required to recoup the intervention cost sooner. In this study, we focused on persons at high risks for both hypertension and diabetes and assessed the cost-effectiveness of lifestyle interventions from a health plan perspective. METHODS: A Markov model was developed to simulate the health and economic outcomes associated with lifestyle interventions compared with normal care over persons’ lifetime. The target population is U.S. adults with both prehypertension (blood pressure of 120-129 mm Hg systolic or 80-89 mm Hg diastolic) and diabetes. Data on the effect and costs of the intervention were obtained from published clinical trials. Outcomes included the incidences of diabetes and cardiovascular diseases, quality adjusted life years (QALY), and cost per QALY. Costs were expressed in 2012 US dollar RESULTS: In persons aged 18-64, the intervention reduced the incidence of diabetes by 22% and major cardiovascular diseases by 7% over a lifetime. In persons aged 65-84, the corresponding reductions were 32% and 3% respectively. The intervention would save $3,500 and $1,500 per person among those aged 18-64 and 65-84 respectively. The intervention achieved cost-effectiveness in 10 years among those aged 18-64, for 1.5 years among those aged 65-84 since initiation. CONCLUSIONS: Lifestyle intervention, targeting to persons at a high risk for both hypertension and diabetes, would lead to a greater lifetime saving and sooner recovery of the intervention costs, compared with targeting to those at risk for diabetes alone.

PHS36 A COST-EFFECTIVENESS ANALYSIS OF VITAMIN D TESTING AND SUPPLEMENTATION STRATEGIES ON QUALITY-ADJUSTED LIFE-YEARS IN INFANTS AND YOUNG CHILDREN WITH RHEUMATIC FEVER

OBJECTIVES: Many children undergoing renal transplantation are vitamin D deficient, and hence, have an elevated risk of fracture, a costly event that can also reduce quality of life substantially. However, because testing a child’s vitamin D status is also costly, optimising the cost-effectiveness of universal vitamin D supplementation is more cost-effective than testing followed by supplementation for deficient patients only. The objective of this study was to determine the cost-effectiveness of (1) universal supplementation relative to (2) testing plus supplementation in patients with vitamin D deficiency and (3) neither testing nor supplementation. METHODS: A non-Markov decision model using Decision Maker (beta test version 2011.01.30b) was constructed to examine three strategies: universal supplementation; testing with supplementation as needed; and no testing/supplementation. A time horizon of five years was assumed, and analysis was done from the health-system’s perspective. All costs were expressed in Canadian dollars and converted to US dollars using the literature and health-system. A 3% discount rate was applied to costs and results were reported in 2011 US$. Sensitivity and threshold analyses were conducted. RESULTS: The least costly strategy was universal supplementation which dominated no testing/supplementation. The ICER for testing was $1,188,622/QALY compared with universal supplementation. The only parameter in the model that demonstrated sensitivity was the cost of testing. If it were reduced to $39.00 (from present cost of $102.11), then testing would become the dominant strategy. CONCLUSIONS: This study showed that universal vitamin D supplementation was a cost-effective strategy for reducing fractures among the pediatric transplant population. This strategy is further supported by the observation that supratherapeutic doses of vitamin D are rarely associated with toxicity and only at very extreme doses, although watching for toxicity would require adequate monitoring. The pleiotropic effects, i.e., decreased rejection of graft, and diabetes would save $3,500 and $1,500 per person among those aged 18-64 and 65-84 respectively.

PFS37 economy evaluation of a school clinic intervention to prevent rheumatic fever

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OBJECTIVES: To evaluate the cost-effectiveness of “sore throat clinics” (STCs) for prevention of acute rheumatic fever (ARF) in children in primary/intermediate schools. METHODS: A Markov model was developed to represent the lifetime impact of one year of primary prevention of ARF with STCs in high risk New Zealand (NZ) schools. It includes the incidence rate, natural history and costs of ARF as well as disease, secondary care procedures, psychological impact, and quality of life (QoL) of patients. The model was developed by pooling data from published literature and collected data. RESULTS: The cost of ARF per case was $112,000, with $101,000 attributable to disease and $11,000 attributable to secondary care procedures. In the cohort model, ARF prevented 0.9 cases per 10,000 children (95% CI: 0.7-1.2) with a QoL gain of 0.00017 per year. The cost of ARF prevention was $2,600 per case averted. We conclude that STCs are cost-effective for the prevention of ARF with high risk NZ schools.

