for the SF-12 were 52.7 for the physical dimension (PD) and 40.7 for the mental dimension (MD). The average score obtained on the BISS scale is 22.64 and a questionnaire to assess the perceived stress indicates a stress level of 19.01. At 14 days, the decrease in waistline was 1.66 cm (p < 0.001) and the symptoms score was 91 (p < 0.005). With regard to the scales dealing with QoL, average scores at D14 for SF-12 were 53 for PD and 43.4 for MD. Improvement of the mental dimension (p = 0.02). Average score obtained on the BISS scale is 26.34 (p < 0.001) Perceived stress level was 17.9 (p < 0.0003). CONCLUSIONS: At the end of the 14 days, the reduction in waistline statistically significant. We also noted an improvement in the overall symptoms score; an improvement that has been confirmed by an improvement of all symptoms.

HEALTH CARE INTERVENTIONS – Clinical Outcomes Studies

COMPARATIVE EFFECTIVENESS OF LOW INTENSITY PULSED ULTRASOUND VERSUS SHAM TREATMENT OF Tibia FRACTURE IN PATIENTS WITH NONUNION: A DOUBLE-BLIND, MULTI-CENTER RANDOMIZED CONTROLLED TRIAL

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OBJECTIVES: Treatment with LIPUS results in greater increases in bone density and greater reductions in bone gap area as compared to sham control in tibia fractures with N/U(no progression of healing for at least four months). Fractures that do not heal after several months represent significant clinical and economic burden to healthcare systems. Five to ten percent of all fractures are eventually classified as nonunions[N/U], fractures that fail to heal or will not heal without intervention. Interventions include treatment by cast/brace, surgery, electrical stimulation, or low-intensity pulsed ultrasound[LIPUS]. METHODS: Two primary effectiveness variables, change in bone density and gap area during treatment, were selected as surrogates for bone healing. Abbreviated treatment period was maximum that sham treatment could be administered ethically. Both variables measured by blinded central reviewers from CT-scans taken before/after termination of treatment. All adverse events recorded, evaluated. Treatment duration was 16 weeks. Patients instructed to apply device once daily for 20 minutes. Control (sham) devices were visually identical but did not transmit ultrasound waves. Neither patients nor physicians could recognize shams. RESULTS: A total of 101 patients enrolled (51 LIPUS, 50 sham), mean age 42.6 (active) versus 45.1 (years) (sham). Based on log transformed data, mean improvement in bone density was 1.34 (90% CI 1.14 to 1.57) times greater for patients randomized to LIPUS compared to sham (p = 0.002). A mean reduction in bone gap area also favored LIPUS treatment (p = 0.014). CONCLUSIONS: Double-blind, intent-to-treat analyses demonstrated statistically significant superior effectiveness for LIPUS device compared to sham in terms of both endpoints over 16 weeks of treatment. Estimated increase in bone density among patients randomized to LIPUS treatment was 34% greater than among patients randomized to sham. A significantly greater mean reduction in bone gap area after LIPUS treatment was also shown. Evaluation of adverse events showed that ultrasound therapy is safe.

HEALTH CARE INTERVENTIONS – Cost Studies

SOCIOECONOMIC STATUS AND COST OF CARE IN THE ELDERLY UNDERGOING MAJOR ORTHOPEDIC SURGERY

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OBJECTIVES: Socioeconomic status is associated with patients’ health behaviors, health problems as well as the quality of care they receive. We examined data on U.S. elderly patients undergoing major orthopedic surgery to determine whether socioeconomic status was associated with cost of care for patients with similar access to health care provided by Medicare. ME1HODS: We used the 2004–2006 Medicare data to identify all patients undergoing major orthopedic surgery. We used previously constructed and validated SESScore™, which is a summary measure of socioeconomic status for each U.S. zip code, using data from the 2000 U.S. Census. We assessed the effect of SESScore™ on cost of care while controlling for other patient characteristics, and then examined the extent to which disparities in cost of care could be attributed to differences in hospital factors. Fixed effect models were used. RESULTS: SESScore™ was a significant predictor of cost of care for major orthopedic surgery. Comparing the lowest quintile of SESScore™ to the highest, the cost difference was positive and significant (p = 0.000). After further adjustment for hospital factors, the difference was reduced. Within hospitals, there were only small differences in adjusted cost of care by patients’ socioeconomic status. CONCLUSIONS: When undergoing major orthopedic surgery, patients with a lower socioeconomic status have higher rates of cost of care than patients with a higher socioeconomic status, despite similar insurance coverage provided by Medicare.

