self-reported health status, Activities of Daily Living, and Instrumental Activities of Daily Living. However, estimates of the effect of prescription drug coverage on prescription use that control for selection are much smaller than those previously reported. CONCLUSION: Studies that purport to analyze the effect of drug coverage on utilization or health using observational data needs to account for selection bias associated with such coverage.

PATIENT-REPORTED OUTCOMES I

A BAYESIAN ESTIMATION OF AN AVERAGE SF-6D

PREFERENCE BASED SCORE FROM COMMONLY REPORTED
SF-12 STATISTICS

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OBJECTIVES: To construct an algorithm which converts statistics commonly reported in publications with the SF-12 health status measure to an average SF-6D preference based score. METHODS: We used SF-12 data from the 2002 Medical Expenditures Panel Survey. We presumed commonly published sufficient statistics would include average age, sex, physical component score (PCS), and mental component score (MCS). All combinations of these variables were used as predictors in models built with WinBUGS 1.4. Model fit was evaluated with the Deviance Information Criterion (DIC). The best fit model was also evaluated using R-square for comparison to other algorithms that convert SF-12 summary scores to preference scores. RESULTS: We used all respondents with PCS and MCS scores (n = 20,206). The best fit model included age, sex, PCS, and MCS as predictor variables (DIC = −67,434). The model was SF-6D = −0.001544 − 0.002173 * female + 0.000144 * age + 0.008097 * MCS + 0.00816 * PCS. The R-square of this model (0.88) was substantially better than models that convert to EQ5D summary scores developed by Lawrence et al (0.61) or Frank et al (0.65 and 0.59) or to HUI Mark 3 summary scores by Franks et al (0.51) or Sengupta et al (0.55). Because this model does not include power or interaction terms, knowing the average age, PCS score, MCS score, and the percent who are female in a sample is sufficient to predict an average SF-6D score. The residual from directly calculated SF6D scores drops dramatically as group size increases; the standard deviation of residual size is 0.046 for 1 subject, 0.014 for 10 subjects, 0.006 for 50 subjects, 0.003 for 100 subjects, and approaches an asymptote of 0.003 with more than 200 subjects. CONCLUSIONS: Commonly reported summary statistics from previously published articles provide sufficient information for estimating an average SF-6D score without accessing individual level data.

RACIAL DIFFERENCES IN PREFERENCE-BASED HEALTH-RELATED QUALITY OF LIFE ASSESSMENT

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OBJECTIVES: To document whether there are fundamental racial differences in patients’ perception of the preference-based utility assessment for health-related quality of life. METHODS: Secondary data analysis was conducted using the 2003 Medical Expenditure Panel Survey (MEPS), a nationally representative sample of 20,428 people with their concurrent EQ-5D scores reported. Given the upper-bound of preference-based scores at 1.0, a two-part model was derived to identify the relationship between race and the preference-based utility score after controlling for individual demographic covariates, comorbidity profile, and functional and activity limitations. Logit models were employed to predict the probability of “no problems” for specific attribute in EQ-5D. In order to generalize the results to the whole US population, the complex survey sampling design of MEPS was taken into account using the specified sample weight, variance estimation stratum and primary sampling unit. RESULTS: Compared with Whites, Blacks were less likely to perceive themselves in full health (utility score of 1.0) by 3.5 percentage points (p < 0.01), holding all other factors constant. For those who did not perceive full health (51%), Blacks on average perceived themselves 0.037 less than Whites in the utility assessment (p < 0.0001). Even after controlling for education and income, racial difference remained significant. Among the five attributes of EQ-5D, self-care was the major contributor of the racial difference for utility assessment. Anxiety/depression was the only domain which did not have significant difference. CONCLUSIONS: This study adds to the literature of health-related quality of life by providing empirical evidence at the national level to demonstrate the racial differences for preference-based utility assessment. Health researchers need to be aware that Blacks are likely to perceive having a lower health-related quality PR3

