SURVEY OF PHYSICIAN ATTITUDES AND PRACTICES IN LIPID LOWERING MANAGEMENT

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OBJECTIVES: While published guidelines for managing hyperlipidemia are well publicized, many patients either are not treated or managed suboptimally. This study examined physicians’ knowledge, attitudes and practices in managing primary care patients with elevated serum lipid levels. METHODS: An online questionnaire was developed, pilot tested, and administered to 98 primary care physicians with patients at varying risk for coronary heart disease (CHD). The questionnaire was administered during a two week period. Questions assessed physician’s knowledge of current national guidelines for managing patients with hyperlipidemia, use of various lipid lowering therapies, lifestyle interventions to lower serum lipids, use of national guidelines, and treatment practice for patients at varying risk for CHD. Questions used a 5 point Likert scale (with 1 indicating very important and 5 of little to no importance). RESULTS: The questionnaire had an 80% response rate. Most physicians reported following published national cholesterol guidelines all (15%) or most (77%) of the time. Physicians perceived themselves to be very knowledgeable about current published national guidelines for the management of elevated serum cholesterol levels (53%), lifestyle interventions to lower serum lipids (50%), and lipid lowering therapies (49%); they were considerably less knowledgeable (19%) about costs of lipid lowering medications. Major concerns with the use of published national guidelines included lack of patient compliance (moderately to strongly agree) (72%), and lack of time to adequately use guidelines during office visits (22%). CONCLUSIONS: Despite physician guideline awareness, achieving desirable serum lipid levels in the patient population remains an elusive target. Current provider education efforts are not sufficient. As more managed care organizations and group practices implement electronic medical records, the use of evidence based treatment algorithms should result in better management of cardiovascular risk factors, including elevated LDL levels, in general practice populations as well as targeted high risk groups.

INITIAL PHARMACEUTICAL TREATMENT OF SIMPLE HYPERTENSION

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OBJECTIVES: The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) recommended diuretics as first-line treatment for plan participants with simple hypertension in 2003. This study evaluated initial pharmaceutical treatment for plan participants diagnosed with simple hypertension in the month following diagnosis. METHODS: The authors selected Caremark plan participants from integrated, deidentified pharmacy and medical claims data who were diagnosed with hypertension between Oct. 10, 2003, and March 31, 2004. Plan participants who were diagnosed with a comorbid condition during the 11-month period studied. RESULTS: In the month following diagnosis, 2033 plan participants filled a prescription for at least one antihypertensive drug. Most of these plan participants were treated by primary-care physicians (84.9%). The remainder were treated by either a cardiologist (2.3%) or some other type of specialist (3.8%). Of all those studied, 41.2% were initiated on a diuretic either as monotherapy or in combination with one of the other drugs. Those starting with diuretic monotherapy represented 26.3%, while 30.9% initiated therapy with a combination of antihypertensive drugs. The remaining 42.8% were initiated on some other type of monotherapy. Of the plan participants who initiated therapy with one antihypertensive, 31.8% started with a diuretic, 21.7% with an ACE inhibitor, and 17.8% with a beta-blocker. Of those prescribed a combination of drugs, 45.2% initiated on an ARB and diuretic, 34.9% on an ACE inhibitor and diuretic. Overall, 63.69% started with generic therapies and 36.31% with a brand drug. CONCLUSION: Only a minority of plan participants diagnosed with simple hypertension, without complicating comorbid conditions, were prescribed a diuretic monotherapy.

