lished algorithm to assess quality. Evaluation criteria included methodological characteristics (perspective, selection of comparators, and modeling framework), health care system characteristics (relevance and applicability of clinical, treatment pattern and cost data), population characteristics (generalizability), and implications. **RESULTS:** Large variation in study quality was observed, particularly with outcome data and treatment patterns. We found that data on the effectiveness of drugs was typically extracted from clinical trials that did not include an Asian population, used inappropriate comparators and involved practice patterns that were not consistent with standards of care in Korea. With respect to treatment patterns, the most frequent situation relied on expert opinion from academic physicians in specialty practice. The Korean National Health Insurance Claims Database was a good source of disease specific costs, but was rarely used. Furthermore, the database failed to capture noncovered services. Preference measures, when used, were not elicited from the Korean population. Most studies (80%) did not clarify the funding source. **CONCLUSIONS:** If the Korean economic evaluation policy is to provide meaningful data for decision makers, the quality of cost-effectiveness studies will need to improve dramatically. This may involve access to or creation of better data, more diverse funding, improved training of researchers and evaluators, and partnerships with technology manufacturers.

PHP38

A CENTRAL COMPUTERIZED DRUG PRIOR-AUTHORIZATION PROCESS IN A MANAGED CARE SETTING IN ISRAEL

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OBJECTIVES: To implement a computerized, centralized, drug prior-authorization process in a national managed care organization to control utilization and expenditures of expensive medications and to ensure uniformity of authorization criteria throughout the organization. **METHODS:** This program was implemented in the Leumit Health Fund, a HMO operating in Israel. The HMO's Medical Division has formulated a drug policy mandating prior-approval by the Central Medicines Department for expensive drugs. Additionally, these products may only be dispensed from HMO owned and operated pharmacies. To expedite this authorization process, a special computer program was developed which operates under the HMO's electronic patient record (EPR) system. Upon prescribing one of these drugs, a window automatically appears instructing the physician to press a function key for transmission of an authorization request to the Medical Division for approval of HMO coverage. Two lines are provided to enter supplementary information. The patient is then given a computer-generated prescription which prior to approval, cannot be dispensed via the HMO's pharmacy dispensing program which is integrated with the EPR. The distribution of drugs requested by class, and proportion of requests rejected for the year 2003 was evaluated. The aggregate monetary value of the requests denied was evaluated. **RESULTS:** Throughout the year 2003, 38,490 requests were submitted, 44.88% of which were denied. The distribution of requests by drug or drug class was: Antineoplastic and immunomodulating agents 15.58%; neurologicals (not including anti-epileptics) 14%; newer insulins and rosiglitazone 12%; ocular lubricants (for patients not suffering from FD or CF) 10.55%; angiotensin receptor blockers 10.24%; clopidogrel 7.18%; other 30.45%. The annual aggregate potential cost of requests denied was 82,771,608 New Israel Shekels (1 NIS = 4.6 USD). Requests for antineoplastic and immunomodulating agents accounted for 36.37% of this sum. **CONCLUSIONS:** The system was successfully implemented and facilitated standardized approval criteria on the national level.

PHP39

DEVELOPMENT AND VALIDATION OF A CLAIMS-BASED RISK ASSESSMENT MODEL TO PREDICT PHARMACY EXPENDITURES IN A COMMERCIAL POPULATION

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OBJECTIVES: To empirically develop and validate the RxCost Model, a prospective and concurrent risk assessment model that uses claims-based diagnostic information to predict future pharmacy expenditures for a US commercial population. Additionally, we sought to empirically develop, validate, and compare the Mixed RxCost (MRxCost) Model to explore the gain in predictive power associated with adding drug information to the RxCost Model. Prescription cost risk assessment models can be used to profile physician practices or control for comorbidity burden in economic studies. **METHODS:** A retrospective longitudinal cohort study using MEDSTAT MarketScan claims data (1998–2000) for ambulatory persons who were continuously enrolled for at least 13 months and were 18 to 64 years old was used. A training sample consisting of over 1.3 million lives was utilized to develop the models. Model coefficients were developed from AHRQ clinical classification software, clinical expert panel, and stepwise OLS regression to screen noise variables. A random holdout sample of 218,383 was utilized to validate the models and to compare the performance of each model. Measure of discrimination (R-squared), predictive ratios, and discrimination for hypothetical physician groups were computed and compared to each other as well as to a Demographic-only model and the proprietary DCG-HCC model. **RESULTS:** The R-square value for the prospective RxCost, the MRxCost Model and the DCG-HCC using the validation sample was 0.22, 0.34 and 0.16, respectively and was 0.34 for the concurrent RxCost model. The RxCost model's predictive ratio's varied between 0.93 and 1.05 for clinical subgroups and ranged from 1.03 to 1.04 across hypothetical physician patient groups of size 10 to 500. **CONCLUSIONS:** The RxCost Model was successfully developed and it outperformed the DCG-HCC model in terms of R-square after re-calibrating the DCG-HCC model. The MRxCost Model also proved that supplementing drug information can improve discriminatory power.

