different BDMARD, disenrollment from health insurance, reaching March 31, 2011 or follow-up of 36 months. Exposure periods were subdivided into a quarterly (90-day) repeated-measures panel dataset. Within each quarter-panel, OGC use and rituximab adherence, measured using the proportion of days covered (PDC), were measured. Multivariable generalized estimating equation models examined the association between quarterly OGC use and prior quarter (lagged) PDC, adjusting for confounding variables. Multivariable-adjusted OGC use probabilities were predicted by PDC level (PDC=0 [i.e., reinfusion≥90 days late]; PDC=50 [reinfusion=45 days late]; PDC≥100 [reinfusion=on time/early]) using the G-computation method. **RESULTS:** Sample comprised 4,583 quarter-panels (594 unique patients); mean age 55 years, 81% female. The multivariable-adjusted OGC use probabilities decreased with time (p<0.001) and increasing PDC (p=0.006): from approximately 0.72 for all PDC levels in the first quarter-panel to 0.64 (PDC=0), 0.55 (PDC=50), and 0.47 (PDC≥100) in the last (12th) quarter-panel. **CONCLUSIONS:** Increasing rituximab adherence was associated with statistically significant OGC use reduction over time.

PMS45

ADHERENCE TO ORAL BISPHOSPHONATE THERAPY IN PATIENTS WITH OSTEOPOROSIS IN TIANJIN, CHINA

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OBJECTIVES: To estimate the adherence to oral bisphosphonate medication use and its associated factors for patients with osteoporosis in Tianjin, China. **METHODS:** Data were obtained from the Tianjin Urban Employee Basic Medical Insurance (UEBMI) database (2008-2010) with 30% random selection. Patients with ≥ 1 osteoporosis diagnosis, aged 40 years and older, and who had ≥ 1 pharmacy claim for oral bisphosphonate, including alendronate and etidronate, were selected. 12-month continuous enrollment before and after the first pharmacy claim for oral bisphosphonate were required. Adherence was measured with a medication possession ratio (MPR) and accounted for 6-month and 12-month. Multivariate logistic regression (MLR) analysis was conducted to assess the odds ratios (ORs) with 95% confidence intervals (CI) of potential confounding factors. **RESULTS:** A total of 918 patients with osteoporosis were identified with 64.9% female and a mean age of 64.7 (±10.4) years. The mean MPR was 0.24 (±0.25) and 0.13 (±0.15) at 6-month and 12-month follow-up period respectively. 96.62% of patients with MPR <50% and 81.05% of patients with MPR <20% were found in the 12-month analyses compared with 87.25% and 62.42% in the 6-month analysis respectively. During the first 6-month period, 48.69% of patients had only one bisphosphonate pharmacy claim and decreased to 47.82% when followed to 12-month. MLR results showed that patients with prior fractures during the study period may have better compliance (OR=3.15 and CI=1.23-8.10) while patients with coronary disease may have poorer compliance (OR=0.18 and CI=0.69-0.48) after adjusting for patients demographic and comorbidity characteristics. **CONCLUSIONS:** The adherence of oral bisphosphonate therapy for osteoporosis patients in Tianjin was significantly poorer compared to previous research in developed countries. More attentions should be paid and policy guidance is needed to improve the medication adherence among patients with osteoporosis in China.

PMS46

EVALUATING THE DIFFERENTIAL IMPACT OF PHYSICAL VERSUS MENTAL CO-MORBIDITIES ON THE HEALTH STATE UTILITIES OF PATIENTS WITH ARTHRITIS, ASTHMA, DIABETES AND MIGRAINE

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OBJECTIVES: To examine the differential impact of a physical versus a mental co-morbid condition on the health state utility (HSU) of patients with an existing physical condition. **METHODS:** Four base physical (B-Phys) conditions were examined: arthritis, asthma, diabetes and migraine. For each B-Phys, 5 physical co-morbidities (Co-Phys) were selected based on published clinical and epidemiologic studies; depression and anxiety were selected as the 2 mental co-morbidities (Co-Mental). Mean HSUs (and 95% confidence intervals) were calculated for patients with only B-Phys and for patients with the B-Phys and either a Co-Phys or a Co-Mental. Data came from individuals (N=26,885) with one or two of the selected conditions who participated in the National Health and Wellness Study between 2007 and 2010. HSUs, calculated based on the SF-6D, were age- and gender-adjusted to reflect the mean age and gender composition of the sample. **RESULTS:** Patients with a Co-Phys had lower HSUs (mean differences ranged from -0.018 for asthma, to -0.061 for diabetes) when compared to patients with only B-Phys. However, these differences were substantially greater for subjects with a Co-Mental instead of a Co-Phys (mean differences ranged from -0.081 for asthma, to -0.093 for arthritis). The mean difference between the HSUs of patients with only the B-Phys and those of patients with both B-Phys and Co-Mental were between 1.4 (Diabetes) and 4.5 (Asthma) times higher than the difference between patients with B-Phys and B-Phys and Co-Phys. **CONCLUSIONS:** Economic evaluations of interventions are often based on published utilities among patients with a specific condition regardless of their other co-morbidities. Our results suggest that having a Co-Mental has a substantially greater impact on HSUs than a Co-Phys. Studies aimed at evaluating interventions among patients with a particular condition must take into account the prevalence and type of co-morbidities among the population of interest.

