medications and raloxifene in the treatment of osteoporosis. METHODS: Data from a large health insurer were used to identify 59,902 osteoporosis patients who initiated drug therapy between January 1, 1998 and August 30, 2000. Multivariate statistical models were developed for duration of therapy, uninterrupted therapy over one year, time to discontinuation, time to a change in therapy and health care costs over one year. Separate models were estimated for the effect of drug use patterns (compliance, switching) and initial drug therapy (raloxifene, bisphosphonates vs. HRT). Other independent variables included age, gender, type of insurance, history of fractures, and patient diagnostic and drug profiles at baseline. Sensitivity analyses were conducted to investigate if the impact of alternative drugs varied with age.

RESULTS: Bisphosphonate patients were more compliant than HRT patients, though compliance rates were below 25% for all drugs. Drug use patterns for raloxifene patients did not differ significantly from HRT patients. Compliance was correlated with a reduced risk of hip fractures of 43% (p < 0.05) and lower health care costs of $213 (p < 0.01), while switching increased the risk of hip fractures by 84% (p < 0.05) and increased costs by $278 (p < 0.01). Bisphosphonate patients were twice as likely as HRT patients to experience vertebral, Colles and other fractures and experienced higher health care costs relative to HRT patients of $510 (p < 0.0001). The estimated impacts of raloxifene and bisphosphonates improve significantly with patient age. For example, raloxifene's impact on total costs improved from $314 for patients under 55 to $570 for patients over 65. CONCLUSIONS: Compliance with drug therapies for osteoporosis over a 1-year period is poor (<25%) leaving patients at risk for fractures and higher health care costs. Alternatives to HRT were associated with better patient outcomes, especially for older patients.

ARThritis/Osteoporosis—Quality of Life/Preference Based Outcomes

INITIAL VALIDATION OF THE WILLINGNESS TO PAY (WTP) TECHNIQUE FOR MEASURING HEALTH CARE PREFERENCES IN JUVENILE IDIOPATHIC ARTHRITIS (JIA)

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WTP estimates are highly tangible and thus suitable for measuring health care preferences. The feasibility and usefulness of WTP in JIA has not been examined. OBJECTIVE: To assess the feasibility and construct validity of the WTP for measuring health preferences in JIA. METHOD: Parents were asked to estimate the monthly US dollar amount they would be willing to pay to obtain for their child 1) Drug A that provides near complete relief of arthritis symptoms (WTP(A)); and 2) Drug B that eliminates gastrointestinal (GI) symptoms (WTP(B)). A closed-ended question approach (yes/no) was used with random assignment of the initial bids (Drug A: $50/$125/$200/$300; Drug B: $5/$25/$30/$40). Parents who agreed to pay the initial bid were then asked whether they would pay 200% and then 400% of this initial bid. Information was obtained regarding family income, healthcare expenses as well as on various JIA outcomes: number of involved joints; visual analog scales of pain, GI discomfort and overall well-being; Childhood Health Assessment Questionnaire (CHAQ); the Pediatric Quality
of Life Inventory Rheumatology Module (PedsQL-R) and Generic Core Scale (PedsQL-G). Spearman correlations and regression analysis were done to examine the relationship between the WTP(A) or WTP(B) and other JIA outcomes. RESULTS: Fifty-four families of children with JIA (mean age: 10 yrs) were interviewed. Fifty-four percent of the patients had some GI discomfort and the mean/median number of involved joints was 4.3/2. WTP rating was refused by five families (9%). The mean/median of WTP(A) was $323/$200 and $54/$38 for WTP(B), respectively. After adjustment for the monthly family income, WTP (A) and WTP (B) were moderately correlated to pain, CHAQ, PedsQL-R and PedsQL-G (r = 0.35–0.47). CONCLUSIONS: WTP appears to be a promising, easy to use method for assessing health care preferences in JIA. WTP is feasible and has construct validity in JIA. Further validation in a larger group of patients is warranted.