PREDICTING ANTIHYPERTENSIVE DRUG UTILIZATION: AN APPLICATION OF LATENT CLASS MODELS

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OBJECTIVES: To analyze patterns of antihypertensive drug utilization and to forecast pharmacy utilization and costs in hypertensive patients. METHODS: The sample consisted of 23,272 patients who were continuously eligible for drug benefits for at least 14 quarters. Utilization was recorded and summarized for every quarter. The first two quarters represented the baseline utilization, and the following 12 quarters were used to determine individual utilization trajectories. Patients were included in the sample if they used antihypertensive drugs during the baseline period. The sample was split into analysis and test sub-samples. Model parameters developed in the analysis sample were used to forecast utilization in the test sample. Utilization for the fifth and twelfth quarters was predicted based upon information gathered from the previous quarter. The accuracy of the model was tested by comparing predicted and actual outcomes. The analysis was based on latent class models. Demographic characteristics, drug benefit details, and concurrent drugs served as covariates. Two outcome variables were computed for each patient: the number of prescriptions per quarter and the probability of exceeding a certain cost threshold. RESULTS: For number of prescriptions, the quarter-ahead forecasts were within 0.4 prescriptions of the actual figures. For prescription expenditures greater than $150, the difference between actual and estimated probabilities was 0.9% for the twelfth-quarter forecast and 4.4% for the fifth-quarter. Latent class models also accurately separated patients into low/high cost groups and increasing/decreasing cost groups by defining cost and utilization trajectories for individual patients. CONCLUSION: Latent class models produce accurate forecasts that can be used to improve the management of hypertensive patients. Compared to other forecasting techniques, these models produce results that can be more easily understood by a wide range of readers, a critical issue in outcomes research.

VARIATION OF COST-TO-CHARGE RATIO FOR CABG PATIENT BY HOSPITAL TYPE OVER TIME

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OBJECTIVES: Cost of care is essential for burden of illness and cost-effectiveness studies. However, collecting cost data is very
difficult. In traditional clinical trials challenges to completeness and accuracy of cost data and protocol-induced bias may reduce generalizability of results. “Real-world” trials are potentially useful but few have been conducted. With readily available claims data, the practical approach is to use cost-to-charge ratio to estimate the dollar value of consumed resources. This paper examines the characteristics and cost-to-charge ratio for CABG patients by hospital and department over time. METHODS: Premier data for 17,000 CABG patients from 187 US hospitals between 2002 and 2004 were used. Hospital cost-to-charge ratios were estimated with patient level total cost and charges at discharge and within each department. Cost-to-charge ratio by hospital type and location were assessed. RESULTS: Cost-to-charge ratios were not associated with hospital bed size although from 2002 to 2004, the ratios decreased ranging from 2% to 14% percent indicating improved efficiency for all hospitals. The cost-to-charge ratio disparity between teaching and non-teaching hospitals is shrinking over time (0.43 vs. 0.40 and 0.39 vs. 0.38 at year 2002 and 2004, respectively). The cost-to-charge ratio gap between urban and rural hospitals remains over time (0.48 vs. 0.40 at year 2002, 0.46 vs. 0.37 at year 2004). With regard to departmental cost-to-charge ratio, they differ greatly by hospital department and vary across hospitals. Except for anesthesia, for teaching hospitals departmental cost-to-charge ratios declined on average by 14% (4% to 28%) from 2002 to 2004. For non-teaching hospitals, changes over time were mixed. For urban hospitals, departmental cost-to-charge ratios had declining patterns similar to that of teaching hospitals. CONCLUSIONS: Cost-to-charge ratio for CABG patients varies by hospital type and these differences declined over time. Appropriate cost-to-charge ratios must be used in order to produce valid cost estimates.

PCV41

PROVISION OF DIET/NUTRITION AND EXERCISE COUNSELING FOR PATIENTS WITH DYSLIPIDEMIA BY AMBULATORY CARE PHYSICIANS IN THE UNITED STATES