PMS47

RACE DIFFERENCES IN WALKING SPEED

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OBJECTIVES: Physical function(PF) is an important determinant of health in the osteoarthritis (OA) population. Patient reported outcomes(PRO) are often used as primary endpoints for clinical research yet PROs measure attributes of PF that differ from performance-based measures [i.e., walking speed(WS)]. WS has been proposed as the " sixth vital sign," and a powerful predictor of health status and functional decline. The purpose of this study was to determine whether WS differs between community-dwelling African-American (AA) and White American (WA) adults with OA symptoms. **METHODS:** Participants were 1371 individuals (27% African American) from the Osteoarthritis Initiative, a prospective observational cohort. Included individuals had both 1) ≥ 1 pain, aching, or stiffness in or around the knee on most days for at least 1 month during the past 12 months, and 2) the presence of osteophytes-grade 1. Linear regression models examined racial differences in WS adjusting for age, gender, education, body mass index (BMI), income, education, waist circumference, and comorbidities. **RESULTS:** WS was significantly slower for AA than WA, (mean speed 1.15m/s vs. 1.31m/s; p<0.001). Compared to the WA cohort, the AA cohort had more females (71% vs. 51%; p<0.001), were younger [mean age(SD) 60.0(8.5) vs. 61.9 (9.3); p<0.001], had a higher mean BMI [32.4(5.0)kg/m^2 vs. 29.4(4.7) kg/m^2; p<0.001], and lower income and education level. AAs had higher (p<0.001) prevalence of hypertension (18% vs. 10%), diabetes (23% vs. 7%), and rheumatoid arthritis (9.9% vs. 1.1%). Racial differences in WS persisted when controlling for age, gender, education, body mass index (BMI), income, education, waist circumference, and comorbidities (excluding RA). **CONCLUSIONS:** In this study, race is an independent predictor of WS. Establishing National Norms for WS by race and gender should be investigated before using WS as a health status measure and health outcome predictor.

PMS48

QUALITY OF LIFE IN RHEUMATOID ARTHRITIS: HOW MUCH DO WE REALLY KNOW?

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OBJECTIVES: Quality of life (QoL) is increasingly being included as a secondary endpoint in clinical trials, with reimbursement agencies requesting information on the wider impact of an intervention on the patient. The quality-adjusted life years (QALYs) used in cost-utility analyses take their weighting of life years gained with an intervention from the QoL scores calculated using utility instruments such as the EQ-5D. The question that this poses is, what precisely are such utility instruments measuring, and is this a good reflection of the improvements in health that society wishes to finance? The aim of this study was to use the case study of rheumatoid arthritis (RA) to demonstrate the extent to which clinical trials add to our understanding of the psycho-social QoL outcomes of an intervention, as opposed to pain and physical function. **METHODS:** All completed phase III/IV trials in RA with results listed on ClinicalTrials.gov were assessed for QoL outcomes and utility instrument used. The relative proportion of each instrument accounting for 'psycho-social' versus 'pain and physical function', as defined by the SF-36 dimensions, was compared. **RESULTS:** Of the 76 studies analysed, 20 measured QoL (16 using SF-36, 2 using EQ-5D, 4 using both). The percentage of variance in each instrument attributable to pain and physical function versus psycho-social outcomes, as defined by SF-36 dimensions, was applied to these results (EQ-5D: 88.8%=Pain and physical function, 11.2%=Psycho-social; SF-6D: 70.5%=Pain and physical function, 29.5%=Psycho-social). It was found that only 24.5% of the QoL results available report on the psychosocial implications of the intervention. **CONCLUSIONS:** In conclusion, only a very small proportion of trials in this chronic condition measure the QoL outcomes of their interventions, and breaking down utility instruments into their component dimensions shows that only a small proportion of the total QoL outcomes reflect psycho-social implications.

