Abstracts

A4

(95%CI 1.44, 48.35) for patients with the VKORC1 TT (n=992,323) genotype compared with other genotypes. The mean cost of health care attributable to warfarin therapy was $392. The management of warfarin-related adverse events contributed to 53% of the overall cost. The mean costs for those who experienced an adverse event was $584 (95%CI, 554, 1837) compared with $178 (95%CI, 164, 192) for the 179 patients who did not. CONCLUSIONS: Our analysis is the first to demonstrate a significant association between VKORC1 genotype and hospitalization. Although no independent effect on total cost was evident, carriers of VKORC1 TT were eight times more likely to be hospitalized due to adverse events.

USE OF PHARMACOGENETIC TESTING TO DETERMINE ADJUVANT HORMONAL THERAPY CHOICE IN EARLY STAGE BREAST CANCER PATIENTS: A VALUE OF INFORMATION ANALYSIS

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OBJECTIVES: To estimate the uncertainty regarding adjuvant treatment selection for postmenopausal women with early stage oestrogen-receptor positive breast cancer when pre-treatment CYP2D6 pharmacogenetic testing is considered as an option. In addition, the expected value of partial perfect information (EVPPi) was estimated for different parameter sets to inform research prioritisation. METHODS: A decision analytic model estimated lifetime costs and quality adjusted life years (QALYs) for four, commonly used, 5 years of aromatase inhibitors (AI) and/or tamoxifen (T). CYP2D6 test and treat vs not treat was the condition of interest for patients with tamoxifen and all others with an AI maximised expected net benefit from the treatment. 12.19 QALYs. The average of the means of the MEPS sampling properties for categories with less than 100 individuals were excluded, which left us with 760 co-morbid pairs in total. The study focus was the bias from the estimators to the observed mean scores for each co-morbid pair, with the observed scores presumed to be the true value. The analyses were conducted using both the raw estimators and the rescaled (purified) estimators. Results and concordance correlation coefficients were also used to evaluate the agreement between the estimators and the observed scores. RESULTS: Using the rescaled approach, the scores estimated by multiplying the 2 mean scores of the corresponding disease conditions on average had a statistically significantly larger bias (p<0.0001) from the observed ones (-0.043) than simply picking the smaller mean of the 2 paired conditions (minimum estimator, bias = 0.027). However, the multiplicative estimator had less bias than other estimators including the additive estimator (bias = -0.035), the larger mean (bias = 0.077), the average of the means (bias = 0.052), mean of the condition with smaller sample (bias = 0.053). Results produced by other analyses, including using the raw scores, all favored the minimum estimator than the multiplicative estimator. CONCLUSIONS: Multiplication is not a good estimate when the average utility score for patients with 2 disease conditions is not readily available. The lower of the 2 utility scores had the least error among those estimators that we compared.

ELICITING TIME TRADE-OFF AMOUNTS FOR HEALTH STATES IN HYPOTHETICAL INDIVIDUALS OF DIFFERENT AGES USING A DISCRETE CHOICE EXPERIMENT


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OBJECTIVE: To measure whether public values for health vary with the age of the affected individual. METHODS: We fielded a discrete choice experiment via the internet in December 2007 to measure preferences for different attributes of influenza-related health states: length of episode (days of illness), severity of illness (workdays lost), age of hypothetical affected individual (range: 1-85 yrs), and time-tradeoff amounts (1day – 2 yrs). We also collected data on socio-demographic characteristics and experience with influenza illness. Respondents were 18 years and older and matched to reflect characteristics of the general US adult population (n = 1012). Response rate was 67%. Respondents were presented with pairs of illness profiles for a hypothetical individual and indicated the profile they preferred. Each respondent answered 8 choice questions. A full factorial design was used. Discrete choice analysis using generalized estimating equations was used to evaluate the relative value of different attributes in the illness profile while controlling for socio-demographic characteristics and influenza experience. RESULTS: As measured by time-tradeoff amounts, respondents preferred shorter influenza episodes (total length) but did not significantly prefer fewer workdays lost if episode length was held constant. Respondents preferred to avert uncomplicated illness in very young children (1 year old child: odds ratio = 2.35, p < 0.05; 3 year old child: odds ratio = 3.24, p < 0.01) and older adults (85 year old: odds ratio = 2.41, p < 0.05) compared to a 35 year old adult. For an influenza-related hospitalization, respondents preferred to avert illness in very young children (1 year old child: odds ratio = 2.86, p < 0.01) compared to a 35 year old adult. CONCLUSIONS: Approaches that assume values for illnesses do not vary with the age of a patient may bias economic analyses that use these values. If patient age is likely to affect valuations, then age should be included as an attribute in the valuation exercise.

