were varied and cost data were replaced with the corresponding Iranian estimates of resource use. The time horizon of the analysis was 10 years. One-way sensitivity analyses were performed varying the cost of the clotting factor, the drug dose, and the adminis- tration frequency to test the robustness of the analysis. RESULTS: Comparison of the incremental cost-effectiveness ratios (ICERs) between the three ITI protocols and the On-Demand regimen with RFVIIA show that all three ITI protocols dominates On-Demand regimen with RFVIIA for ITI protocols the Low-Dose ITI protocol dominates both the Bonn ITI protocol and the Malmö ITI protocol, would also be preferred ITI protocol. All of three ITI protocols dominate the On-Demand strategy as they have both a lower average lifetime cost and higher QALYs gained. The cost per QALY gained for the Bonn ITI protocol compared with the Malmö ITI protocol was $249,391.84. The cost per QALY gained for the Bonn ITI protocol com- pared with the Low-Dose ITI protocol was $842,307.69. CONCLUSIONS: The data derived from our study suggest that The Low-Dose ITI protocol may be a less expensive and/or cost-effective option compared with on-demand first-line treat- ment with RFVIIA.

SYSTEMIC DISORDERS/CONDITIONS - Patient-Reported Outcomes & Patient-Preference Studies
PSY18 THE FUTURE CHARACTERISTICS OF BYPASSING AGENTS IMPROVING HAEMOPHILIA INHIBITOR PATIENTS CARE FROM AN ECONOMIC AND HEALTH RELATED QUALITY OF LIFE PERSPECTIVE
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OBJECTIVES: Treatment for haemophilia inhibitor patients has improved substan- tially since the 1980’s and 1990’s. But from a health economic perspective, an uninsured persists for better treatment options in terms of health-related quality of life (HRQoL) and cost savings. Haemostatic products alone account for the big- gest expense in the care of haemophilia patients. Congenital haemophilia with inhibitors involves lifelong treatment, and with it, substantial long-term costs and lowered HRQoL. METHODS: A systematic review on cost and HRQoL findings for haemophilia treatments in economic terms was conducted on more than 280 sci- entific studies. Fifty-five articles were retained for the execution of the project analysis. RESULTS: The analysis shows that to counteract costs to payers (society) and to improve patient outcomes, improved treatments could increase HRQoL. This could be achieved with FVIII and FIX bypassing agents that have: greater convenience through subcutaneous administration (less-painful injections, avoidance of infusions), faster onset through a fast-acting FVIII analogue (faster reso- lution of bleeding episodes leading to faster physical relapse, sustained control, less dosing), and longer duration through a long-acting FVIII derivative (fewer injec- tions and rebleeds, arthropathy prevention). CONCLUSIONS: Improved FVIII/IX bypassing agents for treatment of haemophilia patients with inhibitors would be a cost-effective option for society, improving HRQoL associated with the clinical condition.

PSY19 ACCESS TO CARE AND HEALTH OUTCOMES AMONG THE HEMOPHILIA A POPULATION IN DEVELOPING COUNTRIES: A COMPARISON BETWEEN PHILIPPINES AND COLOMBIA
Baxter, the D1, Xiong V2, Epstein J3
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OBJECTIVES: There are large gaps in hemophilia treatment standards around the world. Among developing nations, disparities in care exist resulting in sub-optimal outcomes for patients in some countries. The objective of this analysis was to...