PMS49

EMPIRICAL COMPARISON OF DISCRETE CHOICE EXPERIMENT AND BEST-WORST SCALING TO ESTIMATE STAKEHOLDERS' RISK TOLERANCE FOR HIP REPLACEMENT SURGERY

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OBJECTIVES: Empirical comparison of two preference elicitation methods, discrete choice experiment (DCE) and profile case best-worst scaling (BWS), regarding the estimation of the risk tolerance for hip replacement surgery (total hip arthroplasty and total hip resurfacing arthroplasty). **METHODS:** An online survey was constructed, following international guidelines, and consisted of socio-demographic questions and two randomised sections with 12 DCE and 8 BWS questions. The survey was sent to a general population who can be faced with choosing between THA and TRA (males between 45-65 years old) in the US. After an intensive literature search, the following attributes were selected: probability of a first and a second revision in seven years, pain relief, ability to perform moderate daily activities, and hospital stay. In addition, survey respondents rated the difficulty of each method and the time to complete each section was monitored. BWS and DCE data was analysed using conditional logit analysis. The maximum acceptable risk (MAR) for a revision was estimated for four different hypothetical hip replacement scenarios. **RESULTS:** The final data set consisted of 429 respondents. The MARs estimated for four hypothetical hip replacement scenarios differed between both methods, ranging from 0% to 19% difference for a first revision. BWS questions took significantly more time (401 s.) than DCE (228 s.) questions. And respondents found BWS more difficult to complete. **CONCLUSIONS:** Both methods to elicit stakeholder preferences produce different results. Yet, both seem to be consistent in predicting risk

tolerance if the benefits are changed. However, DCE seems to be more sensitive for a change in benefits and risks while the MAR estimates obtained through BWS have considerably lower uncertainty than DCE.

PMS50

RAPID IMPROVEMENTS IN PATIENT-REPORTED OUTCOMES WITH CERTOLIZUMAB PEGOL IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS, INCLUDING ANKYLOSING SPONDYLITIS AND NON-RADIOGRAPHIC AXIAL SPONDYLOARTHRITIS: 24-WEEK RESULTS OF A PHASE 3 DOUBLE BLIND RANDOMIZED PLACEBO-CONTROLLED STUDY

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OBJECTIVES: RAPID-axSpA (NCT01087762) investigated the impact of certolizumab pegol (CZP) on patient reported outcomes (PRO) in axial spondyloarthritis (axSpA), including ankylosing spondylitis (AS) and non-radiographic axSpA (nr-axSpA, axSpA with no definitive sacroiliitis on X-ray). **METHODS:** The ongoing 158-week (Wk) RAPID-axSpA trial was double blind and placebo-controlled to Wk24. Recruited patients had adult-onset active axSpA, including AS and nr-axSpA. Patients were randomized 1:1:1 to placebo, or 400mg CZP at Wk0, two and four followed by either 200mg CZP every two weeks (Q2W) or 400mg CZP every four weeks (Q4W). PRO endpoints included, physical function (BASFI), total spinal pain, daily pain diary to Wk4, fatigue (from BASDAI), Ankylosing Spondylitis Quality of Life (AsQoL), Sleep Problems Index II domain of the MOS Sleep scale, and SF-36. Change from baseline in PRO was analyzed in full analysis set with LOCF imputation. **RESULTS:** A total of 325 patients were randomized. Baseline characteristics were similar between groups. Compared to placebo, improvements at Wk24 in CZP 200mg Q2W and 400mg Q4W treated groups were observed in pain (-1.3 vs. -3.3 and -3.2), fatigue (-0.9 vs. -2.6 and -2.8), BASFI (-0.5 vs. -2.4 and -2.2) and AsQoL (-1.7 vs. -5.1 and -5.1). Improvements were seen from Wk1, and in spinal pain from day 2. CZP-treated patients also had greater improvements in sleep, and SF-36 components and domains. More CZP patients reached population norms for SF-36. CZP impact on pain, fatigue and AsQoL in AS and nr-axSpA patients was similar. Relative to placebo, CZP-treated nr-axSpA patients demonstrated greater improvements in BASFI and sleep compared to AS, and were more likely to reach population norms for SF-36. **CONCLUSIONS:** Both dosing regimens of CZP rapidly improved all PRO including pain, fatigue, physical function and QoL of axSpA, in both AS and nr-axSpA patients.

