Abstracts

Performance (AIP) tool was developed by combining Microsoft Visual Basic 6.0 with a series of SQL statements that transform pharmacy databases into a standardized format. Once standardized, a second series of SQL statements were applied to allow tracking of prescription activity levels compared to expected activity levels over sequentially overlapping periods of time. RESULTS: AIP detects trends in medication adherence relatively early after the initiation of adherence improvement activities. This represents a significant improvement over traditional methods for studying the impact of patient interventions on medication adherence and provides opportunities for early modification of adherence improvement activities that do not achieve their intended goals. CONCLUSIONS: AIP allows targeting of specific patients for adherence interventions based on persistence. Through use of dynamic filters, AIP can also identify health care providers and institutions where adherence improvement initiatives are most needed. Additionally, user-defined therapeutic groupings and intent to treat categorization allows AIP to generate accurate medication adherence information when patients are initiated on one medication in a therapeutic class but ultimately maintained on another medication within a defined therapeutic class. The Adherence Index of Performance provides a unique means for monitoring the impact of medication adherence improvement initiatives through analysis of pharmacy claims databases. AIP converts claims databases into a standardized format upon which a series of pre-defined analytical processes can be applied. This allows tracking of prescription activity levels for both new and continuing patients compared to expected activity levels over sequentially overlapping periods of time. It has been successfully used by a number of health care providers to monitor the impact of adherence interventions on patients’ medication-taking behaviors.

PHP27

PREDICTIVE VALUE OF PHARMACEUTICAL TREATMENT (PT) COST AND LENGTH OF STAY (LOS) ON TOTAL HOSPITAL (TH) COST USING THE MINIMUM BASIC DATA SET (MBDS)
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OBJECTIVES: Estimates of fixed funding budgets can only be accurate if all pathology related insurance costs are considered. In this work we analysed the predictive value of LOS and PT cost on TH insurance cost as surrogates for total budget estimation. These predictors may already be available prior to the expected activity levels over sequentially overlapping periods of time. CONCLUSIONS: AIP allows targeting of specific patients for adherence interventions based on persistence. Through use of dynamic filters, AIP can also identify health care providers and institutions where adherence improvement initiatives are most needed. Additionally, user-defined therapeutic groupings and intent to treat categorization allows AIP to generate accurate medication adherence information when patients are initiated on one medication in a therapeutic class but ultimately maintained on another medication within a defined therapeutic class. The Adherence Index of Performance provides a unique means for monitoring the impact of medication adherence improvement initiatives through analysis of pharmacy claims databases. AIP converts claims databases into a standardized format upon which a series of pre-defined analytical processes can be applied. This allows tracking of prescription activity levels for both new and continuing patients compared to expected activity levels over sequentially overlapping periods of time. It has been successfully used by a number of health care providers to monitor the impact of adherence interventions on patients’ medication-taking behaviors.

PHP28

ECONOMIC EVALUATION OF NEW TECHNOLOGIES IN THE HOSPITAL SETTING: THE EXPERIENCE OF THE AZIENDA OSPEDALIERA DI VERONA, ITALY
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OBJECTIVE: To evaluate the opportunity of introducing new technologies in the medical device formulary of the Azienda Ospedaliera di Verona as an example, kyphoplasty evaluation is described. METHODS: In order to control the medical devices purchasing process, at the Azienda Ospedaliera di Verona (two hospitals, one teaching and one general, accounting for about 2000 beds) a multidisciplinary Medical Devices Formulary Committee (MDFC) was established. The tasks of the MDFC are: to evaluate the introduction of new medical devices in the hospital formulary; to monitor the appropriate use of medical devices after their introduction. The committee approves the introduction into the formulary of new medical devices with innovative features, based on documented efficacy and a favourable cost/benefit ratio. For kyphoplasty, efficacy data were collected from published literature. Cost information was computed taking into account: the cost of the device, the personnel, the operating room, length of stay, from the hospital perspective.

RESULTS: At the time of the evaluation, published evidence describing the efficacy of kyphoplasty consisted mostly of uncontrolled retrospective studies. Regarding cost, the overall cost of the procedure was calculated as follows: device €2250, medical and nursing staff €486, health materials and operating room €185, length of stay €2600, for a total of €5321. The DRG reimbursement associated with the use of kyphoplasty with no complications is €4200; which does not cover the overall cost of the procedure. CONCLUSIONS: Despite poor clinical data and unfavourable economic analysis, the MDFC approved the use of kyphoplasty only for 10 selected patients per year, requiring the physician to report the outcomes of the treated patients, in order to re-evaluate the use in the future.

PHP29

REIMBURSEMENT OF HIGH-PRICED NEW EMERGING MEDICAL TECHNOLOGIES IN A DRG-BASED HOSPITAL CARE SYSTEM
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Newly developed, already licensed, high-priced medical devices for critically ill patients impose additional costs especially on the hospital sector. In countries with a DRG-based reimbursement system there are no economic incentives for hospitals to use the new technologies as long as the additional costs are not compensated. OBJECTIVES: The objective of this paper is to analyse the structures of the German health care system which are involved in the implementation of new high-priced medical technologies the hospital sector in the reimbursement system and to determine key factors of a successful implementation. METHODS: The institutions involved in the determination of the catalogue of reimbursed items based on the just newly introduced German DRG-system are described and examined. Illustrated by examples the launching of newly emerging medical devices for inpatient treatment is analysed. Investigated parameters were the number and quality of studies published, the

modeling. CONCLUSIONS: LOS and pharmaceutical treatment cost allow explaining >70% of the variance of the total hospital-cost as measured in real life MBDS-data; these predictors may be useful as budget management indicators for a majority of APRDRGs before detailed financial data become available.
involvement of health technology assessment institutions, the adjustment of the reimbursement system in a time frame allowing the survival of the company, and the dissemination of the technology. RESULTS: Involvement of objective institutions like the Federal Committee (Gem BA) or the Institute for Reimbursement in the hospital sector (INEK) is necessary to prevent implementation of new technologies without adequate medical efficacy and economic effectiveness. For positive recommendations a critical mass of clinical and health economic studies is prerequisite. But in time adjustment of the reimbursement catalogue, e.g. as new DRG or additional payment to existing DRGs, seem to be crucial for implementation of a new costly technology. CONCLUSION: Slow decisions processes can delay if not prevent the use of useful new therapeutic technologies. Although according to the German law cost effectiveness should be considered in reimbursement decisions, so far it did not play a relevant role in reimbursement decisions in the hospital sector.