### PAR16

**GASTROINTESTINAL (GI) SYMPTOMS AND HEALTH-RELATED QUALITY OF LIFE (HRQL) IN JUVENILE IDIOPATHIC ARTHRITIS (JIA)**

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OBJECTIVE: To quantify GI symptoms of children with JIA using the Gastrointestinal Symptom Scale for Pediatrics (GIPS), to verify for the GIPS reliability, construct validity and quality of parent proxy reporting, and to evaluate the relationship of GI symptoms severity and HRQL in JIA. METHODS: A convenience sample of 54 families of JIA patients was interviewed twice (patients (pts) >7 yrs, 1 parent per family). GI symptom severity was measured by the GIPS (7 item scale with yes/no answers; score 0–7; 0 = no GI symptoms) and a visual analog scale (VAS-GI). Information on other outcomes was obtained, incl. the Childhood Health Assessment Questionnaire (CHAQ); the Pediatric Quality of Life Inventory Rheumatology Module (PedsQL-R) and Generic Core Scale (PedsQL-G). RESULTS: Forty-six percent of the pts (mean age: 10.3 yrs) had some GI symptoms. Treatments included NSAIDs (n = 45), methotrexate (MTX; n = 33) and GI protectants (n = 21). Intrarater reliability and internal consistency of the GIPS (parent report: weighted kappa = .7; Crohnbachs-á = 1) were high; the quality of parent proxy reports was very good (intraclass corr. coeff. = .7). Scores of the GIPS, GI-VAS, PedsQL-R and PedsQL-G (r = .5–.8) were strongly correlated. The mean GIPS score of pts having GI symptoms was 2, with nausea and epigastric pain being most common. Use of MTX (p < .003) and NSAIDs (p < .03) led to significantly higher and GI protectants to significantly lower GIPS scores (p < .008) in univariate analysis. Corrected for the disease severity and activity, children with moderate/severe GI symptoms (GIPS > 2; n = 16) had significantly lower HRQL (PedsQL-R: p < .005; PedsQL-G: p < .04) and more disability (CHAQ; p < .005) compared to patients without GI symptoms. CONCLUSION: The GIPS is a reliable and valid measure of GI symptom severity. GI symptoms are frequent among children with JIA and, if moderate or severe, have a significant negative impact on the HRQL. GI side effects require special consideration for patient management and medication choices in JIA.

### PAR17

**COMPARING SHORT FORM AND RAND PHYSICAL AND MENTAL HEALTH SUMMARY SCORES: RESULTS FROM TOTAL HIP ARTHROPLASTY AND HIGH-RISK PRIMARY-CARE PATIENTS**

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OBJECTIVES: Summary physical and mental health scores for the Short Form (SF) measures assume that physical and mental health are uncorrelated. The Rand Health Status Inventory (HSI) measures allow correlation and also employ item weights derived from item-response theory. Do these different approaches to scoring matter? The objective was to compare summary scores using both the SF and Rand HSI. METHODS: SF-36 and the Health Utilities Index Mark 3 (HUI3) were administered to a cohort of patients waiting for elective total hip arthroplasty (THA). SF-12 and HUI3 were administered to a cohort of high-risk primary-care patients. Summary scores were generated and compared. Single-attribute utility scores for emotion in HUI3 were also computed. Canadian and U.S norms for SF, Rand HSI, and HUI3 were used to interpret results. RESULTS: For THA patients mean physical health scores were 28 and 36 for SF and Rand HSI. Mean mental health scores were 55 and 42. For the primary-care patients the scores were 34 and 36 for physical and 46 and 40 for mental health. HUI3 emotion scores for the primary-care patients were well below population norm. CONCLUSIONS: SF and Rand HSI provided similar summary scores in the THA study. However, SF and Rand HSI mental health scores differed in the primary-care patient cohort and results from HUI3 corroborate the mental health deficits identified by the Rand HSI. It may be wise for investigators to utilize both SF and Rand HSI scoring systems.

### PAR18

**PREVALENCE OF DEPRESSIVE SYMPTOMATOLOGY AND ITS RELATIONSHIP TO HRQOL IN ARTHRITIS: A WEB-BASED HEALTH STATUS SURVEY**

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OBJECTIVES: To assess the prevalence of depressive symptomatology and its relationship to HRQOL in arthritis. METHODS: A web-based survey was done among a cohort of high-risk primary-care patients. Summary physical and mental health scores were generated and compared. Single-attribute utility scores for emotion were also computed. The objective was to compare summary scores using both the SF and Rand HSI. Do these different approaches to scoring matter? The objective was to compare summary scores using both the SF and Rand HSI.