component summary scores and clinical variables, at baseline, week 2, and week 6, were observed. A similar trend was observed between SF-12 and clinical variable change scores at week 2 and week 6.

CONCLUSION: The SF-12 is a psychometrically sound tool for the assessment of HQL in osteoarthritis patients.

PHB4

THE RESPONSIVENESS OF DISEASE-SPECIFIC AND GENERIC HEALTH MEASURES TO CHANGES IN THE SEVERITY OF RHEUMATOID ARTHRITIS AND TO TREATMENT

Kosinski M[1], Ware JE[1], Zhao S[2], Dedhiya S[2]
[1]Health Assessment Lab, New England Medical Center, Boston, MA, USA; [2]Searle, Skokie, IL, USA

OBJECTIVE: To compare the responsiveness of arthritis-specific and generic health outcome measures in relation to changes in rheumatoid arthritis (RA) severity and to treatment. Clinical trial patients (n = 315) were assessed at baseline and again after two weeks of treatment. Criterion measures of severity change included physician global assessment, duration of morning stiffness, number of tender and swelling joints, functional capacity classification, visual analogue pain scale, and patient global assessment.

METHODS: The responsiveness of each disease-specific and generic measure was estimated independently using the relative validity (RV) methodology, which compares F-ratios for average changes in specific and generic measures across groups differing in the amount of change in the criterion variables and treatment. RV coefficients estimate how each measure responded, relative to the best measure (RV = 1.0). An RA-specific measure was based on the Health Assessment Questionnaire (HAQ). Generic measures included eight scales, two summary measures, and an arthritis-specific health index (ASHI) scored from the SF-36 Health Survey.

RESULTS: The SF-36 ASHI was most valid (RV = 1.0) for 4 of the 8 criteria. The SF-36 bodily pain (BP) scale was most valid (RV = 1.0) for 2 of the 8 criteria, including treatment. The SF-36 vitality scale was most valid (RV = 1.0) for 1 of the 8 criteria. SF-36 scales measuring physical health were consistently more valid (RV > .30) than scales measuring mental health (RV < .20). The HAQ was highly valid for 2 of the 8 criteria (RV = .89–.92) and responded moderately well to 4 other criteria (RV = .28–.49).

CONCLUSION: The responsiveness of the arthritis-specific scoring of the SF-36 health profile to changes in severity of rheumatoid arthritis was equal to or better than the generically scored SF-36 health profile and disease-specific Health Assessment Questionnaire (HAQ).

PHB5

THE RESPONSIVENESS OF DISEASE-SPECIFIC AND GENERIC HEALTH MEASURES TO CHANGES IN THE SEVERITY OF OSTEOARTHRITIS

Zhao S[1], Dedhiya S[1], Kosinski M[2], Ware JE[2]
[1]Searle, Skokie, IL, USA; [2]Health Assessment Lab, New England Medical Center, Boston, MA, USA

OBJECTIVE: To compare the responsiveness of arthritis-specific and generic health outcome measures in relation to changes in the severity of osteoarthritis (OA). Clinical trial patients (n = 1,177) were assessed at baseline and again after two weeks of treatment. Criterion measures of change in severity included physician global assessment, knee pain on weight bearing, knee pain on motion, and patient global assessment.

METHODS: The responsiveness of each disease-specific and generic measure was estimated independently using the relative validity (RV) methodology, which compares F-ratios for average changes in specific and generic measures across groups differing in the amount of change in the criterion variables. RV coefficients estimate how each measure responded, relative to the best measure (RV = 1.0). OA-specific measures were based on the WOMAC questionnaire. Generic outcome measures included eight scales, physical and mental summary measures, and arthritis-specific health index (ASHI) scored from the SF-36 Health Survey.

RESULTS: The SF-36 ASHI was most valid (RV = 1.0) for 3 of the 4 clinical criteria, followed by the SF-36 bodily pain (BP) scale (RV = .74–.98) for two of the clinical criterion. SF-36 physical health (physical functioning, role physical, physical summary) and social functioning scales were consistently more valid (RV > .30) than the SF-36 mental health scales (RV < .30). The WOMAC total scale score was more valid (RV = .91–1.0) than any of the three WOMAC subscales. With the exception of the SF-36 ASHI and BP scales, the WOMAC pain (RV = .80–.83), physical functioning (RV = .76–.95), and stiffness (RV = .61–.70) subscales were more valid than SF-36 scales.

CONCLUSION: This study replicates results from previous studies showing that arthritis-specific scoring of the generic SF-36 health profile increases its responsiveness to changes in arthritis severity.

PHB6

HEALTH CARE USE IN WOMEN AGE 45 AND OLDER

Hoerger TJ[1], Eleazer KR[1], Lindrooth RC[1], West SL[1], Ohsfeldt R[2]
[1]Research Triangle Institute, Research Triangle Park, NC, USA; [2]Eli Lilly and Company, Indianapolis, IN, USA

Key components of preventive health care for middle-aged and older women include evaluating the risk for osteoporosis and coronary artery disease, considering hor-

mone replacement therapy (HRT), and cancer screening. HRT is effective for treating the symptoms of acute menopause, and it may prevent some chronic health problems associated with growing older. However, HRT may increase the risks for other diseases.