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OBJECTIVES: First, estimate the prevalence of diet/nutrition (DN) and exercise counseling (EC) in patients with dyslipidemia during ambulatory care visits in the United States. Secondly, compare the likelihood of receiving DN or EC across various patient and physician characteristics. METHODS: The National Ambulatory Medical Care Survey (NAMCS) data for 2000 and 2001 were merged to obtain cross-sectional nationwide estimates of DN and EC. Dyslipidemia patients were identified by ICD-9 codes (272.XX). Sampling weights were provided by the NAMCS and logistic regressions were used. RESULTS: A total of 29.6 million (2-year average) visits in the U.S. had a diagnosis of dyslipidemia (n = 1620). Provision of DN was greater than EC (37% and 25%, respectively). Men were statistically significantly more likely to receive DN and EC than women, after adjusting for race and age (OR = 1.2 and 1.3, respectively). After adjusting for race and gender, subjects aged 50-64 years were more likely to receive DN than any other age group and subjects aged 30-49 were more likely to receive EC than any other age group. Compared to whites, blacks were 30% and 10% more likely to receive DN and EC, respectively, after adjusting for age and gender. It was found that self-paying subjects were more likely to receive EC (OR = 1.2, p = 0.003) but less likely to receive DN (OR = 0.72, p = 0.0002) than subjects with private insurance. Physicians located in the West provided greater provisions of DN and EC when compared to physicians located in other parts of the United States (OR = 2.2 and 1.5, respectively).

Compared to internists or cardiologists, family medicine physicians provided more DN and EC (p < 0.0001). CONCLUSION: Over two years, provisions of DN and EC were relatively low. More efforts in providing these preventative measures are warranted.

PCV42

PREDICTING HIGH COSTS IN CALIFORNIA MEDICAID PATIENTS WITH CARDIOVASCULAR DISEASE (CVD)

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OBJECTIVES: To predict high-risk patients with cardiovascular disease (CVD) over a 1, 2, and 3 year time period. Good prediction models will enable health care providers to target high risk patients who would most benefit from intervention programs designed to improve CVD patient outcomes. METHODS: Using classification and regression tree (C&RT) analysis from AnswerTree (SPSS 3.0), risk models were developed using California Medicaid (Medi-Cal) medical and pharmaceutical claims data for 62,154 patients with a diagnosis of CVD. Variables defined for the 6-month pre-period were used to predict year 1, year 2, and year 3 total costs. To determine the predictive ability of the model, we designated high cost patients as those with total costs of greater than $10,000, and low cost patients as those with less than $10,000. RESULTS: Outpatient cost (of approximately $3600, >1 SD above the median) in the six months prior to diagnosis was the most common split. Other contributing factors were patient comorbidities, including Other Neurological Disorders (p < 0.01), Deficiency Anemias (p < 0.01), and Hypertension (p < 0.01). Results for years 2 and 3 were similar to year 1 findings. With further examination of the data, we found that the small group of high cost patients at Year 1 continue to be high cost patients in the subsequent years, although nearly 14.5% drop out at year 2 and 14.5% dropout from year 2 to year 3. 35% of the sample was correctly grouped into the high-cost branch, while 98% of the low-cost subjects were correctly grouped into the low-cost branch. CONCLUSIONS: C&RT is a useful method in predicting high risk patients. As demonstrated in this sample, patients incurring high costs were signaled through outpatient utilization, and were correctly identified with a sensitivity of 35% and a specificity of 98%.

PCV43

AN EMPIRICAL EVALUATION OF THE EXPECTED VALUE OF PERFECT INFORMATION

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OBJECTIVE: The Expected Value of Perfect Information (EVPI) is becoming an increasing valuable tool to assist healthcare decision makers with their choices of new healthcare technologies. Although the use of EVPI in healthcare decision making is on the rise the study of its properties has received little attention. This study will evaluate the properties of the EVPI in the context of a currently published model for a cholesterol lowering therapy. METHODS: The properties of the EVPI were studied using a Markov chain model that evaluated the cost-effectiveness of ezetimibe co-administration with statin therapy vs statin titration (Cook et al. 2004). Simulations of the model were run for iterations of size 1000, 10,000 and 100,000. Baseline decisions were evaluated for blocks of 1000 iterations and the percent of correct optimal decisions as well as the mean and standard deviation for the net benefits were tabulated within each block. RESULTS: The estimated EVPI for 1000, 10,000 and