PMS51

EFFECT OF CERTOLIZUMAB PEGOL ON THE MULTIPLE FACETS OF PSORIATIC ARTHRITIS AS REPORTED BY PATIENTS: 24-WEEK PATIENT REPORTED OUTCOME RESULTS OF A PHASE 3 DOUBLE BLIND RANDOMIZED PLACEBO-CONTROLLED STUDY

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OBJECTIVES: To report the effect of certolizumab pegol (CZP), a PEGylated Fc-free anti-TNF, on patient reported outcomes (PRO) in psoriatic arthritis (PsA), as investigated in RAPID-PsA (NCT01087788). **METHODS:** The ongoing 158 week (Wk) RAPID-PsA trial is double blind and placebo-controlled to Wk24. Recruited patients had active PsA and had failed ≥1 DMARD. Patients could have received 1 previous anti-TNF. Patients were randomized 1:1:1 to placebo, or 400mg CZP at Wk 0, 2 and 4 (loading dose) followed by either 200mg CZP every 2 weeks (Q2W) or 400mg CZP every 4 weeks (Q4W). PRO measures evaluated: fatigue assessment scale (FAS), patient assessment of pain (VAS), health assessment questionnaire-disability index (HAQ-DI), SF-36, PsAQoL, and the Dermatology Life Quality Index (DLQI). Change from baseline for PRO was analyzed for the randomized population, with LOCF imputation. **RESULTS:** A total of 409 patients were randomized. 20% of patients had received a prior anti-TNF. Baseline demographics were similar between groups. From baseline to Wk24, differences in pain (-11.2 vs. -28.6 and -28.4), fatigue (-0.6 vs. -2.2 and -1.9), HAQ-DI (-0.19 vs. -0.54 and -0.46), SF-36 physical component summary (2.14 vs. 8.43 and 7.58) and mental component summary (0.73 vs 5.49 and 3.49), PsAQoL (-1.27 vs. -4.43 and -3.30), and DLQI (-1.4 vs. -6.3 and -5.2) were observed in placebo vs. CZP 200mg Q2W and 400mg Q4W arms (p<0.001). Differences were observed from Wk1 and were irrespective of prior anti-TNF exposure. More patients on CZP reached SF-36 general population norms than placebo patients. **CONCLUSIONS:** CZP effectively improved multiple PROs in PsA patients across many disease facets. The benefits of CZP treatment on physical and emotional components of HRQoL were seen across generic, PsA-specific and dermatology-specific measures. These benefits were seen in patients regardless of prior anti-TNF exposure.

PMS52

THE IMPORTANCE OF MANAGING ARTHRITIS IN PATIENTS WITH BOTH MODERATE-TO-SEVERE PSORIASIS AND PSORIATIC ARTHRITIS

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OBJECTIVES: To determine the impact of improvements in skin and musculoskeletal components on quality of life (QoL), we studied patients with *both* moderate-to-severe psoriasis and psoriatic arthritis (PsA) treated with etanercept (ETN). **METHODS:** Ad hoc analyses were performed on pooled data from the PRESTA trial in which patients were randomized to ETN 50 mg once weekly (QW) for 12 weeks or ETN 50 mg twice weekly for 12 weeks, followed by ETN 50 mg QW for 12 weeks. Dermatologists evaluated skin disease using the Psoriasis Activity and Severity Index (PASI) endpoints PASI50 (50% improvement) and PASI75 (75% improvement). Rheumatologists evaluated arthritis using the American College of Rheumatology (ACR) endpoints of ACR20 and ACR50 (≥20% and ≥50% improvement in ACR core criteria, respectively). To measure QoL, patients completed the EuroQoL-5 Dimension (EQ-5D) utility (scale 0–1, higher scores=better QoL, minimal important difference [MID]=0.05) and Visual Analog Scale (VAS; scale 0–100, higher scores=better health state, MID=5) questionnaire. **RESULTS:** Improvements from baseline at week 24 in EQ-5D utility and VAS scores for patients achieving ACR50 but not PASI75 (n=89) were significantly and clinically meaningfully greater than patients achieving PASI75 but not ACR50 (n=193; EQ-5D utility Δ=0.327 vs. 0.199, P<0.001; EQ-5D VAS Δ=23.7 vs. 15.1, P=0.002). Similarly, improvements for patients achieving ACR20 but not PASI50 (n=55) were significantly greater than those achieving PASI50 but not ACR20 (n=163; EQ-5D utility Δ=0.385 vs. 0.134, P<0.001; EQ-5D VAS Δ=19.3 vs. 10.4, P=0.005). **CONCLUSIONS:** Patients with both moderate-to-severe psoriasis and PsA showing greater improvements in arthritis than psoriasis reported more QoL gains compared with those with greater improvements in psoriasis than arthritis. Although the ACR response and PASI measures are formed of different components, the magnitude of the QoL gain with improvement in arthritis shows that the arthritis component of psoriatic disease contributes significantly to reduced QoL.