PHS38 GENERATING AN ECONOMIC MODEL TO ESTIMATE THE COST-EFFECTIVENESS OF A DELIRIUM PREVENTION INTERVENTION FOR ELDERLY HOSPITALISED PATIENTS

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OBJECTIVES: Delirium is common in hospitalised older patients and leads to poor long term outcomes. An ageing population means it is important to find cost-effective methods for both treatment and prevention. However, few economic evaluations of delirium interventions exist. This study generated an economic model to estimate the cost-effectiveness of an integrated, multi-component targeted intervention (MTI) versus usual care for the prevention of delirium in elderly hospitalised patients. METHODS: A cohort Markov model was developed to calculate expected lifetime costs and QALYs from societal perspective and benefits (QALYs). Model face validity was checked with clinical experts and internal validity via secondary researchers. Health states were: dead, hospitalised, discharge location (home vs. institution). Utility values (SF-6D) were taken from a previous quality of life study. There was longer hospital stay, higher mortality rates and institutionalisation and lower utility values post delirium. Deterministic and probabilistic sensitivity analyses assessed uncertainty surrounding the incremental cost-effectiveness ratio (ICER). Value of information analysis was also conducted. RESULTS: With the MTI reducing delirium probability by one third, the deterministic ICER was just over £1000 per incremental QALY versus usual care. Probabilistic sensitivity analysis suggests there is 10% probability of cost-effectiveness when the QALY threshold is £30,000. At this threshold there is no expected value of perfect information (EVPI). Results were robust to one-way sensitivity analysis. Disabling changes in MTI were: MTI incidence of 0.25, length of stay.

PFS39 COST-EFFECTIVENESS ANALYSIS OF HOME HAEMODIALYSIS FOR DIABETES MELLITUS POPULATION IN TAIWAN

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OBJECTIVES: The number of patients with end-stage renal disease (ESRD) has rapidly increased in recent decades due to increased age and diabetes. Taiwan are in the first place of the world. While home haemodialysis (HHD) has been commonly used for ESRD patients in many countries, it has not been available in Taiwan. This study aims to assess the feasibility of HHD by conducting the cost-effectiveness analysis of different regimes of haemodialysis (hospital-based, satellite-based and home-based) from the perspectives of both patient and government. METHODS: A cost-effectiveness analysis was conducted based on a state transition Markov model for new ESRD patients with diabetes mellitus (DM) in Taiwan. Using published data from existing empirical studies, the incremental cost-effectiveness ratios (ICER) were calculated, and the sensitivity analysis was performed to clarify the robustness of the ICER results. Sensitivity analyses were implemented based on different costs of haemodialysis machines and transition rates. RESULTS: Satellite-based haemodialysis is the most economical choice in the initial stages of treatment. However, home haemodialysis becomes the most cost-effective after the twenty-third month (ICER=$626/utility), and becomes the most inexpensive choice after the third year. Compared with hospital-based and satellite-based haemodialysis, home haemodialysis saves about US$45,000 and US$35,000 per year respectively, and US$55,000 and US$45,000 in the end of the fifth year respectively. Totally US$110 million was estimated to be saved in the end of third year once 10% of patients transfer from hospital-based haemodialysis to home haemodialysis in Taiwan. CONCLUSIONS: Given the better cost-effectiveness of home haemodialysis, and its several advantages like more stable blood pressure, the elastic treatment time, privacy, and suitable for daily life, home dialysis and disable patients compared with other haemodialyses, home haemodialysis is suggested to be the newly alternative choice for DM patients in Taiwan.

PHS40 COST-UTILITY OF HPV FOR PREVENTION OF CERVICAL CANCER IN THE RORAIMA (BRAZILIAN AMAZONIC REGION): A MARKOV MODEL APPROACH

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OBJECTIVES: To assess cost-utility of the prophylactic HPV vaccination on the prevention of Cervical Cancer (ICC) in Brazil. Methods: A Markov model of cervical cancer (ICC) remains an important public health problem, particularly in developing countries. The Brazilian amazonic region is an high incidence area of ICC, considered due to low vaccination coverage of what is estimated. The main weakness in the current secondary prevention program. METHODS: A Markov model was developed as an analytic tool to simulate the natural history of HPV and its progression to ICC, considering the current preventive programs and their limitations. Vaccination and screening data of local and national studies. The model evaluated the addition of the vaccine to 3 cervical cancer screening scenarios (0, 3 or 10 exams throughout life). RESULTS: The scenario of three Pap tests resulted in satisfactory calibration (base case). The addition of HPV vaccination would reduce by 35% the impact of one year of primary prevention of ARF with STCs in high risk New Zealand (NZ) schools.