PHP40

DEVELOPING KEY PERFORMANCE INDICATORS FOR THE AUSTRALIAN REIMBURSEMENT SYSTEM

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OBJECTIVES: To develop key performance indicators for the Australian reimbursement system and to facilitate ongoing analysis of the drug funding environment. **METHODS:** This study involved the establishment of a relational database that captured all relevant data over a 14-year period. This included details of the Australian Pharmaceutical Benefits Advisory Committee recommendations, listing criteria, product type, pricing, type of economic evaluation, and public expenditure by product type. A series of pricing indexes was also developed. The key performance indicators are in the process of being developed with input from industry and Government. These objectives are consistent with the goals of the Free Trade Agreement between Australia and the USA. **RESULTS:** The key performance indica-

tors focus on providing the pharmaceutical industry with a mechanism for assessing reward for innovation. They also assess the pattern of new listings and changes in the structure of expenditures under the Australian Pharmaceutical Benefits Scheme. The study shows that the average time from marketing approval to reimbursement is 15 months, that expenditure by government is driven mostly by volume increase for products that have been listed for more than 12 months and not by recent listings or price changes, and that products are more likely to be rejected if they are assessed on a cost-effectiveness basis (42% approved) than on a cost-minimisation basis (88% approved). **CONCLUSIONS:** This is part of an ongoing effort to develop key performance indicators and to date has been supported by industry and Government. In part, this is a response to the improved levels of transparency and cooperation engendered by the Free Trade Agreement between Australia and the USA.

PHP41

A PRELIMINARY ANALYSIS OF THE RELATIONSHIP BETWEEN CONSULTATION LENGTH AND PRESCRIBER ACTIVITY IN UK GENERAL PRACTICE

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OBJECTIVES: To explore the relationship between the length of a General Practitioner consultation and the number of prescriptions issued. Initially it is necessary to establish if any trends exist in prescriber activity and consultation length. **METHODS:** The DIN-LINK database was used to obtain data on prescriber activity. DIN-LINK is a longitudinal patient database comprising over 3.8 million electronic patient records and is populated with data from General Practices across Great Britain. This analysis was based on patients consulting with a GP in the year to August 2004. Data on the number of prescriptions issued in a consultation in the database were stratified by consultation length, with 1–3 minutes being the lowest consultation length band, and 21–24 minutes the highest band. A 13–15 minute band was included as it constituted the central value of this stratification. The unpaired student t-test was used to test for statistical significance between groups. **RESULTS:** The cohort for this analysis comprised 467,446 patients, of whom 45% were male. The mean age of the cohort was 42.4 years. Over the one-year period, the cohort had 2,425,790 consultations, during which 2,181,974 prescriptions were issued. Statistically significant differences in the mean number of prescriptions per consultation were found between the lowest and central band, and the lowest and highest band ($p < 0.001$). At a consultation length of 1–3 minutes, GPs prescribed an average of 0.6 prescriptions per consultation. This value peaked and plateaued at 1.1 prescriptions per consultation at a consultation length of 13–15 minutes. **CONCLUSIONS:** Prescribing increased as consultation length increased up to 13–15 minutes, after which a plateau in prescriber activity was seen. This suggests that the incremental benefit of consultations over 15 minutes may be limited. Further study is planned with quantification of the relationship between consultation length and prescriber activity. Regression analysis is planned for 2005.

PHP42

AN EXPLORATION OF PATIENT FACTORS INFLUENCING PRESCRIBER ACTIVITY IN UK GENERAL PRACTICE

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OBJECTIVES: To assess trends in prescriber activity related to patient smoking status and ACORN socio-economic status. The findings will be used to identify variables for subsequent regression analysis of the relationship between prescriber activity and consultation length. **METHODS:** The DIN-LINK database was used to obtain detailed data on prescriber activity. DIN-LINK is a longitudinal patient database comprising over 3.8 million electronic patient records, populated with data from General Practices across Great Britain. This analysis was based on patients consulting with a GP in the year to August 2004. Patients were stratified by smoking status and by ACORN socio-economic classification (CACI Ltd., www.caci.co.uk/acorn); measures of prescriber activity were examined, including the number of prescriptions per patient/per consultation, and the number of consultations per patient. The unpaired student t-test was used to test for statistical significant differences between groups. **RESULTS:** The cohort comprised 467,446 patients, of which 339,275 had a record of smoking status and 415,418 had their ACORN socio-economic status recorded. Among the sub-group with smoking status recorded, significant differences were found between current smokers, non-smokers, and ex-smokers in mean consultations per patient, prescriptions per patient, and prescriptions per consultation. Although significant results were found, no trends were apparent. The only non-significant comparisons were in mean prescriptions per consultation between current smokers and ex-smokers, and in mean consultations per patient between current smokers and non-smokers. When considering patients' socio-economic status, those in the lowest group ("Hard Pressed") consulted more frequently and were issued significantly more prescriptions per head and significantly more prescriptions per consultation compared to the highest ACORN group ("Wealthy Achievers"). **CONCLUSIONS:** We found statistically significant differences in prescriber activity with respect to patients' recorded smoking and socio-economic status. Our findings have highlighted the potential of these two factors as suitable variables for regression analysis planned for 2005.

PHP43

FACTORS THAT INFLUENCE PRESCRIBING OF LOW-MOLECULAR-WEIGHT HEPARINS

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OBJECTIVE: The decision to prescribe one drug instead of another within the same therapeutic class may be influenced by a variety of drug-related, direct, or indirect factors; but little is known about which considerations are most important in such choices. The low-molecular-weight heparins (LMWHs) represent a class of drugs that are commonly used and for which therapeutic equivalence has been debated in the literature. The purpose of this study was to identify and compare factors perceived by physicians and clinical pharmacists to be influential in prescribing decisions among LMWHs. **METHODS:** Physicians and clinical pharmacists were interviewed to elicit information and rank factors that influence the prescribing and use of LMWHs in community hospitals. For each factor, the mean and median of the rating was determined along with the frequency distribution across ratings. The nonparametric Mann-Whitney U test was used to examine differences between physicians and clinical pharmacists. **RESULTS:** Both groups considered efficacy, formulary status, and policies restricting drug use to be highly influential in the decision to use one LMWH versus another. Compared to clinical pharmacists, physicians rated personal