OBJECTIVE: The purpose of this study was to estimate the level of health care use and costs incurred by post-menopausal women for conditions that have been associated with HRT.

METHODS: National health care survey and discharge data were used to estimate health care use by women age 45 and older for cardiovascular disease, osteoporosis, breast cancer, uterine cancer, and deep-vein thrombosis/pulmonary embolism. The databases used were the Healthcare Utilization Project-3, National Ambulatory Medical Care Survey, National Hospital Ambulatory Medical Care Survey, National Nursing Home Survey, and National Home and Hospice Care Survey. Clinical Classification for Health Policy Research codes were used to identify patients whose primary diagnosis or procedure corresponded with the above conditions. National weights were used to estimate resource use. Treatment costs were estimated using cost-to-charge ratios or Medicare Fee Schedule to calculate costs of individual procedures.

RESULTS: For each of the five conditions, resource use and costs are reported for hospitalization, outpatient, nursing home, and home health care services. Resource use and costs are also reported by age and race/ethnicity.

CONCLUSION: Results of the study may be used to estimate the burden of disease for conditions commonly affecting postmenopausal women and to provide data for cost-effectiveness models comparing newly developed drugs to existing HRTs.

THE DIRECT MEDICAL COST OF OSTEPOROTIC FRACTURES

Martin BC, Kotzan JA, Reeves JH
College of Pharmacy, University of Georgia, Athens, GA, USA

OBJECTIVE: To isolate the cost of bone fracture to a Medicaid/Medicare payor for an osteoporosis-prone population.

SUBJECTS: Claims data for Georgia Medicaid eligibles from 1992 through 1994 were obtained. Recipients meeting the following inclusion criteria were retained for analysis: age ≥50 years, female, claim with an ICD9 code indicative of fracture in 1993, 12 months of contiguous eligibility immediately prior to and after first fracture claim. Recipients were stratified based upon site of fracture (femur/other fracture site).

METHODS: Amounts paid by Medicaid and Medicare were proxies for direct medical costs. Per recipient per month costs were disaggregated by category of service (hospital, nursing home, physician, prescription, miscellaneous) for each of the 24 months of the study. Interrupted time series models were estimated to isolate the in-cremental change in cost due to fracture, with terms controlling for pre-existing trend, run-in costs, and any autoregressive errors.

RESULTS: A total of 765 subjects met inclusion criteria, with 226 femur fracture patients. All times series models estimated are significant, with R-squares ranging from 0.90 to 0.98. Average total cost temporarily increased $1,120 and $1,091 for the month of femur and other fracture, respectively. Observed cost increases returned to baseline trend levels within three months after fracture. Likewise, costs disagregated by category of service temporarily increased with fracture, except nursing home costs, which permanently increased after fracture.

CONCLUSION: Only nursing home costs increased persistently over a 12-month period ensuing fracture; all other costs increased but quickly returned to baseline trend. The incremental direct total cost of any type of fracture is less than $2,000. This is in contrast to the $13,396 in outlays by Medicaid and Medicare the year after fracture for the average fracture patient.

COST-EFFECTIVENESS OF HORMONE THERAPY VERSUS CALCIUM THERAPY: AN OSTEOPOROSIS MARKOV MODEL

Keys PJ[1], Touchette D[2]
[1]Wayne State University College of Pharmacy and Allied Health Professions, Detroit, MI, USA; [2]Detroit Medical Center Receiving Hospital, Detroit, MI, USA

Osteoporosis is a chronic degenerative disease with concentrated prevalence in the most rapidly growing segment of the population, the elderly. Its clinical and economic consequences are substantial. This study assesses the cost-effectiveness of two gold standard therapeutic approaches to reducing the impact of related fractures.

OBJECTIVES: To determine the cost-effectiveness ratios of the two therapeutic approaches. To model the cohort progression through the Markov states.

METHODS: Using published literature values, a Markov model was constructed. The model depicts a cohort of 1,000 women progressing from age 50 to 90 years or death, whichever comes first. The hormone therapy alternative includes calcium supplementation as part of the regimen. The model accounts for the following confounders: age dependent rate of death, predisposition to subsequent fracture, and the cardioprotective effect of hormone therapy. Sensitivity analysis was conducted on all relevant variables to assess the robustness of the findings. The primary outcome of interest was cost per fracture avoided. Additionally, Markov analysis of the model reports the distribution of women across each Markov state.

RESULTS: The study revealed that hormone therapy is more cost-effective than calcium therapy. Cost-effectiveness ratios for the two alternatives were $43,729.82 and $87,003.53 per fracture avoided for hormone therapy and calcium therapy, respectively. The incremental cost-