studies providing a breakdown on direct costs, the largest proportion of direct medical costs for low back pain was spent on physical therapy (17%) and inpatient services (17%), followed by pharmacy (13%) and primary care (13%). Among studies providing estimates of total costs, indirect costs due to lost work productivity represented a majority of overall costs associated with low back pain. Three studies reported that estimates with the friction period approach were 56% lower than with the human capital approach. CONCLUSION: Estimates of the economic costs in different countries vary greatly depending on study methodology but by any standards must be considered a substantial burden on society. This review did not identify any studies estimating the total costs of low back pain in the US from a societal perspective. Such studies may be helpful in determining appropriate allocation of health care resources devoted to this condition.

THE DIRECT AND INDIRECT COSTS OF OBESITY IN AN EMPLOYED POPULATION

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OBJECTIVE: This study quantifies the direct and indirect costs of obesity within a cohort of commercially-insured employees between 2003–2005. METHODS: A database of health plan claims, self-reported health risk assessments (HRAs), and productivity data (Thomson MarketScan) from 2003–2005 was used to identify individuals for analysis. The study cohort included individuals reporting a valid body mass index (BMI) value on an HRA and 12 months of continuous eligibility. Patients were divided into five groups according to the WHO classification of BMI: severely obese (BMI ≥ 35), obese (30 ≤ BMI < 35), overweight (25 ≤ BMI < 30), normal weight (18.5 ≤ BMI < 25), and underweight (BMI < 18.5). Mean direct medical costs and the costs associated with employee absence were calculated for each BMI group. Two-part regression models were used to estimate the incremental direct and indirect costs, conditional upon expenditure, associated with elevated BMI.

RESULTS: Of 88,984 employees (45% female, mean age = 42.3), 9.9% were severely obese, 16.7% obese, 38.5% overweight, 34.0% normal weight, and <1% were underweight. With the exception of the underweight BMI group, univariate analysis reveals a graded pattern of expenditures for emergency room and outpatient pharmacy. As BMI increases, expenditures for these services increase. Further, compared to those with a normal BMI, the obese and severely obese have higher costs for inpatient hospital and outpatient visits and services. Regression-adjusted incremental direct medical costs associated with being overweight, obese, and severely obese were estimated to be $147.11, $712.34, and $1977.43, respectively. Regression-adjusted incremental indirect costs due to paid time off associated with being overweight, obese, and severely obese were estimated at $1403.81 $1511.24, and $1414.09, respectively.

CONCLUSION: Overall health care costs were higher for workers who were obese or severely obese than for those of normal weight or who were overweight. Indirect costs incurred from paid time off were higher for workers in all categories of elevated BMI relative to those of normal weight.

EVALUATION OF COST AND OUTCOMES OF WEIGHT CONTROL PROGRAM IN A REGIONAL HOSPITAL AT SOUTHERN TAIWAN

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OBJECTIVE: To evaluate the cost and outcomes of a weight control program in a regional hospital at southern Taiwan.

METHODS: A total of 249 subjects with BMI over 24 were recruited from August 2003 to June 2004. Monthly courses providing nutritional consultation and exercise instructions for fitness were offered in three sessions per week with class size less than 25 members. Content of the course includes Physical Fitness, exercise coaching, healthy diet and prescription of medication for weight control, and consultation for behavior change. Statistic analysis of data was performed with SAS software.

RESULTS: The mean age of the 249 subjects is 38.39±12.36 years old, with 202 (81.1%) female and 47 (19.9%) male. The mean of BMI is 29.98±5.10 kg/m2, mean of body fat percentage is 38.88±7.54. Cost for the weight control clinic service includes pharmaceutical, special formula of diet, education for healthy eating, aerobic exercise coaching, personnel and administrative expense. Analysis revealed the total cost for each person-visit of a subject is 4426 NT dollars, with 5016 NT dollars per visit for subjects accepting additional fitness training. The weight decrease in average is 4.52 ± 7.52 kg, and the length of follow up in average is 68.97 ± 54.36 day. In total there is 610.3 kg of weight reduction during the period of the project and the average cost for each kg weight reduction is 2212 ± 516 NT dollars. Statistic analysis with Mixed Model revealed that after adjusted by gender and age, the BMI of subjects will decrease by an estimate of 0.03757 with the increase of each day. CONCLUSION: The strategy of combining medication prescription, diet consultation and exercise coaching to reduce body weight in the beginning of the course is an effective enforcement to motivate the subject to establish the habit of regular exercise.

GREATER SEVERITY OF ILLNESS, RISK OF MORTALITY, LENGTH-OF-STAY, AND HOSPITAL COSTS IN PATIENTS WITH HYPONATREMIA

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OBJECTIVE: Among hospitalized patients, hyponatremia (serum sodium <136 mmol/L) is a common problem associated with increased mortality, morbidity, and length-of-stay (LOS) in clinical trials and other studies. However, studies relating hyponatremia to costs, controlling for the other factors, are limited. The purpose of this study was to examine the relationships between hyponatremia and hospital mortality, LOS, and costs in naturalistic settings with large sample size.

METHODS: We conducted a retrospective analysis of nationally projected adult acute care inpatient discharges from January 2003–June 2006, in the Premier Perspective clinical and economic database of >37 million actual discharges from ~600 US hospitals. We compared patients with hyponatremia (ICD-9-CM diagnosis code 276.1x) during hospitalization to a comparably sized random sample without hyponatremia, matched on age, gender, and comorbidities. Descriptive analyses including APR-DRG severity-of-illness, mortality, LOS, and costs. Chi-squared tests were used for mortality comparisons and Kruskal-Wallis for LOS.