THE VALUE OF ADDED LIFE YEARS AS A FUNCTION OF AGE, PROGNOSIS AND QUALITY OF LIFE

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OBJECTIVE: Do people weigh gains in life years differently when patients differ in age (but not in life expectancy), life expectancy (but not in age or QoL) or QoL (but not age or life expectancy)? METHODS: Trade-off questions were developed searching for indifference between giving healthy life years to patients with different ages, prognoses and quality of life. Data come from 46 heart failure patients, 60 healthy controls and 180 students. For age, as well as prognosis and QoL, six comparative sets were developed. Each respondent answered four questions for each set and two combination-questions. Ordered logit regression was used in combination with conditional linear regression for “extreme” answers. Answers are “extreme” when, for example, one extra life year in a young patient is preferred to 10 in an old patient or when respondents can’t choose. RESULTS: More than 40% of the answers are “extreme”.
Respondent prefer to give to the young and to those who are worse off, either now (quality of life), or in the future (prognosis). Elderly individuals, more often, prefer not to prioritize. It is estimated that an additional life year in a 20 year old is worth 12.8 times the value of an additional year in an 80 year old. An additional life year given to TTO over VAS expectancy of five years is worth 2.12 times that of one given to someone with a life expectancy of 10 years. An additional life year in someone with a utility that is 0.25 lower than someone else is worth 2.45 times more.

**CONCLUSIONS:** All results indicate that people do not think that a QALY is a useful value of life expectancy. In the age of the respondent, the prognosis of the patients and the patients' current quality of life.

**SOCIAL PREFERENCES FOR EQ-SD HEALTH STATES: IS IT TIME TO CALL "TIMEOUT" ON TTO?**

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The valuation of health benefit is arguably the most fundamental issue underpinning all clinical and economic evaluation. However, there is disagreement about the choice of method by which such valuation is established. Advice issued by HTA agencies generally favours utility elicitation methods but there is growing support for simpler methods that evoke ordinal judgments. Decision-makers face difficult choices when reviewing evidence based on different valuation methods. OBJECTIVES: to examine the extent to which ordinal preferences captured through VAS ratings are preserved by TTO utility elicitation methods. METHODS: The UK MVH study (n = 3,395) provides the empirical basis for the EQ-SD values required in economic evaluations submitted to NICE. This study collected all VAS ratings and TTO utilities for 13 EQ-SD health states per respondent. These data have been re-analysed for the purposes of this paper. RESULTS: Spearman’s Rank Correlation Coefficient (rho) for TTO and VAS values was computed on a within-subject basis for all respondents, yielding a rho of 0.85% of respondents had a Spearman’s rho of less than 0.5 (equivalent to a mean absolute difference of 1.7 in ranking over all 13 states). Over 85% of respondent TTO values differed in rank by more than 3/13 places when compared with VAS ratings. Respondent characteristics did not account for differences in rankings of TTO and VAS scores. CONCLUSIONS: This study shows that for almost half the MVH respondents, TTO utilities did not coincide with ordinal preferences as revealed by their VAS scores. These results challenge a number of basic assumptions – about the transformation of ordinal values into cardinal utilities; the superiority of TTO over VAS methods; and the extent to which TTO “accurately” represents individual preferences at all. Ultimately they undermine the status of TTO as a legitimate measure of preferences in social decision-making.

**PODIUM SESSION II: HEALTH CARE DECISION-MAKER’S CASE STUDIES II**

**HARMACOECONOMIC APPLICATIONS IN FORMULARY MANAGEMENT: A CASE STUDY OF ERLOTINIB AT A MAJOR CANCER CENTER**

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**ORGANIZATION:** University of Texas—MD Anderson Cancer Center (M. D. Anderson), PROBLEM OR ISSUE ADDRESSED: Budgets for cancer treatments are rising steadily with the advent of newer targeted therapies, in an era of health care cost containment. The issues of budgetary constraints and formulary management create pressure on maintaining an economically viable formulary. This case study is to evaluate and analyze the budget impact of erlotinib in stage III/IV NSCLC at a tertiary cancer center. The objective of the Drug Use Policy and Pharmacoeconomic Department is to utilize current clinical indications, resource utilization, and cost information to perform a budget impact analysis, as part of the economic analysis of all new drugs considered for inclusion into the institutional Formulary. An economic assessment (pre-analysis) was conducted at the time of formulary evaluation and addition in May 2005, and a reassessment and budget impact re-evaluation (post-analysis) was executed 12 months after formulary approval, from June 2006 to May 2007. OUTCOMES ITEMS USED IN THE DECISION: The following data were collected: the number of patients; the dose amount; the number of doses; the number of cycles; the purchase cost, the charge amount, and the reimburse-ment amount. The budget impact analysis was executed using direct pharmaceutical costs adjusted to January 2008 US dollars with the aid of the Producer Price Index (PPI) from the U.S. Bureau of Labor Statistics. IMPLEMENTATION STRATEGY: The pre-analysis model was based on the FDA approval of erlotinib as a second line therapy in stage III/IV NSCLC. Parameters, such as median duration of treatment and cancer remissions, were gathered from published clinical trials. A total of 75% of patients were estimated from expert opinion of clinicians. The pre-analysis model estimated that it would cost the institution $1,484,220 to treat 347 stage III/IV NSCLC patients for 67 days with erlotinib. This data along with a monograph was presented to the Pharmacy and Therapeutics (P&T) committee of physicians that are NCQA Diabetes Physician Recognition Program (DPRP) recognized, with tools to support the delivery and recognition of consistent high quality care.