COST-EFFECTIVENESS ANALYSIS OF PIMOBENDAN COMPARED TO BENAZEPRIL FOR THE TREATMENT OF ACQUIRED MYXOMATOUS MITRAL VALVE DISEASE IN DOGS IN GERMANY

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OBJECTIVES: Myxomatous mitral valve disease (MMVD) presents a frequent heart problem in clinically idopathic pimobendan has shown to increase survival time of affected dogs when compared to the ACE inhibitor benazepril. The objective was to estimate the cost-effectiveness of pimobendan compared to generic benazepril for treatment of MMVD in dogs in Germany. METHODS: A Markov model was developed to calculate costs and benefits of pimobendan and benazepril over a 1-year time horizon in dogs with MMVD on concurrent furosemide treatment. The model structure allowed for a differentiation in costs and transition probabilities between treatment start and maintenance treatment, and included the health states asymptomatic MMVD, symptomatic MMVD, treatment failure, euthanasia, and sudden death. Most transition probabilities were based on randomized controlled trials. Input-data on treatment pattern were derived from published literature, and cost data taken from official price and tariff lists (year 2008, perspective of the dog owner). Missing data were obtained from experts in canine cardiology. RESULTS: Over the 1-year time horizon, mean total therapy cost per dog on pimobendan was €463.55 versus € 284.29 for benazepril. Mean survival was 274 days and 129 days for dogs on pimobendan and benazepril, respectively; resulting in a cost of €1.24 for each additional day of life on pimobendan. Mean costs per treatment day were lower with pimobendan (€1.69) compared to benazepril (€ 2.20). Extensive one-way and probabilistic sensitivity analyses confirmed the robustness of the results. CONCLUSIONS: Pimobendan is a cost-effective treatment of MMVD if the dog owner is willing to pay a price below the normal range of food costs in Germany for each additional day of life. Lower total treatment costs for benazepril are merely attributed to a shorter survival, as pimobendan resulted in less costs per treatment day compared to benazepril.

COST-EFFECTIVENESS OF PIMOBENDAN versus BENAZEPRIL in ACQUIRED MYXOMATOUS MITRAL VALVE DISEASE IN DOGS: AN ADAPTATION TO SWITZERLAND

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OBJECTIVES: Myxomatous mitral valve disease (MMVD) presents a frequent heart problem in dogs. The objective of this study was to estimate the cost-effectiveness of pimobendan compared to benazepril for treatment of MMVD in dogs in Switzerland. METHODS: A Markov model including the health states asymptomatic MMVD, symptomatic MMVD, treatment failure, euthanasia, and sudden death, was adapted to Switzerland. Costs (year 2008, perspective of the dog owner) and benefits (life days gained, time without symptoms of heart failure) were calculated over a 1-year time horizon for dogs on pimobendan or benazepril respectively, both on concurrent furosemide treatment. Most transition probabilities were based on randomized controlled trials. Missing data and input-data on treatment pattern were obtained from experts in canine cardiology. RESULTS: Mean survival over the 1-year time horizon was 274 days for dogs on pimobendan versus 129 days for dogs on benazepril. Time spent without any symptoms of heart failure was 86 days for pimobendan versus 15 days for benazepril. Mean total therapy cost per dog on pimobendan was CHF 905.68 versus CHF 546.2 for benazepril; resulting in a cost of CHF 2.48 for each additional day of life on pimobendan. Mean costs per treatment day were lower with pimobendan (CHF 3.31) compared to benazepril (CHF 4.24). Extensive one-way and probabilistic sensitivity analyses confirmed the robustness of the results. CONCLUSIONS: Pimobendan is a cost-effective treatment of MMVD if the dog owner is willing to pay a price within the normal range of food costs for each additional day of life. The results indicate a better quality of life of dogs on pimobendan, as they spent substantially more time without any symptoms of heart failure compared to dogs on benazepril. Lower total treatment costs for benazepril are merely attributed to a shorter survival, as pimobendan resulted in less costs per treatment day.

CHOICE OF HEMOSTATIC AGENT AND HOSPITAL LENGTH OF STAY IN CARDIOVASCULAR SURGERY

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OBJECTIVES: Hemostatic agents (HAs) are efficacious in reducing blood loss during surgery, which may impact post-operative health care utilization and length of stay (LOS). The purpose of this study was to compare expected and actual LOS by choice of HA in cardiac procedures. METHODS: Hospital data were extracted from a large U.S. hospital-based, service-level comparative database. Procedures conducted between 2003 and 2006 were identified using principal ICD-9 codes and limited by Diagnostic Related Groups (DRGs). Four cohorts were compared for Fibrinogen, Fibrogel, Fibrin sealant, and Gelfoam/thrombin, and other. Expected LOS was derived using 2006 Centers for Medicare and Medicaid (CMS) geometric mean LOS by DRG and two-part regression models were created to assess outcome. RESULTS: A total of 36,950 discharges were included. Floseal use was associated with significantly less likelihood of exceeding the

Abstracts
expected LOS compared to baseline (OR = 0.791, p < 0.01). Among patients who did exceed the expected LOS, Floseal patients did so at a reduced rate (IRR = 0.891, p < 0.01). Surgical use was not associated with any significant difference from baseline, while Gelfoam use showed a slightly higher associated likelihood of exceeding expected LOS (OR = 1.099, p < 0.05). CONCLUSIONS: Floseal use was associated with lower than expected LOS in cardiac surgery. Given small profit margins achieved by hospitals today, further assessment is warranted to distinguish products with favorable outcomes.