PMS53

IMPACT OF RHEUMATOID ARTHRITIS (RA) ON QUALITY OF LIFE (QOL) IN A NATIONALLY REPRESENTATIVE POPULATION IN THE UNITED STATES

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OBJECTIVES: To assess the physical component score (PCS), mental component score (MCS), and EuroQol (EQ5D) score of RA and non-RA patients. **METHODS:** Retrospective analysis of civilian non-institutionalized Medical Expenditures Panel Survey (MEPS) data for the year 2006. 20,434 respondents had positive weight, had complete information, and who were atleast 18 years were included in the analysis. Clinical Classification Code 202 identified RA respondents. RA and Non-RA respondents were matched on age, gender, race, education, marital status, income, region, insurance, and comorbidity index score. Since the MEPS 2006 consists of only PCS and MCS, a mapping algorithm was used to derive EQ-5D score. Proc surveyfreq, and proc surveymeans to describe the demographic characteristics. T-tests were used to measure statistical differences in QOL scores between the 2 groups. **RESULTS:** Among adults with RA, 86.75% were whites with mean (SE) age of 59.83 (1.18) years and 80% were females. The mean (SE) PCS scores for the RA and Non-RA group was 34.25 (1.35) and 45.46 (1.30). The mean (SE) MCS scores for the RA and Non-RA group was 47.49 (1.09) and 51.14 (0.86). The mean (SE) EQ-5D index score for the RA and Non-RA groups was 0.74 (0.02) and 0.86 (0.01). The results were significant at an apriori alpha value of 0.05. **CONCLUSIONS:** Since the disease conditions were self-reported and institutionalized persons were not included, the true prevalence of RA may be underestimated. All QOL scores for RA patients were lower in the 2006 MEPS data indicating that respondents with RA have reduced QOL. RA significantly impairs QOL in the U.S. population. The study trengthens the importance of treating RA. This study did not differentiate QOL by severity of RA. RA-specific QOL measures were unavailable in MEPS.

PMS54

USTEKINUMAB IMPROVES ARTHRITIS-RELATED AND SKIN-RELATED QUALITY OF LIFE IN PATIENTS WITH ACTIVE PSORIATIC ARTHRITIS: PATIENT REPORTED OUTCOMES FROM RANDOMIZED AND DOUBLE BLINDED PHASE III PSUMMIT I TRIAL

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OBJECTIVES: Examine impact of ustekinumab treatment on general &disease-specific patient reported outcomes (PROs) of patients with active PsA using PSUMMIT1 data. **METHODS:** Adult PsA patients (n=615) with active disease despite DMARD&/or NSAID therapy were randomized to ustekinumab 45mg, 90mg, or PBO at wks0, 4, &q12wks, thereafter. Patients treated with prior anti-TNF agents were excluded. At wk16, patients with <5% improvement in SJC/TJC entered blinded EE (PBO→ustekinumab 45mg; ustekinumab 45mg→90mg; 90mg→90mg). PROs were measured with HAQ, DLQI, SF-36, &VAS for impact of PsA on work productivity (0-10), patient assessment of pain (0-10)& disease activity (0-10). ANOVA on van der Waerden normal scores was used for continuous variables & chi-square or the Cochran-Mantel-Haenszel (CMH) test for binary variables between groups. **RESULTS:** Baseline PRO measures indicated the study population had severe physical disability& impaired HRQoL, with mean HAQ score of 1.25 &mean DLQI score of ≥10. At wk24, greater improvements in: HAQ (0.31&0.4 vs. 0.1, P<0.001), DLQI (6.6&7.5 vs. 1.4, P<0.001), SF-36 PCS (4.9 &6.2 vs. 1.4, P<0.001)& MCS (3.4&4.8 vs. 1.5, p<0.01 90 mg only) were observed in ustekinumab 45mg &90mg groups vs PBO, respectively. Proportions of patients who achieved clinical meaningful improvements in HAQ ≥0.3 (47.8% &47.5% vs. 28.2%, P<0.001), DLQI ≥5 (58.6% &63.1% vs. 32.9%, P<0.001), &SF-36 PCS ≥5(46.5% &53.3% vs. 26.0%, P<0.001) &MCS ≥5(37.0% &47.7% vs. 33.7%, p<0.01 90mg only) were greater in ustekinumab 45mg &90mg group vs PBO,