PHP30
PRESCRIBING PATTERNS AND ASSOCIATED COSTS OF PSYCHOTROPIC DRUGS IN A MAJOR HEALTH CARE SYSTEM IN SAUDI ARABIA
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OBJECTIVES: Recognizing the prescribing pattern and associated costs of psychotropic medications and the factors associated with such prescribing is crucial and may play an important role in improving the health care services provided to patients on such medications. The objective of this study was to assess current trends and factors influencing the prescribing of psychotropic medications. The study also estimated the direct cost associated with these medications. METHODS: This is a retrospective study of (N = 71,136) prescription events of psychotropic medications identified from outpatient pharmacy records of a major health care system in Riyadh, Saudi Arabia for years 2002, 2003, and 2004. Patient characteristics, psychotropic medications use and the associated costs over the three years period were determined. Logistic regression was used to evaluate the influence of physician specialty and other relevant factors on prescribing of different psychotropic medications. RESULTS: Over the three years period the use of high cost agents have sharply increased to account for around 8% of the total outpatient spending on pharmaceuticals in 2004. Prescriptions by General Practitioners (GPs) accounted for 35% of the total psychotropic medications prescribed. However, patients on these medications were more likely to receive a high cost drug from a psychiatrist than from any other specialty. CONCLUSIONS: The results of the study indicate that psychotropic medications are mainly prescribed by GPs and that the likelihood of being prescribed a psychotropic medication, which may be of high cost, is greater when patients see a psychiatrist. In Saudi Arabia, health care systems should closely monitor prescribing patterns for psychotropic medications to avoid unnecessary cost and consequently, the potential for inappropriate use of such agents.

PHP31
CHARGES FOR HOSPITAL ADMISSIONS ATTRIBUTABLE TO HEALTH DISPARITIES FOR AFRICAN AMERICAN PATIENTS IN SOUTH CAROLINA DURING 1998–2002
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OBJECTIVE: To estimate the financial effect of racial disparities as reflected in differences in hospital admission rates each of the 25 Major Diagnostic Categories (MDCs) in the state of South Carolina. METHODS: Estimates were calculated for total submitted charges within each MDC that were attributed to higher admission rates for African Americans than for Caucasians in South Carolina, based on age-adjusted annual admission rates. Each of the 25 MDCs was evaluated to reveal which component Diagnostic Related Groups (DRGs) were the largest admission “drivers” or contributors to the observed differences in admission rates. South Carolina hospital discharge data for 1998–2002 was used for the analysis. The database includes all-payer billing data for inpatient hospital admissions as received on the UB-92 billing file for the covered episode. Charges were inflation-adjusted to 2002 constant dollars. RESULTS: Between 1998 and 2002, there were an estimated $1.6 billion in total charges for hospital admissions in South Carolina that were attributed to higher age-adjusted admission rates for African American patients. In addition, African Americans had consistently higher hospital admission rates for disease categories that are often associated with a failure to obtain ambulatory and preventive care. CONCLUSION: Our analysis reveals that age-adjusted hospital admission rates for African Americans in South Carolina are higher than for Caucasians, and that the gap appears to be widening over time. Given the magnitude of the financial implication, interventions with even a small impact on the conditions underlying the racial disparities in hospital admissions are likely to be cost-effective.

PHP32
COMBINING PHARMACY AND HOSPITAL DATA IN A RISK ADJUSTMENT MODEL
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OBJECTIVE: Health districts have been established as part of the decentralization of responsibility within the Italian National Health Service. A major challenge is to assure that appropriate financing is provided to meet the needs of the population. Risk adjustment models are being developed that can be used for districts’ resource allocation, planning and evaluation activities. METHODS: Pharmaceutical, hospital, and demographic data from 2000 and 2001 have been assembled for the entire population of Emilia Romagna, a large northern Italian region (4 million). Pharmaceutical and hospital tariffs were a proxy for costs. Morbidity indicators based upon pharmacy and hospital data were developed for risk adjustment. Prospective risk adjustment models were fit. We tested several models of increasing complexity, taking advantage of the predictive power of pharmacy- and hospital-based diagnostic groups. Our final adjuster was based upon a combination of the pharmacy and hospital groupings. We considered fairness across administrative units, as equity was a key policy goal. RESULTS: The pharmacy cost model predicts 25.8% of the variation in pharmacy costs. Our hospital cost model predicts 10.1% of variation in prospective hospital costs. Predictive accuracy for pharmacy cost models were improved by information from the hospital data; and were more stable for those who used health services in year 1, and better for those who used hospital and pharmacy services compared to those who did not have any service use. For the pharmacy model predictive accuracy by district ranged from 0.91 to 1.10; for the hospital cost model, predictive accuracy by district ranged from 0.93 to 1.13. CONCLUSIONS: We demonstrate that risk adjustment models using pharmacy data to identify individual morbidity are good predictors of future year costs. Regional and district health managers can use these models for