QUANTIFYING PATIENTS’ RISK-BENEFIT TRADEOFF PREFERENCES: A CONCEPTUAL AND EMPIRICAL COMPARISON OF METHODS

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OBJECTIVES: To compare conceptual models, empirical measurement, and results of alternative methods for measuring patients’ willingness to trade off severe adverse event risks for specified health gains. METHODS: We define and compare the theoretical foundations of standard gamble (SG) and multi-attribute conjoint analysis (CA) methods. SG derives from von Neumann-Morgenstern expected-utility theory, while CA applies McFadden random-utility theory to hypothetical choices. We define theoretical conditions under which the two methods provide equivalent health-preference measures, including linearity, separability, and risk-neutrality. We evaluate accepted empirical methods used in SG and CA studies and propose methods for incorporating risks as CA treatment attributes. We then compare empirical maximum acceptable-risk estimates from CA studies of multiple sclerosis and Crohn’s disease patients with and without restrictive SG assumptions, as well as with published SG estimates from other disease interventions. RESULTS: We find that SG can be used to estimate MARs for specific health outcomes only by imposing more restrictive assumptions on patient preferences than CA methods require. We show that CA methods can be used to test various theoretical restrictions imposed by the SG assumptions and find that risk neutrality and linearity are rejected statistically in most cases. By imposing SG assumptions on CA results and by comparing CA results to published SG estimates for chronic conditions, we find that SG assumptions increase MAR estimates by 20% to 150% relative to those obtained by CA methods. CONCLUSIONS: CA methods can be used to replicate SG tradeoff tasks and to test the restrictions required to interpret SG estimates as risk-preference measures. CA offers a more flexible and conceptually rigorous method than SG as conventionally applied for measuring treatment preferences and risk-benefit tradeoffs. Most importantly, multiattribute CA methods can more realistically simulate clinically relevant risk-benefit tradeoff choices to improve the validity and reliability of preference estimates.

PR2

METHODS: specified health gains. patients’ willingness to trade off severe adverse event risks for measurement, and results of alternative methods for measuring Pharmaceuticals, San Diego, CA, USA

Neumann-Morgenstern expected-utility theory, while CA applies attribute conjoint analysis (CA) methods. SG derives from von theoretical foundations of standard gamble (SG) and multi-

score without accessing individual level data.

CONCLUSIONS: Studies that purport to analyze the effect of drug coverage on utilization or health using observational data needs to account for selection bias associated with such coverage.
of life than Whites even when their health status is equal. This may lead to racial differences regarding optimal decision making and conclusions based on cost-effectiveness analysis.

CONVERTING THE SCORES OF A CLINICAL INSTRUMENT FOR MEASURING PAIN TO A PREFERENCE BASED ONE
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Pain is widespread. Many scales have been used for measuring clinical outcomes of pain, but few are preference-based instruments. OBJECTIVES: To compare scores derived from the Box-Score-11 (BS-11), a clinical scale widely used for measuring pain, and the Pain attribute (PA) of the Health Utilities Index (HUI-III), a preference-based instrument. METHODS: Patients (≥18 years) were recruited from pain clinics in four Canadian metropolitan areas (Toronto, Ottawa, Edmonton, Vancouver) and were administered both scales, assessing their average pain level over the previous four weeks. Kendall’s tau-b was calculated between score sets and the proportions of the scores derived from the BS-11 that mapped onto each of the five PA scores of the HUI-III. RESULTS: Of 516 questionnaires completed, 6 had missing information, leaving 510 for analysis. The average age was 49.5 ± 11.9 years; 70% were female. Tau-b was reasonably large and statistically = 0.685, P<0.001. No patients scored 0 on either scale, as only patients with pain were included. Two patients scored 1 and yielded inconclusive results. All, except one, of the remaining BS-11 scores mapped at ≥60% onto PA scores of the HUI-III respectively: 2 to 2, 3 to 2, 4 to 3, 5 to 3, 7 to 4, 8 to 4, 9 to 5 and 10 to 5; 6 on the BS-11 was mapped onto 4 on the HUI-III with 53% of answers. Scores 2 and 10 had best mapping (88% and 94%). The overall correspondence was considered excellent. CONCLUSIONS: This study demonstrated that scores from the BS-11 can be mapped onto the PA component of the HUI-III.

