

(\$7,530) for Mbagathi and Moi respectively, and the discounted life time effects were to 7.73 years and 6.52 years respectively. **CONCLUSIONS:** ART treatment was the most cost effective treatment method and although patients on treatment follow up in Moi lived longer, Mbagathi Hospital was most cost effective intervention.

## PHS63

#### COST-EFFECTIVENESS ANALYSIS OF A PHARMACIST-LED INTERVENTION ON IMPROVING INHALER ADHERENCE IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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**OBJECTIVES:** The Belgian community pharmacist-led PHARMACOP intervention provided educational inhalation training sessions and motivational interviewing regarding medication use in patients with Chronic Obstructive Pulmonary Disease (COPD). The program significantly improved medication adherence and inhalation techniques compared with usual care. This study aimed to evaluate its cost-effectiveness. **METHODS:** An economic analysis was performed from the Belgian health care payer's perspective. A Markov model was constructed in which a cohort of 1,000 patients with COPD receiving the 3-month PHARMACOP-intervention or usual care, was followed. This cohort had a mean age of 70 years, 66% were male, 43% current smokers and patients had a mean Forced Expiratory Volume in 1 second of % predicted of 50. Three types of costs were calculated: intervention costs, medication costs and exacerbation costs. Outcome measures included the number of hospital-treated exacerbations, cost per prevented hospital-treated exacerbation and cost per Quality Adjusted Life-Year (QALY) gained. Follow-up was 1 year in the basecase analysis. Univariate-, probabilistic sensitivity- and scenario analyses (including long-term follow-up) were performed to assess uncertainty. **RESULTS:** In the basecase analysis, the average overall costs per patient for the PHARMACOP-intervention and usual care were €2,221 and €2,448, respectively within the 1-year time horizon. This reflects cost savings of €227 for the PHARMACOP-intervention. The PHARMACOP-intervention resulted in the prevention of 71 hospital-treated exacerbations (167 for PHARMACOP versus 238 for usual care), i.e. 0.07 (95%CI: 0.04-0.10) incremental hospital-treated exacerbations per patient. In addition, a small (<0.001 QALYs) increase in QALYs was observed. Results showed robust cost-savings in various sensitivity analyses. **CONCLUSIONS:** Optimization of current pharmacotherapy (e.g. close monitoring of inhalation technique and medication adherence) has been shown to be cost-saving and should be considered before adding new therapies.

## PHS64

#### SCREENING FOR ABDOMINAL AORTIC ANEURYSM: A COST-EFFECTIVENESS ANALYSIS

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**OBJECTIVES:** The USPSTF currently recommends one-time ultrasound screening for all men at age 65 years (B recommendation), while screening for female ever-smokers is a C recommendation due to a perceived small net benefit. Our goal was to assess the cost-effectiveness of a one-time ultrasound screening and follow-up surveillance for abdominal aortic aneurysm (AAA) in men and women who do and do not smoke. **METHODS:** We constructed a Markov model using the best available clinical data following screening at age 65. AAA-specific costs (2012 US dollars) were assessed from a health care system perspective, benefits were QALYs gained, and both costs and benefits were discounted at 3%. To assess the uncertainty around model parameters, we conducted a probabilistic sensitivity analysis. Furthermore, we tested individual parameter and structural uncertainty using analysis of covariance and one-way sensitivity analyses. **RESULTS:** The ICER for screening female smokers is \$24,000 per QALY gained. Other potentially cost-effective options include screening all smokers, \$49,000 per QALY gained, and all females and male smokers, \$110,000 per QALY gained. Screening all individuals is not likely to be cost-effective with an ICER over \$200,000 per QALY gained. The probabilistic sensitivity analysis indicates that at willingness-to-pay thresholds of \$50,000 and \$100,000 per QALY gained, screening all smokers is a cost-effective option. The discount rate was the only parameter or assumption found to appreciably change the interpretation of the final results with a 0% rate making screening everyone cost-effective and a 10% rate screening no one the only cost-effective option. **CONCLUSIONS:** To date, few women have been included in RCTs, and a trial adequately powered to evaluate the net benefits of screening for AAA in women seems unlikely. Our analysis found that the group with the most favorable ICER was actually female smokers, with screening all smokers also likely to be a cost-effective option.

## PHS65

#### GENERALIZED COST-EFFECTIVENESS ANALYSIS FOR CARE OF MAJOR CANCERS AND OTHER MAJOR ILLNESSES IN TAIWAN

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**OBJECTIVES:** This study determined if treatment of major cancers in Taiwan is cost-effective compared with other major illnesses. **METHODS:** 395,330 patients with pathologically verified cancer, 125,277 patients with end-stage renal disease (ESRD), and 50,481 under prolonged mechanical ventilations (PMV) during 1998-2007 were included and followed until 2007-10. Survival functions for these patients were extrapolated to lifetime based on a semi-parametric method. A convenience sample of measuring utility value with EQ-5D were conducted for 6,189 cancer patients and 1,401 with other major diseases, which were multiplied with survival functions to estimate quality-adjusted life expectancies. The monthly