**OUTCOMES ITEMS USED IN THE DECISION:** Clinical efficacy/effectiveness IMPLEMENTATION STRATEGY: The Arta National Quality Management Diabe tes Work Group met and agreed on the implementation of a three phase program to increase the number of NCQA DPRP recognized practitioners. Arta conducted an analysis of two service areas (South FL and Southeastern PA) to rank the high volume Arta contracted practitioners with the most Arta members over the age of 18 with a diagnosis of diabetes. The member must have been under the care of the practitioner in calendar year 2007. For the practitioner to qualify he must have at least 25 Arta members meeting this criteria. Forty practitioners were recruited into the program (20 from each service area). Arta utilized Total Therapeutic Management (TMT), a research organization, to implement the three phase program. In phase 1, TMT recruited the qualifying practitioners and conducted an in-office chart review to abstract data consistent with the Comprehensive Diabetes Care Healthcare Effective-ness Data and Information Set (HEDIS®) measures. TMT utilized its Diabetes Performance and Enhancement Program (DPP) electronic application to provide the practitioners with information so that to see if they met the phase one criteria. In phase 2, TMT conducted face-to-face outreach to discuss recognition standing, patient con-sults (ClinAdvisor), and pharmacy compliance reports. The ClinAdvisor patient con-sults detailed clinical outcomes such as, A1C, BP, LDL goal, etc. Also during the visit Arta developed tools were provided such as a sticker, eye exam report forms, and 3-year diabetes checklist to promote quality improvement in tracking and manag-ing members with diabetes. TMT communicated with the practitioner during the six-month ranging period in areas that needed improvement. In phase 3, TMT conducted chart reviews based on the criteria set forth by NCQA. TMT input the abstracted data into its electronic application to evaluate recognition status. RESULTS: In order to achieve diabetes recognition, practitioners must have a cumulative score of 75 points or more from ten measures related to diabetes care. Of the 40 practitioners that participated in the program four had the potential points necessary to meet the recognition standing grading of 75 or more. After the second review conducted approximately six months after the first review, 18 practitioners agreed to participate in phase 3. Of the 18 practitioners participating, 17 practitioners met the criteria for DPRP recognition. LESSONS LEARNED: Practitioners are aware of the benefits of Pay for Performance initiatives. They are also aware of the various recognition programs available through NCQA. Practitioners have expressed concern about the time or office staff necessary to conduct their chart reviews and submit the application to become a recognized provider. If there is a process in place to conduct chart reviews and provide chart review-based recommendations and for practitioners, there is a strong possibility that more practitioners can meet the requirements set forth by NCQA to become a DPRP recognized provider for diabetes and other conditions.

**DIABETES: PHYSICIAN RECOGNITION IN A LARGE HEALTH PLAN**

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**ORGANIZATION:** Astra Inc. is one of the nation’s leading diversified health care benefits companies, serving approximately 37,2 million people. PROBLEM OR ISSUE ADDRESSED: To increase the number of NCQA Diabetes Physician Recognition Program (DPRP) recognized, with tools to support the delivery and recognition of consistent high quality care.

**OUTCOMES ITEMS USED IN THE DECISION:** Clinical efficacy/effectiveness IMPLEMENTATION STRATEGY: The Arta National Quality Management Diabetic Strategic Work Group met and agreed on the implementation of a three phase program to increase the number of NCQA DPRP recognized practitioners. Arta conducted an analysis of two service areas (South FL and Southeastern PA) to rank the high volume Arta contracted practitioners with the most Arta members over the age of 18 with a diagnosis of diabetes. The member must have been under the care of the practitioner in calendar year 2007. For the practitioner to qualify he must have at least 25 Arta members meeting this criteria. Forty practitioners were recruited into the program (20 from each service area). Arta utilized Total Therapeutic Management (TMT), a research organization, to implement the three phase program. In phase 1, TMT recruited the qualifying practitioners and conducted an in-office chart review to abstract data consistent with the Comprehensive Diabetes Care Healthcare Effective-ness Data and Information Set (HEDIS®) measures. TMT utilized its Diabetes Performance and Enhancement Program (DPP) electronic application to provide the practitioners with information so that to see if they met the phase one criteria. In phase 2, TMT conducted face-to-face outreach to discuss recognition standing, patient consults (ClinAdvisor), and pharmacy compliance reports. The ClinAdvisor patient consults detailed clinical outcomes such as, A1C, BP, LDL goal, etc. Also during the visit Arta developed tools were provided such as a sticker, eye exam report forms, and 3-year diabetes checklist to promote quality improvement in tracking and managing members with diabetes. TMT communicated with the practitioner during the six-month ranging period in areas that needed improvement. In phase 3, TMT conducted chart reviews based on the criteria set forth by NCQA. TMT input the abstracted