RESPIRATORY DISORDERS

TRENDS IN MEDICATION PRESCRIBING FOR CHILDREN WITH SLEEP DISORDERS IN US OUTPATIENT SETTINGS
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OBJECTIVES: This study examined trends in physician-prescribing of medications for children with sleep difficulties in outpatient settings in the United States. Additionally, this study also explored the incidence of physician-prescribing patterns of high abuse-potential medications for children, and compared prescribing trends in children versus adults. METHODS: This cross-sectional study used data from the National Ambulatory Medical Care Survey (NAMCS) from 1993–2003. Patient aged <18 years were included in the study sample. We compared this sample to the sample of patients aged 18 years and older. Office visits were considered related to sleep difficulties if relevant ICD-9 codes were recorded and if sleep difficulties was reported as the reason for the visit. Medications were retrieved using the NAMCS drug codes, and all analyses were weighted to make national estimates. RESULTS: From 1993 to 2003, approximately one million visits were made for sleep-related difficulty in children. Nearly two-thirds (63.3%) of these visits were related to male children and 26% of these visits were by children aged less than three years. Family practice and internal medicine physicians accounted for 21% of the patient visits. Only 2% of visits in children resulted in a prescription for a medication compared to over half the adult population. Similar trends were observed with the prescription of high-abuse potential medications, where adults were 35 times more likely to receive prescriptions of medications with very high abuse potential. There were no time-related differences observed in these prescribing patterns. CONCLUSION: The findings of this study seem to suggest that a great deal of caution is being exercised by physicians while prescribing medications for sleep difficulties in children in US outpatient settings, since most of the visits do not result in medication prescription, unlike trends observed in adult patients with similar diagnoses in the same treatment setting.

COST-EFFECTIVENESS OF TELITHROMYCIN IN THE TREATMENT OF COMMUNITY-ACQUIRED PNEUMONIA
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OBJECTIVE: To compare treatment costs and cost-effectiveness of telithromycin versus other commonly-prescribed therapies for community-acquired pneumonia (CAP). METHODS: We developed an economic model to estimate the costs of treating CAP using a utilization-based definition of therapy failure, defined as respiratory-related hospitalization, ER visit, receipt of second antibiotic, or >1 return office visits within 30 days of therapy initiation. Probability of failure was estimated for amoxicillin/clavulanate, azithromycin, clarithromycin and fluoroquinolones from a longitudinal database; estimates were adjusted using propensity scores based on patient characteristics and prior utilization patterns. Probabilities for telithromycin were estimated using relative risks for each outcome versus clarithromycin from a published clinical trial. Costs of initial therapy and costs of failure were derived from the longitudinal database; probability of clinical cure was estimated from published clinical trials. The model was used to estimate 30-day direct treatment costs, and cost-effectiveness as incremental cost per clinical cure. We used second-order Monte Carlo simulation to evaluate the effect of uncertainty in key model parameters on our findings. RESULTS: In base-case analyses, telithromycin had the lowest overall treatment costs at $174/treated patient, followed by azithromycin ($219), clarithromycin ($262) fluoroquinolones ($315), and amoxicillin/clavulanate ($340). Clarithromycin had a slightly higher probability of clinical cure (92.1%) than telithromycin (90.5%) but at an additional cost of $5444/cure. Fluoroquinolones had a slightly higher probability of clinical cure (92.3%) than clarithromycin at a cost of $24,098/cure. Azithromycin and amoxicillin/clavulanate were dominated. Alternative analyses using AWP and WAC to estimate drug costs yielded similar results. Probabilistic sensitivity analyses showed telithromycin to be the least costly therapy in 88% of 1000 simulations. Telithromycin was cost-effective at a threshold of $500/cure in 86% of simulations, and at a threshold of $1000/cure in 83% of simulations. CONCLUSIONS: Telithromycin appears to be a cost-effective treatment for CAP versus amoxicillin/clavulanate, azithromycin, clarithromycin and fluoroquinolones.