HEALTH CARE INTERVENTIONS – Patient-Reported Outcomes Studies

PHC6

SUBJECTS SUFFERING FROM HALITOSIS: IMPACTS OF THE TREATMENT

Task C, Pierre Fabre, Boulogne, France

OBJECTIVES: Assess the impact in terms of quality of life (QoL) of ALIBI (Extract of green tea & Parsley essential oil) in patients suffering from halitosis. METHODS: An observational, longitudinal and prospective assessment, carried out in a pharmacy on subjects suffering from halitosis who were seeking an immediate remedy. The questionnaire used was the Halitosis Quality of Life Questionnaire (HQLQ); the only validated questionnaire regarding halitosis. RESULTS: A total of 311 subjects suffering from halitosis were included. The average age was 45.07 ± 15.59 years. The sex ratio was 29.98% for men and 70.12% for women. Among them, 71.06% of the subjects exer-
cised a professional activity. Seventy percent claimed they brushed their teeth after each meal; 44.23% of the subjects used accessories (26% inter-dental toothbrushes, 29% dental floss and 11% tongue scrapers). Sixty-six percent stated they become aware of halitosis themselves, 30% from a third party. Halitosis had been present for approximately 5.17 years; 11% had consulted only their halitosis. The overall HQLQ score was 14.68 ± 7.86, after 7 days of treatment by Extract of green tea & Parsley essential oil, the score was 10.32 ± 8.00. The improvement was statistically significant (p < 0.001). The evolution of each of the 4 dimensions (“daily life”, “mental”, “emotional”, “social and work”) also improved. The everyday life score changed from 2.93 ± 2.10 to 1.38 ± 1.92, the Emotional score changed from 2.46 ± 2.10 to 1.81 ± 1.95, the Mental score changed from 4.43 ± 2.73 to 3.22 ± 2.80 and the Social & Work dimension score changed from 4.92 ± 2.93 to 3.38 ± 2.69 (CONCLUSIONS: Since using Extract of green tea & Parsley essential oil, 90% of subjects suffering from halitosis have experienced an improvement in their everyday lives, 83% feel more at ease in their cultural and social activities. These results confirm the improvement of QoL among subjects suffering from halitosis after 7 days of treatment.

PHC7

DEVELOPMENT AND VALIDATION OF SPECIFIC HEALTH RELATED QUALITY OF LIFE QUESTIONNAIRE (HQLQ): THE HALITOSIS QUALITY OF LIFE QUESTIONNAIRE (HQLQ)

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OBJECTIVES: Halitosis or bad breath is a chronic condition affecting a large fraction of the adult population. The aim of this study was to develop and validate a halitosis-specific quality of life questionnaire for adults. METHODS: Development and valida-
tion of the questionnaire have been performed using the standardized multi-step method. RESULTS: A total of 169 eligible patients answered both questionnaires at day 0, sixty-three did the same a second time at day 7. The initial pool of questions comprised 24 items. Two items were deleted, the first was considered redundant and the due to ceiling effect, i.e., a ceiling effect means that most patients are not worried by a particular item. This resulted in a questionnaire of 22 items. Eleven items were allocated to each of the two domains. None of the items allocated to a domain showed a significantly higher correlation with the total score of the other domain. CONCLU-
sIONS: The final version of the HQLQ contains 22 items covering 2 domains of quality of life assessment, namely “social and daily life activities” and “personal domain.” The questionnaire is designed for self-administration. It showed both good reliability and construct validity. The intraclass correlation indicates good responsive-
ness of the HQLQ. To be valid, a questionnaire needs to be easily understood and completed by the population concerned. In summary, the health-related Quality of Life Questionnaire for halitosis is a valid instrument for use in adults complaining of bad breath. It is the first ever to have been developed with this specific aim.