health care expenditures were abstracted from the reimbursement database of the NHI (National Health Insurance), multiplied by the corresponding survival probabilities, and summed up for lifetime cost with a 3% annual discount rate. We used 22,344 cancer patients with hospice care as a comparison group to conduct generalized cost-effectiveness analysis and estimate cost-per-QALY (quality-adjusted life year). **RESULTS:** Care of patients under PMV and ESRD showed 2.6 and 0.94-0.99 GDP (gross domestic product=18,588 US dollars in 2010) of Taiwan per QALY, respectively. All of the nine different cancers were reimbursed less than 1 GDP per QALY. Lung, esophagus and liver cancer were the highest with 0.37-0.46, 0.20-0.43, and 0.23-0.24, GDP per QALY, respectively. The cumulative incidence rates of cancer show a consistent increase for all cancer except those of the stomach, nasopharynx, and cervix. **CONCLUSIONS:** The treatments of major cancers in Taiwan have been cost-effective, but prevention is still the fundamental solution for a sustainable NHI.

## PHS66

#### WASTE AND COST MINIMIZATION OF ALKALINE SOLUTION BY STANDARDIZATION PROCESSES CONTROL FOR AMBULATORY HEMODIALYSIS: A SIMULATION STUDY

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**OBJECTIVES:** There are few studies about costs of inputs used in hemodialysis and among these expenditures, the compounds that make up the dialysate are one of the values considered as representative of this therapy. However, there aren't costs studies that guiding solutions. The objective of this article is discuss whether there is wasteful of alkaline solutions in ambulatory hemodialysis and hence the possibility of reduction in cost from the standardization process of establishment of dialysate flow in periods between shifts in hemodialysis outpatients. **METHODS:** Starting from an observational analytic cross-sectional research from a real case study at a hemodialysis clinic, a study was conducted with simulated twenty case scenarios based on different outpatient profiles that affect the solution flow, having ten cases established by standardizing processes control on the dialysate flow in recession and other ten without this standardization. The combination of data was performed using as a basis the prices of three suppliers of alkali liquid or powder. **RESULTS:** It was observed savings among the scenarios with standardized processes ranging between 7.7% and 33.3% in the alkaline solution cost (powder or liquid), by reducing waste. **CONCLUSIONS:** It is possible to restrain the wasteful use of alkaline solutions, both powder and liquid. Consequently, its cost from the patterning on reducing the flow of dialysate during the intervals between shifts observed in the outpatient hemodialysis. However, these results are conditional upon the commitment of health professionals, mainly to supervision exercise and control of activities in quality function deployment.

## PHS67

#### STRATEGIES AND INTERVENTIONS TO REDUCE THE SOCIO ECONOMIC IMPACT OF ANXIETY AND DEPRESSION AT THE WORKPLACE

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**INTRODUCTION:** The presence of mental disorders at workplace has been related with absenteeism and decreasing in work performance and in productivity. There are some effective interventions available that can be implemented to reduce the socio economic impact of mental disorders like anxiety and depression at the workplace. **OBJECTIVES:** To identify the evidence-based interventions available to prevent and to treat anxiety and depression at the workplace and to explore in what extent these interventions have impact on reducing the socio economic effects of mental disorders. **METHODS:** A search based on depression, anxiety, interventions, prevention, workplace, absenteeism, presenteeism, indirect costs was built in Medline database. Studies were included if they described the intervention and method and their effects on absenteeism, presenteeism and costs at workplace. **RESULTS:** Five main interventions were identified: workplace screening for anxiety and depression disorders and care management; interventions are usually delivered throughout cognitive behavioral therapy (CBT), offered by external psychological service providers; CBT through web-based program: it is offered a web-based program to selected employees. Benefits come out of tackling the disorder and increasing productivity levels due to the reduction of presenteeism; interventions promoting well-being in the workplace: it includes flexible time schedules, career growth opportunities and mental health risk factors recognition training program for managers; financial education: workshop for selected employees to advise them on how to better manage their debts, reducing financial burden and consequently, reducing mental health problems; antidepressant drugs for anxiety and depression: these medicines have a positive impact on the work performance and on the decrease of absenteeism rate. **CONCLUSIONS:** The studies selected demonstrated a clear benefit of five interventions for depression and anxiety at workplace: improvement in employees' performance, in quality of life, reduction of health services costs, decrease in absenteeism rate, in accidents, in sick leave benefits and in early retirement.

## PHS68

#### EFFICIENCY OF THE BRAZILIAN SYSTEM OF RENAL TRANSPLANTATION: AN ANALYSIS USING DEA AND MALMQUIST INDEX METHOD (2006-2011)

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**OBJECTIVES:** The purpose of this article is to analyze the efficiency of the Brazilian States in the public system of kidney transplant, in the years 2006 and 2011; and evaluate the performance of the efficiency of these States throughout this period of time. Thus sought to analyze the behavior of States in this sector, before and after the institutional changes adopted by SUS in October of 2009. **METHODS:** The methodology used was data envelopment analysis (DEA) based on Slack (Slack