HEALTH CARE INTERVENTIONS – Health Care Use & Policy Studies

PHC8

REGIONAL DISPARITIES AND ECONOMIC OUTCOMES ASSOCIATED WITH MINIMALLY INVASIVE AND CONVENTIONAL SURGERIES OF THE CHEST, ABDOMEN, AND PELVIS

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OBJECTIVES: Rising health care expenditures remains a major policy concern. Research suggests that regional variations in spending contribute to this crisis. Regional variations in the utilization of minimally invasive and conventional approaches to common surgeries is an extension of this paradigm, and likely con-
tributes to disparities in health outcomes and expenditures across the nation. This study examines these factors through the lens of the following procedures: colonectomy, laparoscopic and vaginal hysterectomy, cholecystectomy, appendectomy, bariatric surgery, breast biopsy, ventral hernia repair, and lung resec-
tion surgery. METHODS: We performed a retrospective cohort analysis using medical and pharmacy claims data from a large national health plan. Data on patient age, geographic residence, and severity were extracted. Geographic regions were cat-
ergorized as West, Midwest, Northeast and South. Outcomes of interest included intraoperative and post-operative complications, length of hospital stay, infection rates and associated antibiotic utilization, and readmission rates. Total expenditures for hospitalization directly associated with a patient’s surgery were estimated. Generalized linear models were constructed using a gamma distribution and log link function to estimate the effect of surgical approach on major outcomes while adjusting for other factors. RESULTS: Regional variations in utilization of laparoscopic and open surgeries are most pronounced for colonectomy, hysterectomy, and bariatric surgery. Smaller but still significant variations in the utilization of minimally invasive and conventional esophagogastic fundoplication, appendectomy, and breast biopsy were also observed. Colonectomy, vaginal hysterectomy, esophagogastic fundoplication, chole-
cystectomy, appendectomy, breast biopsy, and lung resection surgery were associated with lower follow-up health care expenditures when a minimally invasive route was used. CONCLUSIONS: Significant regional variations in the utilization of minimally invasive and conventional approaches to common surgeries exist in the United States. To the extent that, surgical approach impacts infection risk, complications, length of stay, and other metrics, these variations contribute to disparities in health outcomes and expenditures.

MUSCULAR-SKELETAL DISORDERS – Clinical Outcomes Studies

PHS1

INCREASED STANDARDIZED MORTALITY RATIO IN WORKERS WITH PERMANENT OCCUPATIONAL DISABILITY OF LOWER LIMB: A FOLLOW-UP STUDY OF 21 YEARS

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OBJECTIVES: This study intends to determine if there is increased mortality for dif-
f erent causes among workers with permanent lower limb occupational disability. METHO:
DS: We collected all cases of permanent occupational disability from the database of compensation claim of Bureau of Labor Insurance between 1986 and 2006, which were linked with the national mortality registry to obtain the person-
years at risk for different calendar periods. The standardized mortality ratios (SMR) for workers with permanent disability of upper and lower limbs were calculated to estimate the risk of mortality due to different causes in comparison with the general population of Taiwan. The software package of LTAS established by the National Institute of Occupational Safety and Health of the United States was employed for the above calculation. RESULTS: We found significantly higher SMR in the following causes of death for workers sustained a permanent occupational disability: Gastrointes-
tinal cancers (SMR = 1.28, 95% confidence interval (CI) = 1.02-1.59), benign tumors (SMR = 7.38, 95% CI = 4.19-14.54), diabetes mellitus (SMR = 2.55, 95% CI = 1.92-3.31), hypertension and stroke (SMR = 1.42, 95% CI = 1.06-1.86), suicide (SMR = 1.92, 95% CI = 1.19-2.93), injury (SMR = 1.88, 95% CI = 1.22-2.78), respiratory diseases (SMR = 2.09, 95% CI = 1.54-2.78), the digestive system diseases (SMR = 1.36, 95% CI = 1.02-1.77), and chronic kidney diseases (SMR = 2.41, 95% CI = 1.47-3.92). Workers suffering from permanent disability of upper limbs only showed an increased SMR for digestive system. CONCLUSIONS: Workers with per-
manent lower limb occupational disability have higher risks of digestive cancer, injury, suicides, diabetes, and vascular diseases, which might be related to a general lack of exercise and should be considered in the process of rehabilitation and/or health promo-
tion for these populations.

PHS2

GOUT AND THE RISK OF ACUTE MYOCARDIAL INFARCTION AMONG ELDERLY WOMEN

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OBJECTIVES: Gout is a common inflammatory arthritis associated with hyperuricemia. Despite the substantial prevalence of gout among ageing women, little is known about associated cardiovascular risks in this population. Previous studies that have shown an association between gout and acute myocardial infarction (AMI) have been limited to men. Our objective was to evaluate the association between gout and non-
fatal AMI among elderly women, aged 265 years, and compare findings in men. METHO:
DS: We conducted a case control study nested within a population-based gout cohort in the British Columbia Linked Health Database. Over a 12-year follow-
up, we identified incident cases of nonfatal AMI from hospitalization data and matched with controls according to age, gender, and length of medical record. Defini-
tions of exposure and outcome were physician-entered ICD-9 codes. Conditional logistic regression models were used to estimate the association between gout and AMI

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